



AUGUST 16, 2017
CITY COUNCIL CHAMBERS
3:30 P.M. Closed Session; 4:30 P.M. Regular Session
201 N. Broadway, Escondido, CA 92025

MAYOR	Sam Abed
DEPUTY MAYOR	John Masson
COUNCIL MEMBERS	Olga Diaz Ed Gallo Michael Morasco
CITY MANAGER	Jeffrey Epp
CITY CLERK	Diane Halverson
CITY ATTORNEY	Michael McGuinness
DIRECTOR OF COMMUNITY DEVELOPMENT	Bill Martin
DIRECTOR OF ENGINEERING SERVICES	Julie Procopio

ELECTRONIC MEDIA:

Electronic media which members of the public wish to be used during any public comment period should be submitted to the City Clerk's Office at least 24 hours prior to the Council meeting at which it is to be shown.

The electronic media will be subject to a virus scan and must be compatible with the City's existing system. The media must be labeled with the name of the speaker, the comment period during which the media is to be played and contact information for the person presenting the media.

The time necessary to present any electronic media is considered part of the maximum time limit provided to speakers. City staff will queue the electronic information when the public member is called upon to speak. Materials shown to the Council during the meeting are part of the public record and may be retained by the Clerk.

The City of Escondido is not responsible for the content of any material presented, and the presentation and content of electronic media shall be subject to the same responsibilities regarding decorum and presentation as are applicable to live presentations.



Council Meeting Agenda

**August 16, 2017
3:30 P.M. Meeting**

Escondido City Council

CALL TO ORDER

ROLL CALL: Diaz, Gallo, Masson, Morasco, Abed

ORAL COMMUNICATIONS

In addition to speaking during particular agenda items, the public may address the Council on any item which is not on the agenda provided the item is within the subject matter jurisdiction of the City Council. State law prohibits the Council from discussing or taking action on such items, but the matter may be referred to the City Manager/staff or scheduled on a subsequent agenda. (Please refer to the back page of the agenda for instructions.) Speakers are limited to only one opportunity to address the Council under Oral Communications.

CLOSED SESSION: (COUNCIL/SUCCESSOR AGENCY/RRB)

- I. CONFERENCE WITH LABOR NEGOTIATOR (Government Code §54957.6)**
 - a. **Agency Negotiator:** Sheryl Bennett and Jeffrey Epp
Employee Organization: Non-Sworn Police Bargaining Unit

- II. CONFERENCE WITH REAL PROPERTY NEGOTIATOR (Government Code §54956.8)**
 - a. **Property:** 201 North Pine Street, APNs 233-032-07 & -08 (Former Lopez Market, 520-544 West Third Avenue, APNs 233-032-12, -13, & -14
City Negotiator: Jay Petrek, Assistant City Manager
Negotiating Parties: Prospective Purchasers
Under Negotiation: Price and Terms of Agreement

ADJOURNMENT



Council Meeting Agenda

**August 16, 2017
4:30 P.M. Meeting**

Escondido City Council

CALL TO ORDER

MOMENT OF REFLECTION:

City Council agendas allow an opportunity for a moment of silence and reflection at the beginning of the evening meeting. The City does not participate in the selection of speakers for this portion of the agenda, and does not endorse or sanction any remarks made by individuals during this time. If you wish to be recognized during this portion of the agenda, please notify the City Clerk in advance.

FLAG SALUTE

ROLL CALL: Diaz, Gallo, Masson, Morasco, Abed

PROCLAMATIONS: Certificate of Recognition to Sean Golding

PRESENTATIONS: Walk to End Alzheimer's

ORAL COMMUNICATIONS

The public may address the Council on any item that is not on the agenda and that is within the subject matter jurisdiction of the legislative body. State law prohibits the Council from discussing or taking action on such items, but the matter may be referred to the City Manager/staff or scheduled on a subsequent agenda. (Please refer to the back page of the agenda for instructions.) NOTE: Depending on the number of requests, comments may be reduced to less than 3 minutes per speaker and limited to a total of 15 minutes. Any remaining speakers will be heard during Oral Communications at the end of the meeting.

CONSENT CALENDAR

Items on the Consent Calendar are not discussed individually and are approved in a single motion. However, Council members always have the option to have an item considered separately, either on their own request or at the request of staff or a member of the public.

1. [**AFFIDAVITS OF PUBLICATION, MAILING AND POSTING \(COUNCIL/SUCCESSOR AGENCY/RRB\)**](#)
2. [**APPROVAL OF WARRANT REGISTER \(Council/Successor Agency\)**](#)
3. [**APPROVAL OF MINUTES: A\) Regular Meeting of July 12, 2017 B\) Regular Meeting of July 19, 2017**](#)

4. [**FISCAL YEAR 2017-18 STATE OF CALIFORNIA OFFICE OF TRAFFIC SAFETY SELECTIVE TRAFFIC ENFORCEMENT GRANT AND BUDGET ADJUSTMENT -**](#)

Request the City Council approve authorizing the Escondido Police Department to accept a Fiscal Year 2017-18 California Office of Traffic Safety Selective Traffic Enforcement Program Grant in the amount of \$510,000; authorize the Chief of Police or his designee to execute grant documents on behalf of the City; and approve budget adjustments needed to spend grant funds.

Staff Recommendation: **Approval (Police Department: Craig Carter)**

5. [**AMENDMENT TO PURCHASE AND SALE AGREEMENT: 700 WEST GRAND AVENUE -**](#)

Request the City Council approve authorizing the Real Property Manager and the City Clerk to execute a Fourth Amendment to the Purchase and Sale Agreement for the sale of 700 West Grand Avenue to Lyon-Integral Escondido Gateway, LLC.

Staff Recommendation: **Approval (Engineering Services Department: Julie Procopio)**

RESOLUTION NO. 2017-114

6. [**INCREASE TO PURCHASE ORDER FOR WATER TREATMENT CHEMICAL -**](#)

Request the City Council approve an increase of \$19,900 to the City's Fiscal Year 2016/2017 purchase order with Water Solutions (Azure Water Services). Water Solutions provides the Water Treatment Plant with the chemical purate, used during the disinfection process.

Staff Recommendation: **Approval (Utilities Department: Christopher W. McKinney)**

RESOLUTION NO. 2017-115

7. [**AWARD BID FOR NEIGHBORHOOD GROUP STREET LIGHTING PROJECT -**](#)

Request the City Council approve authorizing the bid award to HMS Construction, Inc., who was determined to be the lowest responsive and responsible bidder; and authorize the Mayor and the City Clerk to execute a Public Improvement Agreement in the amount of \$500,580 for the Neighborhood Group Street Lighting Project.

Staff Recommendation: **Approval (Engineering Services Department: Julie Procopio)**

RESOLUTION NO. 2017-117

8. **AMEND THE TRAFFIC SCHEDULE FOR TIMED ZONED PARKING IN DOWNTOWN MUNICIPAL PARKING LOT #6 -**

Request the City Council approve establishing a 2-hour time limit for one row of parking spaces in Downtown Municipal Parking Lot #6, located on Second Avenue, between Kalmia Street and Juniper Street.

Staff Recommendation: **Approval (Engineering Services Department: Julie Procopio)**

RESOLUTION NO. 2017-119

CONSENT – RESOLUTIONS AND ORDINANCES (COUNCIL/SUCCESSOR AGENCY/RRB)

The following Resolutions and Ordinances were heard and acted upon by the City Council/Successor Agency/RRB at a previous City Council/Successor Agency/Mobilehome Rent Review meeting. (The title of Ordinances listed on the Consent Calendar are deemed to have been read and further reading waived.)

9. **AMENDMENT TO ARTICLE 70 (SECOND DWELLING UNITS) OF THE ESCONDIDO ZONING CODE (AZ 16-0007) -**

Approved on July 19, 2017 with a vote of 4/1, Masson voting no.

ORDINANCE NO. 2017-06 (Second Reading and Adoption)

PUBLIC HEARINGS

10. **AMENDMENT TO ARTICLE 57 (MISCELLANEOUS USE RESTRICTIONS) OF THE ESCONDIDO ZONING CODE TO ESTABLISH ELECTRIC VEHICLE CHARGING REGULATIONS (AZ 17-0002)**

Request the City Council approve establishing an expedited, cost-effective permitting process for Electric Vehicle Charging Stations consistent with current State law requirements.

Staff Recommendation: **Approval (Community Development Department: Bill Martin)**

ORDINANCE NO. 2017-11 (First Reading and Introduction)

CURRENT BUSINESS

11. **SELECTION OF PREFERRED TRACK TO COMPLY WITH REGIONAL WATER QUALITY CONTROL BOARD TRASH ORDER (R9-2017-0077) -**

Request the City Council approve directing staff to notify the Regional Water Quality Control Board that Tract 1 is selected to comply with Trash Order R9-2017-0077 by September 5, 2017.

Staff Recommendation: **Approval (Utilities Department: Christopher W. McKinney, Engineering Services Department: Julie Procopio, Public Works Department: Ed Domingue)**

RESOLUTION NO. 2017-98

12. [PROFESSIONAL SERVICES AGREEMENT WITH INVOICE CLOUD, INC. TO PROVIDE ELECTRONIC PAYMENT AND BILLING SERVICES FOR UTILITY BILLING ACCOUNTS -](#)

Request the City Council approve authorizing the Mayor and City Clerk to execute a three (3) year Public Service Agreement with Invoice Cloud, Inc. effective September 1, 2017 through August 31, 2020, with three (3) additional one-year renewal options.

Staff Recommendation: **Approval (Finance Department: Sheryl Bennett)**

RESOLUTION NO. 2017-116

FUTURE AGENDA

13. [FUTURE AGENDA -](#)

The purpose of this item is to identify issues presently known to staff or which members of the City Council wish to place on an upcoming City Council agenda. Council comment on these future agenda items is limited by California Government Code Section 54954.2 to clarifying questions, brief announcements, or requests for factual information in connection with an item when it is discussed.

Staff Recommendation: **None (City Clerk's Office: Diane Halverson)**

COUNCIL MEMBERS' SUBCOMMITTEE REPORTS

CITY MANAGER'S WEEKLY ACTIVITY REPORT

The most current information from the City Manager regarding Economic Development, Capital Improvement Projects, Public Safety and Community Development.

- [WEEKLY ACTIVITY REPORT -](#)

ORAL COMMUNICATIONS

The public may address the Council on any item that is not on the agenda and that is within the subject matter jurisdiction of the legislative body. State law prohibits the Council from discussing or taking action on such items, but the matter may be referred to the City Manager/staff or scheduled on a subsequent agenda. Speakers are limited to only one opportunity to address the Council under Oral Communications.

ADJOURNMENT

UPCOMING MEETING SCHEDULE

Date	Day	Time	Meeting Type	Location
August 23	Wednesday	3:30 & 4:30 PM	Regular Meeting	Council Chambers
August 30	-	-	No Meeting	-
September 6	-	-	No Meeting	-
September 13	-	-	No Meeting	-

TO ADDRESS THE COUNCIL

The public may address the City Council on any agenda item. Please complete a Speaker's form and give it to the City Clerk. Submission of Speaker forms prior to the discussion of an item is highly encouraged. Comments are generally limited to 3 minutes.

If you wish to speak concerning an item not on the agenda, you may do so under "Oral Communications." Please complete a Speaker's form as noted above.

Nomination forms for Community Awards are available at the Escondido City Clerk's Office or at <http://www.escondido.org/city-clerks-office.aspx>

Handouts for the City Council should be given to the City Clerk. To address the Council, use the podium in the center of the Chambers, STATE YOUR NAME FOR THE RECORD and speak directly into the microphone.

AGENDA, STAFF REPORTS AND BACK-UP MATERIALS ARE AVAILABLE:

- Online at <http://www.escondido.org/meeting-agendas.aspx>
- In the City Clerk's Office at City Hall
- In the Library (239 S. Kalmia) during regular business hours and
- Placed in the Council Chambers (See: City Clerk/Minutes Clerk) immediately before and during the Council meeting.

AVAILABILITY OF SUPPLEMENTAL MATERIALS AFTER AGENDA POSTING: Any supplemental writings or documents provided to the City Council regarding any item on this agenda will be made available for public inspection in the City Clerk's Office located at 201 N. Broadway during normal business hours, or in the Council Chambers while the meeting is in session.

LIVE BROADCAST

Council meetings are broadcast live on Cox Cable Channel 19 and U-verse Channel 99 – Escondido Gov TV. They can also be viewed the following Sunday and Monday evenings at 6:00 p.m. on those same channels. The Council meetings are also available live via the Internet by accessing the City's website at www.escondido.org, and clicking the "Live Streaming –City Council Meeting now in progress" button on the home page.

Please turn off all cellular phones and pagers while the meeting is in session.

**The City Council is scheduled to meet the first four Wednesdays
of the month at 3:30 in Closed Session and 4:30 in Open Session.
(Verify schedule with City Clerk's Office)**

**Members of the Council also sit as the Successor Agency to the CDC, Escondido Joint Powers
Financing Authority and the Mobilehome Rent Review Board.**

**CITY HALL HOURS OF OPERATION
Monday-Friday 8:00 a.m. to 5:00 p.m.**



If you need special assistance to participate in this meeting, please contact our ADA Coordinator at 839-4643. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility.

Listening devices are available for the hearing impaired – please see the City Clerk.



Agenda Item No.: 1
Date: August 16, 2017

A F F I D A V I T S

O F

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P O S T I N G



Agenda Item No.: 2
Date: August 16, 2017

APPROVAL

OF

WARRANT REGISTER

CITY OF ESCONDIDO
July 12, 2017
3:30 P.M. Meeting Minutes
Escondido City Council

CALL TO ORDER

ROLL CALL: Diaz, Gallo, Masson, Morasco, Abed

ORAL COMMUNICATIONS

CLOSED SESSION: (COUNCIL/SUCCESSOR AGENCY/RRB)

MOTION: Moved by Councilmember Morasco and seconded by Councilmember Diaz to recess to Closed Session. Motion carried unanimously.

I. CONFERENCE WITH LEGAL COUNSEL-- EXISTING LITIGATION (Government Code 54956.9(d)(1))

- a. **Case Name:** John Grimm v. City of Escondido
Case No: WCAB Case No. ADJ10568475
- b. **Case Name:** Gary Correiar v. City of Escondido
Case No: WCAB Case No. ADJ10082612 & ADJ10082548

II. CONFERENCE WITH LEGAL COUNSEL-ANTICIPATED LITIGATION/SIGNIFICANT EXPOSURE (Government Code 54956.9(d)(2))

- a. Contract dispute for the Cemetery Area Waterline Replacement Project

ADJOURNMENT

Mayor Abed adjourned the meeting at 3:55 p.m.

MAYOR

CITY CLERK

DEPUTY CITY CLERK

CITY OF ESCONDIDO
July 12, 2017
4:30 P.M. Meeting Minutes

Escondido City Council
Mobilehome Rent Review Board

CALL TO ORDER

The Regular Meeting of the Escondido City Council was called to order at 4:30 p.m. on Wednesday, July 12, 2017 in the City Council Chambers at City Hall with Mayor Abed presiding.

MOMENT OF REFLECTION

Scott Smith led the Moment of Reflection.

FLAG SALUTE

Councilmember Morasco led the flag salute.

ATTENDANCE:

The following members were present: Councilmember Olga Diaz, Councilmember Ed Gallo, Deputy Mayor John Masson, Councilmember Michael Morasco, and Mayor Sam Abed. Quorum present.

Also present were: Jeffrey Epp, City Manager; Michael McGuinness, City Attorney; Bill Martin, Director of Community Development; Julie Procopio, Director of Engineering Services; Diane Halverson, City Clerk; and Jennifer Ekblad, Deputy City Clerk.

PROCLAMATIONS

Tribal Council of the Rincon Band of Luiseño Indians

ORAL COMMUNICATIONS

Irving Manuel, Escondido, shared his concerns regarding homelessness issues and veteran resource centers.

Wayne Louth, Escondido, spoke in opposition to Proposition K and Short-Form Rent increase applications; and proposed changes to rent increase guidelines for mobilehome parks.

CONSENT CALENDAR

MOTION: Moved by Councilmember Diaz and seconded by Deputy Mayor Masson to approve all Consent Calendar items with the exception of items 4, 6, 8, 11, 12, and 13. Motion carried unanimously.

- 1. AFFIDAVITS OF PUBLICATION, MAILING AND POSTING (COUNCIL/SUCCESSOR AGENCY/RRB)**
- 2. APPROVAL OF WARRANT REGISTER (Council/Successor Agency)**
- 3. APPROVAL OF MINUTES: Regular Meeting of June 21, 2017**

4. COUNCIL RESPONSE TO SB 35 BY RIGHT HOUSING APPROVALS -

SB 35 (Wiener) is a measure that seeks to preempt local discretionary land use authority, eliminate opportunities for public review, and ban project-level environmental review for multifamily housing developments. (File No. 0145-30)

Staff Recommendation: **Oppose (City Manager's Office: Jeffrey Epp)**

Councilmember Diaz requested language of bills be included in the City Council Agenda packet.

THIS ITEM WAS CONTINUED.

5. OVERSIGHT BOARD VACANCY -

Request the City Council approve the Mayoral appointment to the Oversight Board. (File No. 0610-70)

Staff Recommendation: **Approval (City Attorney's Office: Michael McGuinness)**

6. NOTICE OF COMPLETION FOR THE JIM STONE POOL RENOVATION PROJECT -

Request the City Council approve accepting the public improvements and authorize staff to file a Notice of Completion for the Jim Stone Pool Renovation Project. (File No. 0600-10 [A-3206])

Staff Recommendation: **Approval (Engineering Services Department: Julie Procopio)**

MOTION: Moved by Councilmember Morasco and seconded by Councilmember Diaz to approve accepting the public improvements and authorize staff to file a Notice of Completion for the Jim Stone Pool Renovation Project. Motion carried unanimously.

7. A BID AWARD; PUBLIC IMPROVEMENT AGREEMENT; FOURTH AMENDMENT TO CONSULTING AGREEMENT; AND BUDGET ADJUSTMENT FOR THE EAST VALLEY PARKWAY/VALLEY CENTER ROAD WIDENING PROJECT -

Request the City Council approve authorizing the bid award to L.B. Civil Construction, Inc., determined to be the lowest responsive and responsible bidder; authorize the Mayor and City Clerk to execute a Public Improvement Agreement in the amount of \$6,859,991.50; authorize the Mayor and City Clerk to execute a Fourth Amendment to the Consulting Agreement with NV5 for construction support and material testing in the amount of \$499,918.40; and approve a budget adjustment for the East Valley Parkway/Valley Center Road Widening Project. (File No. 0600-10 [A-3072], [A-3217])

Staff Recommendation: **Approval (Engineering Services Department: Julie Procopio)**

RESOLUTION NO. 2017-77

8. INVESTMENT MANAGEMENT CONSULTING AGREEMENT WITH TEMPLETON FINANCIAL SERVICES, INC. -

Request the City Council approve the Investment Management Consulting Agreement with Templeton Financial Services, Inc. to provide investment management services for \$20 million of the City's longer term investments. (File No. 0600-10 [A-3227])

Staff Recommendation: **Approval (City Treasurer's Office: Douglas W. Shultz)**

RESOLUTION NO. 2017-79

Douglas W. Shultz, City Treasurer, shared information regarding the pilot program and was available to answer questions.

MOTION: Moved by Councilmember Gallo and seconded by Deputy Mayor Masson to approve the Investment Management Consulting Agreement with Templeton Financial Services, Inc. to provide investment management services for \$20 million of the City's longer term investments and adopt Resolution No. 2017-79. Motion carried unanimously.

9. SETTING SPECIAL TAX LEVY FOR COMMUNITY FACILITIES DISTRICT NO. 2000-01 (HIDDEN TRAILS) -

Request the City Council approve setting the Special Tax Levy for Community Facilities District No. 2000-01 (Hidden Trails) for Fiscal Year 2017-18. (File No. 0685-20)

Staff Recommendation: **Approval (Finance Department: Sheryl Bennett)**

RESOLUTION NO. 2017-102

10. SETTING SPECIAL TAX LEVY FOR COMMUNITY FACILITIES DISTRICT NO. 2006-01 (EUREKA RANCH) -

Request the City Council approve setting the Special Tax Levy for Community Facilities District No. 2006-01 (Eureka Ranch) for Fiscal Year 2017-18. (File No. 0685-20)

Staff Recommendation: **Approval (Finance Department: Sheryl Bennett)**

RESOLUTION NO. 2017-103

11. SECOND AMENDMENT TO THE PUBLIC SERVICE AGREEMENT WITH REDWOOD SENIOR HOMES AND SERVICES FOR MEAL SERVICE -

Request the City Council approve authorizing the Mayor and City Clerk to execute a Second Amendment to the Public Service Agreement with Redwood Senior Homes and Services Town Court, to provide meals for the Nutrition Program offered at the Escondido Senior Center for Fiscal Year 2017-2018 in the amount of \$129,050. (File No. 0600-10 [A-3154])

Staff Recommendation: **Approval (Community Services Department: Danielle Lopez)**

RESOLUTION NO. 2017-104

Danielle Lopez, Assistant Director of Community Services, provided financial information and was available to answer questions.

MOTION: Moved by Councilmember Morasco and seconded by Deputy Mayor Masson to approve authorizing the Mayor and City Clerk to execute a Second Amendment to the Public Service Agreement with Redwood Senior Homes and Services Town Court, to provide meals for the Nutrition Program offered at the Escondido Senior Center for Fiscal Year 2017-2018 in the amount of \$129,050 and adopt Resolution No. 2017-104. Motion carried unanimously.

12. SECOND AMENDMENT TO THE PUBLIC SERVICE AGREEMENT WITH REDWOOD SENIOR HOMES AND SERVICES FOR SENIOR TRANSPORTATION -

Request the City Council approve authorizing the Mayor and City Clerk to execute a Second Amendment to the Public Service Agreement with Redwood Senior Homes and Services, to provide transportation services for the Senior Nutrition Program in the amount of \$149,350. (File No. 0600-10 [A-3155])

Staff Recommendation: **Approval (Community Services Department: Danielle Lopez)**

RESOLUTION NO. 2017-105

MOTION: Moved by Councilmember Diaz and seconded by Deputy Mayor Masson to approve authorizing the Mayor and City Clerk to execute a Second Amendment to the Public Service Agreement with Redwood Senior Homes and Services, to provide transportation services for the Senior Nutrition Program in the amount of \$149,350 and adopt Resolution No. 2017-105. Motion carried unanimously.

13. EIGHTH AMENDMENT TO THE COUNTY OF SAN DIEGO SENIOR NUTRITION SERVICES CONTRACT NO. 547766 -

Request the City Council approve authorizing the Assistant Director of Community Services to execute an Eighth Amendment to County Contract No. 547766, County of San Diego, Health and Human Services Agency Agreement with the City of Escondido for the Senior Nutrition Program. (File No. 0145-20)

Staff Recommendation: **Approval (Community Services Department: Danielle Lopez)**

RESOLUTION NO. 2017-106

MOTION: Moved by Councilmember Morasco and seconded by Councilmember Diaz to approve authorizing the Assistant Director of Community Services to execute an Eighth Amendment to County Contract No. 547766, County of San Diego, Health and Human Services Agency Agreement with the City of Escondido for the Senior Nutrition Program and adopt Resolution No. 2017-106. Motion carried unanimously.

CONSENT – RESOLUTIONS AND ORDINANCES (COUNCIL/SUCCESSOR AGENCY/RRB)

The following Resolutions and Ordinances were heard and acted upon by the City Council/Successor Agency/RRB at a previous City Council/Successor Agency/Mobilehome Rent Review meeting. (The title of Ordinances listed on the Consent Calendar are deemed to have been read and further reading waived.)

PUBLIC HEARINGS

14. SHORT-FORM RENT INCREASE APPLICATION FOR CAREFREE RANCH -

Request the City Council consider the short-form rent increase application submitted by Carefree Ranch and if approved, grant an increase of 75 percent of the change in the Consumer Price Index, or 1.467 percent (an average of \$7.41) for the period of December 31, 2015 to December 31, 2016. (File No. 0697-20-10124)

Staff Recommendation: **Consider for Approval (Community Development Department: Bill Martin)**

RESOLUTION NO. RRB 2017-03

Belinda Rojas, Program Administrator, and Andrew Modglin, Code Enforcement Officer, presented the staff report utilizing a PowerPoint presentation.

Mayor Abed opened the public hearing and asked if anyone wanted to speak on this issue in anyway.

Jim Younce, mobilehome park owners' representative, was available to answer any questions.

Wayne Louth, resident representative, shared his concerns regarding current construction at the mobilehome park and spoke in opposition of Proposition K and the short-form rent increase process.

Mayor Abed asked if anyone else wanted to speak on this issue in any way. No one else asked to be heard; therefore, he closed the public hearing.

MOTION: Moved by Councilmember Gallo and seconded by Deputy Mayor Masson to approve the short-form rent increase application submitted by Carefree Ranch and grant an increase of 75 percent of the change in the Consumer Price Index, or 1.467 percent (an average of \$7.41) for the period of December 31, 2015 to December 31, 2016 and adopt Resolution No. RRB 2017-03. Motion carried unanimously.

CURRENT BUSINESS

- 15. CONSULTING AGREEMENT FOR CORRUGATED METAL PIPE STORM DRAIN ASSESSMENT -**
Request the City Council approve authorizing the Mayor and the City Clerk to execute a Consulting Agreement with Brown and Caldwell for a Corrugated Metal Pipe Storm Drain Assessment. (File No. 0600-10 [A-3228])

Staff Recommendation: **Approval (Engineering Services Department: Julie Procopio)**

RESOLUTION NO. 2017-107

Elizabeth Lopez, Engineer, presented the staff report utilizing a PowerPoint presentation. Mark Hill, representative for Brown and Caldwell, was available to answer questions.

MOTION: Moved by Deputy Mayor Masson and seconded by Councilmember Morasco to approve authorizing the Mayor and the City Clerk to execute a Consulting Agreement with Brown and Caldwell for a Corrugated Metal Pipe Storm Drain Assessment and adopt Resolution No. 2017-107. Motion carried unanimously.

- 16. DESIGNATION OF VOTING DELEGATES - LEAGUE OF CALIFORNIA CITIES CONFERENCE -**
Request the City Council designate the voting delegate, and up to two alternates, to represent the City of Escondido at the business meeting to be held during the League of California Cities Annual Conference September 13-15, 2017, in Sacramento, California. (File No. 130-10)

Staff Recommendation: **None (City Clerk's Office: Diane Halverson)**

Mayor Abed designated Deputy Mayor Masson as the voting delegate to represent the City of Escondido at the League of California Cities Conference and Councilmember Morasco as the alternate representative.

MOTION: Moved by Mayor Abed and seconded by Councilmember Morasco to approve designating a voting delegate, and up to two alternatives, to represent the City of Escondido at the business meeting to be held during the League of California Cities Annual Conference September 13-15, 2017, in Sacramento, California. Motion carried unanimously.

FUTURE AGENDA

- 17. FUTURE AGENDA -**
The purpose of this item is to identify issues presently known to staff or which members of the City Council wish to place on an upcoming City Council agenda. Council comment on these future agenda items is limited by California Government Code Section 54954.2 to clarifying questions, brief announcements, or requests for factual information in connection with an item when it is discussed.

Staff Recommendation: **None (City Clerk's Office: Diane Halverson)**

Councilmember Diaz requested additional information be provided for items appearing on the Future Agenda

COUNCIL MEMBERS' SUBCOMMITTEE REPORTS

Councilmember Gallo reported that North County Transit District is instituting positive train control for the Coaster and there was another pedestrian fatality; attended the Regional Solid Waste Agency as an alternate for Councilmember Morasco, board members discussed appointing a public spokesperson to provide composting and recycling information, and approved the budget.

Mayor Abed reported that LAFCO General Manager Mike Ott is retiring, Abed is chairman of the ad-hoc committee to find a replacement; Mayor Abed reported SANDAG is in opposition to AB 805; attended grand opening of the new Escondido Disposal, Inc. facility.

Councilmember Morasco requested Escondido Disposal, Inc. present at a future City Council meeting; met with a delegation from China.

CITY MANAGER'S WEEKLY ACTIVITY REPORT

The most current information from the City Manager regarding Economic Development, Capital Improvement Projects, Public Safety and Community Development.

- **WEEKLY ACTIVITY REPORT -**

ORAL COMMUNICATIONS

ADJOURNMENT

Mayor Abed adjourned the meeting at 6:03 p.m.

MAYOR

CITY CLERK

DEPUTY CITY CLERK

CITY OF ESCONDIDO
July 19, 2017
3:30 P.M. Meeting Minutes
Escondido City Council

CALL TO ORDER

The Regular Meeting of the Escondido City Council was called to order at 3:35 p.m. on Wednesday, July 19, 2017 in the City Council Chambers at City Hall with Mayor Abed presiding.

ATTENDANCE:

The following members were present: Councilmember Olga Diaz, Councilmember Ed Gallo, Councilmember Michael Morasco, and Mayor Sam Abed. The following members were absent: Deputy Mayor John Masson. Quorum present.

ORAL COMMUNICATIONS

Maribel Natividad Escalante, Escondido Resident Leadership Academy – Escondido Creek, stated that the Academy is dedicated to improving the community and wanted to encourage community involvement.

Minerva Gutierrez, Escondido Resident Leadership Academy – Escondido Creek, mentioned the Academy's efforts to clean-up Escondido Creek between Fig Street and Ash Street.

Arturo Velasco, Escondido Resident Leadership Academy – Escondido Creek, translated the above speakers' messages from Spanish to English.

CLOSED SESSION: (COUNCIL/SUCCESSOR AGENCY/RRB)

MOTION: Moved by Councilmember Diaz, seconded by Councilmember Morasco to recess to Closed Session. Motion carried. 4/0/1, Masson absent.

- I. CONFERENCE WITH REAL PROPERTY NEGOTIATOR (Government Code §54956.8)**
- a. **Property:** 901 West Washington Avenue, APNs 232-090-72, -54, and -57 (Public Works Yard)
City Negotiator: Jeffrey Epp, City Manager
Negotiating Parties: Prospective Purchasers
Under Negotiation: Price and Terms of Agreement
 - b. **Property:** 455 North Quince Street, APN 232-091-27 (Wickline Bedding)
City Negotiator: Jeffrey Epp, City Manager
Negotiating Parties: Prospective Purchasers
Under Negotiation: Price and Terms of Agreement

ADJOURNMENT

Mayor Abed adjourned the meeting at 4:18 p.m.

MAYOR

CITY CLERK

ASSISTANT CITY CLERK

CITY OF ESCONDIDO
July 19, 2017
4:30 P.M. Meeting Minutes

Escondido City Council

CALL TO ORDER

The Regular Meeting of the Escondido City Council was called to order at 4:32 p.m. on Wednesday, July 19, 2017 in the City Council Chambers at City Hall with Mayor Abed presiding.

MOMENT OF REFLECTION

Kathy Hearn led the moment of reflection.

FLAG SALUTE

Councilmember Diaz let the flag salute.

ATTENDANCE:

The following members were present: Councilmember Olga Diaz, Councilmember Ed Gallo, Deputy Mayor John Masson, Councilmember Michael Morasco, and Mayor Sam Abed. Quorum present.

Also present were: Jeffrey Epp, City Manager; Gary McCarthy, Senior Deputy City Attorney; Bill Martin, Director of Community Development; Julie Procopio, Director of Engineering Services; Diane Halverson, City Clerk; and Eva Heter, Assistant City Clerk.

ORAL COMMUNICATIONS

Lee Yoder, Escondido, stated the need to protect the safety of the community by outlawing Sheeree Law.

Karen Tatge, President of the Employee Association, spoke in favor of supporting the Library Employees, opposing any City initiative to privatize positions held by City employees.

CONSENT CALENDAR

MOTION: Moved by Councilmember Morasco, seconded by Councilmember Gallo to approve all Consent Calendar items with the exception of items 4, 5 and 6. Motion carried unanimously.

1. **AFFIDAVITS OF PUBLICATION, MAILING AND POSTING (COUNCIL/SUCCESSOR AGENCY/RRB)**
2. **APPROVAL OF WARRANT REGISTER (Council/Successor Agency)**
3. **APPROVAL OF MINUTES: Regular Meeting of June 28, 2017**
4. **EXTENSION OF TIME FOR TENTATIVE SUBDIVISION MAP 931 (SUB 17-0022) -**
Request the City Council approve a three-year extension of time for a five-lot single-family residential Tentative Subdivision Map addressed as 1055 Hamilton Lane (APN 238-360-6800). (File No. 0800-10)

Staff Recommendation: **Approval (Community Development Department: Bill Martin)**

RESOLUTION NO. 2017-97

Motion: Moved by Councilmember Diaz, seconded by Councilmember Morasco to approve a three-year extension of time for a five-lot single-family residential Tentative Subdivision Map addressed as 1055 Hamilton Lane (APN 238-360-6800) and adopt Resolution No. 2017-97. Ayes: Abed, Diaz, Gallo, Morasco; Abstain: Masson; Motion carried.

5. LEASE AGREEMENT WITH DAVE MCMAHON CONSTRUCTION, INC. AT 525 NORTH QUINCE STREET -

Request the City Council approve authorizing the Real Property Manager and the City Clerk to execute a Lease Agreement with Dave McMahon Construction, Inc. at 525 North Quince Street. (File No. 0600-10 [A-3104])

Staff Recommendation: **Approval (Engineering Services Department: Julie Procopio)**

RESOLUTION NO. 2017-108

Councilmember Diaz expressed her concern with the blight.

MOTION: Moved by Councilmember Gallo, seconded by Councilmember Diaz to approve authorizing the Real Property Manager and the City Clerk to execute a Lease Agreement with Dave McMahon Construction, Inc. at 525 North Quince Street and adopt Resolution No. 2017-108. Motion carried unanimously.

6. UNCLASSIFIED SERVICE SCHEDULE AND SALARY PLANS -

Request the City Council approve amending the Unclassified Clerical/Technical Salary Plans, the Unclassified Management Salary Bands, and the Unclassified Service Schedule List. (File No. 0720-20)

Staff Recommendation: **Approval (Human Resources Department: Sheryl Bennett)**

A) RESOLUTION NO. 2017-109 B) RESOLUTION NO. 2017-110

C) RESOLUTION NO. 2017-111

Councilmember Diaz requested clarification on raises being built into the schedule.

Sheryl Bennett, Director of Administrative Services, stated that raises were not built into the schedule; however, new classification bands had been added.

MOTION: Moved by Councilmember Diaz, seconded by Councilmember Morasco to approve amending the Unclassified Clerical/Technical Salary Plans, the Unclassified Management Salary Bands, and the Unclassified Service Schedule List and adopt Resolution No. 2017-109, No. 2017-110 and No. 2017-111. Motion carried unanimously.

7. MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF ESCONDIDO AND THE ESCONDIDO CITY EMPLOYEES' ASSOCIATION - ADMINISTRATIVE, CLERICAL, AND ENGINEERING BARGAINING UNIT -

Request the City Council approve the execution of a Memorandum of Understanding between the City of Escondido and the Escondido City Employees' Association Administrative, Clerical, and Engineering Bargaining Unit for a three-year term commencing July 1, 2017 through June 20, 2020. (File No. 0740-30)

Staff Recommendation: **Approval (Human Resources Department: Sheryl Bennett)**

RESOLUTION NO. 2017-112

8. MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF ESCONDIDO AND THE ESCONDIDO CITY EMPLOYEES' ASSOCIATION - SUPERVISORY BARGAINING UNIT -

Request the City Council approve the execution of a Memorandum of Understanding between the City of Escondido and the Escondido City Employees' Association Supervisory Bargaining Unit for a three-year term commencing July 1, 2017 through June 30, 2020. (File No. 0740-30)

Staff Recommendation: **Approval (Human Resources Department: Sheryl Bennett)**

CONSENT – RESOLUTIONS AND ORDINANCES (COUNCIL/SUCCESSOR AGENCY/RRB)

The following Resolutions and Ordinances were heard and acted upon by the City Council/Successor Agency/RRB at a previous City Council/Successor Agency/Mobilehome Rent Review meeting. (The title of Ordinances listed on the Consent Calendar are deemed to have been read and further reading waived.)

PUBLIC HEARINGS

9. AMENDMENT TO ARTICLE 70 (SECOND DWELLING UNITS) OF THE ESCONDIDO ZONING CODE (AZ 16-0007) -

Request the City Council approve amending Article 70 (Second Dwelling Units) of the Escondido Zoning Code to bring City regulations for second dwelling units into compliance with relevant State requirements. (File No. 0810-20)

Staff Recommendation: **Approval (Community Development Department: Bill Martin)**

ORDINANCE NO. 2017-06 (Introduction and First Reading)

Bill Martin, Director of Community Development, presented the staff report, utilizing a Power Point presentation. Mayor Abed opened the public hearing and asked if anyone would like to speak on this issue in any way.

Roy Garrett, Escondido, spoke in opposition to the deed restriction of owner/occupant standards being placed on the properties.

Mayor Abed asked if anyone else wanted to speak on this issue in any way. No one else asked to be heard; therefore, he closed the public hearing.

MOTION: Moved by Councilmember Gallo, seconded by Councilmember Morasco to approve an amendment to Article 70 (Second Dwelling Units) of the Escondido Zoning Code to bring City regulations for second dwelling units into compliance with relevant State requirements and adopt Ordinance No. 2017-06. Ayes: Abed, Gallo Morasco, Diaz; Noes: Masson; Motion carried.

CURRENT BUSINESS Bill Martin, Director of Community Development,

10. JESMOND DENE AND MOUNTAIN VIEW PARKS' MASTER PLAN AMENDMENTS -

Request the City Council approve authorizing staff and resources to amend the previously approved Master Plans for Jesmond Dene and Mountain View Parks. (File No. 0915-07)

Staff Recommendation: **Approval (City Manager's Office: Jay Petrek)**

Jay Petrek, Assistant City Manager, presented the staff report, utilizing a Power Point presentation.

Jeff Golding, Escondido, spoke in favor of having a city pool that could be utilized by the local schools.

MOTION: Moved by Councilmember Masson, seconded by Councilmember Morasco to approve authorizing staff and resources to amend the previously approved Master Plans for Jesmond Dene and Mountain View Parks. Motion carried unanimously.

FUTURE AGENDA

11. FUTURE AGENDA -

The purpose of this item is to identify issues presently known to staff or which members of the City Council wish to place on an upcoming City Council agenda. Council comment on these future agenda items is limited by California Government Code Section 54954.2 to clarifying questions, brief announcements, or requests for factual information in connection with an item when it is discussed.

Staff Recommendation: **None (City Clerk's Office: Diane Halverson)**

COUNCIL MEMBERS' SUBCOMMITTEE REPORTS

Councilmember Gallo shared that the Downtown Parking Subcommittee met and discussed the future development of parking downtown; North County Transit District (NCTD) will be running the Coaster to Del Mar Race Track; scheduled a Safety Awareness Rail Tour on August 1, 2017; the NCTD is in line for Federal grants for public safety; discussed the adoption of a proclamation declaring September as California Rail Safety Month.

Mayor Abed reported that the Court ruled in Favor of SANDAG in the lawsuit against the Sierra Club.

CITY MANAGER'S WEEKLY ACTIVITY REPORT

The most current information from the City Manager regarding Economic Development, Capital Improvement Projects, Public Safety and Community Development.

- **WEEKLY ACTIVITY REPORT -**

ORAL COMMUNICATIONS

ADJOURNMENT

Mayor Abed adjourned the meeting at 5:53 p.m.

MAYOR

CITY CLERK

ASSISTANT CITY CLERK



CITY COUNCIL STAFF REPORT

Consent Item No. 4

August 16, 2017

File No. 0480-70

SUBJECT: Fiscal Year 2017-18 State of California Office of Traffic Safety Selective Traffic Enforcement Grant and Budget Adjustment

DEPARTMENT: Police Department

RECOMMENDATION:

It is requested that the City Council authorize the Escondido Police Department to accept a FY 2017-18 California Office of Traffic Safety (OTS) Selective Traffic Enforcement Program Grant in the amount of \$510,000; authorize the Chief of Police or his designee to execute grant documents on behalf of the City; and approve budget adjustments needed to spend grant funds.

FISCAL ANALYSIS:

This action will have no impact on the FY 2017-18 General Fund Budget. Grant funds will cover salary and benefit expenses for two, new, full-time traffic officers. The grant will also fund overtime expenses related to traffic safety enforcement activities and traffic safety supplies. Funding will cover grant expenses from October 1, 2017 through September 30, 2018. The Police Department will submit an application for a FY 2018-19 California Office of Traffic Safety (OTS) Selective Traffic Enforcement Program Grant to sustain salary and benefit expenses for the two traffic officers.

PREVIOUS ACTION:

The City Council accepted a FY 2016-17 California Office of Traffic Safety Selective Enforcement Grant in the amount of \$310,000 on September 14, 2016.

BACKGROUND:

The Police Department received a FY 2017-18 State of California Office of Traffic Safety Grant in the amount of \$510,000. These funds will be used to pay salary expenses for two, new, full-time traffic officers. The grant will also cover overtime expenses for DUI checkpoints, saturation patrols, traffic safety enforcement details, and supplies related to traffic safety enforcement.

APPROVED AND ACKNOWLEDGED ELECTRONICALLY BY:

Craig Carter, Chief of Police
8/9/2017 1:53 p.m.

ATTACHMENTS:

1. Attachment A – Budget Adjustment



CITY COUNCIL STAFF REPORT

Consent Item No. 5

August 16, 2017

File No. 0690-20

SUBJECT: Amendment to Purchase and Sale Agreement: 700 West Grand Avenue

DEPARTMENT: Engineering Services Department, Real Property Division

RECOMMENDATION:

It is requested that the City Council adopt Resolution No. 2017-114, authorizing the Real Property Manager and the City Clerk to execute a Fourth Amendment to the Purchase and Sale Agreement for the sale of 700 West Grand Avenue to Lyon-Integral Escondido Gateway, LLC.

FISCAL ANALYSIS:

Sale proceeds in the amount of \$2.45 million, less closing costs, will be deposited into the General Fund Reserve Account.

PREVIOUS ACTION:

The City Council approved the original Purchase and Sale Agreement via Resolution No. 2015-132, on August 5, 2015. The first Amendment to the Agreement was entered into on October 20, 2015, and the second Amendment to the Agreement was entered into on November 18, 2015. The City Council approved the third Amendment to the Purchase and Sale Agreement via Resolution No. 2016-135, on September 14, 2016.

BACKGROUND:

The City and Lyon-Integral Escondido Gateway, LLC ("Buyer" or "Developer") opened escrow following the City Council's approval of the Purchase and Sale Agreement on August 5, 2015 ("Agreement"), for the development of a mixed-use housing project at the City's former Police Headquarters property, located at 700 West Grand Avenue ("Project"). As stated above, the Agreement was previously amended three times. The proposed Fourth Amendment to the Agreement would address complications regarding the design of the Project and the City's parcel, as well as conflicting underground utility lines. When the original deed was conveyed to the City, the legal description omitted fee title to certain right of way that is essential to allow for the pedestrian and street improvements of the Project. An underground fiber optic cable also conflicts with the Project and the City has reduced the purchase price by a small amount to cover a significant increase in cost and risk to the Buyer. The new purchase price would be \$2.45 million, which will be fully released to the City upon close of escrow.

The proposed amendments include:

- 1) Amending the definition of the "Property" to include the small adjacent parcels currently within the City's right of way. The City will ultimately transfer these parcels once the City obtains fee title. The City intends to obtain fee title to one parcel through condemnation proceedings and for two other parcels by obtaining a quitclaim deed from North County San Diego County Transit Development Board.
- 2) The purchase price has been changed to \$2.45 million from \$2.5 million.
- 3) The close of escrow has been proposed to occur on September 14, 2017 or ten (10) days after the City obtains fee title to the additional parcels identified above, whichever occurs later.
- 4) Changes to the proposed exceptions to title have been included and also an acknowledgement that AT&T has an underground conduit located within the property, and the Buyer will take title to the property, subject to AT&T's rights.
- 5) An amendment to except from that condition City's anticipated condemnation action regarding the parcel to be condemned by the City, which can continue after the Close of Escrow so long as on the Close of Escrow, the City conveys to the Buyer the fee title to that parcel in the Closing Title Condition.
- 6) Paragraphs 46.1.5 and 46.2.2 of the Purchase Agreement are deleted because the conveyance of the Property by Seller, being a municipality, to Buyer is not subject to California's Subdivision Map Act and because after acquiring the Property Buyer will record a new map on the Property that causes the Property to consist of separately conveyable legal parcels in compliance with that Act.

APPROVED AND ACKNOWLEDGED ELECTRONICALLY BY:

Julie Procopio, Director of Engineering Services
8/9/2017 9:57 a.m.

ATTACHMENTS:

1. Resolution No. 2017-114
2. Resolution No. 2017-114 Exhibit "A": - Fourth Amendment to Commercial Property Purchase Agreement; Description of Property; and Depiction of Property

RESOLUTION NO. 2017-114

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ESCONDIDO, CALIFORNIA, AUTHORIZING THE REAL PROPERTY MANAGER AND CITY CLERK TO EXECUTE, ON BEHALF OF THE CITY, A FOURTH AMENDMENT TO THE PURCHASE AND SALE AGREEMENT FOR THE SALE OF 700 WEST GRAND AVENUE TO LYON-INTEGRAL ESCONDIDO GATEWAY, LLC.

WHEREAS, the City of Escondido (“City”) and Lyon-Integral Escondido Gateway, LLC (“Buyer”), entered into a Purchase and Sale Agreement, dated August 5, 2015; and

WHEREAS, the City entered into a First Amendment on October 20, 2015, a Second Amendment on November 18, 2015, and a Third Amendment on September 7, 2016; and

WHEREAS, the original purchase price was \$2.5 million dollars; and

WHEREAS, the City and Buyer desire to amend the Purchase and Sale Agreement to change the close of escrow date; and

WHEREAS, the City and Buyer desire to amend the Purchase and Sale Agreement to reduce the purchase price by \$50,000 to offset additional costs to Buyer in addressing conflicting undergrounded utilities with the project; and

WHEREAS, this City Council desires at this time and deems it to be in the best public interest to approve the Fourth Amendment to the Purchase and Sale Agreement.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of

Escondido, California, as follows:

1. That the above recitations are true.

2. The Real Property Manager and City Clerk are authorized to execute, on behalf of the City, the Fourth Amendment to the Purchase Agreement and Escrow Instructions attached to this Resolution as Exhibit "A" and incorporated by this reference in substantially similar form, subject to the City Attorney's approval.

**FOURTH AMENDMENT TO COMMERCIAL PROPERTY PURCHASE
AGREEMENT
AND JOINT ESCROW INSTRUCTIONS**

THIS FOURTH AMENDMENT TO COMMERCIAL PROPERTY PURCHASE AGREEMENT AND JOINT ESCROW INSTRUCTIONS ("*Amendment*") is made as of _____, 2017, by LYON-INTEGRAL ESCONDIDO GATEWAY, LLC, a Delaware limited liability company ("*Buyer*"), and CITY OF ESCONDIDO, a municipal corporation ("*Seller*").

R E C I T A L S

A. Buyer, as successor in interest to The Gateway Grand Investor, LLC, as successor in interest to The Gateway Grand Project Owner, LLC, as successor in interest to Integral Partners Funding, LLC, and Seller are parties to that Commercial Property Purchase Agreement and Joint Escrow Instructions dated as of August 5, 2015, as supplemented by that certain Addendum One to Commercial Property Purchase Agreement and Joint Escrow Instructions dated as of August 5, 2015, and as amended by that certain First Amendment to Commercial Property Purchase Agreement and Joint Escrow Instructions dated as of October 20, 2015, and that certain Second Amendment to Commercial Property Purchase Agreement and Joint Escrow Instructions dated as of November 18, 2015, and as amended by that certain Third Amendment to Commercial Property Purchase Agreement and Joint Escrow Instructions dated as of September 7, 2016 (collectively, the "*Purchase Agreement*"), with respect to the purchase and sale of the real property located in the City of Escondido, County of San Diego, State of California, as more particularly described in the Purchase Agreement. Unless otherwise defined in this Amendment, all capitalized terms used in this Amendment shall have the meanings ascribed to such terms in the Purchase Agreement.

B. Buyer and Seller desire to amend the Purchase Agreement in accordance with the terms and provisions set forth in this Amendment.

A G R E E M E N T

NOW, THEREFORE, in consideration of the covenants herein contained and the respective undertakings of Buyer and Seller hereinafter set forth, it is hereby agreed:

1. **The Property.** The definition of the "Property" in the Purchase Agreement is amended to provide that it consists of Parcels 1, 1A, 2, 2A 3, 3A, and 4 as described on attached **Exhibit "1"** and as depicted on attached **Exhibit "2"**. As of the date of this Amendment: (a) Seller owns fee title to Parcels 1, 2, 3, and 4, but does not own fee title to Parcels 1A, 2A, or 3A; (b) Seller intends to obtain fee title to Parcel 1A through condemnation proceedings pursuant to which Seller will obtain a Final Order of Condemnation for Parcel 1A; and (c) Seller intends to obtain fee title to Parcels 2A and 3A by obtaining and recording a quitclaim deed as to those Parcels from North San Diego

County Transit Development Board. It shall be a condition precedent to the Close of Escrow for the sole benefit of Buyer that Seller shall obtain fee title to Parcels 1A, 2A, and 3A, so that on the Close of Escrow Seller conveys to Buyer fee title to all of Parcels 1, 1A, 2, 2A, 3, 3A, and 4 in the Closing Title Condition (as defined in Section 4 below). After this Amendment is signed and delivered by Buyer and Seller, Seller shall use commercially reasonable and diligent efforts to obtain fee title to Parcels 1A, 2A, and 3A in the Closing Title Condition as soon as reasonably possible and shall keep Buyer apprised of those efforts.

2. **Purchase Price.** Paragraph 1C of the Purchase Agreement is deleted and replaced with the following:

“**THE PURCHASE PRICE** shall be Two Million Four Hundred Fifty Thousand Dollars (\$2,450,000.00).”

The balance of the Purchase Price described in Paragraph 3F of the Purchase Agreement is changed to \$2,350,000, and the total Purchase Price described in Paragraph 3G of the Purchase Agreement is changed to \$2,450,000.

3. **Close of Escrow.** Paragraph 1D of the Purchase Agreement is deleted and replaced with the following:

“**CLOSE OF ESCROW** shall occur on the later of: (a) Thursday, September 14, 2017; and (b) the date that is ten (10) days after Seller obtains fee title to Parcels 1A, 2A, and 3A in the Closing Title Condition and Seller gives written notice thereof to Buyer (the “**Closing Date**”).

Buyer shall have the right, at any time and its sole and absolute discretion after the satisfaction (or waiver by Buyer) of the conditions precedent to the Close of Escrow for the benefit of Buyer, to designate a Closing Date earlier than the Closing Date otherwise described in this Paragraph by giving Seller and Escrow Holder written notice of Buyer’s earlier-designated Closing Date at least ten (10) days in advance of such earlier-designated Closing Date.”

The supplement to Paragraph 1D in Addendum One is deleted, and all references in the Purchase Agreement to the “Extension Deposit” are deleted.

4. **Title.** The supplement to Paragraph 17 in Addendum One of the Purchase Agreement is deleted and replaced with the following:

“17. **Paragraph 17** is hereby supplemented as follows:

Chicago Title Company (“**Title Company**”) has provided to Buyer and Seller a Fourth Amended Preliminary Report having an effective date of March 21, 2017 (“**Title Report**”). At the Close of Escrow, Seller shall deliver title to the Property in the condition shown in the Title Report, except that: (a) by the Close of Escrow

Seller has agreed to cause to be deleted Exceptions 2, 2A, and 3A; (b) by the Close of Escrow, Title Company has agreed to delete Exception 13 regarding parties in possession; and (c) Buyer and Seller acknowledge that AT&T has an unrecorded underground conduit located within the Property that runs near and approximately parallel to the sidewalk that is adjacent to Grand Avenue, and Buyer shall take title to the Property subject to AT&T's rights as to that conduit (the "**Closing Title Condition**")."

5. **Condemnation Closing Condition.** Paragraph 46.1.4 of the Purchase Agreement is amended to except from that condition Seller's anticipated condemnation action as to Parcel 1A, which action may continue after the Close of Escrow so long as on the Close of Escrow Seller conveys to Buyer fee title to Parcel 1A in the Closing Title Condition (i.e., without a title exception as to that action).

6. **Subdivision Map Act Closing Conditions.** Paragraphs 46.1.5 and 46.2.2 of the Purchase Agreement are deleted because the conveyance of the Property by Seller, being a municipality, to Buyer is not subject to California's Subdivision Map Act and because after acquiring the Property Buyer will record a new map on the Property that causes the Property to consist of separately conveyable legal parcels in compliance with that Act.

7. **Counterparts.** This Amendment may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of such counterparts shall constitute one agreement. To facilitate execution of this Amendment, Buyer and Seller may execute and exchange by facsimile or electronic mail counterparts of the signature pages, which facsimile or electronic mail counterparts shall be binding as original signature pages.

8. **Conflict.** In case of any inconsistency between this Amendment and the Purchase Agreement, the provisions containing such inconsistency shall first be reconciled with one another to the maximum extent possible, and then to the extent of any remaining inconsistency, the terms of this Amendment shall control.

9. **Entire Agreement.** The Purchase Agreement, together with this Amendment, embodies the entire understanding between Seller and Buyer with respect to its subject matter and can be changed only by an instrument in writing signed by Seller and Buyer.

10. **Force and Effect.** Except as modified by this Amendment, the Purchase Agreement is ratified, affirmed, in full force and effect, and incorporated herein by this reference.

IN WITNESS WHEREOF, this Amendment has been executed as of the date first set forth above.

SELLER:

CITY OF ESCONDIDO,
a municipal corporation

By: _____
Name: _____
Title: _____

BUYER:

LYON-INTEGRAL ESCONDIDO GATEWAY,
LLC, a Delaware limited liability company

By: Lyon Housing (West Grand) LXVI, LLC,
a Delaware limited liability company,
its Managing Member

By: _____
Name: _____
Title: _____

EXHIBIT "1"

DESCRIPTION OF THE PROPERTY

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF ESCONDIDO, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:

THAT PORTION OF LOT 5 OF BLOCK 145 OF RANCHO RINCON DEL DIABLO, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL MAP THEREOF NO. 349, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JULY 10, 1886, BEING DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEASTERLY CORNER OF SAID LOT 5, THENCE SOUTHWESTERLY ALONG THE SOUTHERLY LINE OF SAID LOT 5, SOUTH 59°41'47" WEST A DISTANCE OF 400 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG THE SOUTHERLY LINE OF SAID LOT 5, SOUTH 59°41'47" WEST 132.51 FEET TO THE INTERSECTION WITH THE EASTERLY LINE OF THE RIGHT OF WAY OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY; THENCE NORTHWESTERLY ALONG SAID EASTERLY R/W LINE, NORTH 50°47'49" WEST 308.89 FEET; THENCE NORTHEASTERLY, LEAVING SAID R/W LINE, NORTH 39°12'11" EAST 21.96 FEET; THENCE NORTH 59°39'51" EAST 227.86 FEET TO THE INTERSECTION WITH A LINE PARALLEL WITH THE EASTERLY LINE OF SAID LOT 5 AND BEARING NORTH 28°47' 59" WEST FROM THE TRUE POINT OF BEGINNING; THENCE SOUTHEASTERLY AND PARALLEL WITH THE EASTERLY LINE OF SAID LOT 5, SOUTH 28°47' 59" EAST 297.27 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL 1A:

THE NORTHWESTERLY 13.50 FEET OF GRAND AVENUE LYING ADJACENT TO THE SOUTHEASTERLY LINE OF PARCEL 1 ABOVE.

PARCEL 2:

THAT PORTION OF THE SUBDIVISION OF RANCHO RINCON DEL DIABLO, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, BEING A PORTION OF THE RIGHT OF WAY AND STATION GROUNDS OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY. SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE POINT OF INTERSECTION OF THE NORTHWEST LINE OF GRAND AVENUE WITH THE NORTHEASTERLY LINE OF SAID RAILWAY COMPANY'S 300 FOOT WIDE RIGHT OF WAY AS SAID RIGHT OF WAY IS DESCRIBED IN DEED FROM THE ESCONDIDO LAND AND TOWN COMPANY TO CALIFORNIA CENTRAL RAILWAY COMPANY, DATED AUGUST 13, 1888, RECORDED IN BOOK 146, PAGE 196 OF DEEDS, RECORDS OF SAID COUNTY; THENCE SOUTH 4°4'30" WEST 62.69 FEET ALONG SAID NORTHWEST LINE OF GRAND AVENUE TO THE TRUE POINT OF BEGINNING FOR THIS DESCRIPTION; THENCE CONTINUING SOUTH 44°30' WEST ALONG SAID NORTHWEST LINE OF GRAND AVENUE, A DISTANCE OF 125.72 FEET TO A POINT IN A LINE WHICH IS PARALLEL WITH AND DISTANT 23.5 FEET NORTHEASTERLY AT RIGHT ANGLES FROM THE CENTER LINE OF SAID RAILWAY COMPANY'S MAIN TRACK; THENCE NORTH 65°58' WEST ALONG SAID PARALLEL LINE 190.00 FEET; THENCE NORTH 24°02' EAST 117.77 FEET; THENCE SOUTH 65°55' EAST 233.95 FEET, MORE OR LESS, TO POINT OF BEGINNING,

EXCEPTING THEREFROM, UNTO SANTA FE, ITS SUCCESSORS AND ASSIGNS, ALL OIL, GAS AND OTHER HYDROCARBON AND MINERAL SUBSTANCES LYING NOT LESS THAN ONE HUNDRED (100) FEET BELOW THE SURFACE OF THE HEREINABOVE DESCRIBED REAL PROPERTY, PROVIDED, THAT SANTA FE, ITS SUCCESSORS AND ASSIGNS, SHALL NOT HAVE THE RIGHT TO GO UPON THE SURFACE OF SAID REAL PROPERTY FOR THE PURPOSE OF EXTRACTING SAID OIL, GAS, OR OTHER HYDROCARBON AND MINERAL SUBSTANCES, NOR FOR ANY PURPOSE IN CONNECTION THEREWITH, BUT SHALL HAVE THE RIGHT TO EXTRACT AND REMOVE SAID OIL, GAS, AND OTHER HYDROCARBON AND MINERAL SUBSTANCES BY MEANS OF SLANT-DRILLED WELLS LOCATED ON ADJACENT OR NEARBY LAND, OR BY ANY OTHER MEANS WHICH SHALL NOT REQUIRE ENTRY UPON THE SURFACE OF SAID REAL PROPERTY. BY DEED RECORDED OCTOBER 8, 1951 IN BOOK 4257 PG 228 OF OFFICIAL RECORDS.

PARCEL 2A:

THE NORTHWESTERLY 13.50 FEET OF GRAND AVENUE LYING ADJACENT TO THE SOUTHEASTERLY LINE OF PARCEL 2 ABOVE.

PARCEL 3:

THAT PORTION OF THE SUBDIVISION OF RANCHO RINCON DEL DIABLO, IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, LYING WITHIN THE BOUNDARY OF THE 300 FOOT STRIP OF LAND OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY, LYING NORTHWESTERLY LINE OF GRAND AVENUE AS SAID 300 FOOT STRIP IS SHOWN ON SHEET 4 OF MISCELLANEOUS MAP NO. 41, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAID SAN DIEGO COUNTY, JANUARY 10, 1922, BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF INTERSECTION OF THE NORTH WEST LINE OF GRAND AVENUE WITH THE NORTHEASTERLY LINE OF SAID RAILWAY COMPANY'S 300 FOOT WIDE RIGHT OF WAY AS SAID RIGHT OF WAY IS DESCRIBED IN DEED FROM THE ESCONDIDO LAND AND TOWN COMPANY TO CALIFORNIA CENTRAL RAILWAY COMPANY, DATED AUGUST 13, 1888, RECORDED IN BOOK 146, PAGE 196 OF DEEDS, RECORDS OF SAID COUNTY; THENCE SOUTHWESTERLY ALONG SAID NORTHWEST LINE OF GRAND AVENUE, SOUTH 59°41'47" WEST (RECORD SOUTH 44°30' WEST) 62.69 FEET TO THE MOST EASTERLY CORNER OF LAND DESCRIBED IN DEED TO HAROLD DEWALL, ET UX, FILED IN THE OFFICE OF SAID COUNTY RECORDER, FEBRUARY 22, 1973, AS FILE NO. 73-046209; THENCE NORTHWESTERLY ALONG THE NORTHEASTERLY LINE OF SAID DEWALL LAND, NORTH 50°46'13" WEST (RECORD NORTH 65°58' WEST) 233.95 FEET TO THE MOST NORTHERLY CORNER OF SAID DEWALL LAND; THENCE SOUTHWESTERLY ALONG THE NORTHWESTERLY BOUNDARY OF SAID DEWALL LAND, SOUTH 39°13'47" WEST (RECORD SOUTH 24°02' WEST) 117.77 FEET TO THE MOST WESTERLY CORNER OF SAID DEWALL LAND, SAID CORNER BEING A POINT IN A LINE WHICH IS PARALLEL WITH AND DISTANT 23.5 FEET NORTHEASTERLY AT RIGHT ANGLES FROM THE CENTER LINE OF SAID RAILWAY COMPANY'S MAIN TRACK; THENCE NORTH WESTERLY ALONG THE NORTHWESTERLY PROLONGATION OF THE SOUTHWESTERLY LINE OF SAID DEWALL LAND, NORTH 50°46' 13" WEST (RECORD NORTH 65°58' WEST) 125.92 FEET; THENCE NORTH 59°39'51" EAST 188.23 FEET TO THE INTERSECTION WITH THE NORTHEASTERLY RIGHT OF WAY LINE OF SAID RAILWAY RIGHT OF WAY, DISTANT THEREON NORTH 50° 47'49" WEST 317.09 FEET FROM THE TRUE POINT OF BEGINNING; THENCE SOUTHEASTERLY ALONG SAID NORTHEASTERLY RIGHT OF WAY LINE, SOUTH 50°47'49" EAST 317.09 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM ALL MINERALS CONTAINED IN THE ABOVE DESCRIBED LAND, INCLUDING, WITHOUT LIMITING THE GENERALITY THEREOF, OIL, GAS AND OTHER HYDROCARBON SUBSTANCES, AS WELL AS METALLIC OR OTHER SOLID MINERALS,

PROVIDED THAT SANTA FE SHALL NOT HAVE THE RIGHT TO GO UPON OR USE THE SURFACE OF SAID LAND, OR ANY PART THEREOF, FOR THE PURPOSE OF DRILLING FOR, MINING, OR OTHERWISE REMOVING, ANY OF SAID MINERALS. SANTA FE MAY, HOWEVER, AND HEREBY RESERVES THE RIGHT TO, REMOVE ANY OF SAID MINERALS FROM SAID LAND BY MEANS OF WELLS, SHAFTS, TUNNELS, OR OTHER MEANS OF ACCESS TO SAID MINERALS WHICH MAY BE CONSTRUCTED, DRILLED OR DUG FROM OTHER LAND, PROVIDED THAT THE EXERCISE OF SUCH RIGHTS BY SANTA FE SHALL IN NO WAY INTERFERE WITH OR IMPAIR THE USE OF THE SURFACE OF THE LAND HEREBY CONVEYED OR OF ANY IMPROVEMENTS THEREON. BY DEED RECORDED OCTOBER 1, 1974 AS INSTRUMENT NO. 74-263944 OF OFFICIAL RECORDS.

PARCEL 3A:

THE NORTHWESTERLY 13.50 FEET OF GRAND AVENUE LYING ADJACENT TO THE SOUTHEASTERLY LINE OF PARCEL 3 ABOVE.

PARCEL 4:

ALL THAT PORTION OF LOT 5 IN BLOCK 145 OF RANCHO RINCON DEL DIABLO, IN THE CITY OF ESCONDIDO, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 349, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JULY 10, 1886, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT ON THE EASTERLY LINE OF THE RIGHT OF WAY OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY, WHICH POINT IN NORTH 51°16' WEST 308.89 FEET FROM THE INTERSECTION OF THE SAID EASTERLY LINE OF THE SAID RIGHT-OF-WAY WITH THE SOUTHERLY LINE OF LOT 5 IN BLOCK 145, WHICH POINT IS THE TRUE POINT OF BEGINNING; THENCE ALONG SAID EASTERLY RIGHT OF WAY LINE NORTH 50°47'49" WEST 8.20 FEET; THENCE NORTH 59°39'51" EAST 23.44 FEET; THENCE SOUTH 39°12'11" WEST, 21.93 FEET TO THE TRUE POINT OF BEGINNING.



CITY COUNCIL STAFF REPORT

Consent Item No. 6

August 16, 2017

File No. 0470-25

SUBJECT: Increase to Purchase Order for Water Treatment Chemical

DEPARTMENT: Utilities Department, Water Division

RECOMMENDATION:

It is requested that the City Council adopt Resolution No. 2017-115, approving an increase of \$19,900 to the City's FY 2016/2017 purchase order with Water Solutions (Azure Water Services). Water Solutions provides the Water Treatment Plant with the chemical purate, used during the disinfection process.

FISCAL ANALYSIS:

With approval, the original purchase order total of \$99,025.35 will increase to \$118,925.35.

BACKGROUND:

With construction of the Water Treatment Plant's Onsite Generation (OSG) system, a low-strength chlorine solution (0.8%) is now produced at the plant for use in disinfection of potable water. Installation of the OSG systems mean that pure liquid and gaseous chlorine are no longer used onsite, thus enhancing employee and public safety. However, with the new OSG system, purate is needed as an additive to the low-strength chlorine solution to produce chlorine dioxide that is needed for disinfection when the City's local water supply is used. At present, purate is a propriety chemical.

In September of 2016, a purchase order was created to obtain purate from Water Solutions. Because this was the first time that staff would include purate in the treatment process, an estimate was calculated for the amount of chemical needed through June of 2017. Purchase order funding was depleted prior to receiving the last invoice from Water Solutions for FY 2016/2017. With adoption of Resolution No 2017-115, necessary funding will be provided to pay the last invoice and close the purchase order.

APPROVED AND ACKNOWLEDGED ELECTRONICALLY BY:

Christopher W. McKinney, Director of Utilities
8/9/2017 11:37 a.m.

Lori Rountree, Deputy Dir. of Utilities/Water
8/8/2017 11:46 a.m.

ATTACHMENTS:

1. Resolution No. 2017-115

RESOLUTION NO. 2017-115

A RESOLUTION OF THE CITY COUNCIL OF
THE CITY OF ESCONDIDO, CALIFORNIA,
AUTHORIZING AN INCREASE OF \$19,900
TO THE CITY'S FY 2016 / 2017 PURCHASE
ORDER WITH WATER SOLUTIONS (AZURE
WATER SERVICES)

WHEREAS, the Escondido – VID Water Treatment Plant uses the chemical Purate as a part of the disinfection process while treating local water; and

WHEREAS, the City of Escondido ("City") created a purchase order in September 2016 in the amount of \$99,025.35 to obtain Purate for treatment processes through the end of FY 2016 / 2017; and

WHEREAS, the original purchase order funding was depleted prior to receiving the last invoice from Water Solutions for FY 2016 / 2017; and

WHEREAS, \$19,900 is needed to pay the last invoice from Water Solutions and to close the purchase order.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Escondido, California, as follows:

1. That the above recitations are true and correct.
2. That the City Council authorizes an increase of \$19,900 to the City's FY 2016 / 2017 purchase order with Water Solutions (Azure Water Services).



CITY COUNCIL STAFF REPORT

Consent Item No. 7

August 16, 2017

File No. 0600-10, A-3220

SUBJECT: Award Bid for Neighborhood Group Street Lighting Project

DEPARTMENT: Engineering Services Department

RECOMMENDATION:

It is requested that the City Council adopt Resolution No. 2017-117, authorizing the bid award to HMS Construction, Inc., who was determined to be the lowest responsive and responsible bidder; and authorizing the Mayor and the City Clerk to execute a Public Improvement Agreement in the amount of \$500,580 for the Neighborhood Group Street Lighting Project (“Project”).

FISCAL ANALYSIS:

The Project is funded through Community Development Block Grant (CDBG) funds.

CORRELATION TO THE CITY COUNCIL ACTION PLAN:

This item relates to the Council’s Action Plan regarding Neighborhood Improvement.

PREVIOUS ACTION:

On April 22, 2015, with Resolution No. 2015-63R, and July 20, 2016, with Resolution No. 2016-100R, the City Council authorized staff to accept and allocate \$600,113 and \$75,000, respectively, in CDBG funds, for the Neighborhood Group Street Lighting Project.

BACKGROUND:

This Project will install street lights with L.E.D. luminaires in five CDBG-eligible neighborhoods: The Elms, Rustic Village, Mission Grove, Cedar-Cedar Brook, and Rose to Foxdale. Additionally, the project will retrofit existing street lights in the area of E. Grand Avenue with L.E.D. luminaires.

The City of Escondido received five competitive bids on August 3, 2017, with the following results:

- | | |
|--------------------------------------|----------------|
| 1) HMS Construction, Inc. | \$ 500,580.00 |
| 2) T.M. Electric DBA Penny Electric | \$ 520,700.00 |
| 3) Lekos Electric, Inc. | \$ 597,260.00 |
| 4) CTE, Inc. | \$ 598,068.00 |
| 5) A.M. Ortega Gen. Eng. Cont., Inc. | \$1,049,546.95 |

Award Bid for Neighborhood Group Street Lighting Project
August 16, 2017
Page 2

The lowest responsive bid is 3.3 percent lower than the Engineer's estimate of \$518,000. Staff recommends that the bid submitted by HMS Construction, Inc. be considered the lowest responsive and responsible bid, and that the contract be awarded in the amount of \$500,580.00 to HMS Construction, Inc.

APPROVED AND ACKNOWLEDGED ELECTRONICALLY BY:

Julie Procopio, Director of Engineering Services
8/8/2017 5:48 p.m.

ATTACHMENTS:

1. Resolution No. 2017-117
2. Resolution No. 2017-117-Exhibit "1": Public Improvement Agreement with HMS Construction, Inc.

RESOLUTION NO. 2017-117

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ESCONDIDO, CALIFORNIA, AWARDING A BID FOR THE NEIGHBORHOOD STREET LIGHTING PROJECT, AND AUTHORIZING THE MAYOR AND CITY CLERK TO EXECUTE, ON BEHALF OF THE CITY, A PUBLIC IMPROVEMENT AGREEMENT WITH HMS CONSTRUCTION, INC.

WHEREAS, the City Council has allocated funding for the Neighborhood Street Lighting Project (“Project”); and

WHEREAS, a notice inviting bids for said improvements was duly published; and

WHEREAS, pursuant to said notice, five sealed bids for the Project were opened and evaluated on August 3, 2017; and

WHEREAS, HMS Construction, Inc. was determined to be the lowest responsive and responsible bidder; and

WHEREAS, this City Council desires at this time and deems it to be in the best public interest to award this contract to HMS Construction, Inc. in the amount of \$500,580.00.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Escondido, California, as follows:

1. That the above recitations are true.
2. That the Mayor and the City Clerk are authorized to execute, on behalf of the City, a Public Improvement Agreement with HMS Construction, Inc. in substantially similar form to that which is attached and incorporated to this Resolution as Exhibit “1,” and subject to final approval as to form by the City Attorney.

PUBLIC IMPROVEMENT AGREEMENT

This "Agreement", dated the _____ day of _____, 20____, in the County of SAN DIEGO, State of California, is by and between **THE CITY OF ESCONDIDO** (hereinafter referred to as "CITY"), and **HMS Construction, Inc.** (hereinafter referred to as "CONTRACTOR").

The CITY and the CONTRACTOR, for the consideration stated herein, agree as follows:

1. The complete contract includes all of the Project Documents described in the General Conditions, which are incorporated by reference. The Project Documents are complementary, and what is called for by any one shall be as binding as if called for by all.
2. CONTRACTOR shall perform, within the time set forth in Paragraph 4 of this Agreement, everything required and reasonably inferred to be performed, and shall provide and furnish all the labor, materials, necessary tools, expendable equipment, and all utility and transportation services as described in the complete contract and required for construction of

NEIGHBORHOOD GROUP STREET LIGHTING PROJECT

All of said work to be performed and materials to be furnished shall be completed in a good workmanlike manner, free from defects, in strict accordance with the plans, drawings, specifications and all provisions of the complete contract as hereinabove defined. The CONTRACTOR shall be liable to the CITY for any damages and resulting costs, including consultants' costs, arising as a result of a failure to fully comply with this obligation, and the CONTRACTOR shall not be excused with respect to any failure to so comply by any act or omission of the Architect, Engineer, Inspector, or representative of any of them, unless such act or omission actually prevents the CONTRACTOR from fully complying with the requirements of the Project Documents, and unless the CONTRACTOR protests at the time of such alleged prevention that the act or omission is preventing the CONTRACTOR from fully complying with the Project documents. Such protest shall not be effective unless reduced to writing and filed with the CITY within **three (3) working days** of the date of occurrence of the act or omission preventing the CONTRACTOR from fully complying with the Project documents.

3. CITY shall pay to the CONTRACTOR, as full consideration for the faithful performance of the contract, subject to any additions or deductions as provided in the Project documents, the sum of **Five hundred thousand five hundred eighty and 00/100 Dollars (\$500,580.00)**.
4. The work shall be commenced on or before the twenty-first (21st) day after receiving the CITY'S Notice to Proceed and shall be completed within **forty (40) working days** from the date specified in the Notice to Proceed.
5. Time is of the essence. If the work is not completed in accordance with Paragraph 4 above, it is understood that the CITY will suffer damage. It being impractical and infeasible to determine the amount of actual damage(s), in accordance with Government Code Section 53069.85, it is agreed that CONTRACTOR shall pay to CITY as fixed and liquidated damages, and not as a penalty, the sum(s) indicated in the LIQUIDATED DAMAGES SCHEDULE below for each calendar day of delay until work is completed and accepted. This amount shall be deducted from any payments due

- (b) Any injury to or death of any person(s) or damage, loss or theft of any property caused by any act, neglect, default or omission of the CONTRACTOR, or any person, firm, or corporation employed by the CONTRACTOR, either directly or by independent contract, arising out of, or in any way connected with the work covered by this Agreement, whether said injury or damage occurs on or off City property.
- (c) Any and all liabilities, claims, actions, causes of action, proceedings, suits, administrative proceedings, damages, fines, penalties, judgments, orders, liens, levies, costs and expenses of whatever nature, including reasonable attorneys' fees and disbursements, arising out of any violation, or claim of violation of the San Diego Municipal Storm Water Permit (Order No. 2001-01), and updates or renewals, of the California Regional Water Quality Control Board Region 9, San Diego, which the CITY might suffer, incur, or become subject by reason of or occurring as a result of or allegedly caused by the construction, reconstruction, maintenance, and/or repair of the work under this Agreement.

The CONTRACTOR, at CONTRACTOR's own expense, cost, and risk shall defend any and all actions, suit, or other proceedings that may be brought or instituted against the CITY, its governing board, officers, agents or employees, on any such claim, demand or liability, and shall pay or satisfy any judgment that may be rendered against the CITY, its governing board, officers, agents or employees in any action, suit or other proceedings as a result thereof.

- 8. CONTRACTOR shall take out, prior to commencing the work, and maintain, during the life of this contract, and shall require all subcontractors, if any, of every tier, to take out and maintain:
 - (a) General Liability and Property Damage Insurance as defined in the General Conditions in the amount with a combined single limit of not less than **\$3,000,000 per occurrence**.
 - (b) Course of Construction / Builder's Risk Insurance. See Article 5.2 of General Conditions.
 - (c) Insurance Covering Special Hazards: The following special hazards shall be covered by rider or riders to the above-mentioned public liability insurance or property damage insurance policy or policies of insurance, or by special policies of insurance in amounts as follows:
 - (1) Automotive and truck where operated in amounts as above
 - (2) Material hoist where used in amounts as above
 - (d) Workers' Compensation Insurance.
 - (e) Each insurance policy required above must be acceptable to the City Attorney, as follows:
 - (1) Each policy must name the CITY specifically as an additional insured under the policy on a separate endorsement page, with the exception of the workers' compensation and the Errors and Omissions policies.
 - (2) Each policy must provide for written notice within no more than thirty (30) days if cancellation or termination of the policy occurs. Insurance coverage must be provided by an A.M. Best's A-rated, class V carrier or better, admitted in California, or if non-admitted, a company that is not on the Department of Insurance list of unacceptable carriers.

- (3) All non-admitted carriers will be required to provide a service of suit endorsement in addition to the additional insured endorsement.
 - (f) In executing this Agreement, CONTRACTOR agrees to have completed insurance documents on file with the CITY within 14 days after the date of execution. Failure to comply with insurance requirements under this Agreement will be a material breach of this Agreement, resulting in immediate termination at CITY's option.
9. This Agreement is subject to California Public Contract Code Section 22300, which permits the substitution of securities for any monies withheld by the City under this Agreement, and permits the CONTRACTOR to have all payments of earned retentions by the City paid to an escrow agent at the expense of the CONTRACTOR.
10. Each and every provision of law and clause required by law to be inserted in this Agreement or its attachments shall be deemed to be inserted herein and the Agreement shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not currently inserted, then upon application of either party the Agreement shall forthwith be physically amended to make such insertion or correction, without further changes to the remainder of the Agreement.
11. The complete contract as set forth in Paragraph 1 of this Agreement constitutes the entire Agreement of the parties. No other agreements, oral or written, pertaining to the work to be performed, exists between the parties. This Agreement can be modified only by an amendment in writing, signed by both parties and pursuant to action of the Escondido City Council.
12. CONTRACTOR shall comply with those provisions of the Labor Code requiring payment of prevailing wages, keeping of certified payroll records, overtime pay, employment of apprentices, and workers' compensation coverage, as further set forth in the General Conditions, and shall file the required workers' compensation certificate before commencing work.
13. The terms "Project Documents" and/or "Contract Documents" where used, shall refer to those documents included in the definition set forth in the General Conditions made a part hereof.

IN WITNESS WHEREOF, this Agreement has been executed on behalf of CITY by its officers thereunto authorized and by CONTRACTOR, the date and year first above written.

CITY OF ESCONDIDO
a municipal corporation
201 North Broadway
Escondido, CA 92025

By: _____
Diane Halverson, City Clerk

By: _____
Sam Abed, Mayor

APPROVED AS TO FORM:

OFFICE OF THE CITY ATTORNEY
Michael R. McGuinness, City Attorney

By: _____

CONTRACTOR

By: _____
Signature

By: _____
Signature*

Print Name

Print Name

Title

Title

(Second signature required only for corporation)

By: _____
Signature**

Print Name

Title

(CORPORATE SEAL OF CONTRACTOR, if corporation)

Contractor's License No.

Tax ID/Social Security No.

*If CONTRACTOR is a corporation, the first signature must be by one of the following officers of the corporation: Chairman of the Board, President, or any Vice President.

**If CONTRACTOR is a corporation, the second signature must be by a different person from the first signature and must be by one of the following officers of the corporation: Secretary, any Assistant Secretary, the Chief Financial Officer, or any Assistant Treasurer.

SECTION A-00610 - FAITHFUL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENT,

That **HMS Construction, Inc.** ("Contractor") and _____ ("Surety") are held and firmly bound unto the CITY OF ESCONDIDO ("Owner") in the sum of **Five hundred thousand five hundred eighty** Dollars, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has been awarded and is about to enter into a contract with Owner to perform all work required under the Bid Schedule(s) of the Owner's specifications entitled,

NEIGHBORHOOD GROUP STREET LIGHTING PROJECT

WHEREAS, the provisions of the Contract are incorporated by reference into this Faithful Performance Bond and shall be part of Surety's obligation hereunder.

NOW THEREFORE, if Contractor shall perform all the requirements of said contract required to be performed on his part, at the times and in the manner specified herein, then this obligation shall be null and void, otherwise, it shall remain in full force and effect.

PROVIDED, that

- (1) Any alterations in the work to be done or the materials to be furnished, which may be made pursuant to the terms of the Contract, shall not in any way release Contractor or Surety thereunder;
- (2) Any extensions of time granted under the provisions of Contract shall not release either Contractor or Surety from their respective obligations to Owner;
- (3) Notice of any such alterations or extensions of the Contract is hereby waived by Surety;
- (4) Any payments (including progress payments) made on behalf of Owner to Contractor after the scheduled completion of the work to be performed pursuant to the Contract shall not release either Contractor or Surety from any obligations under the Contract or this Faithful Performance Bond, or both, including any obligation to pay liquidated damages to Owner; and
- (5) To the extent Owner exercises its rights pursuant to this Bond, Owner shall be entitled to demand performance by the surety and be further entitled to recover, in addition to all other remedies afforded by law, its reasonably incurred costs to complete the work, attorney's fees and consultant costs, as well as actual costs incurred by OWNER for the increased dedication/commitment of time of OWNER employees to the Project.

SIGNED AND SEALED, this _____ day of _____, 20____.

Contractor

Surety

Address

Phone No.

(SEAL)

BY _____
Signature

Signature

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

APPROVED AS TO FORM:

OFFICE OF THE CITY ATTORNEY
Michael R. McGuinness, City Attorney

By: _____

SECTION A-00620 - LABOR AND MATERIAL BOND

KNOW ALL MEN BY THESE PRESENT,

That HMS Construction, Inc. as Contractor, and _____ as Surety, are held and firmly bound unto the CITY OF ESCONDIDO, hereinafter called Owner, in the sum of **Five hundred thousand five hundred eighty** dollars, for the payment of which sum well and truly to be made, we bind ourselves our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Contractor has been awarded and is about to enter into the annexed contract with said Owner to perform all work required under the Bid Schedule(s) of the Owner's specifications entitled,

NEIGHBORHOOD GROUP STREET LIGHTING PROJECT

NOW THEREFORE, if said Contractor, or subcontractor, fails to pay for any materials, equipment, or other supplies, or for rental of same, used in connection with the performance of work contracted to be done, or for amounts due under applicable State law for any work or labor thereon, or for amounts due under the Unemployment Insurance Code, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such labor, said Surety will pay for the same in an amount not exceeding the sum specified above, and, in the event suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of any persons, companies or corporations entitled to file claims under applicable State law.

PROVIDED, that any alterations in the work to be done or the materials to be furnished, which may be made pursuant to the terms of said contract, shall not in any way release either said Contractor or said Surety thereunder, nor shall any extensions of the time granted under the provisions of said contract release either said Contractor or said surety, and notice of such alterations or extensions of the contract is hereby waived by said Surety.

SIGNED AND SEALED, this _____ day of _____, 20__.

Contractor

Surety

Address

Phone No.

(SEAL)

BY _____
Signature

Signature

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

APPROVED AS TO FORM:

OFFICE OF THE CITY ATTORNEY
Michael R. McGuinness, City Attorney

By: _____

SECTION A-00630 - CITY OF ESCONDIDO BUSINESS LICENSE

In accordance with Municipal Code Section 16, the successful bidder is required to obtain a City of Escondido Business License prior to execution of contract.

The following information must be submitted to the City Clerk prior to execution of contract:

City of Escondido Business License No. _____

Expiration Date _____

Name of Licensee _____

SECTION A-00660 - WORKERS' COMPENSATION INSURANCE CERTIFICATE

If self-insured for Workers' Compensation, the Contractor shall execute the following form as required by the California Labor Code, Sections 1860 and 1861:

I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Labor Code, Sections 1860 and 1861, and I will comply with such provisions before commencing the performance of the work of the contract.

Dated: _____

Contractor

By: _____
Signature

SAMPLE NOTICE
(REQUIRED UNDER GENERAL CONDITIONS, ARTICLE 6.1.B)

TO THE PEOPLE ON THIS STREET:

WITHIN THE NEXT FEW DAYS, WORK WILL BE STARTED ON THE FOLLOWING PROJECT:

NEIGHBORHOOD GROUP STREET LIGHTING PROJECT

The work may cause some inconvenience, but will be of permanent benefit.

We shall appreciate your cooperation in the following matters:

1. Please be alert when driving or walking in the construction area.
2. Tools, materials and equipment are attractive to children. For the safety of the children, please keep them away.
3. Please report all inconvenience to the Foreman on the job, or to the City of Escondido Field Engineering Inspection Office, 839-4664. The name and phone number of the contractor are given below.

This work is being performed for the City of Escondido by:

We will endeavor to complete this work as rapidly as possible and with a minimum of inconvenience to you.

CITY COUNCIL STAFF REPORT

Consent Item No. 8

August 16, 2017

File No. 1050-50

SUBJECT: Amend the Traffic Schedule for Time Zoned Parking in Downtown Municipal Parking Lot #6

DEPARTMENT: Engineering Services Department

RECOMMENDATION:

It is requested that the City Council adopt Resolution No. 2017-119 to establish a 2-hour time limit for one row of parking spaces in Downtown Municipal Parking Lot #6, located on Second Avenue, between Kalmia Street and Juniper Street.

FISCAL ANALYSIS:

Funds are available in the traffic infrastructure budget for installing new signs.

PREVIOUS ACTION:

In June 2015 the City Council approved amendments to downtown parking including one row of 3-hour parking and two 15-minute parking spaces in Lot #1; one 15-minute space on Broadway; and increasing the time limit to 3-hours on portions of Grand Ave. In September 2016 after receiving results of a public survey, the City Council made the above-mentioned parking changes permanent.

BACKGROUND:

The Downtown Parking Subcommittee met on July 19, 2017, and recommended changes to Parking Lot #6 to include one row of 2-hour parking. Currently, Lot #6 has 58 unrestricted general public parking spaces which include four accessible parking spaces. It is proposed that the easterly row of parking (seven spaces) be changed from unrestricted time limit to a 2-hour limit. The four accessible spaces would remain. The adjacent lot, Lot #4, also has one row of 2-hour parking which has been effective at deterring all day parking. The selection of the 2-hour time limit for Lot #6 was based on the success of the row of 2-hour parking in Lot #4.

APPROVED AND ACKNOWLEDGED ELECTRONICALLY BY:

Julie Procopio, Director of Engineering Services
8/8/2017 10:11 a.m.

ATTACHMENTS:

1. Resolution No. 2017-119

RESOLUTION NO. 2017-119

A RESOLUTION OF THE CITY COUNCIL OF
THE CITY OF ESCONDIDO, CALIFORNIA,
AMENDING THE TRAFFIC SCHEDULES FOR
TIME ZONED PARKING IN DOWNTOWN
MUNICIPAL PARKING LOT #6

WHEREAS, Section 28-5(7) of the Escondido Municipal Code provides that the City Council shall establish Traffic Schedules for the Downtown Parking District Time Parking Zones; and

WHEREAS, this City Council desires at this time and deems it to be in the best public interest to amend said Traffic Schedules.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Escondido, California, as follows:

1. That the above recitations are true.
2. That the Traffic Parking Schedules for Municipal Parking Lot #6 Time Parking Zones, located at Second Avenue, between Kalmia Street and Juniper Street, be amended to convert the easterly row (seven spaces) from unrestricted parking time to a 2-hour parking time limit.

ORDINANCE NO. 2017-06

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ESCONDIDO, CALIFORNIA, AMENDING ARTICLES 6, 39, 65, AND 70 OF THE ESCONDIDO ZONING CODE TO UPDATE THE CITY'S REGULATIONS OF SECOND UNITS (ALSO CALLED ACCESSORY DWELLING UNITS)

APPLICANT: City of Escondido
PLANNING CASE NO.: AZ 16-0007

The City Council of the City of Escondido, California, DOES HEREBY ORDAIN as follows:

SECTION 1. There is a statutory recognition that the availability of housing is a matter of statewide importance and that the cooperation between government and the private sector is critical to attainment of the State's housing goals.

SECTION 2. Second dwelling units, accessory apartments, or granny flats (hereinafter collectively referred to as accessory dwelling units) provide an important source of rental housing within existing neighborhoods and can provide more housing options for the elderly, in-home health care providers, family members, students, and others.

SECTION 3. California Government Code Section 65852.2 requires that all cities and counties apply specific standards and requirements for the approval of accessory dwelling units in single-family and/or multi-family zones, except as otherwise provided. A city may amend its zoning ordinance or general plan to incorporate the policies, procedures, or other provisions applicable

**A COMPLETE COPY OF THIS ORDINANCE
IS ON FILE IN THE OFFICE OF THE CITY
CLERK FOR YOUR REVIEW.**



CITY COUNCIL STAFF REPORT

Public Hearing Item No. 10

August 16, 2017

File No. 0810-20

SUBJECT: Amendment to Article 57 (Miscellaneous Use Restrictions) of the Escondido Zoning Code to Establish Electric Vehicle Charging Regulations (AZ 17-0002).

DEPARTMENT: Community Development Department, Planning Division

RECOMMENDATION:

It is requested that the City Council introduce Ordinance No. 2017-11 to establish an expedited, cost-effective permitting process for Electric Vehicle Charging Stations consistent with current State law requirements.

PLANNING COMMISSION RECOMMENDATION AND SUMMARY:

The Planning Commission voted 7-0 on July 11, 2017, to recommend approval of the proposed Zoning Code amendment. There was no commissioner discussion on the item and no public speakers at the hearing. The Planning Commission meeting minutes for July 11, 2017, is provided in Attachment 1 and the Planning Commission Staff Report for July 11, 2017, is provided as Attachment 2.

FISCAL ANALYSIS:

None

BACKGROUND:

The State Legislature has made it a priority to encourage zero-emission vehicles and to enhance the necessary infrastructure to make zero-emission vehicle use more convenient. To facilitate expanded use, Assembly Bill (AB) 1236 requires local jurisdictions of under 200,000 residents to adopt ordinances by September 30, 2017, to bring their respective zoning codes into compliance with the new mandate and to streamline the permitting process for electric vehicle charging stations. The proposed Zoning Code amendment, set forth in Ordinance No. 2017-11, would add Section 33-1124 to Article 57 of the Zoning Code to specify how compliance with AB 1236 will be implemented and to ensure that local laws are consistent with State laws.

ENVIRONMENTAL STATUS:

The proposed zoning code amendment is exempt from CEQA, pursuant to Section 15061 (b)(3). The activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. The proposed Zoning Code amendment would not,

in and of itself, result in development or any other material change to the environment. Projects seeking to implement the amended provisions of Government Code Section 65850.7 would be subject to separate review under the California Environmental Quality Act (CEQA). Therefore, pursuant to CEQA Guidelines Section 15061(b)(3), the proposed Zoning Code amendment does not have the potential for causing a significant effect on the environment and is not subject to CEQA review.

ANALYSIS

Assembly Bill (AB) 1236 requires local jurisdictions of under 200,000 residents to adopt ordinances by September 30, 2017, to bring their respective zoning codes into compliance with the new mandate. The law requires jurisdictions to streamline the permitting process for electric vehicle charging stations by allowing applicants to submit permit applications and associated documentation electronically if they meet all specified requirements. In order to minimize cost, the application shall be processed as a nondiscretionary permit if all requirements have been met and no specific, adverse impacts to public health and safety have been determined. The proposed amendment would add Section 33-1124 to Article 57 of the Zoning Code to specify how compliance with Government Code Section 65850.7 will be implemented and to ensure that local laws are consistent with state laws. Major provisions of the proposed ordinance pertain to method of application, and permitting procedure, as follows:

- Method of Application: Upon meeting of all requirements specified in the Electric Vehicle Charging Station permitting checklist(s), an applicant shall be able to submit permit application and associated documentation electronically to the City. "Electronic submittal" may include, but is not limited to: Email, the Internet, Facsimile, or other plan review software operated by the City.

An example of an Electric Vehicle Charging Station Checklist will be provided during staff's presentation to the City Council. Please note that the actual checklist would be developed by the Building Official, subsequent to ordinance adoption by City Council.

- Permitting Procedure: Upon receiving an electric vehicle charging station application, the Building Division shall administratively review and approve applicant's permit if all requirements in Electric Vehicle Charging Station permitting checklist(s) have been met. If the application is deemed incomplete, the Building Division shall inform applicant of any deficiencies and of any additional information required. If there is "substantial evidence" that the proposed electric vehicle charging station could pose a specific, adverse impact on public health and safety, the Building Division may require the applicant to apply for a Minor Use Permit. The Zoning Administrator may only deny a Minor Use Permit application for an electric vehicle charging station if he/she makes written findings on the specific, adverse impact such a station would impose on the public, and if he/she finds there is no feasible method available to mitigate the adverse impact. This decision may be appealed to the Planning Commission.

AZ 17-002

Amendment to Article 57 of the Escondido Zoning Code

Page 3

APPROVED AND ACKNOWLEDGED ELECTRONICALLY BY:

Bill Martin, Director of Community Development
8/9/2017 5:49 p.m.

Mike Strong, Assistant Director of Planning
8/9/2017 3:05 p.m.

ATTACHMENTS:

1. Attachment 1: Planning Commission Minutes
2. Attachment 2: July 11, 2017 Planning Commission Staff Report
3. Ordinance 2017-11
4. Ordinance 2017-11-Exhibits A and B

ATTACHMENT "1"

CITY OF ESCONDIDO

MINUTES OF THE REGULAR MEETING OF THE
ESCONDIDO PLANNING COMMISSION

July 11, 2017

The meeting of the Escondido Planning Commission Meeting was called to order at 7:00 p.m. by Chairman Weber, in the City Council Chambers, 201 North Broadway, Escondido, California.

Commissioners present: Jeffery Weber, Chairman; Don Romo, Vice-Chair; Michael Cohen, Commissioner; Joe Garcia, Commissioner; James McNair, Commissioner; James Spann, Commissioner; and Stan Weiler, Commissioner.

Commissioners absent: None.

Staff present: Bill Martin, Director of Community Development; Mike Strong, Assistant Planning Director; Owen Tunnell, Principal Engineer; Adam Phillips, Deputy City Attorney; and Ty Paulson, Minutes Clerk.

MINUTES:

Moved by Commissioner Spann seconded by Commissioner Garcia, to approve the minutes of the June 27, 2017, meeting. Motion carried unanimously. (7-0)

WRITTEN COMMUNICATIONS – None.

FUTURE NEIGHBORHOOD MEETINGS – None.

ORAL COMMUNICATIONS: – None.

PUBLIC HEARINGS:

1. ZONING CODE AMENDMENT – AZ 17-0002:

REQUEST A proposal to modify Article 57 of the Escondido Zoning Code (Miscellaneous Use Restrictions) to add Sec. 33-1124, which would establish an expedited, cost-effective permitting process for Electric Vehicle Charging Stations to meet current State law requirements. No development project is proposed.

PROPERTY SIZE AND LOCATION: Citywide

Mike Strong, Assistant Planning Director, referenced the staff report and noted staff recommended approval of the proposed amendment to the Zoning Code, for the following reason: 1) The purpose of the amendment was to bring the Escondido Zoning Code into compliance with State law to promote the State's goal to achieve a more sustainable transportation network.

ACTION:

Moved by Commissioner Spann, seconded by Chairman Weber, to approve staff's recommendation. Motion carried unanimously. (7-0)

CURRENT BUSINESS:

1. Overview of CEQA Requirements

The California Environmental Quality Act (CEQA) is one of the most important state laws affecting local planning decisions. Mike Strong, Assistant Planning Director, referenced the staff report and provided a presentation on CEQA and Environmental Impact Report (EIR) requirements.

Discussion ensued regarding the timing and costs associated with an EIR.

ORAL COMMUNATIONS: None.

PLANNING COMMISSIONERS: No comments.

ADJOURNMENT:

Chairman Weber adjourned the meeting at 7:21 p.m. The next meeting was scheduled for August 8, 2017, at 7:00 p.m. in the City Council Chambers, 201 North Broadway, Escondido, California.

Mike Strong, Secretary to the Escondido
Planning Commission

Ty Paulson, Minutes Clerk

ATTACHMENT "2"

July 11, 2017 Planning Commission Staff Report

<https://www.escondido.org/Data/Sites/1/media/agendas/PC/2017/07.11.17PCAgendaPacket.pdf>

ORDINANCE NO. 2017-11

AN ORDINANCE OF THE CITY COUNCIL OF
THE CITY OF ESCONDIDO, CALIFORNIA,
AMENDING ARTICLE 57 (MISCELLANEOUS
USE RESTRICTIONS ORDINANCE) OF THE
ESCONDIDO ZONING CODE

APPLICANT: City of Escondido
PLANNING CASE NO.: AZ 17-0002

The City Council of the City of Escondido, California, DOES HEREBY ORDAIN
as follows:

SECTION 1. That proper notices of a public hearing have been given and
public hearings have been held before the Planning Commission and City Council on
this issue.

SECTION 2. The City Council has duly reviewed and considered all evidence
submitted at said hearings, including, without limitation:

- a. Written information;
- b. Oral testimony from City staff, interested parties, and the public;
- c. The staff report, dated August 16, 2017, which along with its attachments
is incorporated herein by this reference as though fully set forth herein;
and
- d. Additional information submitted during the Public Hearing.

SECTION 3. That the City Council has reviewed and considered the Notice of
Exemption prepared for this project, in conformance with the California Environmental

Quality Act (“CEQA”) Section 15061(b)(3) “General Rule,” and has determined that all environmental issues have been addressed and finds that no significant environmental impact will result from approving the code amendment.

SECTION 4. That upon consideration of the staff report, Planning Commission recommendation, Planning Commission staff report, all public testimony presented at the hearing held on this project, and the “Findings of Fact,” attached as Exhibit “A” to this Ordinance and incorporated herein by this reference as though fully set forth herein, this City Council finds the Zoning Code Amendments are consistent with the General Plan and all applicable specific plans of the City of Escondido.

SECTION 5. That the specified sections of the Escondido Zoning Code Article 57 are amended as set forth in Exhibit “B” to this Ordinance and incorporated herein by this reference as though fully set forth herein.

SECTION 6. SEPARABILITY. If any section, subsection, sentence, clause, phrase or portion of this ordinance is held invalid or unconstitutional for any reason by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions.

SECTION 7. That as of the effective date of this ordinance, all ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 8. That the City Clerk is hereby directed to certify to the passage of this ordinance and to cause the same or a summary to be published one time within 15

days of its passage in a newspaper of general circulation, printed and published in the County and circulated in the City of Escondido.

EXHIBIT "A"
FINDINGS OF FACT
AZ 17-0002

Zoning Code Amendment

1. The public health, safety, and welfare would not be adversely affected by the proposed Zoning Code amendment. New permitting procedures for electrical vehicle charging stations only change the method of application. The proposed Zoning Code amendment would not be detrimental to surrounding properties because no physical improvements are proposed as part of this Zoning Code amendment. Future charging station construction must comply with any applicable laws and standards. This includes the Building Code, the Fire Code, and any property standards by-laws.
2. The proposed Zoning Code amendment would be consistent with the goals and policies of the General Plan because the electrical vehicle charging station ordinance would not, in and of itself, result in development or any other material change to the environment. The proposed amendment would implement new State law. The proposed Zoning Code amendments would not diminish the Quality of Life Standards of the General Plan, nor adversely impact the community health or natural resources.
3. The proposed Zoning Code amendment does not conflict with any specific plan.

EXHIBIT "B"
PROPOSED CHANGES TO THE ZONING CODE
AZ17-0002

Amend the various zoning code sections to read as specified below.

ARTICLE 57. MISCELLANEOUS USE RESTRICTIONS

Add Section 33-1124, Electric Vehicle Charging Stations, as set forth below.

Sec. 33-1124. Electric Vehicle Charging Stations

(a) Applicability. This section shall apply to the permitting of all electrical vehicle charging stations (EVCS) or any other electric vehicle supply equipment station that is designed and built in compliance with Article 625 of the California Electrical Code and delivers electricity from a source outside an electric vehicle into a plug-in electric vehicle.

(1) An EVCS shall be allowed within any legal single-family residential garage or carport, and any multi-family parking space; subject to all applicable city, state, and federal code requirements, and the following:

(A) The EVCS shall be protected as necessary to prevent damage by automobiles, vandalism, and to be safe for use in inclement weather.

(B) The EVCS shall have complete instructions and appropriate warnings posted in an unobstructed location next to each EVCS. When needed, signage shall be installed designating spaces with charging stations for electric vehicles only.

(C) The EVCS is located to discourage unauthorized use, such as public access to the charging station.

(D) Charging stations and associated equipment or materials may not encroach on the minimum required clear areas from the public right-of-way, driveways, parking spaces, garages, or maneuvering areas.

(2) An EVCS for non-commercial (no service fee) or private use shall be permitted as an accessory use within any legal commercial, industrial, or other non-residential parking space in a parking lot or in a parking garage or carport; subject to all applicable city, state, and federal code requirements, and the following:

(A) The requirements listed in Section 33-1124(a)(1).

(B) Be located in desirable and convenient parking locations that will serve as an incentive for the use of electric vehicles.

- (C) One standard non-illuminated sign, not to exceed 4 square feet in area and 10 feet in height, may be posted for the purpose of identifying the location of each cluster of EVCSs.
 - (D) The EVCS may be on a timer that limits the use of the station to the normal business hours of the use(s) that it serves to preclude unauthorized use after business hours.
- (3) An EVCS for commercial (service fee) and/or public use shall be permitted as a primary or accessory use through the approval of a Minor Use Permit, subject to all applicable city, state, and federal code requirements; except that the Director of Community Development, or designee, is authorized to designate parking spaces or stalls in an off-street parking facility owned and operated by the City of Escondido for the exclusive purpose of charging and parking a vehicle that is connected for EVCS purposes.
 - (A) Only plug-in electric vehicles that are actively charging, as indicated by the electric vehicle charging station monitor display, may be parked at EVCS or in EVCS zones located on any parking facility owned, leased, or operated by the City of Escondido. No person shall park or cause to be parked or allow to remain standing any vehicle at an EVCS or EVCS zones located on any parking facility owned, leased, or operated by the City of Escondido, unless the vehicle is an electric vehicle, is actively charging, and has not exceeded any applicable parking time limit.
- (b) Application. All applicants for an EVCS permit should ensure that the proposed charging station meets all requirements found in the EVCS Permitting Checklist, on file with the Building Division.
- (1) For a project complying with the checklist for an EVCS the applicant may submit the permit application and associated documentation to the City's Building Division by personal, mailed, or electronic submittal. "Electronic submittal" means the utilization of email, the Internet, facsimile, or any other plan review software operated by the City. Electronic submittal of the required permit application and documents through City utilized computer based software shall be made available to all EVCS permit applicants.
- (2) An applicant's electronic signature shall be accepted on all forms, applications, and other documents in lieu of a wet signature.

(c) Permit review requirements.

- (1) Permit review requirements: The Building Official shall carry out an administrative review process to streamline approval of EVCS. If the application meets the requirements of the approved checklist and standards and there are no specific, adverse impacts upon public health or safety, the official shall complete the building permit approval process. Review of the application for EVCS shall be limited to the official's review of whether the application meets the requirements of this section, as well as any local, state, and federal health and safety requirements. Such approval shall not include any necessary approval or permission by a local utility provider to connect the EVCS to the provider's electricity grid. The applicant is responsible for obtaining such approval or permission from the local utility provider.
- (2) If an application is deemed incomplete, the Building Division shall issue a written correction notice detailing all deficiencies in the application and any additional information required to be eligible for expedited permit issuance.
- (3) The Building Division may require an applicant to apply for a Minor Use Permit if the official finds, based on substantial evidence, that the EVCS could have a specific, adverse impact upon the public health and safety. Any condition imposed on an application shall be designed to mitigate the specific, adverse impact upon health and safety at the lowest possible cost. Such decisions may be appealed to the Planning Commission.
- (4) If a Minor Use Permit is required, the Zoning Administrator may only deny such application if he/she makes written findings based upon significant evidence in the record that the proposed EVCS would have a specific, adverse impact upon public health and/or safety and there is no feasible method to satisfactorily mitigate or avoid the adverse impact(s). Such findings shall include the justification for the rejection of the potential feasible alternative(s) for preventing the adverse impact. Such decisions may also be appealed to the Planning Commission.

(d) Fees. City Council may establish fees for permits issued under this Section.

CITY COUNCIL STAFF REPORT

Current Business Item No. 11

August 16, 2017

File No. 0230-65

SUBJECT: Selection of Preferred Track to Comply with Regional Water Quality Control Board Trash Order (R9-2017-0077)

DEPARTMENT: Utilities Department, Environmental Programs Division; Public Works Department; and Engineering Services Department

RECOMMENDATION:

It is requested that the City Council adopt Resolution No. 2017-98, directing staff to notify the Regional Water Quality Control Board (RWQCB) that Track 1 is selected to comply with Trash Order R9-2017-0077 by September 5, 2017.

FISCAL ANALYSIS:

The ten-year timeframe in which jurisdictions must comply with the RWQCB's Trash Order commences in December 2018. Preliminary estimated implementation costs for either track range between \$550,000 - \$755,000 annually. A long-term funding source for device installation and maintenance has not yet been identified.

CORRELATION TO THE CITY COUNCIL ACTION PLAN:

This item relates to the City Council's Action Plan regarding Community Improvement, Strategy 15: Implement Approved Watershed Quality Improvement Plans. Elimination of trash within the storm drain system (and eventually our creeks) also contributes to the priority of neighborhood improvement.

PREVIOUS ACTION:

There is no previous City Council action related to the Trash Order.

On May 6, 2015, the City Council approved Resolution No. 2015-74, which adopted the City of Escondido Jurisdictional Runoff Management Plan, the Water Quality Improvement Plans for the Carlsbad and San Dieguito watersheds, and the CEQA Notice of Exemption. The Trash Order implementation will be incorporated into these plans in future updates pursuant to City Council action.

BACKGROUND:

On June 2, 2017, the RWQCB—San Diego Region issued Order No. R9-2017-0077 (“Trash Order”)

(http://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2017/R9-2017-0077.pdf) (Attachment A), effectively prohibiting discharges of trash from the Municipal Separate Storm Sewer System (MS4) to surface waters, and requiring reporting related to trash controls. The City of Escondido (City) must decide between two compliance paths (Track 1 or Track 2) and implement “full capture” of trash in Priority Land Use Areas by 2028.

Priority Land Uses (commercial, industrial, high density residential, public transportation, and “mixed urban”) are deemed to have elevated trash generation rates. The City has identified approximately 945 storm drain inlets as subject to this Order (Attachment A). Track 1 requires installation and maintenance of trash capture devices within storm drain inlets to attain full capture (see Attachment B for examples). Track 2 requires installation of full capture devices to a lesser extent with other structural and non-structural Best Management Practices (for example street sweeping) to achieve the equivalent level of trash removal as Track 1. The level of effort required to comply with Track 2 is not well-defined and may be subject to regulator discretion. Track 2 also requires complex monitoring and implementation planning, along with detailed data and reporting which is not required for Track 1.

In preparation for the expected Trash Order, the City contracted with DMax Engineering, Inc. to do a preliminary evaluation of different compliance scenarios using data from Public Works, Engineering, Geographic Information Systems, and Utilities (Attachment B). A 20-year planning horizon was considered, along with six scenarios from Track 1 and Track 2. See Table 1 for an overview comparison of the two compliance Tracks. The full evaluation report is available on the City’s website at <https://www.escondido.org/water-quality-improvement-planning.aspx>.

The Trash Order requires the City to notify the RWQCB of the selected compliance track by September 5, 2017. It also requires the City to submit implementation maps, time schedules, and (if applicable) compliance plans by December 3, 2018. These requirements will be incorporated into the San Diego Region’s MS4 Permit during 2018, as part of the five-year renewal process. Staff will update the City Council prior to December 2018.

Table 1

Factor	Track 1 – Full Capture Devices	Track 2 – Full Capture + Best Management Practices (BMPs)
Trash Controls	Full capture devices in priority land uses only. No credit for other activities. Up front capital investment reduces over time.	Combination of full capture devices and other structural and non-structural Best Management Practices. Get “credit” for existing programs, such as street sweeping, etc. Additional controls may be required based on regulator discretion.
Maintenance & Operations	Increased annual storm drain maintenance costs. Potential for issues with flooding; would need to work with Board staff to negotiate/trade installation in such areas.	Increased storm drain maintenance costs and costs of other programs (like street sweeping) increase. Rigorous documentation of these other programs is needed.
Monitoring Program	Not required	Required to demonstrate equivalency with Track 1 effectiveness (“full capture system equivalency”). More tracking and measuring of trash volumes from operations and in water.
Implementation Plan	Not required	Required, must be approved by Regional Board.
Annual Reporting	Locations of installed full capture devices, certify that devices are maintained and operational.	Locations of all full capture devices and other controls, monitoring data, assessment to demonstrate full capture equivalency.
Compliance Criterion	Installation and maintenance of full capture devices at all required locations. Clear compliance path.	Regional Board and third parties agree with City’s assessment that it has achieved full capture equivalency. Risk of third party lawsuits and Regional Board staff interpretation issues.
Estimated Cost for Escondido	\$11 - \$15.1 million (20 years) \$550,000 - \$755,000 (annual)	\$11.7 - \$12 million (20 years) \$585,000 - \$600,000 (annual)

Staff from Utilities/Environmental Programs, Public Works, and Engineering Departments have been working to assess the best path forward for the City. Staff recommends the City notify the RWQCB of the selection of Track 1 before the deadline of September 5, 2017 for the following reasons:

- The City must select a track and notify the RWQCB before that date to be in compliance with the Trash Order.

- Track 1 requires mapping and timetables, but no complex reporting. Track 1 offers a clear compliance path with less exposure to RWQCB interpretation issues or third party lawsuits.
- The Trash Order does not prohibit switching tracks in future years. Since Track 2 requires full capture devices where feasible, starting implementation of Track 1 in “feasible” locations would still be the first compliance steps towards Track 2, while not incurring the additional monitoring, assessment, and reporting requirements associated with Track 2.
- Track 2 requires rigorous and potentially expensive implementation and monitoring plans, and annual reporting. The development of these plans is expected to require significant review, clarification, and negotiation with RWQCB staff prior to their deadline of December 5, 2018.
- The Track selection can be re-evaluated when the compliance criteria and costs for Track 2 have been more clearly established. If appropriate, and with the City Council direction, Track 2 could be selected at a future date.

Staff has already been conducting pilot projects to assess which full capture devices are appropriate for our infrastructure and what level of maintenance is required. Based on this, cost estimates can be revised. These pilot projects are also being used to attain our Carlsbad Watershed goal for the current MS4 permit.

As a priority, staff will continue to identify potential funding sources for compliance before December 2018.

APPROVED AND ACKNOWLEDGED ELECTRONICALLY BY:

Christopher W. McKinney, Director of Utilities
8/9/2017 11:37 a.m.

Helen Davies, Env. Program Manager
8/8/2017 2:38 p.m.

Julie Procopio, Director of Engineering Services
8/9/2017 3:46 p.m.

Ed Domingue, Director of Public Works
8/9/2017 4:16 p.m.

ATTACHMENTS:

1. Attachment A
2. Attachment B
3. Resolution No. 2017-98

Attachment A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN DIEGO REGION

ORDER NO. R9-2017-0077

AN ORDER DIRECTING THE OWNERS AND OPERATORS OF PHASE I MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) DRAINING THE WATERSHEDS WITHIN THE SAN DIEGO REGION

TO SUBMIT REPORTS PERTAINING TO THE CONTROL OF TRASH IN DISCHARGES FROM PHASE I MS4s TO OCEAN WATERS, INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES IN THE SAN DIEGO REGION

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board) finds:

- 1. Trash Amendments.** On April 7, 2015, the State Water Board adopted Resolution No. 2015-0019, amending the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) to address the impacts of trash to the surface waters of California (referred to hereafter as the Trash Amendments). The effective date of the Trash Amendments is December 2, 2015.
- 2. Regional MS4 Permit.** Throughout the State, trash is typically generated on land and transported to surface water, predominantly through storm water discharges from MS4s. These storm water discharges occur in part from Phase I MS4s in the San Diego Region regulated through a regional general permit adopted by the San Diego Water Board (Regional MS4 Permit) pursuant to section 402(p) of the Clean Water Act. The term Regional MS4 Permit refers to the San Diego Water Board's Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, NPDES No. CAS0109266, *National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region*.
- 3. Trash Amendments Implementation.** The Trash Amendments establish a statewide narrative water quality objective and implementation requirements to control trash, including a prohibition against the discharge of trash to ocean waters, inland surface waters, enclosed bays, and estuaries in California. For Phase I MS4 permittees with regulatory authority over priority land uses, the Trash Amendments require the San Diego Water Board to take certain steps towards implementation of the narrative water quality objective and prohibition by June 2, 2017 through requirements incorporated into the Regional MS4 Permit or through a monitoring and reporting order issued pursuant to Water Code section 13267 or 13383. The San Diego Water Board will not be amending the Regional MS4 Permit within the time frame specified by the Trash Amendments; therefore, the initial steps in planning for the implementation of the Trash Amendments are being required through this Order in accordance with Water Code

section 13383. The San Diego Water Board intends to incorporate the requirements of the Trash Amendments into the Regional MS4 Permit during its next reissuance in Fiscal Year 2018-19.

4. Persons Responsible for the Discharges of Trash. The owners and operators of Phase I MS4s are responsible for discharges of waste, including trash, from land uses and locations within their jurisdictions through their MS4s to ocean waters, inland surface waters, enclosed bays, and estuaries in the San Diego Region. In the San Diego Region, owners and operators of Phase I MS4s subject to the requirements of this Order (herein referred to as MS4 permittees) include the following entities:

- County of Orange
 - City of Aliso Viejo
 - City of Dana Point
 - City of Laguna Beach
 - City of Laguna Hills
 - City of Laguna Niguel
 - City of Laguna Woods
- City of Lake Forest
- City of Mission Viejo
- City of Rancho Santa Margarita
- City of San Clemente
- City of San Juan Capistrano
- Orange County Flood Control District

- County of Riverside
 - City of Murrieta
 - City of Temecula
 - City of Wildomar
- Riverside County Flood Control and Water Conservation District¹

- County of San Diego
 - City of Carlsbad
 - City of Chula Vista
 - City of Coronado
 - City of Del Mar
 - City of El Cajon
 - City of Encinitas
 - City of Escondido
 - City of Imperial Beach
 - City of La Mesa
 - City of Lemon Grove
- City of National City
- City of Oceanside
- City of Poway
- City of San Diego
- City of San Marcos
- City of Santee
- City of Solana Beach
- City of Vista
- San Diego County Regional Airport Authority
- San Diego Unified Port District

5. Water Quality Objectives. The Trash Amendments established the following statewide narrative water quality objectives for trash in ocean waters, inland surface waters, enclosed bays, and estuaries in California.

¹ Riverside County Flood Control and Water Conservation District (District) lacks regulatory authority over Priority Land Uses. As noted in Finding 9.d of this Order, the Trash Amendments (Appendix D of the Ocean Plan Chapter III.L.2.d and Appendix E of the ISWEBE Plan Chapter IV.A.3.d) provide the San Diego Water Board with the authority to investigate whether specific land uses or locations within the District’s jurisdiction generate substantial amounts of trash and determine that compliance with Track 1 or Track 2 trash control measures for those land uses or locations is necessary.

- a. The Trash Amendments established the following narrative water quality objective for trash in Chapter II.C.5 of Appendix D of the Ocean Plan:

“Trash shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.”

- b. The Trash Amendments established the following narrative water quality objective or trash in Chapter III.A of Appendix E of the ISWEBE Plan:

“Trash shall not be present in inland surface waters, enclosed bays, estuaries, and along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.”

Meeting these narrative water quality objectives for trash will be protective and supportive of numerous beneficial uses for the ocean waters, inland surface waters, enclosed bays, and estuaries in the San Diego Region, including but not limited to, wildlife habitat (WILD), marine habitat (MAR), preservation of rare and endangered species (RARE), fish migration (MIGR), navigation (NAV), and water contact and non-contact recreation (REC1 and REC2).

- 6. Trash Discharge Prohibition.** The Trash Amendments established the following discharge prohibition in Chapter III.I.6 of Appendix D of the Ocean Plan and Chapter IV.A.2 of Appendix E of the ISWEBE Plan:

“The discharge of trash to surface waters of the State or the deposition of trash where it may be discharged into surface waters of the State is prohibited.”

- 7. Regional MS4 Permit Implementation of the Trash Amendments.** The Trash Amendments require the incorporation of the trash narrative water quality objectives and discharge prohibition into the Regional MS4 Permit. The Regional MS4 Permit then will require the MS4 permittees to comply with the trash narrative water quality objectives and discharge prohibition through the implementation of one of two measures to be selected by the MS4 permittees.

To comply with the trash narrative water quality objectives and discharge prohibition, the MS4 permittees are required to implement either of the following measures:

Track 1: Install, operate, and maintain full capture systems for all storm drains that capture runoff from the priority land uses in their jurisdictions; or

Track 2: Install, operate, and maintain any combination of full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4 permittees. The MS4 permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. The MS4 permittee shall demonstrate that such combination achieves full capture system equivalency. The MS4 permittee may determine which controls to implement to achieve compliance with full capture system equivalency. It is,

however, the State Water Board's expectation that the MS4 permittee will elect to install full capture systems where such installation is not cost-prohibitive.

The Trash Amendments require that within three (3) months of the effective date of this Order, each MS4 permittee is required to provide written notice to the San Diego Water Board stating whether the MS4 permittee elects to comply with the trash discharge prohibition by implementing Track 1 or Track 2. MS4 permittees that elect to implement Track 2 are also required to submit an implementation plan to the San Diego Water Board within eighteen (18) months of receipt of this Order. The implementation plan is required to describe: (i) the combination of controls selected by the MS4 permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency, and (iii) how full capture equivalency will be demonstrated. The implementation plan is subject to approval by the San Diego Water Board. Track 2 implementation plans will be deemed accepted by the San Diego Water Board ninety (90) days after submission unless otherwise directed in writing by the San Diego Water Board Executive Officer. MS4 permittees may elect to change Tracks through their adaptive management process during the compliance time schedule described in Finding 10, provided they submit supporting justification to the San Diego Water Board.

8. Full Capture System Equivalency. The Trash Amendments define full capture system equivalency as follows:

"Full capture system equivalency is the trash load that would be reduced if full capture systems were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land (priority land uses, significant trash generating areas, facilities or sites regulated by NPDES permits for discharges of storm water associated with industrial activity, or specific land uses or areas that generate substantial amounts of trash, as applicable). The full capture system equivalency is a trash load reduction target that the permittee quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of permitting authority. Examples of such approaches include, but are not limited to, the following:

(1) Trash Capture Rate Approach. Directly measure or otherwise determine the amount of trash captured by full capture systems for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific trash capture rates. Apply each specific trash capture rate across all similar types of land uses, facilities, or areas to determine full capture system equivalency. Trash capture rates may be determined either through a pilot study or literature review. Full capture systems selected to evaluate trash capture rates may cover entire types of land uses, facilities, or areas, or a representative subset of types of land uses, facilities, or areas. With this approach, full capture system equivalency is the sum of the products of each type of land use, facility, or area multiplied by trash capture rates for that type of land use, facility, or area.

(2) Reference Approach. Determine the amount of trash in a reference receiving water in a reference watershed where full capture systems have been installed for all storm drains that capture runoff from all relevant areas of land. The reference watershed must be comprised of similar types and extent of sources of trash and land uses (including priority land uses and all other land uses), facilities, or areas as the permittee's watershed. With this approach, full capture system equivalency would be demonstrated when the amount of trash in the receiving water is equivalent to the amount of trash in the reference receiving water."

9. Land Uses and Locations Requiring Trash Controls. The Trash Amendments define land uses and locations that are to be controlled for trash discharges by MS4 permittees:

- a. Priority Land Uses:** Those developed sites, facilities, or land uses (i.e. not simply zoned land uses) within a MS4 permittee's jurisdiction from which discharges of trash are regulated by the Ocean Plan or ISWEBE Plan as follows:
- High-density residential: all land uses with at least ten (10) developed dwelling units/acre.
 - Industrial: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
 - Commercial: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.).
 - Mixed urban: land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
 - Public transportation stations: facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).
- b. Equivalent Alternative Land Uses:** An MS4 permittee with regulatory authority over priority land uses may issue a request to the San Diego Water Board that the MS4 permittee be allowed to substitute one or more land uses identified above with an alternate land use within the MS4 permittee's jurisdiction that generates rates of trash that is equivalent to or greater than the priority land use(s) being substituted. The land use area requested to substitute for a priority land use need not be an acre-for-acre substitution but may involve one or more priority land uses, or a fraction of a priority land use, or both, provided the total trash generated in the equivalent alternative land use is equivalent to or greater than the total trash generated from the priority land use(s) for which substitution is requested. Comparative trash generation rates shall be established through the reporting of quantification measures such as street sweeping and catch basin cleanup records;

mapping; visual trash presence surveys, such as the “Keeping America Beautiful Visible Litter Survey”; or other information as required by the San Diego Water Board.

- c. *Coordination with California Department of Transportation (Caltrans).* The Trash Amendments (Appendix D of the Ocean Plan Chapter III.L.2.b and Appendix E of the ISWEBE Plan Chapter IV.A.3.b) require that Caltrans and MS4 permittees coordinate their efforts to install, operate, and maintain full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls in significant trash generating areas and/or priority land uses.
- d. *Specific Land Uses or Locations Determined by the San Diego Water Board:* The Trash Amendments (Appendix D of the Ocean Plan Chapter III.L.2.d and Appendix E of the ISWEBE Plan Chapter IV.A.3.d) provide the San Diego Water Board with the authority to determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of trash. In the event the San Diego Water Board makes that determination, the Board may require the MS4 permittees to comply with the requirements of the Trash Amendments with respect to such land uses or locations.

10. Compliance Time Schedule. The Trash Amendments require the implementing permit (i.e. the Regional MS4 Permit) to state that full compliance with the trash discharge prohibition shall occur within ten (10) years of the effective date of the first implementing permit. In addition, the Regional MS4 Permit must require the MS4 permittees to demonstrate achievements of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date, which will be included in the Regional MS4 Permit, be later than fifteen (15) years from the effective date of the Trash Amendments (i.e. December 2, 2030).

11. Monitoring and Reporting. The Trash Amendments require the implementing Regional MS4 Permit to include monitoring and reporting requirements to ensure adequate trash control. The MS4 permittees will be required to provide reports to the San Diego Water Board on an annual basis to describe progress toward achieving full compliance with the trash discharge prohibition. The monitoring and reporting requirements are dependent on the measures elected to be implemented by a MS4 permittee².

12. Water Quality Improvement Plans and Jurisdictional Runoff Management Plans. The Regional MS4 Permit requires the MS4 permittees to develop and implement Water Quality Improvement Plans for ten (10) Watershed Management Areas, designated in the Regional MS4 Permit as shown in Table 1 below:

² The minimum monitoring and reporting requirements that will be considered for inclusion in the Regional MS4 Permit reissuance are described in the Trash Amendments at Appendix D: Chapter III, section L.5 of the Ocean Plan and Appendix E: Chapter IV, section A.6 of the ISWEBE Plan.

Table 1. San Diego Region Watershed Management Areas

Hydrologic Unit(s)	Watershed Management Area	Major Surface Water Bodies	Responsible MS4 permittees
San Juan (901.00)	South Orange County	<ul style="list-style-type: none"> - Aliso Creek - San Juan Creek - San Mateo Creek - Pacific Ocean - Heisler Park ASBS 	<ul style="list-style-type: none"> - City of Aliso Viejo - City of Dana Point - City of Laguna Beach - City of Laguna Hills¹ - City of Laguna Niguel - City of Laguna Woods¹ - City of Lake Forest² - City of Mission Viejo - City of Rancho Santa Margarita - City of San Clemente - City of San Juan Capistrano - County of Orange - Orange County Flood Control District
Santa Margarita (902.00)	Santa Margarita River	<ul style="list-style-type: none"> - Murrieta Creek - Temecula Creek - Santa Margarita River - Santa Margarita Lagoon - Pacific Ocean 	<ul style="list-style-type: none"> - City of Menifee³ - City of Murrieta⁴ - City of Temecula - City of Wildomar⁴ - County of Riverside - County of San Diego - Riverside County Flood Control and Water Conservation District
San Luis Rey (903.00)	San Luis Rey River	<ul style="list-style-type: none"> - San Luis Rey River - San Luis Rey Estuary - Pacific Ocean 	<ul style="list-style-type: none"> - City of Oceanside - City of Vista - County of San Diego
Carlsbad (904.00)	Carlsbad	<ul style="list-style-type: none"> - Loma Alta Slough - Buena Vista Lagoon - Agua Hedionda Lagoon - Baticuitos Lagoon - San Elijo Lagoon - Pacific Ocean 	<ul style="list-style-type: none"> - City of Carlsbad - City of Encinitas - City of Escondido - City of Oceanside - City of San Marcos - City of Solana Beach - City of Vista - County of San Diego
San Dieguito (905.00)	San Dieguito River	<ul style="list-style-type: none"> - San Dieguito River - San Dieguito Lagoon - Pacific Ocean 	<ul style="list-style-type: none"> - City of Del Mar - City of Escondido - City of Poway - City of San Diego - City of Solana Beach - County of San Diego
Penasquitos (906.00)	Penasquitos	<ul style="list-style-type: none"> - Los Penasquitos Lagoon - Pacific Ocean 	<ul style="list-style-type: none"> - City of Del Mar - City of Poway - City of San Diego - County of San Diego
	Mission Bay	<ul style="list-style-type: none"> - Mission Bay - Pacific Ocean - San Diego Marine Life Refuge ASBS 	<ul style="list-style-type: none"> - City of San Diego
San Diego (907.00)	San Diego River	<ul style="list-style-type: none"> - San Diego River - Pacific Ocean 	<ul style="list-style-type: none"> - City of El Cajon - City of La Mesa - City of San Diego - City of Santee - County of San Diego

Table 1. San Diego Region Watershed Management Areas

Hydrologic Unit(s)	Watershed Management Area	Major Surface Water Bodies	Responsible MS4 permittees
Pueblo San Diego (908.00) Sweetwater (909.00) Otay (910.00)	San Diego Bay	- Sweetwater River - Otay River - San Diego Bay - Pacific Ocean	- City of Chula Vista - City of Coronado - City of Imperial Beach - City of La Mesa - City of Lemon Grove - City of National City - City of San Diego - County of San Diego - San Diego County Regional Airport Authority - San Diego Unified Port District
Tijuana (911.00)	Tijuana River	- Tijuana River - Tijuana Estuary - Pacific Ocean	- City of Imperial Beach - City of San Diego - County of San Diego

Notes:

1. By agreement dated February 10, 2015, pursuant to Water Code section 13228, the Phase I MS4 discharges within the jurisdiction of the City of Laguna Hills and the City of Laguna Woods located in the Santa Ana Region are regulated by San Diego Water Board Order No. R9-2013-0001 as amended by Order No. R9-2015-0001, upon the later effective date of Order No. R9-2015-0001 or Santa Ana Water Board Tentative Order No. R8-2015-0001. The City of Laguna Hills and Laguna Woods must also comply with the requirements of the San Diego Creek/Newport Bay TMDL in section XVIII of Santa Ana Water Board Order No. R8-2015-0001.
2. By agreement dated February 10, 2015, pursuant to Water Code section 13228, Phase I MS4 discharges within the City of Lake Forest located within the San Diego Water Board Region are regulated by the Santa Ana Water Board Order No. R8-2015-0001 (NPDES No. CAS618030) upon the later effective date of this Order or Santa Ana Water Board Tentative Order No. R8-2015-0001. In accordance with the terms of the agreement between the San Diego Water Board and the Santa Ana Water Board, the City of Lake Forest must implement the requirements of the Bacteria TMDL in Attachment E of this Order, participate in preparation and implementation of the Water Quality Improvement Plan for the Aliso Creek Watershed Management Area as described in Provision B of this Order and continue implementation of its over-irrigation discharge prohibition in its City Ordinance, Title 15, Chapter 15, section 14.030, List (b).
3. By agreement dated October 26, 2015, pursuant to Water Code section 13228, Phase I MS4 discharges within the City of Menifee located within the San Diego Water Board Region are regulated by the Santa Ana Water Board Order No. R8-2010-0033 as it may be amended or reissued (NPDES No. CAS618033) upon the later effective date of this Order. In accordance with the terms of the agreement between the San Diego Water Board and the Santa Ana Water Board, the City of Menifee must participate in preparation and implementation of the Water Quality Improvement Plan for the Santa Margarita River Watershed Management Area as described in Provision B of this Order.
4. By agreement dated October 26, 2015, pursuant to Water Code section 13228, the Phase I MS4 discharges within the jurisdiction of the City of Murrieta and the City of Wildomar located in the Santa Ana Region are regulated by San Diego Water Board Order No. R9-2013-0001 as amended by Orders No. R9-2015-0001 and R9-2015-0100. The City of Murrieta and City of Wildomar must also comply with the requirements of the Lake Elsinore/Canyon Lake Nutrient TMDLs in section VI.D.2 of Santa Ana Water Board Order No. R8-2010-0033, or corresponding section as it may be amended or reissued.

The Water Quality Improvement Plans include the following: (a) identification of priority water quality conditions that need to be addressed to improve the water quality in each Watershed Management Area; (2) numeric goals for the highest priority water quality conditions to be achieved that will demonstrate discharges from the MS4s are not causing or contributing to exceedances of applicable water quality objectives, or water quality objectives are being attained in receiving waters; (3) a description of the water quality improvement strategies that will be and may be implemented to achieve the numeric goals; and (4) schedules for implementing the water quality improvement strategies and achieving the numeric goals.

The Regional MS4 Permit also requires incorporation of implementation plans for applicable Total Maximum Daily Loads (TMDLs) and Areas of Special Biological Significance (ASBS), which include interim and final water quality-based effluent limitations, compliance strategies, and compliance schedules, into the Water Quality Improvement Plans.

In addition to Water Quality Improvement Plan development, each MS4 permittee is also required to develop and implement a jurisdictional runoff management plan (JRMP) that describes how specific strategies in the Water Quality Improvement Plans will be implemented by each MS4 permittee. While the JRMPs are not explicitly part of the Water Quality Improvement Plan, reporting relating to JRMP programs is accomplished through the Water Quality Improvement Plan annual reporting process.

The implementation measures, interim milestones, and compliance schedules for Track 1 or Track 2 of the Trash Amendments shall also be incorporated into either the Water Quality Improvement Plans, the JRMPs, or a combination of the two, to be implemented by the MS4 permittees as part of the adaptive management process.

Compliance with the Trash Amendments is based on implementation of specific measures to control trash within a MS4 permittee's jurisdiction; however, inclusion of trash control strategies may be beneficial on a watershed scale. Through the issuance of this Order pursuant to Water Code section 13383, the San Diego Water Board intends the MS4 permittees to incorporate the requirements of the Trash Amendments into either the Water Quality Improvement Plans, the JRMPs, or a combination of the two, after reissuance of the Regional MS4 Permit. Reporting on implementation measures to comply with the Trash Amendments will be required through jurisdictional runoff management program annual report forms, which are submitted as part of the Water Quality Improvement Plan Annual Reports.

13. Basis for Requiring Submittals from MS4 Permittees. This Order is issued under federal authority. The water quality objectives established by the Trash Amendments described in Finding 5 serves as a water quality standard federally mandated under Clean Water Act section 303(c) and the federal regulations (33 U.S.C. § 1312, 40 C.F.R. § 131). This water quality standard was specifically approved by the United States Environmental Protection Agency (USEPA) following adoption by the State Water Board and approval by the Office of Administrative Law. This Order requests information necessary for MS4 permittees to plan for implementation of actions to achieve the water quality standard for trash. Further, the water quality standard expected to be achieved pursuant to the Trash Amendments may allow each water body impaired by trash and already on the Clean Water Act section 303(d) list to be removed from the list, or each water body subsequently determined to be impaired by trash to not be placed on the list, obviating the need for the development of a total maximum daily load (TMDL) for trash for each of those water bodies (33 U.S.C. § 1313(d); 40 C.F.R. § 130.7). In those cases, the specific actions that will be proposed by the MS4 permittees in response to this Order substitute for some or all the actions that would otherwise be required consistent with any waste load allocations in a trash TMDL (40 C.F.R. § 122.44, subd. (d)(1)(vii)(B)). Accordingly, this Order is issued pursuant to federal law. Consistent with the Trash Amendments, this Order nevertheless allows MS4 permittees flexibility in the specific actions they propose to meet the federal requirements.

14. California Environmental Quality Act. Issuance of this Order is not subject to CEQA in accordance with section 15061(b)(3) of Chapter 3, Title 14 of the CCR because it can be seen with certainty that there is no possibility that the required activities in question may have a significant effect on the environment.

IT IS HEREBY ORDERED, pursuant to California Water Code section 13383, that the MS4 permittees must comply with the following directives:

A. REQUIRED SUBMITTALS³

1. **Written Notices.** Each MS4 permittee identified in Finding 4 must submit to the San Diego Water Board, **no later than three (3) months from the date of this Order (September 5, 2017)**, a written notice stating whether the MS4 permittee will implement Track 1 or Track 2 to comply with the trash discharge prohibition in the Ocean Plan and ISWEBE Plan.
2. **Track 1 Jurisdictional Maps and Time Schedule.** Each MS4 permittee identified in Finding 4 electing to comply with Track 1 must submit the following information **no later than eighteen (18) months from the date of this Order (December 3, 2018)**:
 - a. A jurisdictional map identifying Priority Land Uses, the corresponding storm drain network including all storm drain inlets and drainage, proposed full capture system installation locations and associated drainage areas; *and*
 - b. A time schedule to achieve full compliance with the trash discharge prohibition, including interim milestones (such as average load reductions of ten percent per year or other progress) to full implementation. The final compliance date must not be later than fifteen (15) years from the effective date of the Trash Amendments (i.e. December 2, 2030).
3. **Track 2 Implementation Plans.** Each MS4 permittee identified in Finding 4 electing to comply with Track 2 must submit, **no later than eighteen (18) months from the date of this Order (December 3, 2018)**, an implementation plan that describes:
 - a. The combination of controls⁴ selected by the MS4 permittee and the rationale for each selection;
 - b. How the combination of controls is designed to achieve full capture system equivalency;
 - c. How full capture system equivalency will be demonstrated;
 - d. How the implemented controls identified in the trash implementation plans will be monitored and assessed in jurisdictional runoff management program or Water Quality Improvement Plan Annual Reports;
 - e. Proposals by MS4 permittees, if any, to substitute Priority Land Uses described in Finding 9 above with other locations or land uses, provided that the total trash

³ Directives A.1, A.2, A.3, and A.5 do not apply to the Riverside County Flood Control and Water Conservation District because it does not have land use authority over Priority Land Uses.

⁴ Controls include full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls, as defined in Appendix D of the Ocean Plan and Appendix E of the ISWEBE Plan.

generated in other locations or land uses is equivalent to, or greater than, the total trash generated in the Priority Land Use being substituted; *and*

- f. A time schedule to achieve full compliance with the trash discharge prohibition, including interim milestones (such as average load reductions of ten percent per year or other progress) to full implementation. The proposed final compliance date must not be later than fifteen (15) years from the effective date of the Trash Amendments (i.e. December 2, 2030).
4. **Identification of Substantial Trash Generating Land Uses or Locations Within Riverside County Flood Control and Water Conservation District's Jurisdiction.** The Riverside County Flood Control and Water Conservation District (District) must submit, **no later than eighteen (18) months from the date of this Order (December 3, 2018)**, a report identifying land uses or locations within its jurisdiction including but not limited to, facilities, drainage structures, and easements that generate a substantial amount of trash.
 5. **Coordination with Caltrans.** Each MS4 permittee identified in Finding 4 must submit, **no later than eighteen (18) months from the date of this Order (December 3, 2018)**, a description of how MS4 permittees will coordinate their efforts to install, operate, and maintain full capture systems, multi-benefit projects, and other controls with Caltrans in significant trash generating areas and/or priority land uses, as applicable.

B. PROVISIONS

1. **Signatory Requirements.** All documents submitted to the San Diego Water Board must be signed and certified.
 - a. All reports required by this Order must be signed as follows:
 - (1) For a corporation, by a principal executive officer of at least the level of vice-president;
 - (2) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively;
 - (3) For a municipality, state, federal or other public agency, by either a principal executive or ranking elected official.
 - (4) By a duly authorized representative of the person designated above (B.1.a.(1), B.1.a.(ii), or B.1.(a)(iii)). A person is a duly authorized representative only if:
 - (a) The authorization is made in writing by a person described in paragraph B.6.a above;

(b) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and

(c) The written authorization is submitted to the San Diego Water Board.

b. Any person signing a document required by this Order must make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

2. Submittal of Documents. All documents submitted to the San Diego Water Board in compliance with this Order must be submitted in electronic format (compact disk (CD-ROM or CD) in a Portable Document Format (PDF), unless otherwise directed. All electronic format documents required under this Order must be submitted to:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108
Attn: Laurie Walsh, PE, Storm Water Management Unit

3. Changes to Order. This Order may be amended, rescinded, or updated by the Executive Officer. The MS4 permittees may propose changes or alternatives to the requirements in this Order if a valid rationale for the changes is shown. The filing of a request by a MS4 permittees for amending, rescinding, or updating this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

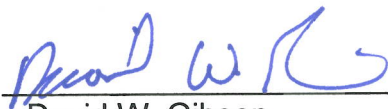
C. NOTIFICATIONS

1. Enforcement Discretion. The San Diego Water Board reserves its right to take any enforcement action authorized by law for violations of the terms and conditions of this Order.

2. Requesting Administrative Review by the State Water Board. Any aggrieved person may petition the State Water Board regarding this Order in accordance with Water Code section 13320 and the California Code of Regulations title 23 sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m.,

30 days following the date of this Order. Copies of the laws and regulations applicable to filing petitions may be found on the State Water Board website at http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

For instructions on how to file a petition for review, see the State Water Board website at:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

Ordered By: 

David W. Gibson
EXECUTIVE OFFICER
June 2, 2017

CITY OF ESCONDIDO

COMPLIANCE TRACK EVALUATION FOR THE STATEWIDE TRASH AMENDMENTS



DECEMBER 2016

Prepared For: City of Escondido, Utilities Department
201 North Broadway
Escondido, CA 92025

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- Appendix 3 - Track 1 vs. Track 2 BMP, Monitoring, and Reporting Comparison
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- Attachment 1 – GIS Files of Priority Land Uses and Affected Inlets (submitted electronically)
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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ARS	Automatic retractable screen
BASMAA	Bay Area Stormwater Management Agencies Association
BMP	Best management practice
Caltrans	California Department of Transportation
CDS	Continuous deflective separation
City	City of Escondido
CPS	Connector pipe screen
DGR	Daily Generate Rate
EOPNTT	End-of-pipe Netting Trash Trap
GIS	Geographic information system
GISB	Grate Inlet Skimmer Box
ILACSD	I Love A Clean San Diego
Industrial General Permit	State Water Resources Control Board Order No. 2014-0057-DWQ, National Pollutant Discharge Elimination System (NPDES) Permit, General Permit for Storm Water Discharges Associated with Industrial Activities
INLNTT	In-line Netting Trash Trap
LID	Low impact development
MS4	Municipal separate storm sewer system
Municipal Permit	San Diego Regional Water Quality Control Board Order Number R9-2013-0001, National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer System (MS4) Draining the Watersheds Within the San Diego Region
NGO	Non-governmental organization
NPV	Net present value
NSBB	Nutrient separator baffle box
NTT	Netting Trash Trap
PLU	Priority land use
Phase II Municipal Permit	State Water Resources Control Board Order No. 2013-0001-DWG, National Pollutant Discharge Elimination System (NPDES) General Permit for Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Regional Board	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SanGIS	San Diego Geographic Information Source
State Water Board	State Water Resources Control Board
Trash Amendments	<i>Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries</i>

Executive Summary

In April 2015, the State Water Resources Control Board (State Water Board) adopted an Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) as well as the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries – collectively referred to as the “Trash Amendments.” Broadly, the Trash Amendments require significant new efforts to reduce discharges of trash from storm drain systems for all municipal agencies in the San Diego region, including the City of Escondido (City), and most cities and counties in the State, except for agencies in the Los Angeles and San Francisco Bay areas that are already subject to similar requirements.

Summary of Requirements

The Trash Amendments require control of trash discharges from the following “Priority Land Uses” (PLUs):

- Industrial
- Commercial
- High-density residential (10 or more dwelling units/acre)
- Mixed urban
- Public transportation stations, including bus stations and stops

The Trash Amendments specify two different compliance options, or “tracks”; both include installing full capture systems - structural BMPs such as screens, nets, or hydrodynamic separators - in storm drain systems to remove trash. The term “full capture system” is used to describe structural controls (i.e., best management practices (BMPs)) that have screen or net openings no larger than five millimeters (about 3/16 of an inch) and are sized to treat the flow rate associated with a 1-year, 1-hour storm.¹ The small opening size is intended to remove small trash items like cigarette butts.

Other structural BMPs, such as filter inserts and curb inlet screens, may also be installed in addition to full capture BMPs to reduce the required maintenance frequencies of full capture BMPs. The City also implements a variety of non-structural BMPs to prevent trash from entering the storm drain system such as street sweeping and cleanup events. Non-structural BMPs remove trash from the storm drain system; however these activities alone cannot remedy the presence of trash in receiving water bodies since other activities, such as illegal dumping and littering, and the presence of unauthorized encampments along creeks, contribute trash to receiving waters.

The two compliance tracks, Track 1 and Track 2, presented in the Track Amendments available to the City and other local jurisdictions are summarized in Table ES-1.

¹ Note that achieving formal status as a full capture system requires certification of the device by the State Water Board. Several devices have previously been certified by the Los Angeles and San Francisco Bay Regional Boards, and the State Water Board has indicated it will also certify those devices as full capture systems. Jurisdictions or vendors will also be able to request that additional devices be certified as full capture systems if they have data to support full capture certification status.

Table ES-1. Comparison of Compliance Tracks

Item	Track 1	Track 2
Trash Controls	Full capture BMPs only	Combination of full capture BMPs and other structural and non-structural BMPs
Monitoring	Not required	Must design monitoring program to demonstrate equivalency with Track 1 effectiveness (“full capture system equivalency”)
Implementation Plan	Not required	Required, must be approved by Regional Board
Annual Reporting	Locations of installed full capture BMPs, certify full capture BMP O&M	Locations of all full capture BMPs and other controls, monitoring data, assessment to demonstrate full capture equivalency
Compliance Criterion	Installation and O&M of full capture BMPs at all required locations	Regional Board and third parties agree with City’s assessment that it has achieved full capture equivalency

Timeline

After approval by the State Water Board in April 2015, the Trash Amendments were subsequently approved by the Office of Administrative Law on December 2, 2015 and USEPA on January 12, 2016. A summary of the next steps in the regulatory timeline, as they apply to the City and based on the most recent direction from regulators, is provided below:

- **November 2016:** San Diego Regional Water Quality Control Board (Regional Board) issues draft 13267 order that will require the City and other municipal agencies in the region inform the Regional Board how they will comply with Trash Amendments requirements.
- **November – December 2016:** Public comment period and public meeting on draft 13267 order.
- **January 2017:** Regional Board issues 13267 order to City and other municipal agencies.
- **April 2017:** City informs the Regional Board of its intended approach to complying with Trash Amendment requirements (three months after date of 13267 order).
- **July 2018:** Depending on the compliance approach selected, a written implementation plan may be due (18 months after the date of the 13267 order).
- **Mid-2018:** Implementation of program to comply with Trash Amendments begins. The exact date will be the effective date of the next version of the local municipal storm water permit, which is due to be reissued in mid-2018.
- **Mid-2028:** Achieve full compliance with Trash Amendments.
- **2028 and future years:** Continue to operate and maintain the trash controls implemented in the previous 10 years to meet the Trash Amendments requirements.

Complying with the Trash Amendments is expected to have significant capital and operation and maintenance costs. Based on GIS analysis and field work, approximately 3,255 acres of PLU and 945 storm drain inlets that receive runoff from PLUs were identified in the City. These inlets are referred to as “PLU inlets” in this report. Based on literature review and field observations, the identified PLUs are estimated to generate approximately 42,650 gallons (211 cubic yards of trash per year)². The amount of trash generated by PLUs in the City does not

² Gallons of trash per year is the most common metric used for tracking and reporting of trash generation rates. For comparison, one cubic yard = 202 gallons.

include sediment or vegetative debris. The amount of trash generated is used for Track 2 scenarios, which are designed to provide a combination of trash controls that are sufficient to remove an equivalent amount of trash as full capture BMPs.

This report identifies the City's estimated capital, long-term operation and maintenance, monitoring, reporting, and planning costs for six potential scenarios for complying with the Trash Amendments. Four scenarios use a Track 1 approach, and two use a Track 2 approach. The costs summarized in Table ES-2 are based on a 20-year timeframe, including the initial 10-year compliance period, plus an additional 10 years of program implementation. The additional 10 years is included in the cost estimate to account for structural BMP replacement costs, some of which may occur in Years 11 through 20. A summary of the estimated costs for each scenario as well as other factors evaluated as part of the analysis is presented in Table ES-2. Total costs over the 20-year analysis period range from \$11 million to \$15.1 million. The scenarios are described in more detail below.

- **Scenario 1 - Track 1 (Small BMPs, All Inlets):** This scenario includes installing, operating, and maintaining full capture BMPs (e.g., connector pipe screens (CPS)) for all storm drains that captures runoff from a PLU area. This scenario guarantees compliance with the Trash Amendments provided BMPs are installed and maintained properly. Small BMPs, defined as individual inlet BMPs which are relatively small in size and treats smaller drainage areas, do not generally require complex engineering design and can be easily installed by contractors. However, installing many small BMPs results in a large maintenance burden. No approval from the Regional Board is required in this scenario.
- **Scenario 2 - Track 1 (Small BMPs, Parks PLU Change):** The same approach as Scenario 1, but with a change to the PLUs. The Trash Amendments allow for swapping some of the standard PLUs for an alternative land use provided that the alternative land use has a greater or equivalent trash generation rate to the PLU. This scenario assumes that transit stops will be replaced with park land uses as an alternative PLU. As discussed in Section 3, the trash generation rate for park land uses is equivalent to the trash generation rate of transit stops. The proposed PLU change reduces the number of inlets requiring treatment by 66 inlets. The Regional Board would need to approve the change in PLU, and based on initial conversations with Regional Board staff, it appears they would be open to this change (Christina Arias, Regional Board, personal communication).
- **Scenario 3 - Track 1 (Small BMPs, Some BMPs Treat Multiple Inlets):** Instead of installing small full capture BMPs in each PLU inlet, this scenario assumes that CPS will be installed in nodes where, on average, each CPS can treat runoff from two PLU inlets. This reduces the number of installed full capture BMPs by 50 percent. This approach would require more analysis to identify installation locations for CPS, including assessing where trash loads are likely small and where a CPS could potentially treat more than two upstream PLU inlets, and where trash loads are high and CPS should be installed in each individual drain. This approach is the most efficient method for reducing trash discharges from the City's MS4, and some level of adaptive management would also be required. The most likely approach would be to install CPS that treat several PLU inlets early in the program, monitor the frequency of maintenance required, and then add in additional upstream full capture BMPs where necessary.
- **Scenario 4 - Track 1 (Small BMPs and Large BMPs):** Two large full capture BMPs that treat runoff from many upstream PLU inlets, including a nutrient separating baffle box and an in-line trash netting system, are installed. Small full capture BMPs are

installed in all PLU inlets that do not drain to the two large BMPs. Installing the two large BMPs eliminates the need to install 45 small full capture BMPs. A smaller overall number of structural BMPs should reduce staff hours dedicated to maintenance. Large full capture BMP installation is significantly more complex than small BMP installation; it generally requires excavation, modification to large storm drain pipes, assessing utility conflicts, and traffic control. A hydraulic analysis, plans, and specification must also be prepared.

- **Scenario 5 - Track 2 (Small BMPs, Non-Structural BMPs):** Both structural full capture BMPs and non-structural BMPs, such as clean-up events and enhanced street sweeping, are incorporated. By implementing non-structural BMPs, the City can reduce the number of structural BMPs to be installed and maintained. For structural BMP implementation, this scenario assumes that CPS will be installed in nodes where, on average, each CPS can treat runoff from two PLU inlets. This reduces the number of installed full capture BMPs by 50 percent. Additional monitoring and reporting costs are included since this is a Track 2 scenario. Uncertainties in this scenario include the target amount of trash generated by PLUs and, in turn, the amount of trash required to be captured and removed by structural and non-structural BMPs. If a Track 2 scenario is selected, these numbers would be refined as the City collects site-specific monitoring and trash removal data, and it is unknown whether these refinements would require more or less effort than predicted based on current knowledge.
- **Scenario 6 - Track 2 (Small BMPs Remove More Trash, Non-Structural BMPs):** Both structural BMPs and non-structural BMPs are used to achieve the City's total trash reduction goal. This scenario is similar to Scenario 5, with the difference being this scenario treats the trash removal amount associated with CPS differently based on the CPS size. For this scenario, large CPS units are assumed to capture 20% more trash than the small CPS units, resulting in fewer CPS needing to be installed to achieve the anticipated level of trash reduction.

Table ES-2. Cost-Benefit Summary of Evaluated Compliance Scenarios¹

Cost Over 20-Year Period ²	Scenario					
	Track 1 (All Structural, Full Capture BMPs)				Track 2 (Structural and Non-Structural BMPs)	
	1	2	3	4	5	6
	Small BMPs, All Inlets	Small BMPs, Parks PLU Change	Small BMPs, Some BMPs Treat Multiple Inlets	Small BMPs and Large BMPs	Small BMPs, Non-Structural BMPs	Small BMPs Remove More Trash, Non- Structural BMPs
Initial Program Development Costs	\$60,000	\$65,000	\$70,000	\$75,000	\$100,000	\$110,000
Additional Non-Structural BMP Costs	\$0	\$0	\$0	\$0	\$1,226,868	\$1,226,868
Capital Costs	\$2,044,731	\$1,858,980	\$1,863,526	\$2,668,123	\$1,012,553	\$924,711
Maintenance Costs	\$9,631,564	\$9,239,959	\$6,827,908	\$9,573,272	\$5,626,169	\$5,511,710
Monitoring, Reporting, and Program Administration Costs	\$817,572	\$817,572	\$817,572	\$817,572	\$1,635,143	\$1,635,143
Contingency ³	\$1,883,080	\$1,797,227	\$1,436,851	\$1,970,095	\$2,400,183	\$2,352,108
Total Costs	\$14,436,947	\$13,778,737	\$11,015,857	\$15,104,061	\$12,000,917	\$11,760,540
Compliance Confidence	High				Low to Medium	
Flood Risk, Safety Concerns, and Liability	High	Medium	Low	High	Low	
Opportunity for Other Benefits in Addition to Trash Removal	Low				High	

Notes:

¹ The qualitative ratings (i.e., low, medium, high) included in the table above are relative to the other scenarios.

² The cost estimates for the six scenarios were analyzed for a 10-year and 20-year compliance timeframe, which assumes that Year 0 is the implementation start date. A 20-year timeframe was selected to account for the potential cost savings for large BMPs compared to small BMPs selected for the analysis. The 10-year compliance costs are included in the cost summary table presented later in the report. Discounting or inflation costs were not included in the cost estimate. The Net Present Value (NPV) was used to determine the present value of cash. A discount rate of 2% was used for the NPV calculation. A complete list of cost estimate assumptions is provided in Appendix 4.

³ Contingency was assumed to be 15% for Track 1 scenarios and 25% for Track 2 scenarios.

Scenario 1: Individual full capture BMP installed at all PLU inlets.

Scenario 2: Swaps public transportation stations with park land use. Individual full capture BMPs on all PLU inlets.

Scenario 3: Combination of structural BMPs, and 50% of small BMPs proposed under Scenario 1.

Scenario 4: Two large BMPs (i.e., In-Line Netting Trash Trap and Nutrient Separator Baffle Box) are installed in addition to small BMPs.

Scenario 5: Combination of structural BMPs and non-structural BMPs.

Scenario 6: Combination of structural BMPs and non-structural BMPs (assumes large CPS will catch 20% more trash than in Scenario 5).

1. Introduction

In April 2015, the State Water Resources Control Board (State Water Board) adopted an Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) as well as the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries - collectively referred to as the “Trash Amendments.” The Trash Amendments were subsequently approved by the Office of Administrative Law on December 2, 2015 and USEPA on January 12, 2016. The statewide Trash Amendments prohibit the discharge of trash to inland surface waters. Trash is defined by the Trash Amendments as “all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.”

There are two ways to reduce trash within the City of Escondido (City) one strategy includes installing full capture systems - structural best management practices (BMPs) such as screens, nets, or hydrodynamic separators - in storm drain systems to remove trash. The term “full capture systems” is used to describe structural BMPs that have screen or net openings no larger than five millimeters (about 3/16 of an inch) and are sized to treat the flow rate associated with a 1-year, 1-hour storm.³ The small opening size is intended to remove small trash items like cigarette butts.

Other structural BMPs, such as filter inserts and curb inlet screens, may also be installed in addition to full capture BMPs to reduce the required maintenance frequency of full capture BMPs. The City also implements non-structural BMPs which include trash removal activities such as street sweeping, creek/channel cleanups, and educational campaigns. Non-structural BMPs remove trash from the storm drain system; however these activities alone cannot remedy the presence of trash in receiving water bodies since other activities, such as illegal dumping and littering, and the presence of unauthorized encampments along creeks, contribute trash loads to receiving waters.

There are two compliance tracks available to implement these trash provisions:

- **Track 1 – All Structural BMPs.** Install, operate, and maintain full capture BMPs for all storm drains that capture runoff from one or more of the priority land uses (PLUs) (i.e., industrial, commercial, mixed urban, high-density residential (10 or more dwelling units/acre), and public transportation stations (including bus stations and stops). The requirements are fulfilled by the implementation and maintenance of the full capture BMPs. Implementation is phased in over the 10 year compliance timeline; Track 1 does not require installing BMPs in all locations immediately.
- **Track 2 – Combination of Structural and Non-Structural BMPs.** Implement a plan with a combination of full capture BMPs, multi-benefit projects, institutional controls, and/or other treatment controls to achieve full capture system equivalency. Monitoring is required to demonstrate the effectiveness of the controls and compliance with full capture system equivalency. Regional Water Quality Control Board (Regional Board) acceptance of the proposed approach to determine full capture system equivalency is also a critical component when Track 2 is selected.

³ Note that achieving formal status as a full capture system requires certification of the device by the State Water Board. Several devices have previously been certified by the Los Angeles and San Francisco Bay Regional Boards, and the State Water Board has indicated it will also certify those devices as full capture systems. Jurisdictions or vendors will also be able to request that additional devices be certified as full capture systems if they have data to support full capture certification status.

The figure below provides an overview of the requirements for Track 1 and Track 2.

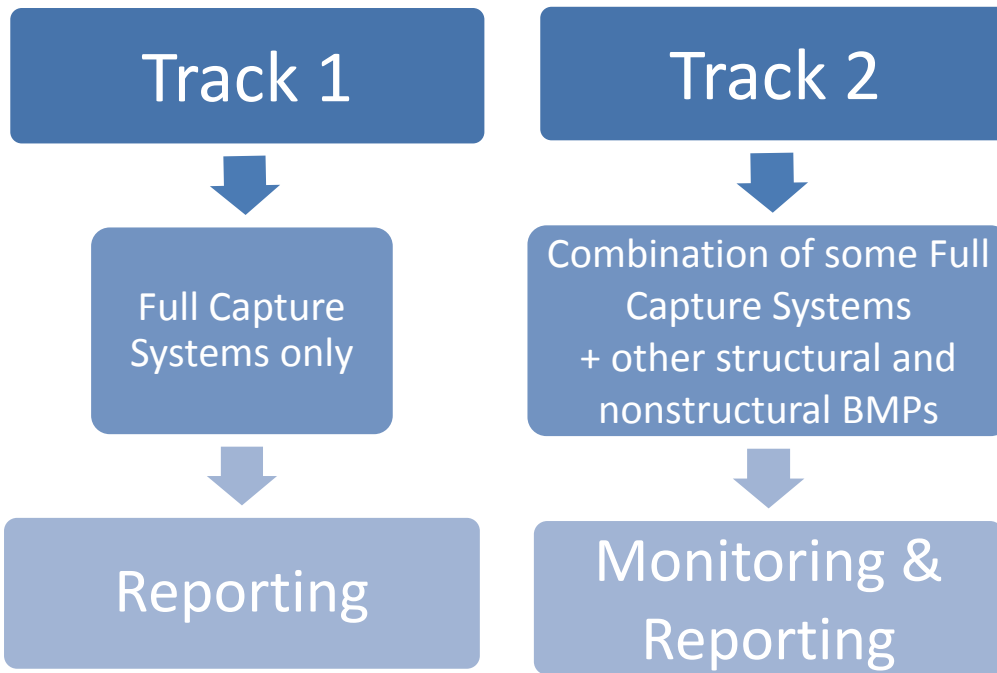


Figure 1. Track 1 vs. Track 2 Analysis Approach Summary

It is currently expected that by around early April 2017, the City will be required to notify the Regional Board which compliance track the City will implement. To assist the City in determining which compliance track to pursue, D-MAX Engineering, Inc. has performed a preliminary analysis of the two compliance tracks for the City utilizing available storm drain system data, the City's current trash control efforts (e.g., street sweeping, etc.), and through review of literature on trash generation rates.

Complying with the Trash Amendments is expected to have significant capital and operation and maintenance costs. The City already reduces trash through various programs and activities which include program or activities such as the treatment control BMP inspection program, creek/channel cleanups, storm drain inlet inspections and maintenance, park cleanups, and many other activities. This report identifies estimated capital and long-term operation and maintenance costs for the main categories of trash control BMPs. It also includes an assessment of six potential approaches, or scenarios, for complying with the Trash Amendments, four scenarios use a Track 1 approach and two use a Track 2 approach. A comparison of the Track 1 versus Track 2 approach for compliance confidence, monitoring, and reporting requirements is also provided in this report.

2. Priority Land Uses and Affected Storm Drain Inlets

2.1 Determination of Priority Land Uses

Priority land uses were determined based on the definitions provided in the Trash Amendments including high density residential (greater than or equal to 10 dwelling units/acre); industrial land uses involving manufacturing, storage or distribution; commercial land uses involving the sale or transfer of goods or services to consumers; mixed urban land uses that include a combination of

two or more previously mentioned PLUs; and public transportation stations such as bus stations and stops.

Since high density residential land use does not align with other classification systems for single family residences these areas were determined using GIS. The total number of parcels present within the San Diego Association of Governments (SANDAG) land use polygon was divided by the total area in acres for single-family residential land use. SANDAG’s multi-family land use codes were assumed to be a PLUs since SANDAG defines multi-family residential as generally greater than 12 dwelling units per acre. A table including all SANDAG land use codes that were included as PLUs can be found in Appendix 1. Land use codes, types, and subtypes were taken from the 2014 SANDAG Land Use data. Based on the Trash Amendments’ definitions of PLUs, some specific land use types required further evaluation to determine whether the land use should be considered a PLU. Table 1 summarizes these land uses and includes the rationale for either including or excluding the land use. Table 2 includes a summary of all identified PLUs within the City’s jurisdiction and Figure 2 includes a map of the PLUs.

Table 1. Priority Land Use Assessment Summary

SANDAG Land Use	Potential PLU	Included as PLU?	Rationale
Communications and Utilities	Industrial	Site Specific	Some electrical power generating, sewage, and water treatment plants within the City are subject to the Industrial General Permit and are included as PLUs. Electrical substations, water towers, etc. are not included because no activity takes place on the land use.
Religious Facility ¹	Commercial	No	No sale or transfer of goods or services to consumers.
Other Group Quarters	High Density Residential	Site Specific	Other group quarters including retirement homes and rehabilitation facilities were evaluated and included if there are ten or more dwelling units per acre.
Post Office	Commercial	No	Government facility – out of City’s jurisdiction.
Golf Course ²	Commercial	No	Sale or transfer of goods only happens at clubhouse.
Golf Course Clubhouse/Parking	Commercial	Yes	Sale or transfer of goods to consumers.

Notes:

¹ Only one area within the City which was marked as a religious facility in SANDAG’s GIS layer was included as a commercial PLU. This facility is a funeral home which involves the transfer of services as the primary activity.

² Some land parcels designated as golf course land use consisted of the golf course, clubhouse, and clubhouse parking areas. For these cases, the parcel was redrawn in GIS to exclude the golf course area from the PLUs, but the golf course clubhouse and parking areas were included.

Table 2. City of Escondido Priority Land Uses

Priority Land Use Type	Area (acres)	Percentage of Total PLUs
High Density Residential	1521.49	41.8%
Commercial	1010.99	33.6%
Industrial	721.68	24.6%
Public Transportation Stations ¹	0.73	0.02%
Mixed Urban	0	0%
Total	3,254.89	100%

Note:

¹ There are currently 151 public transportation stations (bus stops) mapped in the City of Escondido per data provided by San Diego Geographic Information Source (SanGIS) which includes one point for the two directions the route travels for a total of 302 stops in the City. The area influenced by the bus stops was estimated based on the location of the bus stop. Bus stops in the City will need to be updated regularly when the PLU areas are updated with new land use data.

In addition to the excluded land uses listed in Table 1, some parcels within the City’s physical boundaries were excluded from the PLUs since they do not fall within the City’s jurisdiction. Such areas include agencies designated as Phase II MS4s (covered under the Phase II Municipal Permit⁴) and parcels owned and operated by the federal government. Under the Phase II Municipal Permit, permittees, such as the North County Transit District and school districts, will be required to adhere to separate trash requirements mandated by the State Water Board. Similarly, facilities covered under the statewide Industrial General Permit (State Water Board Order No. 2014-0057-DWQ) will be prohibited from discharging trash to the MS4.

Based on data provided by the State Water Board’s online reporting system, Storm Water Multiple Application and Report Tracking System, there are approximately 272 acres in the City subject to the Industrial General Permit. For the purposes of this analysis, these facilities are included in the PLUs, but in the future, the City could potentially exclude them from their PLUs since discharges of trash from these facilities will be regulated under the Industrial General Permit. This could result in a decrease in the total number of affected storm drain inlets receiving runoff for industrial PLUs (see Section 2.2) and in the City’s estimated trash generation rates (see Section 3).

As stated in the Final Staff Report of the Trash Amendments, the Trash Amendments require permitting authorities to re-open, re-issue, or newly adopt NPDES permits for Phase II MS4 permittees and Industrial General Permit permittees, to incorporate the prohibition of discharge and implementation requirements of the Trash Amendments within those permits. It is expected that the City’s trash control responsibilities will be shared with the North County Transit District, since the transit district is a Phase II MS4 permittee and it is expected that the Trash Amendments requirements will be incorporated into the Phase II Municipal Permit. Additionally, the Trash Amendments require that the California Department of Transportation (Caltrans) complies with the trash discharge requirements and to coordinate efforts with other municipalities to install, operate, and maintain BMPs for trash control. Caltrans will be responsible for controlling trash that is generated from within their jurisdiction.

⁴ State Water Resources Control Board Order No. 2013-0001-DWG, National Pollutant Discharge Elimination System (NPDES) General Permit for Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)

2.2 Determination of Affected Storm Drain Inlets

In support of the Trash Amendments requirements for full capture BMP implementation, all storm drains receiving runoff from PLUs within the City's jurisdiction were identified as "PLU inlets". Inlets which drain PLUs were determined using data from the City's MS4 GIS layers, SanGIS topography layers, and Google Earth street view. A total of 945 storm drain inlets were identified. Appendix 2 includes a map of the City's PLUs and the affected storm drain inlets, and Attachment 1 includes the GIS files for PLUs and affected inlets. It is our understanding that storm drain structures such as earthen and concrete lined channels are not required to have full capture BMPs installed. Since the City's MS4 GIS layer includes all storm drain inlet structure types, the following structure types were assessed as inlet structures:

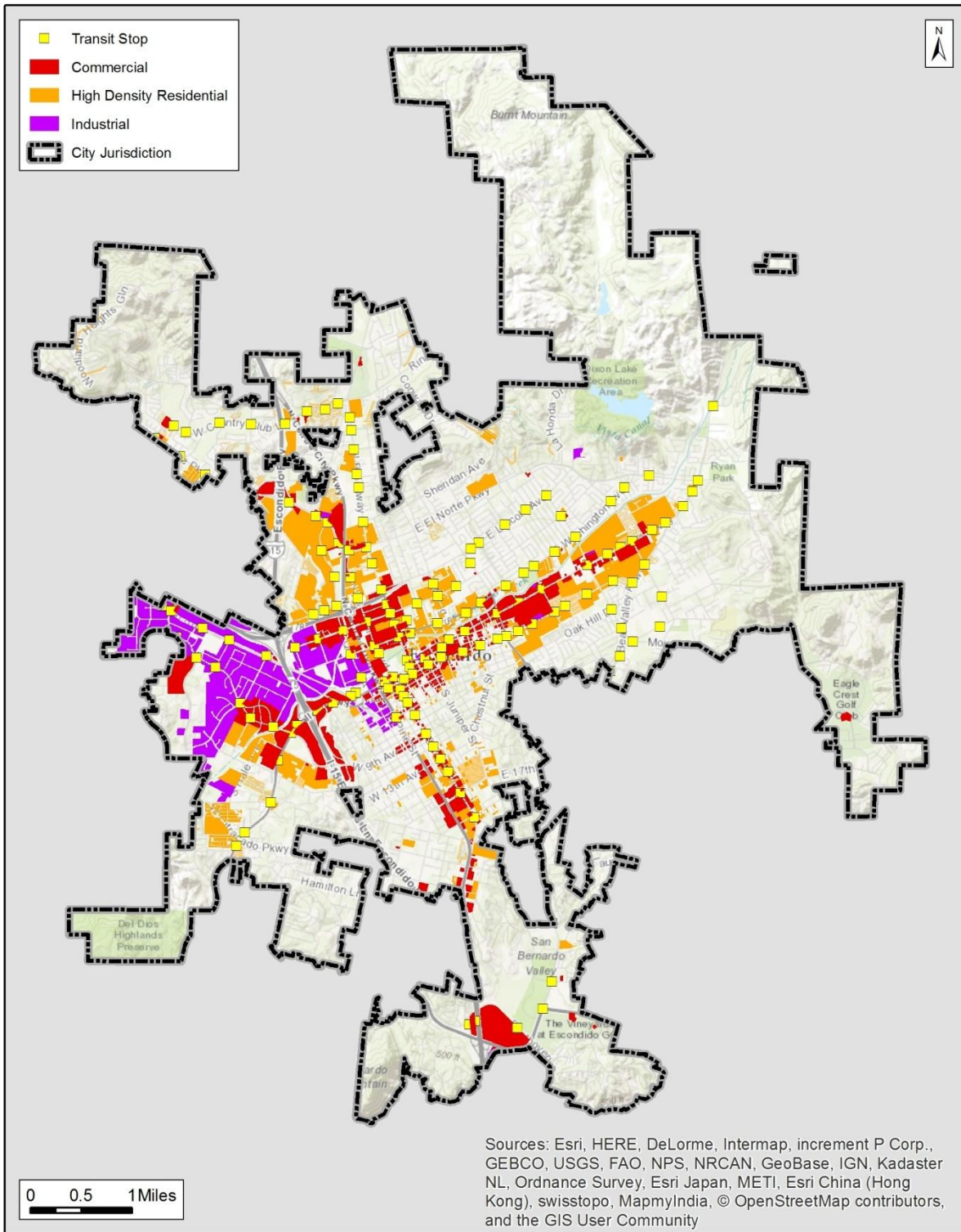
- Curb Inlet
- Grated Inlet
- Inlet
- Other Inlet
- Reverse Sidewalk Underdrain
- Slotted Pipe Inlet
- Swale Inlet
- V-ditch Inlet

The Trash Amendments allow jurisdictions to use equivalent alternative PLUs providing the alternative PLUs generate an amount of trash that is greater than or equivalent to the PLU for which it is being substituted. In Escondido, visual assessments of parks and transit stops (bus stops) showed comparative trash generation rates (gallons/acre/year). Since the total acreage for City parks is much greater than the total cumulative acreage of bus stops, calculations show that the total trash generated from parks is greater than transit stops, although the trash generation rate is similar. The visual trash assessments and the estimated trash generation rates are discussed in the following section.

If the City pursues a Track 1 compliance approach, it may be in the City's interest to swap out transit stops for an alternative land use, such as parks, since it could allow the City to focus its resources in areas that already have a high level of maintenance and are visited by Public Works staff frequently. Additionally, the geographical scattering of transit stops increases the amount of time spent traveling to inlets and time spent to setup traffic controls for BMP maintenance, which could make implementation and maintenance of BMPs more difficult for City staff.

Furthermore, the North County Transit District will be required to adhere to the Trash Amendments requirements. For this reason also, the City may consider swapping out transit stops for an alternative PLU since this could result in further trash removal and an added benefit for the City since more areas in the City would be treated by full capture BMPs.

Depending on which alternative land use is selected, this can result in fewer storm drain inlets requiring treatment. For example, if the City selects parks as an alternative land use, there will be 66 fewer storm drain inlets receiving runoff from PLUs that would require to be treated by a full capture BMP. The PLU GIS files provided as Attachment 1 have flagged storm drain inlets that receive runoff from parks and inlets that only receive runoff from transit stops. Having this data available allows for an analysis of different Track 1 implementation scenarios to determine the number of transit stop inlets that may be able to be replaced if parks are selected as an alternative PLU. This scenario is described in more detail in Section 6.



Base Data Sources: ESRI, SanGIS, and City of Escondido. See note in bottom right corner of map for additional information. There are no mixed use land uses within the City's jurisdiction.

Figure 2. City of Escondido Priority Land Use Area Map

3. Trash Generation Rates

The Track 2 compliance approach requires the determination of full capture system equivalency, which is the amount of trash that would be reduced through the implementation of Track 1. The Track 2 approach includes estimating the total trash generated from PLUs and the amount of trash reduction from existing trash controls/activities, and then calculating the additional trash reduction needed by subtracting the second number from the first number. The first step in this calculation is to determine trash generation rates for the City's PLUs. The estimation of the City's existing trash controls/activities is included in Section 6.

The trash generation rates calculated in this analysis are based on a combination of literature values and City-specific data. Because there are wide ranges of literature values for the same land uses, the City-specific data helps to determine what number along the spectrum of literature values is most appropriate to Escondido.

The primary literature referenced when calculating appropriate trash generation rates was the "Literature Review for Trash Amendment Compliance Strategy" prepared by Michael Baker International in July 2015. This report compared trash generation rates documented by multiple trash generation studies completed in California, including a study conducted by the Bay Area Stormwater Management Agencies Association (BASMAA). The annual trash generation rates provided by this study were used as a starting point in calculating the City's trash generation rates.

The "best" trash generation rate categories determined by the literature review performed by Michael Baker International, are the mean trash generation rates calculated in the BASMAA study. Since trash generation rates ranges varied for each PLU, a system was developed in the literature review to determine which areas generated varying levels of trash. For this reason, these ranges were used as the baseline trash generation rate range for the City, and the categories include the following:

- Low: 0 to <5 gallons/acre/year
- Moderate: Between 5.1 and 10 gallons/acre/year
- High: Between 10.1 and 50 gallons/acre/year
- Very High: Between 50.1 and 150 gallons/acre/year

For the Escondido visual trash assessment, procedures were based on EOA, Inc.'s "*On-Land Visual Trash Assessment Protocol for Stormwater. 2013.*" The procedure described by EOA Inc. was modified in order to complete the assessments safely and efficiently. Field teams in the City included two personnel who completed visual assessments of each defined area by driving the entire perimeter and all streets within each assessment area. While driving, one team member carefully looked for deposited trash in the roadway, median, street, curb, gutter, and vegetated areas (within three feet of the public right-of-way).

The visual assessments were intended to assess the level of trash observed along the curb and gutter around PLUs. The PLUs assessed during the visual trash assessment correspond to land uses assessed in the BASMAA study, and include the following:

- Commercial – Office Only
- Commercial – Retail Only
- Commercial – Office and Retail
- High Density Residential – Multi-family Residential
- High Density Residential – Single Family Residential
- Parks
- Public Transportation Stations
- Industrial

Using the City's PLU map, 134 specific PLU land areas were selected to be assessed. Maps of these land areas were provided to field teams, which included aerial images with a PLU overlay so that field teams could confirm the land use type while in the field. Each area was assigned an identification number, and field teams assessed all sides of the street that were visible while driving. An example map is included in Figure 3, where purple polygons represent industrial land uses, red polygons represent commercial land uses, and orange polygons represent high density residential land uses.






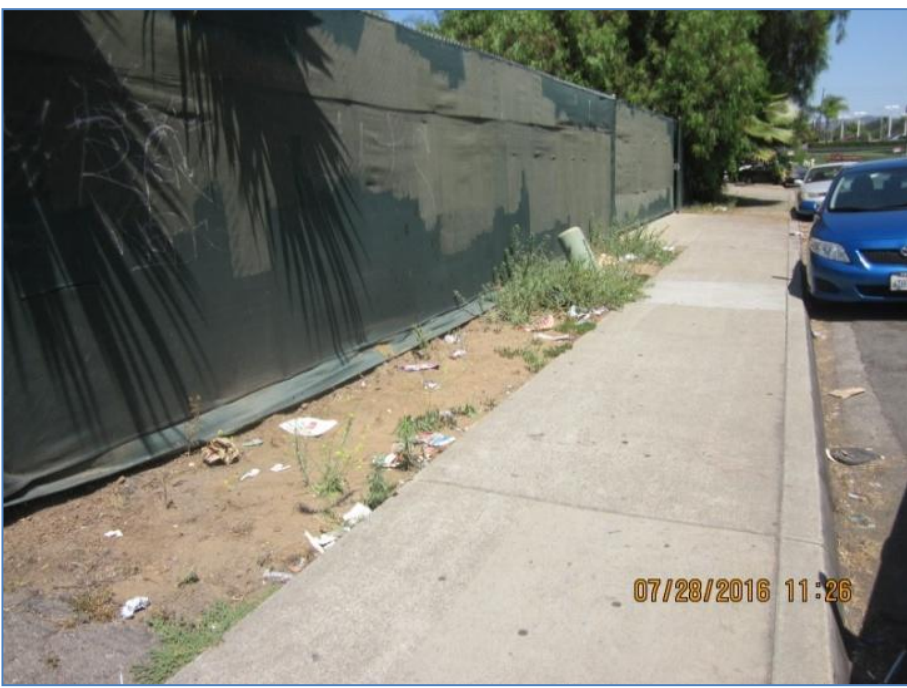
Figure 3. Visual Trash Assessment Map

After each assigned area was assessed, the area was assigned a trash generation rating provided by the EOA, Inc. procedures, which included a rating of A, B, C, and D. Combined ratings (i.e., A/B, B/C, and C/D) were also assigned when the assessed area did not fall completely within one rating. The rating definitions and corresponding photos taken during the visual trash assessments are included in Table 3. For the visual trash assessments, the trash generation ranges used in the BASMAA study were assigned the following rating system:

- Low = A
- Low/Moderate = A/B
- Moderate = B
- Moderate/High = B/C
- High = C
- High/Very High = C/D
- Very High = D

Table 3. Visual Trash Assessment Ratings and Photos

Trash Rating ¹	Definition ¹	Example Photo from Assessment
A	Effectively, no trash is observed in the assessment area.	
B	Predominantly free of trash except for a few pieces that are easily observed in the assessment area.	

Trash Rating ¹	Definition ¹	Example Photo from Assessment
C	Trash is widely/evenly distributed and/or small accumulations are visible on the street, sidewalks, or inlets.	
D	Trash is continuously seen throughout the assessment area, with large piles and a strong impression of lack of concern for litter in the area. There is often significant litter along gutters.	

¹ Source: EOA, Inc. Visual On-land Trash Assessment Protocol for Stormwater. 2013. Photos were taken during the visual trash assessment performed by D-Max Engineering, Inc.

To refine the trash generation rates provided in the BASMAA study so that the rates are calibrated for trash generation observed in the City, the following conversions were performed. Each visual trash assessment rating (e.g. “A”) was assigned a score, which was calculated by taking the midpoint value for each category (e.g. 2.5 for 0 – 5 gallons/acre/year) and dividing it by the maximum trash generation rate of 150 gallons/acre/year.

For each PLU, a weighted average score for each land use type assessed was calculated by summing the average weighted scores that were calculated and then by dividing the average weighted score by the high end value in the trash generation range, as shown in Table 4. The average weighted score was then converted back to the trash generation ranges. For example, retail land uses had a weighted score of 0.24 which fell within the B/C to C category, as shown in Table 5. The low end of the B range is 5.1 gallons/acre/year, while the high end is 50 gallons/acre/year. Since this is above the moderate range of 5.1 to 10 gallons/acre/year the midpoint of the best range provided for the retail land use was used. This indicated a value of 46.9 gallons/acre/year which is approximately 23% of the “high end” gallons/acre/year.

Trash generated from retail and high density residential land uses were calibrated based on household median income, and a cost of living adjustment was applied to the income ranges identified in the BASMAA study. Three cost of living calculators were used to compare the mean household income for the San Francisco Bay Area to the City of San Diego (CNN.com, Salary.com, Bankrate.com). The City of San Diego was used instead of the City of Escondido, since cost of living calculators only compare the cost of living between major cities, such as San Diego. The average cost of living for the street calculators was compared for the \$50,000 and \$100,000 which were the ranges used in the BASMAA study. The median household income for the City was determined to be \$53,284⁵. A cost of living factor indicated that the City of Escondido fell into the middle income category, which is defined as between \$41,586 and \$83,173. Some land uses had multiple possible trash generation rate ranges based on income. The equivalent category based off the cost of living calculator was used to refine the selected trash generation rate range. For example, land parcels associated with the lowest income category was estimated to generate between 78.2 and 150 gallons/acre/year for retail land use, while the middle income category generates between 15.5 and 78.2 gallons/acre/year. Since the City falls within the middle income category, it was estimated that a lesser amount of trash is generated within Escondido than a City with a lower median household income.

Table 4. Household Median Income Range Conversion from BASMAA

BASMAA Household Median Income ¹	Escondido Household Median Income ²
\$50,000	\$41,586
\$50,000 - \$100,000	\$41,586 - \$83,173
> \$100,000	\$83,173

Notes:

¹Source: *Literature Review for Trash Amendment Compliance Strategy* developed by Michael Baker International in July 2015.

²Average for CNN.com, salary.com, and bankrate.com to determine the cost of living adjustment for the City compared to the Bay Area.

The City is currently participating in the San Diego County Trash Generation Rate Special Study, which aims to quantify baseline trash generation rates associated with PLUs in San Diego

⁵ <http://www.escondido.org/demographics.aspx> (date accessed 10/12/16).

County and to determine a full capture system equivalency. The study is scheduled to be completed by October 2017, and the data will be made available to the City, which can be used to further refine the trash generation rates used in this analysis if a Track 2 compliance approach is selected.

Table 5. Visual Trash Assessment Rating and Associated Trash Generation Rate Ranges

Trash Generation Category	Trash Generation Rates from Literature			Score ¹	Visual Trash Assessment Rating
	Low End (gal./acre/year)	Midpoint (gal./acre/year)	High End (gal./acre/year)		
Low	0	2.5	5	0.02	A
Low/Moderate ²	2.55	5.025	7.5	0.05	A/B
Moderate	5.1	7.55	10	0.08	B
Moderate/High ²	7.6	18.8	30	0.19	B/C
High	10.1	30.05	50	0.30	C
High/Very High ²	30.1	65.05	100	0.65	C/D
Very High	50.1	100.05	150	1.00	D

Notes:

¹ This score is calculated by dividing the midpoint of the trash generation range by the total trash generation rate of 150 gallons/acre/year.

² This category was not listed in the BASMAA study, however, additional categories were added to accommodate the visual trash assessment ratings that fell within ranges (e.g. A/B and B/C). The low end of this range is the midpoint of the trash generation category in the row above this category, and the high end of this range is the midpoint from the trash generation category in the row below this category. For example, the Low/Moderate category has a range of 2.55 – 7.5 since the midpoint for the Low End is 2.55 which is the midpoint between the Low End (0) and the High End (5.1), and the midpoint for the High End category is 7.5 since it is the midpoint of the High End of the Low (5) and Moderate category (10).

Table 6. Trash Generation Rates by Priority Land Use Type

Priority Land Use Type	Area (acres)	Percentage of Total PLU	BASMAA Best Trash Generation Range (gal./acre/year) ¹	Estimated Trash Generation Rate (gal./acre/year)	Annual Trash Generation Estimate (gal./year) ²
Commercial	602.70	20%	6.2	6.2	3,849
Retail	408.29	14%	15.5 - 78.2	46.9	19,702
High Density Residential	1521.49	42%	2.5 - 8.2	8.2	12,850
Industrial	721.68	25%	8.4	8.4	6,244
Public Transportation Stations ^{3,4}	0.73	0.02%	5	6.0	4
Parks ⁵	170.7	0.02%	5 ³	6.0	1,024
Total	3,255	100%	N/A	N/A	42,650

Notes:

¹These ranges are based off the “Literature Review for Trash Amendment Compliance Strategy” developed by Michael Baker International in July 2015 which referenced values used in the BASMAA study. This table may be updated based on the findings of the Regional Trash Study.

² The visual trash assessment score was performed while existing sweeping programs were in place. For this reason, an additional 3% factor of safety has been included in the estimated annual trash generation to account for debris collected during sweeping activities.

³ While this land use was not in the “Literature Review for Trash Amendment Compliance Strategy” developed by Michael Baker International in July 2015, it appears that the expected trash generation range would fall within a similar range for Parks based on the results of the visual trash assessment.

⁴ There are currently 151 transit stops mapped for City. The area influenced was assumed to be 105 square feet per bus stop. The value was doubled to account for variable areas for larger stops located along main roads which include covered sitting areas.

⁵ A trash generation rate of 0.062 gallons/acre/year was estimated for park land uses as a result of the visual trash assessments, which corresponds to an A/B to B rating as shown in Table 5. The trash generation rate range for this category is 2.55 – 7.55 gallons/acre/year. The median of this range is 5.05 gallons/acre/year which falls within the low (which is between 0-5 gallons/acre/year). The trash generation rate was increased to 6.0 gallons/acre/year so that it would fall within the moderate range which is between 5-10 gallons/acre/year.

4. Best Management Practice (BMP) Types

Per the Trash Amendments several categories of BMPs and controls are acceptable for complying with the Trash Amendments. The BMPs are defined as follows in the Trash Amendments:

- **Full Capture BMP** - A treatment control, or series of treatment controls, including but not limited to, a Multi-Benefit Project or a Low Impact Development (LID) Control that traps all particles that are five millimeters or greater, and has a design treatment capacity that is either: a) of not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the sub-drainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain.
- **Treatment Controls** - Structural BMPs to either (a) remove pollutants and/or solids from storm water runoff, wastewater, or effluent, or (b) capture, infiltrate or reuse storm water runoff, wastewater, or effluent. Treatment controls include full capture BMPs and LID BMPs.
- **Low Impact Development (LID) BMPs** - Treatment controls which traps all particles that are five millimeters or greater, and has a design treatment capacity that is either: a) of not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the sub-drainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain.
- **Multi-Benefit Project** - A treatment control project designed to achieve any of the benefits set forth in section 10562, subdivision (d) of the Water Code. Examples include projects designed to: infiltrate, recharge or store storm water for beneficial reuse; develop or enhance habitat and open space through storm water and non-storm water management; and/or reduce storm water and non-storm water runoff volume.
 - Under a Track 1 approach, to get credit, data on the design of each multi-benefit project must be submitted to the State Water Board for review and approval of the project as a full capture system before the projects go forward. Should the City be moving forward with the design of a multi-benefit project in the future, the City’s design team may consider whether designing, constructing, and maintaining the multi-benefit device as an full capture system would be more cost effective than other full capture system proposed for broader use in the City, such as CPS. Under a Track 2 approach, the amount of trash removed from the multi-benefit project after it is constructed can be quantified and used as credit toward the overall total amount of trash to be removed as part of Track 2. Note that stream restoration and other projects that occur within receiving water bodies cannot be considered full capture systems or structural controls that remove trash toward a Track 2 trash removal target at this time due to the

Municipal Permit's⁶ prohibition on constructing BMPs within receiving water bodies.

- **Institutional Controls** - Non-structural BMPs which may include reduce trash from uncovered loads, street sweeping, sidewalk trash bins, trash collection, anti-litter education and outreach programs, produce take-back (collection) of packaging materials, and ordinances. Other institutional controls may be acceptable upon approval by State Water Board.

Full capture BMPs are designed to trap all particles five millimeters or greater to capture cigarette butts. Cigarette butts were the most common piece of trash collected during California Coastal Commission and Ocean Conservancy organized Coastal Cleanup Day events from 1989- 2012. All full capture BMPs require certification by the Executive Director, or designee, of the State Water Board prior to installation. A permittee must submit a certification request letter with all supporting documentation to the State Water Board's Executive Director. The Executive Director, or designee, will approve or reject the certification of the proposed full capture BMP or conditions of approval, including a schedule to review and reconsider the certification. The notice of approval or rejection will be provided to the permittee in writing (State Water Resources Control Board, Division of Water Quality, 2014).

For our analysis, acceptable, approved full capture BMPs were evaluated. The primary information source that was referenced for this part of the assessment was the "Bay Area-wide Trash Capture Demonstration Project, Appendix III: Trash Capture Devices Offered Through the Project" (San Francisco Estuary Project, 2012), which describes a variety of full capture BMPs, devices to use in series with full capture BMPs, and high-flow capacity devices. Devices presented in this report are products manufactured by various vendors including Advanced Solutions, Bio Clean Environmental Services, Inc., G2 Construction Inc., KriStar Enterprises, Inc., United Stormwater Inc., West Coast Storm, Inc., and more.

The full capture BMPs incorporated in our analysis are accepted, certified full capture BMPs. The San Diego Regional Board is in the process of developing guidance on certifying full capture BMPs. Note that achieving formal status as a full capture BMP requires certification of the device by the State Water Board. Several BMPs have previously been certified by the Los Angeles and San Francisco Bay Regional Boards, and the State Water Board has indicated it will also certify those devices as full capture BMPs. Jurisdictions or vendors will also be able to request that additional BMPs be certified as full capture BMPs if they have data to support full capture certification status.

The assessment of options for full capture BMP implementation focused on structures that are easy to maintain under dry and wet weather conditions and that will allow the City to efficiently meet the requirements of the Trash Amendments. The full capture BMPs evaluated in our analysis includes the following:

- Small BMPs (relatively small in size and treats smaller drainage areas):
 - Drainage inserts
 - Bio Clean Grate Inlet Skimmer Box Filter (GISB)
 - Connector Pipe Screen (CPS)

⁶ San Diego Regional Water Quality Control Board Order Number R9-2013-0001, National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer System (MS4) Draining the Watersheds within the San Diego Region.

- Large BMPs (relatively large in size and can treat larger drainage areas than the small BMPs):
 - Hydrodynamic Separators
 - Continuous deflective separation (CDS) unit
 - Nutrient Separator Baffle Box (NSBB)
 - Netting Trash Traps (NTT) (commonly known as trash nets)
 - In-line Netting Trash Trap (INLNTT)
 - End-of-pipe Netting Trash Trap (EOPNTT)

Table 7 includes a summary of the types of BMPs that are included in our analysis. Pictures of each full capture BMP type are included in Section 4.1.

Table 7. Summary of Full Capture BMP Types and Associated Limitations and Benefits

BMP	Limitations / Concerns	Benefits	Typical Cost Range ¹
Bio Clean Grate Inlet Skimmer Box Filter (GISB) ²	<ul style="list-style-type: none"> • Not ideal for high traffic areas. • Expected to require more frequent cleaning due to smaller capacity. 	<ul style="list-style-type: none"> • Feasible in grate style inlets where CPSs are not. • Can be maintained with a Vactor truck. 	\$1,356 - \$1,917
Connector Pipe Screen ^{3,4}	<ul style="list-style-type: none"> • Not suitable for pipes greater than 60" in diameter. • CPS that treat larger areas (large CPS) may require more frequent cleanings. 	<ul style="list-style-type: none"> • Quick disconnect feature available to aid in storm drain maintenance or can be used to prevent flooding. • Relatively infrequent maintenance required (approximately three or four times/year). • Can be maintained with a Vactor truck. 	\$630 - \$1,812
Hydrodynamic Separator ³	<ul style="list-style-type: none"> • Not suitable for treating small drainage areas. • Utility conflicts, installation costs for offline units, and access constraints can make installation infeasible. 	<ul style="list-style-type: none"> • Captures floatables, debris, and sediment. • Suitable for treating large drainage areas with high flows and large/multiple pipes. • Can be installed in-line (in pipe). • Can be maintained with a Vactor truck. 	\$200,000 - \$1,000,000
FreshCreek Netting TrashTrap ⁵	<ul style="list-style-type: none"> • Not suitable for treating small drainage areas. • Crane required for maintenance. 	<ul style="list-style-type: none"> • No moving parts. • No expected maintenance of structure unless unit is vandalized. • Suitable for treating large drainage areas. 	\$200,000 - \$300,000

Notes:

¹ Cost includes capital and installation.

² BMP has an expected useful life of 15 years.

³ BMP has an expected useful life of 20+ years.

⁴ According to a vendor, United Storm Water Inc, CPS are not recommended for grate inlets or for pipes that exceed 36" to 60" in diameter due to the head pressure which may cause flooding and/or damage to the unit. For larger

connector pipe screens which are greater than 36" in diameter, a flow-diverter may be installed, however a liability release will need to be installed for these units (Terry Flury, United Storm Water Inc, personal communication). Another vendor, G2G Construction Inc., does not require a flow diverter for large CPS that exceed 36" in diameter (Eric Taylor, G2Construcion Inc, personal communication).

⁵ BMP has an expected useful life of 20+ years.

4.1 Full Capture BMPs

An overview of the types of full capture BMPs considered in our analysis is included in this section, which includes connector pipe screens (CPS), trash nets, hydrodynamic separators, and filter inserts. The cost estimate and feasibility analysis, which incorporates these BMPs, is discussed in further detail in Section 6.

4.1.1 Connector Pipe Screens (CPS)

Connector pipe screens, shown in the Figure 4, are fastened to a storm drain pipe and have removable front screens which allow access to the pipe for maintenance. The CPS installation also includes stenciling on the side of the catch basin to assist in determining when maintenance is required. Based on feedback provided from the County of Los Angeles (LA) Public Works Department, the required CPS function best when paired with an automatic retractable screen (ARS) to prevent the catch basin from filling up with sediment and vegetative debris (Linda Miller, Los Angeles County Public Works, personal communication). A technical report prepared by the County of Los Angeles Public Works Department outlines how CPS and ARS are to be installed to meet hydraulics standards in the MS4⁷. Vendors that install CPS and ARS have been installing BMPs in accordance with the Los Angeles standards since most of their work has been in the Los Angeles area. Connector pipe screens are expected to be the most cost effective full capture BMP when combined with ARS due to low capital costs and relatively infrequent maintenance.



Figure 4. Connector Pipe Screen

4.1.2 Trash Nets

The TrashTrap Netting systems provided by FreshCreek Technologies, Inc., can treat large drainage areas. There are three types of trash nets available that meet the requirements of the Trash Ammendments: an end-of-the pipe model, an in-line model, and a channel model. An end of the pipe model can be installed at an outfall, whereas an in-line model can be installed within the storm drain pipe. An end-of-pipe trash net is shown in Figure 5. Trash nets were assessed as one large full capture BMP, however some concerns regarding trash nets



Figure 5. Netting TrashTrap (End-of-Pipe Model)

⁷ County of Los Angeles Public Works Department. *Connector Pipe Screen Design Full Capture TMDL Compliance Screen and Bypass Sizing Requirements*. Tech. N.p., 2007. Web. 3 June 2016.

ripping or being aesthetically unpleasing have been mentioned by other cities, such as the City of Lancaster. Netting TrashTrap systems are custom made and are able to treat the largest drainage areas at outfalls.

4.1.3 Hydrodynamic Separators

Hydrodynamic separators are units that use a vortex to allow sedimentation to occur within the unit. These units capture trash and other pollutants using indirect screening without the use of filters or screens on the pipes, and are feasible in larger drainage areas. BMP design is flexible but site constraints may complicate the installation of these BMPs. The two main types of hydrodynamic separators include the following models:

Continuous Deflective Separation (CDS) Units

The CDS hydrodynamic separator uses swirl concentration and continuous deflective separation to screen, separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff. CDS captures and retains floatables and neutrally buoyant debris 2.4 millimeters or larger and effectively removes sediment.⁸ A diagram of a CDS unit is included in Figure 6.

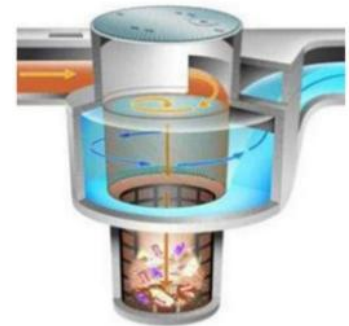


Figure 6. Continuous Deflective Separation Unit

Nutrient Separator Baffle Box (NSBB)

Solids and floatables are separated in this BMP which allows treated storm water to flow into the MS4. One of the main advantages to this BMP is that less excavation is required to install the unit. It is expected that these units will be selected instead of CDS units due to reduced installation cost, less maintenance costs, and less potential for odor issues which have been reported with CDS units. Vendors did not report known issues with standing water and mosquito breeding. A diagram of the NSBB is included in Figure 7.

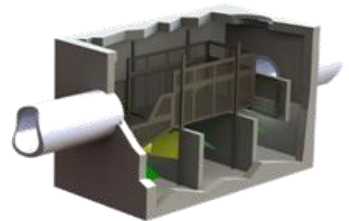


Figure 7. Nutrient Separator Baffle Box

4.1.4 Filter Inserts (GISBs)

Bio Clean Grate Inlet Skimmer Box Filters (GISBs) are feasible in small grate inlets where CPS are not. They are not suitable in locations with direct traffic and are expected to require more frequent cleaning due to a relatively smaller capacity. A diagram of the GISB is included in Figure 8.



Figure 8. Grate Inlet Skimmer Box

⁸ <http://www.conteches.com/>

4.2 Partial Capture BMPs

Also included in our analysis are automatic retractable screens (ARS) (Figure 9), which are considered to be a partial capture BMP, meaning they do not capture all trash five millimeters or greater. The primary benefit to using an ARS is that trash is collected before it enters the storm drain which reduces the number of catch basin cleanings. This BMP can be used in combination with other full capture BMPs, such as CPS. During heavy rains, the ARS opens to allow flow to enter the storm drain to prevent flooding. When times of more intense flow ceases, the screen automatically closes and locks in place. There are three types of material options for these screens: marine-grade plastic, stainless steel, and powder coated stainless steel. For the cost analysis presented in Section 6, it was assumed that the powder coated stainless steel ARS will be installed per discussion with City Public Works staff. Connector pipe screens are expected to be the most cost effective full capture BMP. To reduce the maintenance frequency of a CPS, it was assumed that all CPS will be installed with an ARS, where feasible.



Figure 9. Powder Coated Automatic Retractable Screen

4.3 Low Impact Development and Structural BMPs

Currently, no LID BMPs are approved by the State Water Board as full capture BMPs, so these BMPs were not incorporated into our analysis. However, Bay Area and LA municipalities have been working with the State Water Board to determine if they will accept existing and/or retrofitted LID BMPs for compliance with the Trash Amendments. One example of a potentially acceptable retrofit of a LID BMP is retrofitting a detention or bioretention basin with a five millimeter mesh screen at the outlet structure to remove trash. It is expected that requirements will need to be modified for new development projects that utilize LID BMPs which include infiltration basins, bioretention basins, and treatment control BMPs. It is anticipated that all LID BMPs for new development projects will be required to meet the new development requirements as soon as new BMP design standards are available.

4.4 Institutional Controls (Non-Structural BMPs)

Non-structural BMPs remove trash from the storm drain system; however these activities alone cannot remedy the presence of trash in receiving water bodies since other activities, such as illegal dumping and littering, and the presence of unauthorized encampments along creeks, contribute trash loads to receiving waters. The primary focus of the Trash Amendments is to prevent trash generated from PLUs from entering receiving waters via the City's MS4. Institutional controls such as street sweeping, trash bin container management, anti-litter education and outreach programs, and education and outreach programs may be incorporated in addition to structural BMPs if the City selects a Track 2.

5. Track 1 versus Track 2 Comparison: Compliance Confidence, Monitoring, Reporting, and Other Considerations

When deciding between a Track 1 and Track 2 approach, it is important to consider other components of implementation besides costs, such as compliance confidence and monitoring and reporting efforts. For instance, although capital costs may be lower for a Track 2 approach, the compliance confidence and monitoring and reporting efforts are much higher.

5.1 Compliance Confidence

The State Water Board and environmental non-governmental organizations (NGOs) generally prefer a Track 1 approach because it uses proven MS4 technology (i.e., full capture BMPs). Municipalities that opt for a Track 2 approach will need to engage with the Regional Board to negotiate proposed compliance metrics and monitoring approach prior to implementation plan submittal in 2018. Additionally, it is possible that Track 2 compliance targets could change and become stricter in the future, especially if NGOs apply more pressure on regulators or if trash from the MS4 is still reaching receiving water bodies.

The compliance standard for Track 2 is not clearly stated in the Trash Amendments and must be developed with the Regional Board. In light of recent experience with the Regional Board on Water Quality Improvement Plan development, it seems that where expectations and requirements are highly subject to the discretion, interpretation, and renegotiations of regulators, requirements may change and may differ from how municipalities interpret them since the regulations are inherently ambiguous. This is particularly relevant in the San Diego region, and specifically in Escondido, where NGOs are especially concerned with receiving water quality. Therefore, there is a high risk that the initially agreed upon compliance target, or level of effort, may change over the Trash Amendments' ten-year compliance timeframe. For these reasons, it is expected that under a Track 1 approach, compliance confidence is relatively high, whereas under a Track 2 approach, there is a low to medium compliance confidence level.

Based on feedback provided by City staff, one aspect of compliance confidence that should be considered is the potential challenges in City commitments to continue certain non-structural BMPs in the midst of future economic downturns or budget constraints. For example, reliance on enhanced street sweeping and public education to achieve trash reductions (as demonstrated by monitoring and reporting, Section 5.2) may be a greater challenge for future budgets than maintaining physical infrastructure such as full capture BMPs and Municipal Permit-required MS4 inspections and cleanouts.

5.2 Monitoring and Reporting

For Track 1, neither monitoring nor an implementation plan is required. The level of effort for reporting under Track 1 is minimal, which includes basic annual reporting to the Regional Board, initial program coordination and development, and delineating drainage areas in GIS for BMPs to be installed.

However, under a Track 2 approach, monitoring and reporting efforts are much greater, including highly detailed annual monitoring and reporting, initial program coordination and development, and developing and/or updating an implementation plan. The implementation plan is required to be submitted to the Regional Board for approval within eighteen months of the effective date of the Trash Amendments, which is expected to be during the summer of 2018. The implementation plan must describe 1) the combination of structural and non-structural BMPs selected by the City and the rationale for selection; 2) how the combination of BMPs is designed to achieve full capture system equivalency; and 3) how full capture system equivalency will be demonstrated. Full capture system equivalency is a trash load reduction target that the City must quantify. Two example approaches for determining full capture system equivalency provided in the Trash Amendments is the Trash Capture Rate Approach and the Reference Approach.

- *Trash Capture Rate Approach:* Directly measure or otherwise determine the amount of trash captured by full capture systems for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific trash capture rates. These trash capture rates may be determined by a pilot

study or literature review. For this analysis, literature values were used and calibrated by performing visual trash assessments in the City, as discussed in Section 3. For the Trash Capture Rate Approach, full capture system equivalency is the sum of the products of each type of land use, facility, or area multiplied by trash capture rates for that type of land use, facility, or area.

- *Reference Approach:* Determine the amount of trash in a reference receiving water body in a reference watershed where full capture systems have been installed for all storm drains that capture runoff from all relevant areas of land. With this approach, full capture system equivalency would be demonstrated when the amount of trash in the receiving water is equivalent to the amount of trash in the reference receiving water.

It is expected that the Trash Capture Rate Approach will be the most appropriate method for San Diego jurisdictions since there is not currently a reference watershed similar to San Diego. Although there have been studies performed in the Bay Area and in Los Angeles where full capture BMPs are implemented, there has been a consensus among San Diego jurisdictions that land uses in these areas are significantly different than in San Diego. For this reason, the County of San Diego is leading a regional effort to characterize trash generation rates in San Diego County and the results of the study will be made available to the City. The City is currently participating in the San Diego County Trash Generation Rate Special Study, which aims to quantify baseline trash generation rates associated with PLUs in San Diego County to assist municipalities determine full capture system equivalency. The study is scheduled to be completed by October 2017, and the data will be made available to the City, which can be used to further refine the trash generation rates used in this analysis if a Track 2 compliance approach is selected.

Below is a summary of two monitoring approaches that other municipalities in California are implementing, or have implemented, which have been approved by the respective Regional Boards.

Trash Capture Rate Approach in San Francisco and LA Regions

The BASMAA Regional Trash Generation Rates Project⁹ in the Bay Area demonstrated compliance with the San Francisco Regional Board's trash capture requirements by monitoring 159 sites four times a year. Each site removed approximately 34.6 gallons of trash on average annually, which equates to approximately 8.6 gallons of trash per monitoring event. In addition to the quantitative data, visual trash assessments were also used to demonstrate compliance in the BASMAA study.

Permittees in the Los Angeles River and Ballona Creek areas used a Daily Generation Rate to demonstrate compliance with the LA Trash TMDLs¹⁰. This method directly measures trash for a 30-day period between June 22 and September 22. The amount of trash discharged by storm events was calculated by determining the number of days since the last street sweeping event then subtracting the daily generation rate and the amount of trash collected from storm drain inlets. The total trash discharge each year is determined by summing the storm event trash for each storm event for storms greater than 0.25 inches. The staff report recommended the daily generation rate be calculated once every five years instead of annually provided that the

⁹ Source: EOA, Inc. 2014. *MS4 Trash Reduction in SF Bay Area. Lesson Learned To-date. CASQA Trash Webinar.* 29 Jul. 2014.

¹⁰ Source: Trash TMDLs Los Angeles Regional Water Quality Control Board. 2015. *Staff Report: Reconsideration of Certain Technical Matters of the Trash TMDLs for the Los Angeles River Watershed and the Ballona Creek Watershed.*

implementation of partial capture BMPs and non-structural BMPs continued, and that no land uses changed significantly or structural and non-structural BMPs changed over time.

Reference Approach (Receiving water Monitoring) in the LA Region

For compliance with the trash TMDLs for the Los Angeles River and Ballona Creek, the LA Regional Board recommended the inclusion of receiving water monitoring. In the staff report, the LA Regional Board proposed that each jurisdiction should submit a Trash Monitoring and Reporting Plan which included the proposed monitoring sites.

According to the staff report, the Trash Monitoring and Reporting Plan would include, "...maps of the drainage and storm drain data, and locations of where trash accumulates in the water body. Trash monitoring shall focus on visible trash at representative and critical locations. Locations for trash assessment shall include, but not be limited to locations where trash enters and exits each reach/segment and their tributaries, and areas of recreational access." Monitoring sites would include 100-foot segments of the water body for the assessment. The staff report further describes that receiving water monitoring should include sampling frequencies that evaluate trash levels over time and under different seasonal conditions for the same locations. The assessment would include qualitative and quantitative parameters which include level of trash, measured quantity of trash identified, threat to aquatic life, threat to human health, illegal dumping and littering, and the accumulation of trash.

Based on the experiences in the Bay Area and LA, a combination of qualitative and quantitative monitoring may be required to demonstrate compliance; however the exact types of monitoring the San Diego Regional Board will accept is still unclear. Since the Regional Board does not have specific guidelines or standards at this time, compliance confidence when implementing Track 2 is reduced. Table 8 includes a comparison of compliance confidence and monitoring and reporting efforts. Additional information on this comparison is summarized in Appendix 3.

Table 8. Comparison of Compliance Confidence and Monitoring and Reporting Efforts Associated with Track 1 and Track 2

Factor	Track 1	Track 2
Compliance Confidence	High	Low - Medium
Monitoring Efforts	None	High
Reporting Efforts	Low	High

5.3 Additional Considerations

An additional consideration to be mindful of when selecting a compliance track, is that an advantage of a Track 2 approach relative to a Track 1 approach is that it places more focus on strategies that reduce trash at the street level, where it is visible, which provides an aesthetic benefit to municipalities. While trapping trash in the storm drain system can provide an aesthetic benefit to the downstream water body, it does not necessarily provide an aesthetic benefit to streets or surrounding areas.

Furthermore, when deciding between a Track 1 or a Track 2 approach, it is important to consider other factors such flood risk and safety and liability concerns. In general, a Track 1 approach has the potential to impose a moderate flood risk, which affects public safety and the City’s liability, since Track 1 requires a greater number of structural BMPs to be installed within

the City’s storm drain system. However, all BMPs incorporated into this analysis are BMPs that have high-flow bypasses, and BMP vendors have reported that they do not cause flooding.

6. Track 1 versus Track 2 Comparison: Costs

Using the information provided in the previous sections, this project analyzed several potential approaches, or scenarios, that the City could likely implement under a Track 1 or Track 2 compliance program. This section describes each of the six scenarios including cost estimations and assumptions; large BMP analysis and selection; trash reduction credits and associated costs; program development, monitoring and reporting costs; and a cost comparison of the scenarios. The Trash Amendments state that the State Water Board’s expectation is that full capture BMPs will be used where not cost-prohibitive. Our approach to developing cost estimates for Track 2 scenarios is to use a combination of structural and non-structural BMPs to develop the most cost effective approaches for the City.

6.1 Overview of Scenarios for Implementation

Table 9 includes a summary of the six scenarios assessed and the corresponding number of PLU inlets that would require the installation of a small full capture BMP, such as a CPS or GISB. For all Track 1 scenarios, it was assumed that an ARS will be installed in addition to the proposed full capture BMPs, where feasible, to achieve maximum trash removal and to decrease full capture BMP maintenance costs. The calculations for each scenario are provided in the cost summary spreadsheet provided in Attachment 2, which has been submitted electronically with this report.

Table 9. Assessed Scenarios

Compliance Track	Scenario No.	Description	No. of PLU Inlets Requiring Full Capture BMPs
1	1	<u>Small BMPs, All Inlets</u> Individual full capture BMP installed at all PLU inlets.	938
1	2	<u>Small BMPs, Parks PLU Change</u> Swaps public transportation stations with park land use. Individual full capture BMPs on all PLU inlets.	878
1	3	<u>Small BMPs, Some BMPs Treat Multiple Inlets</u> Combination of structural BMPs and 50% of BMPs on standard ¹ sized CPS inlets.	522
1	4	<u>Small BMPs and Large BMPs</u> Large BMPs that replace upstream PLU inlets.	894
2	5	<u>Small BMPs, Non-Structural BMPs</u> Combination of structural BMPs and non-structural BMPs.	340
2	6	<u>Small BMPs Remove More Trash, Non-Structural BMPs</u> Combination of structural BMPs and non-structural BMPs (assumes large CPS will catch 20% more trash than in Scenario 5).	320

Notes:

¹ Standard size CPS includes CPS that are installed on conveyances that are less than 36” in diameter.

A description of the Track 1 scenarios is provided below:

- **Scenario 1 (Small BMPs, All Inlets):** Scenario 1 follows a conservative Track 1 approach which requires structural BMPs to install, operate, and maintain full capture BMPs for all storm drains that capture runoff from a PLU area per section A.3.c.(1) of the Trash Amendments. In this scenario, all PLU inlets downstream of a PLU area have a small BMP installed. For this reason, there is minimal runoff from non-PLUs that are treated by the BMPs. This scenario guarantees compliance with the Trash Amendments provided BMPs are installed and maintained properly. The primary disadvantage to this scenario is that high capital costs and associated ongoing maintenance costs are expected. No approval from the Regional Board is required to implement this scenario.
- **Scenario 2 (Small BMPs, Parks PLU Change):** The Trash Amendments allow for swapping the standard PLUs for an alternative land use provided that the alternative land use has a greater or equivalent trash generation rate to the PLU. This scenario assumes that transit stops will be replaced with park land uses as an alternative PLU. As discussed in Section 3, the trash generation rate for park land uses is equivalent to the trash generation rate of transit stops. This scenario was analyzed since it reduces the number of PLU inlets requiring treatment by 66 inlets and since it will allow for the City to focus its resources in concentrated areas in the City instead of throughout the City which will minimize maintenance efforts and costs. The only difference between this scenario and Scenario 1 is that an alternative PLU is used. The Regional Board would need to approve the change in PLU, and based on initial conversations with Regional Board staff it appears they would be open to this change (Christina Arias, Regional Board, personal communication).
- **Scenario 3 (Small BMPs, Some BMPs Treat Multiple Inlets):** Instead of installing small full capture BMPs in each PLU inlet, this scenario assumes that the BMPs will be placed in fewer, more strategic locations in the MS4. This will allow the City to install fewer CPS but still treat the same amount of PLUs. Connector pipe screens would be installed within the MS4 in more downstream locations in the respective sub-drainage areas. Additionally, in most cases, runoff from non-PLU areas would be treated under this scenario. It is assumed that all large CPS will be installed and there will be 50% less CPS installed than in Scenario 1. The primary benefit to this approach is that less capital and ongoing maintenance costs are expected due to the reduced number of BMPs installed. This approach is the most efficient method for reducing trash discharges from the City's MS4, and some level of adaptive management would also be required. It is recommended to obtain Regional Board approval prior to implementing this approach.
- **Scenario 4 (Small BMPs and Large BMPs):** In some cases, it may be more desirable to install large BMPs instead of multiple small BMPs to treat the same drainage area. This scenario includes the installation of two large full capture BMPs: a nutrient separator baffle box and an in-line trash netting system. Since this scenario requires the installation of fewer small BMPs, it would put less of a burden on maintenance staff, meaning less time is needed for performing inspections and maintenance of BMPs, both during dry and wet weather conditions. Small BMPs were assumed for all PLU inlets except for those that fall within the drainage area of the two selected large BMPs. The large BMPs would replace a total of 45 small BMPs. This is the only scenario that incorporates a large BMP (i.e., hydrodynamic separator, etc.) since it was determined that installing large BMPs are not cost effective (see Appendix 6). Additional detail regarding the large BMP selection process is described in Section 6.3. It is recommended to obtain Regional Board approval prior to implementing this approach.

A detailed description of the Track 2 scenarios is provided below:

- **Scenario 5 (Small BMPs, Non-Structural BMPs):** This scenario incorporates structural BMPs, existing trash removal efforts, and non-structural BMPs, such as creek clean-ups and enhanced street sweeping. Under this scenario, the City can achieve certain trash reduction credits towards meeting their trash reduction goal, full capture system equivalency, by implementing these non-structural BMPs. By implementing more non-structural BMPs, the City reduces the number of structural BMPs that need to be installed. Section 6.4 includes a description of the assumptions used to calculate the City's potential trash reduction credits achieved through non-structural BMPs and presents how the number of necessary structural BMPs was calculated. Instead of installing small BMPs in each PLU inlet, this scenario assumes that the BMPs will be placed in fewer, more strategic locations in the MS4. It is assumed that all large CPS and GISB will be installed. Additionally, of the remaining inlets which require small BMPs it was assumed 50% less CPS are required to be installed in this scenario since multiple inlets may be treated by one CPS unit.
- **Scenario 6 (Small BMPs Remove More Trash, Non-Structural BMPs):** Similar to Scenario 5, this scenario incorporates structural BMPs, existing trash removal efforts, and non-structural BMPs to achieve the City's total trash reduction goal. However, this scenario uses a different approach for determining the number of structural BMPs required to be installed. It is assumed that the large CPS captures 20% more trash than the small CPS units. Instead of installing small full capture BMPs in inlets, this scenario assumes that the large CPS will be placed in more strategic locations in the MS4. It is assumed that all large CPS and GISB will be installed. Additionally, of the remaining inlets required it is assumed that 50% less CPS are required to be installed in this scenario since it is assumed multiple inlets may be treated by one CPS unit. This will allow the City to install fewer CPS but still achieve the same trash reduction goal. Connector pipe screens would be installed within the MS4 in more downstream locations in the respective sub-drainage areas.

6.2 Analysis Assumptions

This section provides a description of the assumptions necessary for performing the cost analysis. Assumptions are based on literature values, communications with City staff from the Utilities and Public Works/Engineering Departments and with BMP vendors, analysis of existing City data, and other sources.

Both compliance tracks must begin implementation within 18 months of the effective date of the Trash Amendments. For Track 2, within 18 months of the issuance of the order, the City must submit an implementation plan to the Regional Board. The implementation timeframe differs for Tracks 1 and 2 as Year 0 does not begin at the same time due to implementation plan development. Regardless of which compliance track is selected, full compliance within ten years of the effective date is required with an interim milestone for an average load reduction of trash of ten percent annually. For all scenarios it was assumed that if 10% of the full capture BMPs were installed annually then the Trash Amendments' requirement to achieve an annually load reduction of 10% would be met. To meet the compliance target, the larger full capture BMPs and GISBs were assumed to be installed first, and in later years, smaller full capture BMPs would be installed since it is anticipated that these BMPs would collect less trash.

For Scenarios 1 through 5 it was assumed that PLU inlets capture an equal amount of trash (45.5 gallons of trash annually). For Scenario 6, it was assumed that large CPS capture 20% more trash (54.6 gallons/year) than a typical PLU inlet. For the Track 2 scenarios, the trash

removed from existing trash removal efforts and additional or enhanced non-structural BMPs was subtracted from the total amount of trash generated in the City. The difference was then divided by 45.5 (the amount of trash removed per inlet per year) which resulted in the total number of inlets that require structural BMPs. It was assumed that all large CPS and GISB would be installed since these BMPs may capture a large amount of trash, and small BMPs were assumed to be installed for the remaining BMPs to be installed.

For all Track 1 scenarios, it was assumed that an ARS will be installed in addition to the proposed full capture BMPs, where feasible, to achieve maximum trash removal and to decrease full capture BMP maintenance costs.

6.2.1 Cost Analysis Assumptions

The cost estimates for the six scenarios were analyzed for a 10-year and 20-year compliance timeframe, which assumes that Year 0 is the implementation start date. A 20-year timeframe was selected to account for the potential cost savings for large BMPs compared to small BMPs selected for the analysis. Discounting or inflation costs were not included in the cost estimate.

Data summarized in Appendix 5 was used to determine which small BMPs (i.e., CPS, GISB, or ARS) were feasible for specific inlets. During fieldwork, curb inlets sizes and grates that were not included in the cost estimate provided from vendors were identified. Additional quotes were requested from vendors regarding custom sized ARS and CPS; however we did not receive information for custom sizes since vendors were reluctant to provide this cost estimate without detailed site information and specifications (Eric Taylor, G2 Construction Inc., personal communication; Terry Flury, United Storm Water Inc., personal communication).

The maximum size GISB quoted was 36" x 36" however 56% of the 52 measured GISB (50% of the grate inlets) were larger than 36". The price for GISB was increased by 75% for GISB assumed to be larger than 36". For the 29 inlets which lacked dimensions, it was assumed that a 36" x 36" GISB could be placed in the inlet since 76% of the measured grate inlets were 36" in length. Actual cost of GISB BMPs will vary based on the size of the inlets after field verification is completed for all inlets.

In addition to assumptions made for costs for GISB, assumptions were made for ARS greater than 253". ARS units are custom made and the vendor was unable to provide a general quote based on size alone (Terry Flury, United Storm Water Inc; personal communication). For this reason, the cost of an ARS sized 86" to 121" was added to the cost of an ARS between 170" and 253" to account for the additional labor and capital costs.

Only inlets maintained by the City were considered for the cost analysis. For all privately owned inlets, the City may need to install BMPs under Track 1. The City may work with property owners to determine who will pay for the cost of the BMP and maintain and replace the BMPs.

The Net Present Value (NPV) was used to determine the present value of cash. A discount rate of 2% was used for the NPV calculation. A complete list of cost estimate assumptions is provided in Appendix 4.

An additional 10% was added to capital costs to account for time needed for City staff to prepare BMP bid packages, specifications, and plans. A 15% annual contingency for Track 1 scenarios and a 25% contingency for Track 2 scenarios were added to costs to account for potential unforeseen increased capital costs for BMPs and increased maintenance costs and frequencies.

Table 10. Type and Number of Small BMPs in PLU Inlets by Scenario

BMP Types	Scenarios					
	1	2	3	4	5	6
	Small BMPs, All Inlets	Small BMPs, Parks PLU Change	Small BMPs, Some BMPs Treat Multiple Inlets	Small BMPs and Large BMPs	Small BMPs, Non-Structural BMPs	Small BMPs Remove More Trash, Non-Structural BMPs
Full Capture BMPs						
Small CPS (with ARS)	632	587	216	594	34	14
Large CPS (with ARS)	201	187	201	197	201	201
GISB	105	104	105	103	105	105
<i>Total Full Capture BMPs</i>	<i>938</i>	<i>878</i>	<i>522</i>	<i>894</i>	<i>340</i>	<i>320</i>
Partial Capture BMPs						
ARS Only	7	7	423	49	7	7

Notes: CPS - Connector Pipe Screen; ARS - Automatic Retractable Screen; GISB - Grate Inlet Skimmer Box.

6.2.2 Maintenance Assumptions

Maintenance costs include inspection, cleaning, equipment, and disposal costs. Inspection costs for CDS, CPS, GISB, and NSBB were assumed to be \$45 per inlet which is based off storm drain inlet cleaning data provided by the City. The ARS inspection cost has been assumed to be included in the CPS inspection cost. For Scenario 3, it was assumed that all upstream PLU inlets which only contain ARS would be inspected at the time the downstream CPS was inspected. It is assumed that ARS are inspected every time CPS are inspected, and that reverse sidewalk underdrains are inspected regularly. Inspection and maintenance frequencies were based on information provided by vendors and based on D-MAX Engineering Inc.'s knowledge of and experience with large BMPs such as hydrodynamic separators.

Cleaning costs were assumed to be \$174 per inlet for small BMPs. This cost estimate is based on data provided by the City which includes labor, equipment, and disposal. Large BMP disposal costs were estimated for each proposed BMP location (sediment storage capacity is described in further detail in Appendix 6). Disposal costs for the INLNTT at ESC_134_S were calculated to be \$2,861 per cleaning while disposal costs for the NSBB at RDY_114 was \$1,052 per cleaning. A full list of estimated costs for large BMPs is included in Appendix 6. The estimated BMP cleaning and inspection frequencies are presented in Table 11.

Future development for PLU areas will require full capture BMPs. For inlets located on private property, new requirements for new developments will require private developers to install BMPs. These BMPs will be required to be maintained which will be verified annually through maintenance verifications. Additionally, routine storm water compliance inspections may also assist in determining if inlets are being adequately maintained.

Table 11. Assumed Inspection and Cleaning Frequencies by BMP Type

BMP Type	No. of Annual Inspections (Year 1/Year 2+) ¹	No. of Annual Cleanings ²
Small CPS ³	1/1	3
Large CPS ³	1/1	4
CDS	6/2	2
GISB	0	20
NSBB	6/2	2

Notes:

CPS - Connector Pipe Screen; CDS – Continuous Deflective Separation; GISB - Grate Inlet Skimmer Box; NSBB – Nutrient Separator Baffle Box.

¹ It is assumed that more frequent inspections will be performed during the first year of installation to help determine the required ongoing maintenance frequency for future years.

² The exact number of cleanings may vary based on site-specific factors, as determined by the inspections performed in Year 1.

³ It is assumed that ARS are inspected every time CPS are inspected and that the reverse sidewalk underdrains are inspected regularly. Also note that the total number of inspections is equal to the number of inspections (visit with only inspection, no cleaning) plus the number of cleanings (assumed to be both inspection and cleaning).

6.2.3 Other Assumptions

Additional scenario specific assumptions are included below.

- **Scenario 1 - Small BMPs, All Inlets:** It is assumed that all PLU inlets have a small full capture BMP installed. For grate style inlets GISB have been proposed to be installed since CPS are not suitable for this type of inlet structure. Also included in this scenario are seven reverse sidewalk underdrains where only ARS have been included as these structures are not directly connected to the MS4.
- **Scenario 2 - Small BMPs, Parks PLU Change:** This scenario is the same as Scenario 1 except the transit stop PLU has been replaced with parks in order to reduce the number of small BMPs which are required to be installed and maintained.
- **Scenario 3 - Small BMPs, Some BMPs Treat Multiple Inlets:** This scenario assumes that all large CPS will be installed, and 50% standard sized CPS will be installed. A GIS analysis of the proposed BMP locations based on inlet structure indicated that most inlets which support GISB are not upstream of a CPS unit. For this reason, all GISB units were included in this scenario. Additionally, a desktop analysis using Google Street View indicated that reverse sidewalk underdrains are not located upstream of large CPS. Field visits to slotted pipe inlets and Google Street View also confirmed that these inlet types are not typically upstream of large CPS. Therefore, it was assumed that all reverse sidewalk underdrains required an ARS and all slotted pipe inlets required a combination of CPS and ARS. In this scenario, reverse sidewalk underdrains, slotted pipe inlets, and GISB all have a small full capture BMP installed.
- **Scenario 4 - Small BMPs and Large BMPs:** This scenario is the same as scenario 1 except 45 PLU inlets have been replaced by two large BMPs located in the downstream portion of the respective drainage area. Large BMPs are proposed to be installed in Year 10 in order to maximize cost savings by reducing the NPV for these BMPs.
- **Scenario 5 - Small BMPs, Non-Structural BMPs:** In this scenario it is assumed that a combination of structural BMPs, existing efforts, and non-structural BMPs achieve the total trash reduction required for the City. It is assumed that all inlets capture an equal amount of trash (45.5 gallons/year); that amount is based on dividing the City-wide total by the number of full capture inlets (945). The total existing trash that is removed

annually through existing efforts was subtracted from the total annual trash generated for the City (see Section 3). The total trash removed each year by new and enhanced non-structural BMPs was then subtracted for the total trash generated in the City. The amount of trash reduced annually was then divided by the number of PLU inlets in the City to obtain the average trash generation rate per inlet. The remaining amount of PLU inlets that required structural BMPs was divided by the average trash generated per inlet to determine the number of PLU inlets which required small BMPs.

The selected inlets were prioritized based on the following criteria:

- Large CPS (largest curb opening sizes were prioritized first);
- Standard CPS (largest curb opening sizes were prioritized first).

The above criteria prioritize BMPs which capture the most amount of trash per inlet.

- **Scenario 6 - Small BMPs Remove More Trash, Non-Structural BMPs:** In this scenario it is assumed that a combination of existing trash removal activities, structural BMPs, and additional non-structural BMPs will be combined to achieve the total trash reduction required for the City. The trash reduced from existing efforts and from additional non-structural BMPs was subtracted by the total trash generated in the City to determine the additional trash removal required by small BMPs. It was also assumed that large CPS capture 20% more trash (54.6 gallons/year) than a typical PLU inlet which is assumed to capture an equal amount of trash (45.5 gallons/year). The total amount of trash removed by large CPS was subtracted from the additional trash removal required. The remaining amount of trash removal required was divided by the number of PLU inlets in the City to determine the number of PLU inlets which required small BMPs.

6.3 Large BMP Analysis and Selection

Six drainage areas were selected within the City for areas where large BMPs were considered feasible. Multiple BMPs were considered for the entire drainage area or to treat a portion of the drainage area. Within these six drainage areas 10 unique locations were analyzed to determine which locations specific large BMP would be feasible for Scenario 4. At most, seven different large BMP locations could be selected of the 10 locations since some drainage areas overlap. For example, an INLNNTT or CDS unit would not be installed at IWC_E and IWC_W if the Channel Guard NTT were selected for Indian Wells Channel (see Figure 1 in Appendix 6).

Acronyms
CDS - Continuous Deflective Separation
EOP - End-of-Pipe Netting Trash Trap
INLNNTT - In-Line Netting Trash Trap
IWC - Indian Wells Channel
NSBB - Nutrient Separator Baffle Box
NTT - Netting TrashTrap

The most cost effective, feasible BMPs were selected for inclusion in the analysis for Scenario 4. To determine how cost effective a large BMP was, the total capital and maintenance costs were calculated for each potential large BMP location. The total 20-year cost for each location was divided by the number of upstream PLU inlets that the large BMPs replaced. The average 20-year cost was compared to placing small BMPs in all upstream PLUs. As a result of this analysis, it was determined that no large BMPs were cost effective when compared to small BMPs. For this reason, the large BMPs that had the least additional cost when compared to small BMPs upstream of the large BMP; and were the most feasible in terms of design, installation, and maintenance; were selected. Detailed costs for the 10 potential large BMP locations are included in Appendix 6.

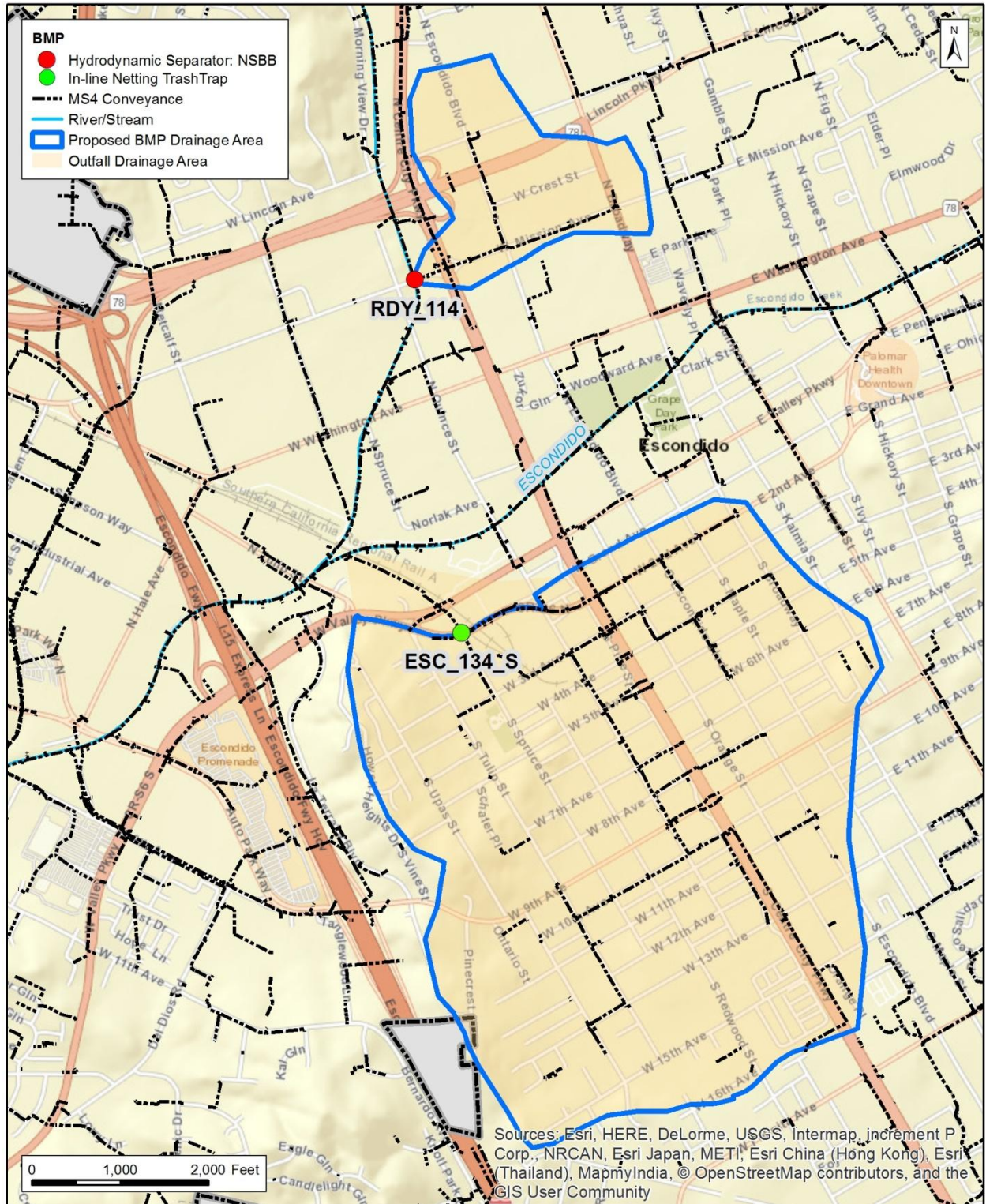
The City has considered installing an INLNNTT upstream at the intersection of Grand Avenue and Spruce Street as part of street improvements to the Grand Avenue box culvert. For this reason, we have included this large BMP and associated costs as part of the analysis. Installation cost estimates for ESC_134 (upstream) assumed in the report are conservative and additional cost savings may be expected due to the BMP being installed as part of a larger project. Based on the calculations in Appendix 6, an EOPNTT was determined to be more cost effective per inlet to treat the ESC_134 drainage area; however, due to potential issues with nets ripping, aesthetic concerns, and the potential that the Regional Board would not allow an EOPNTT BMP to be placed within the outfall structure located in the channel, the EOPNTT was not recommended. The second most cost effective large BMP was the Channel Guard NTT located in Indian Wells Channel. However, for similar concerns for the ESC_134 EOPNTT, the Channel Guard NTT BMP was not selected.

The next most cost effective proposed locations were within the 860.2.2_W drainage areas. An INLNNTT, CDS, and NSBB are all feasible at this location. The NSBB was the next most cost effective BMP; however a diversion structure would be required for NSBB units at this location. An additional 20% contingency was added to the installation costs for the NSBB to account for additional costs associated with this structure. The CDS and NSBB were not selected due to concerns associated with the capital costs, and potential additional engineering, planning, and construction costs.

The 860.2.2_W INLNNTT was also not selected as the location proposed on Centre City Parkway. Since two units are located within the roadway it is anticipated that there would be concerns with having to close off one entire side of the roadway for several hours since a crane and traffic control would be necessary for maintenance.

In addition to the ESC_134_S (upstream) location, the additional large BMP selected for the analysis is within the RDY_114 drainage area. This proposed NSBB unit is located in a five-lane roadway on West Mission Road near North Quince Street. It was assumed that traffic control would still be required here but one side of the road would not need to be shutdown and would be less limited than for 860.2.2_W.

Feasibility concerns and a sensitivity analysis are provided in Appendix 6 for all 10 proposed locations considered for this assessment. The locations for the two large BMPs included in Scenario 4 are included in Figure 10.



Base Data Sources: ESRI, SanGIS, and City of Escondido. See note in bottom right corner of map for additional information.

Figure 10. Map of Large BMPs Selected for Scenario 4

6.4 Non-Structural BMPs, Trash Reduction Credits, and Associated Costs

Track 2 provides more flexibility than Track 1 as it allows for a combination of structural full capture BMPs, treatment control BMPs, LID BMPs, multi-benefit projects, and institutional controls. The City engages in a number of trash removal efforts as part of regular operations which address trash generated from PLUs and from these other activities. Existing City trash removal efforts such as treatment control BMP cleaning, street sweeping, storm drain cleaning, and creek/channel cleanups were considered when estimating the amount of trash reduced through existing efforts.

Trash reduction credits were calculated based on existing City activities. Where actual data was not available, the trash load reduction credit was estimated using literature values. Estimates for trash removed from street sweeping and storm drain inlet cleaning are based on the volume of material removed during these activities, and the assumptions used in our estimates are provide in Table 12. As summarized in Table 12, a total of 8,348 gallons are removed annually through the City's existing efforts.

For the Track 2 scenarios, non-structural BMPs were based off the Trash Load Reduction Tracking Method¹¹ prepared by EOA, Inc in 2012. Control measures listed in the study were assessed to determine which additional BMPs may be implemented by the City. Based on feedback provided by the City, three control measures were excluded from the analysis: Single-Use Carryout Plastic Bag Policies, Single-Use Food and Beverage Ware Ordinance, and Polystyrene Foam Food Service Ware controls. In addition to these three BMPs, enhanced storm drain inlet cleaning was not included because the majority of material removed from inlets is sediment and plant matter; additional effort is not comparably cost effective to other non-structural BMPs. Additional non-structural BMPs that were selected for the analysis, which are to be conducted in addition to the City's existing trash reduction efforts, are presented in Table 13. Our analysis estimates that a total annual load reduction credit of 38.8% (16,530 gallons) can be achieved through existing trash removal efforts and additional non-structural BMPs.

¹¹EOA, Inc. 2012. Trash Load Reduction Tracking Method: Assessing the Progress of the San Francisco Bay Area MS4s Towards Stormwater Trash Load Reduction Goals. Technical Report (Version 1.0). https://www.casqa.org/sites/default/files/downloads/4-sf_bay_area_presentation-casqa_trash_webinar_7-29-14.pdf (Accessed June 3, 2016)

Table 12. Existing Trash Removal Efforts

Control Measure Description	Trash Reduced (gal./year)	Existing Load Reduction (%)	Description
Street Sweeping	2,214	5.19%	Trash removed estimated from FY 15 street sweeping data.
Storm Drain Inlet Maintenance	913	2.14%	Assumes 913 gallons of trash are removed from 356 inlets annually. Assumes 10% of total amount of debris removed from inlets is trash. Based on the City's 2016 storm drain inlet cleaning data.
Treatment Control BMP Maintenance	294.3	0.69%	Based on the City's 2016 storm drain inlet cleaning data. It was estimated that one gallon of trash was removed per filter insert annually, assuming that 10% of the debris removed is trash. For estimating trash removal from hydrodynamic separators, it was estimated that 10% of the storage capacity of a small hydrodynamic separator (18.18 gallons of trash) is removed annually. The number of treatment control BMPs with filter inserts or hydrodynamic separators (167) was calculated using the City's structural BMP inventory.
Creek/Channel Cleanups	403	0.94%	2016 ILACSD Coastal Cleanup Day and Creek to Bay. Assumes 50% of trash from Kit Carson Park qualifies as a creek cleanup. Assumes 100% of trash from Escondido Creek at Harmony Grove Rd cleanup.
Unauthorized Encampment Cleanups	5,623	13.18%	Assumed 50% of trash removed from cleanups can be washed into the storm drain system. Data provided by City.
Bus Stop Trash Bin Maintenance	2,000	4.69%	Assumes 80 gallons of trash are removed weekly from 40 locations and 50% of trash in the bins would enter the MS4 if no bins were present.
Total	11,447	26.84%	

Table 13. Additional Non-Structural BMPs, Trash Reduction Credits, and Associated Costs

Non-Structural BMP Description and Cost Assumptions	Trash Reduction Credit (%) ^{1,2}	Estimated Annual Trash Reduction (gal.)	\$/gal.	10-Year Compliance Cost	Additional Year 1 Cost	Annual Cost (Years 1- 10)
On-land/Creek/Channel Cleanups						
Year 1 Cost: Assumes 8 hours for program development and data management.						
Year 1-10 Cost: Assumes City staff will spend 8 hours coordinating with I Love A Clean San Diego (ILACSD) staff. Assumes ILACSD, or other NGO, will organize event (~60 hours). Includes \$240 for a 40-yard roll off dumpster. Alternatively, City staff can organize and/or perform cleanup events; however, additional costs would be expected.	0.63%	267	\$2.46	\$6,560	\$360	\$620
Enhanced Unauthorized Encampment Enforcement and Cleanup						
Year 1 Cost: Assumes 40 hours to organize additional channel cleanup event and enhance patrol and enforcement program.						
Year 1-10 Cost: Assumes additional 100 hours annually (~8 hours/month) for additional patrol and cleanup for abandoned camps along channels by Public Works staff. Cleanup cost based on actual costs from the City. Assumes \$20/hr for vehicle cost.	1.05%	450	\$19.43	\$87,400	\$2,400	\$8,500
Enhanced Trash Bin Container Management						
Development and approval of an ordinance (or equivalent) for appropriate trash services (bin/enclosure design) for private properties and identification and enforcement of inadequate trash service for private trash and recycling bins/containers. Development and implementation of a strategic plan for public area trash containers.						
Year 1 Cost: \$10,000 to develop an ordinance and 80 hours to develop strategic plan for public area trash containers.	2% ³	853	\$9.82	\$83,800	\$34,800	\$4,900
Year 1-10 Cost: Assumes 100 staff hours for public education/outreach actions and enforcement actions designed to ensure compliance with the ordinance/action. Assumes 20 additional trash bins will be added at a cost of \$1,000 per bin.						

Table 13. Additional Non-Structural BMPs, Trash Reduction Credits, and Associated Costs (continued)

Non-Structural BMP Description and Cost Assumptions	Trash Reduction Credit (%) ^{1,2}	Estimated Annual Trash Reduction (gal.)	\$/gal.	10-Year Compliance Cost	Additional Year 1 Cost	Annual Cost (Years 1- 10)
Assumes \$20/hr for vehicle cost. Based on actual inspection costs from City.						
Public Education and Outreach Programs						
Includes advertising campaign to reduce litter, five community outreach events/presentations completed annually for school-age children (K-12), and use of free media (PSAs, etc) to reduce litter issues. Outreach must include an evaluation component (e.g. pre-post campaign surveys and student/teacher feedback).						
Year 1 Cost: Assumes 120 hours to develop program.	3% ³	1,280	\$9.68	\$123,900	\$5,400	\$11,850
Year 1-10 Cost: Assumes 120 hours for one advertising campaign, four hours per community outreach event (minimum five events), and ten hours for media relations. Includes \$1,500 for costs associated with printing and mailings. Evaluation component for advertising and community outreach events assumed to take 80 hours.						
Reduce Trash From Uncovered Loads						
Establish enhanced enforcement programs for vehicles with uncovered loads (adopt ordinance prohibit hauling trash/debris without a cover, citations/fines for vehicles with uncovered loads). Currently all loads must be tarped to use the Escondido Resource Recovery Transfer Station at Washington Ave.						
Year 1 Cost: Assumes 80 hours to develop program.	1.67% ³	711	\$18.96	\$134,800	\$4,800	\$13,000
Year 1-10 Cost: Assumes 200 hours are spent on enforcement annually (approximately 17 hours a month) related to program management, outreach, and enforcement for this task annually. Assumes \$20/hr for vehicle cost.						

Table 13. Additional Non-Structural BMPs, Trash Reduction Credits, and Associated Costs (continued)

Non-Structural BMP Description and Cost Assumptions	Trash Reduction Credit (%) ^{1,2}	Estimated Annual Trash Reduction (gal.)	\$/gal.	10-Year Compliance Cost	Additional Year 1 Cost	Annual Cost (Years 1- 10)
Anti-littering and Illegal Dumping Enforcement						
Includes anti-littering and illegal dumping enforcement program (investigation of complaints from illegal dumping hotline), enforcement procedures including citations, collection of evidence from illegal dump sites. Year 1 Cost: Assumes 40 hours are spent creating an enhanced patrolling plan, prioritization procedure for enforcement, and 16 hours for coordinating program changes to enforcement with Storm Water Manager and Storm Water Inspection and enforcement staff. Year 1-10 Cost: Assumes 120 hours spend for one staff member (approximately 10 hours each month) for follow-up regarding illegal dumping complaints and enforcement/citations. Also assumes 96 hours for additional property based inspections of industrial and commercial businesses and residential patrols with increased citations for private properties. Assumes \$20/hr for vehicle cost.	1% ³	427	\$27.88	\$118,920	\$2,520	\$11,640
Enhanced Street Sweeping						
Estimated from FY 15 street sweeping data. Estimate assumes all PLU areas are swept three times a month instead of twice a month.	2.20% ³	939	\$22.84	\$194,932.13	\$19,493	\$19,493

Notes:

¹ All reduction credit estimates are assumed from the Trash Load Reduction Tracking Method¹².

² Staff hourly rate assumed to be \$45/hr when actual data was not available.

³ Load Reduction Credit was divided by three due to comments from the San Francisco Regional Board.

¹² Source: EOA, Inc. 2012. Trash Load Reduction Tracking Method: Assessing the Progress of the San Francisco Bay Area MS4s Towards Stormwater Trash Load Reduction Goals. Technical Report (Version 1.0). https://www.casqa.org/sites/default/files/downloads/4-sf_bay_area_presentation-casqa_trash_webinar_7-29-14.pdf

6.5 Program Development, Monitoring, and Reporting Costs

In addition to the costs described in the previous subsections, costs for program development, monitoring, and reporting were estimated for each scenario. All Track 1 scenarios (Scenarios 1 through 4) have less program development, monitoring, and reporting costs than the Track 2 scenarios (Scenarios 5 and 6) since Track 2 requires the development of an implementation plan, greater efforts to manage non-structural BMPs, monitoring, and involved annual reporting. For the Track 1 scenarios, Scenario 1 has the lowest estimated cost for program development since it is expected that this scenario will require less coordination with the Regional Board and will likely require less program management.

The cost estimate for Track 1 includes some minor costs for staff to work with the Regional Board to gain approval of any full capture BMPs that may not have already been approved and to discuss questions related to Track 1 implementation. Under a Track 1 approach, monitoring is not required, so the costs presented in Table 14, include costs for annual reporting to the State Water Board and initial program coordination/setup costs.

Under a Track 2 approach, costs associated with reporting include annual reporting, initial program coordination/setup costs, and developing an implementation plan. It was assumed that the associated reporting costs would be the same as for Track 1, and an additional annual cost of \$50,000 was added for monitoring. This estimated cost for monitoring is based on our experience with a variety of monitoring projects and based on the types of monitoring that have been approved by the Bay Area and the Los Angeles Regional Boards discussed in Section 5.2. Monitoring costs include approximate costs for monitoring program development (including the development of a monitoring plan and establishing a procedure for monitoring data entry and management), coordinating with monitoring staff and staff from other divisions/departments as needed, performing monitoring, and preparing monitoring reports.

6.6 Comparison of Scenarios

The 10-year and 20-year compliance costs associated with the three different scenarios are also summarized in Table 14 and Figure 11 on the following pages. Scenario 3 (Track 1) has the least total cost (20-year cost), as less full capture BMPs are installed than in the other Track 1 scenarios (i.e., Scenarios 1 through 4), and additional non-structural BMPs are not required to meet the compliance target. The second most cost effective scenario on both a 10-year and a 20-year timeframe is Scenario 6 (Track 2). Scenarios 1, 2, and 4 (Track 1) are never the most cost effective when viewed on a 10-year and 20-year compliance timeframe.

Table 14. Cost Comparison

Cost ¹	Scenario					
	Track 1 (All Structural, Full Capture BMPs)				Track 2 (Structural and Non-Structural BMPs)	
	1	2	3	4	5	6
	Small BMPs, All Inlets	Small BMPs, Parks PLU Change	Small BMPs, Some BMPs Treat Multiple Inlets	Small BMPs and Large BMPs	Small BMPs, Non-Structural BMPs	Small BMPs Remove More Trash, Non- Structural BMPs
Initial Program Development (Year 0)	\$60,000	\$65,000	\$70,000	\$75,000	\$100,000	\$110,000
Additional Non-Structural BMPs (Years 1-20)	\$0	\$0	\$0	\$0	\$1,226,868	\$1,226,868
Capital (Years 1-20)	\$2,044,731	\$1,858,980	\$1,863,526	\$2,668,123	\$1,012,553	\$924,711
Maintenance (Years 1-20)	\$9,631,564	\$9,239,959	\$6,827,908	\$9,573,272	\$5,626,169	\$5,511,710
Monitoring, Reporting, and Program Administration (Years 1-20)	\$817,572	\$817,572	\$817,572	\$817,572	\$1,635,143	\$1,635,143
Contingency (Years 1-20) ²	\$1,883,080	\$1,797,227	\$1,436,851	\$1,970,095	\$2,400,183	\$2,352,108
10-year Average Annual Cost	\$659,847	\$627,479	\$518,173	\$724,196	\$546,095	\$532,532
20-year Average Annual Cost	\$721,847	\$688,937	\$550,793	\$755,203	\$600,046	\$588,027
10-year Total Cost	\$6,598,474	\$6,274,791	\$5,181,725	\$7,241,961	\$5,460,951	\$5,325,317
20-year Total Cost	\$14,436,947	\$13,778,737	\$11,015,857	\$15,104,061	\$12,000,917	\$11,760,540

Notes:

¹ The cost estimates for the six scenarios were analyzed for a 10-year and 20-year compliance timeframe, which assumes that Year 0 is the implementation start date. A 20-year timeframe was selected to account for the potential cost savings for large BMPs compared to small BMPs selected for the analysis. The 10-year compliance costs are included in the cost summary table presented later in the report. Discounting or inflation costs were not included in the cost estimate. The Net Present Value (NPV) was used to determine the present value of cash. A discount rate of 2% was used for the NPV calculation. A complete list of cost estimate assumptions is provided in Appendix 4.

² Contingency was assumed to be 15% for Track 1 scenarios and 25% for Track 2 scenarios.

Scenario 1: Individual full capture BMP installed at all PLU inlets.

Scenario 2: Swaps public transportation stations with park land use. Individual full capture BMPs on all PLU inlets.

Scenario 3: Combination of structural BMPs, and 50% of small BMPs proposed under Scenario 1.

Scenario 4: Two large BMPs (i.e., In-Line Netting Trash Trap and Nutrient Separator Baffle Box) are installed in addition to small BMPs.

Scenario 5: Combination of structural BMPs and non-structural BMPs.

Scenario 6: Combination of structural BMPs and non-structural BMPs (assumes large CPS will catch 20% more trash than in Scenario 5).

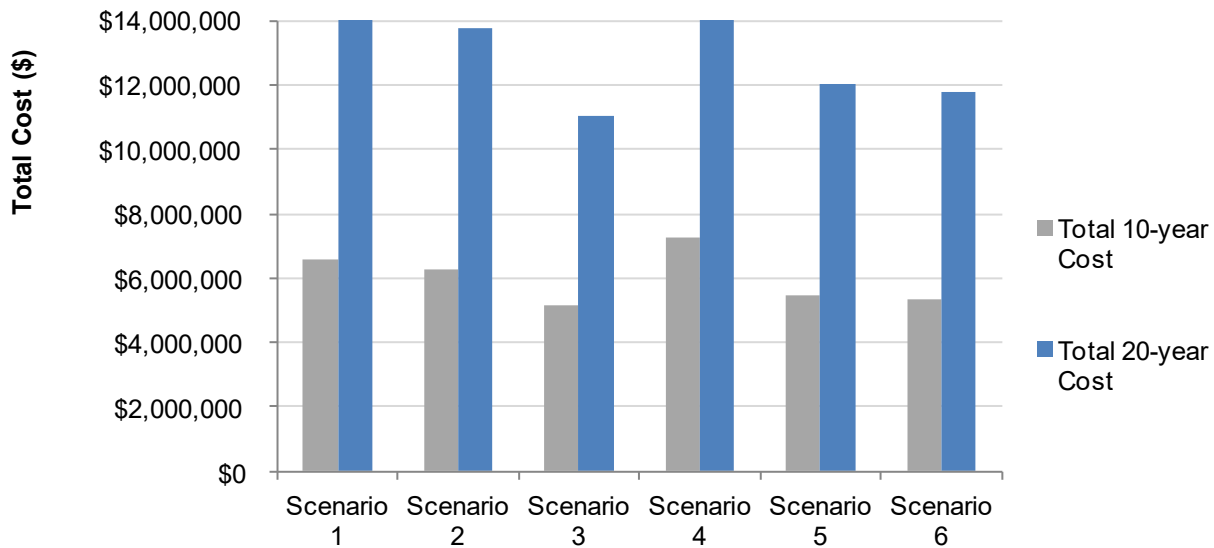


Figure 11. Program Costs by Year for Each Scenario

7. Summary and Recommendations for Future Actions

A summary of the estimated costs for each scenario as well as other factors evaluated as part of the analysis is presented in Table 15 at the end of this section. In general, scenarios requiring the highest number of structural BMPs were determined to have higher flood risk and associated safety and liability concerns compared to other scenarios. Overall, Track 1 scenarios require higher capital and maintenance costs, but they are expected to have more compliance confidence since compliance criteria do not need to be negotiated with the Regional Board or through a public process. While Track 2 scenarios will require higher program development, monitoring, and reporting costs, Track 2 approaches that include additional cleanups, street sweeping, and similar BMPs may provide more trash reduction that is visible to City residents when compared to Track 1 structural BMPs that remove trash at underground locations in the storm drain system.

As the City moves forward in the decision making process for selecting Track 1 or Track 2, the following actions are recommended to assist the City with refining the assumptions and costs presented in this report:

Both Tracks:

- Refine the City’s MS4 GIS layers. Refining or adding inlet structure type and opening width for PLU inlets would provide useful information to refine cost estimates. This is particularly true for ARS, the cost of which varies significantly depending on inlet opening width.
- Prepare for incorporating trash control requirements into the City’s BMP Design Manual.
- Consider installing several CPS at downstream nodes in the storm drain system that receive runoff from two or more PLU inlets and then monitoring the amount

of maintenance needed. The study could be done with or without installing ARS in the upstream PLU inlets in which CPS are not installed, but generally installing ARS in those locations is expected to result in lower maintenance frequencies at the downstream node at which the CPS is installed. The goal of the study would be to see if multiple PLU inlets can be treated with one CPS while still maintaining a reasonable CPS cleaning frequency (around three times per year) and avoiding flooding issues due to excessive debris accumulation at the downstream node with the CPS. Installing fewer CPS would save on capital cost, and it would also save on maintenance cost provided there is not a significant increase in maintenance relative to the expected cleaning frequency of about three times per year when CPS or other full capture BMPs are installed at all PLU inlets.

- Identify PLU inlets where BMPs (CPS, ARS, etc.) will be installed in the first few years of the program. Collect information necessary to put together bid packages for installing BMPs at these locations (e.g., collect field measurements and/or gather information from drawings for inlet opening size, pipe size, inlet type and configuration, etc.). Review City standard specification language and determine if any additions are needed for bids including installation of trash control BMPs. Note the number of locations for trash control BMP installation will be higher for Track 1 than Track 2, but the general process is the same in either case.

Track 1 :

- Work with the Regional Board on swapping PLUs (e.g., exchanging bus stops for park areas).
- Develop a plan for how the City will handle PLU inlets that are on private property. This comment applies only to inlets that meet both of the following criteria: (1) drain to the City's storm drain system before reaching a receiving water body and (2) lack an access point to install a cost effective full capture BMP in the segment of the City storm drain system between the initial point where it receives runoff from the private drainage system and the point where it discharges to a receiving water body. For example, drains at shopping centers adjacent to creeks that discharge to a very short segment of City storm drain conveyance with no storm drain box that would allow for a CPS or similar BMP. It is possible that the City could also work with the Regional Board to see if this type of drain could be considered infeasible for full capture BMP installation. Mitigation requirements for areas that are infeasible for full capture BMP installation under Track 1 have not been determined and would need to be negotiated with the Regional Board. A potential mitigation approach for the private drain scenario described above, if installing a BMP on private property is not feasible, could be to install full capture BMPs in other drains that do not receive PLU runoff but which the City has identified as receiving trash.

Track 2:

- Incorporate the results of the San Diego County Trash Generation Rate Special Study to refine the City's trash generation rates. Also consider installing several CPS or other full capture BMPs and recording the amounts of trash removed from them to collect additional, City-specific data and further refine trash generation rates.

- Create an outline for the implementation plan and begin refining data for the necessary components of the plan. This includes developing plans for implementing the non-structural BMPs proposed in this report, monitoring to demonstrate full capture equivalency, and how data will be managed such that all information necessary for reporting under Track 2 will be collected and available when annual reports need to be prepared.
- Begin initial conversations with the Regional Board on full capture equivalency and monitoring to demonstrate it. We expect that this process will require multiple conversations and a relatively extended negotiation. In our experience it is best to first develop a proposed monitoring approach, and then to start conversations about that approach with Regional Board staff before getting too far into writing the plan. In this case, the definition of full capture equivalency and how it will be measured and reported will have a significant effect on the entire implementation plan, and if a satisfactory approach that provides a reasonable, verifiable pathway to compliance cannot be agreed upon, the City may wish to stop pursuing writing an implementation plan and instead switch to Track 1.

Table 15. Track 1 vs. Track 2 Cost-Benefit Comparison¹

Cost Over 20-Year Period ²	Scenario					
	Track 1 (All Structural, Full Capture BMPs)				Track 2 (Structural and Non-Structural BMPs)	
	1	2	3	4	5	6
	Small BMPs, All Inlets	Small BMPs, Parks PLU Change	Small BMPs, Some BMPs Treat Multiple Inlets	Small BMPs and Large BMPs	Small BMPs, Non-Structural BMPs	Small BMPs Remove More Trash, Non-Structural BMPs
Initial Program Development Costs	\$60,000	\$65,000	\$70,000	\$75,000	\$100,000	\$110,000
Additional Non-Structural BMP Costs	\$0	\$0	\$0	\$0	\$1,226,868	\$1,226,868
Capital Costs	\$2,044,731	\$1,858,980	\$1,863,526	\$2,668,123	\$1,012,553	\$924,711
Maintenance Costs	\$9,631,564	\$9,239,959	\$6,827,908	\$9,573,272	\$5,626,169	\$5,511,710
Monitoring, Reporting, and Program Administration Costs	\$817,572	\$817,572	\$817,572	\$817,572	\$1,635,143	\$1,635,143
Contingency ³	\$1,883,080	\$1,797,227	\$1,436,851	\$1,970,095	\$2,400,183	\$2,352,108
Total Costs	\$14,436,947	\$13,778,737	\$11,015,857	\$15,104,061	\$12,000,917	\$11,760,540
Compliance Confidence	High				Low to Medium	
Flood Risk, Safety Concerns, and Liability	High	Medium	Low	High	Low	
Opportunity for Other Benefits in Addition to Trash Removal	Low				High	

Notes:

¹ The qualitative ratings (i.e., low, medium, high) included in the table above are relative to the other scenarios.

² The cost estimates for the six scenarios were analyzed for a 10-year and 20-year compliance timeframe, which assumes that Year 0 is the implementation start date. A 20-year timeframe was selected to account for the potential cost savings for large BMPs compared to small BMPs selected for the analysis. The 10-year compliance costs are included in the cost summary table presented later in the report. Discounting or inflation costs were not included in the cost estimate. The Net Present Value (NPV) was used to determine the present value of cash. A discount rate of 2% was used for the NPV calculation. A complete list of cost estimate assumptions is provided in Appendix 4.

³ Contingency was assumed to be 15% for Track 1 scenarios and 25% for Track 2 scenarios.

Scenario 1: Individual full capture BMP installed at all PLU inlets.

Scenario 2: Swaps public transportation stations with park land use. Individual full capture BMPs on all PLU inlets.

Scenario 3: Combination of structural BMPs, and 50% of small BMPs proposed under Scenario 1.

Scenario 4: Two large BMPs (i.e., In-Line Netting Trash Trap and Nutrient Separator Baffle Box) are installed in addition to small BMPs.

Scenario 5: Combination of structural BMPs and non-structural BMPs.

Scenario 6: Combination of structural BMPs and non-structural BMPs (assumes large CPS will catch 20% more trash than in Scenario 5).

8. References

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- Michael Baker International. 2015. *Literature Review for Trash Amendment Compliance Strategy*.

Appendix 1 – Priority Land Use Codes

Appendix 1 - Priority Land Use Codes

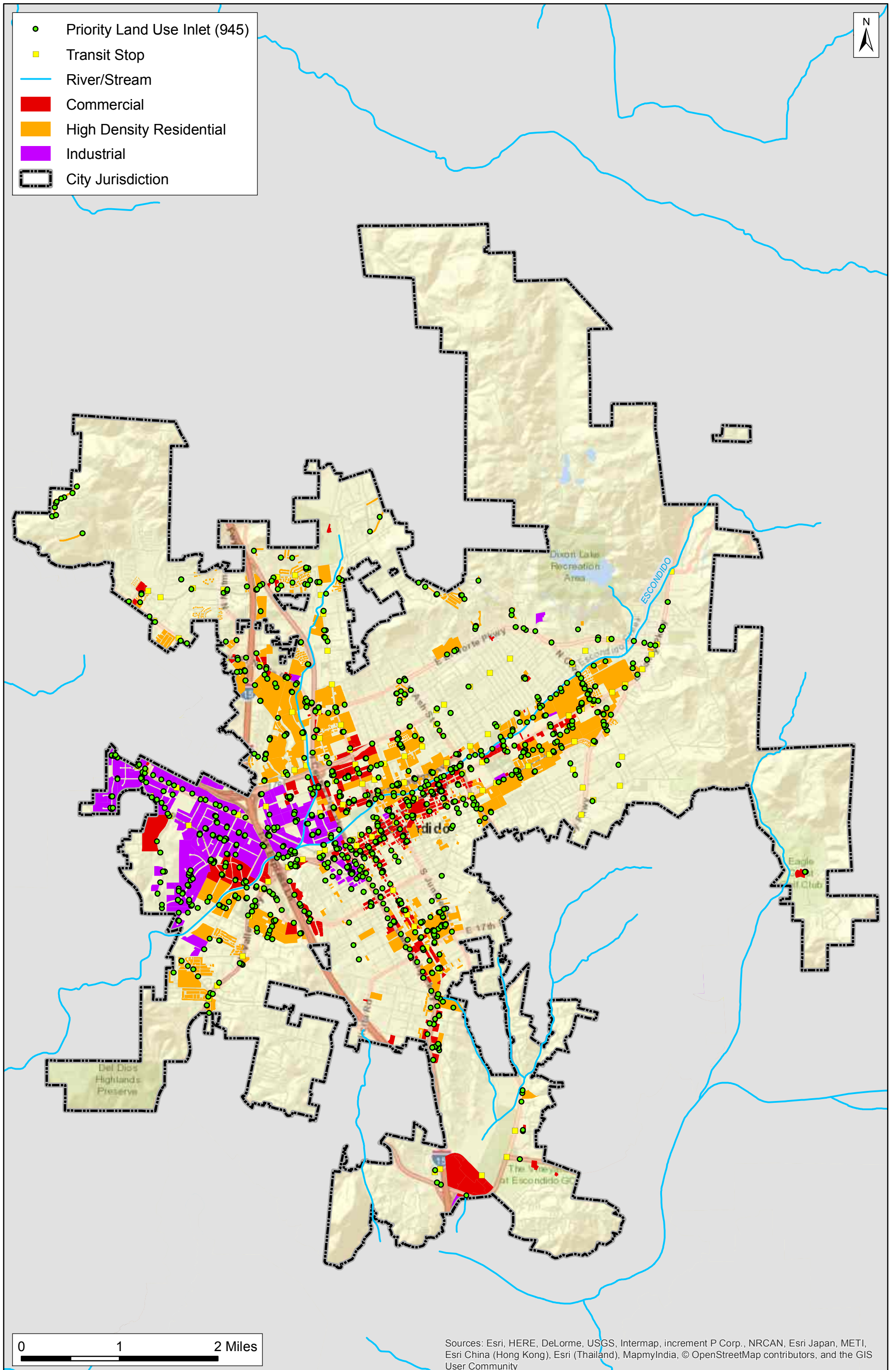
Land Use Code	Land Use Type	Land Use Subtype	Land Use	Priority Land Use Type	Modified Priority Land Use Type
1100	Single Family Residential	Residential	Single Family Residential	Single Family Residential	Single Family Residential
1110	Single Family Residential	Single Family	Single Family Detached	Single Family Residential	Single Family Residential
1120	Single Family Residential	Single Family	Single Family Multiple-Units	Single Family Residential	Single Family Residential
1200	Multi-Family Residential	Multi Family	Multi-Family Residential	High Density Residential	High Density Residential
1300	Other Residential	Multi Family	Mobile Home Park	High Density Residential	High Density Residential
1409	Other Residential	Multi Family	Other Group Quarters Facility	High Density Residential	High Density Residential
1409	Other Residential	Multi Family	Other Group Quarters Facility	High Density Residential	High Density Residential
1501	Commercial	Hotel	Hotel/Motel (Low-Rise)	Commercial	Commercial
2101	Industrial	Low Exposure	Industrial Park	Industrial	Industrial
2103	Industrial	Medium Exposure	Light Industry - General	Industrial	Industrial
2103	Industrial	Medium Exposure	Light Industry - General	Industrial	Industrial
2104	Industrial	Low Exposure	Warehousing	Industrial	Industrial
2105	Industrial	Low Exposure	Public Storage	Industrial	Industrial
2301	Industrial	High Exposure	Junkyard/Dump/Landfill	Industrial	Industrial
4113	Public Facilities and Utilities	Communications and Utilities	Communications and Utilities	Industrial	Industrial
4114	Transportation	Parking	Parking Lot - Surface	Commercial	Commercial
4114	Transportation	Parking	Parking Lot - Surface	Commercial	High Density Residential
4119	Industrial	Maintenance Yards	Other Transportation	Industrial	Industrial

Appendix 1 - Priority Land Use Codes

Land Use Code	Land Use Type	Land Use Subtype	Land Use	Priority Land Use Type	Modified Priority Land Use Type
5001	Commercial	Wholesale	Wholesale Trade	Industrial	Industrial
5002	Commercial	Shopping Center	Regional Shopping Center	Commercial	Commercial
5003	Commercial	Shopping Center	Community Shopping Center	Commercial	Retail
5004	Commercial	Shopping Center	Neighborhood Shopping Center	Commercial	Retail
5006	Commercial	Auto Dealer	Automobile Dealership	Commercial	Commercial
5006	Commercial	Auto Dealer	Automobile Dealership	Commercial	Commercial
5006	Commercial	Auto Dealer	Automobile Dealership	Commercial	Commercial
5007	Commercial	Arterial	Arterial Commercial	Commercial	Commercial
5007	Commercial	Arterial	Arterial Commercial	Commercial	Commercial
5008	Commercial	Gas Station	Service Station	Commercial	Commercial
5008	Commercial	Gas Station	Service Station	Commercial	Commercial
5009	Commercial	Other	Other Retail Trade and Strip Commercial	Commercial	Retail
6002	Office	Office	Office (Low-Rise)	Commercial	Commercial
6102	Commercial	Religious	Religious Facility	Commercial	Commercial
6502	Commercial	Health Care	Hospital - General	Commercial	Commercial
6509	Commercial	Health Care	Other Health Care	Commercial	Commercial
7205	Commercial	Golf Course Clubhouse	Golf Course Clubhouse	Commercial	Commercial
7210	Commercial	Recreation	Other Recreation - High	Commercial	Commercial

Source: 2014 SANDAG Land Use Data

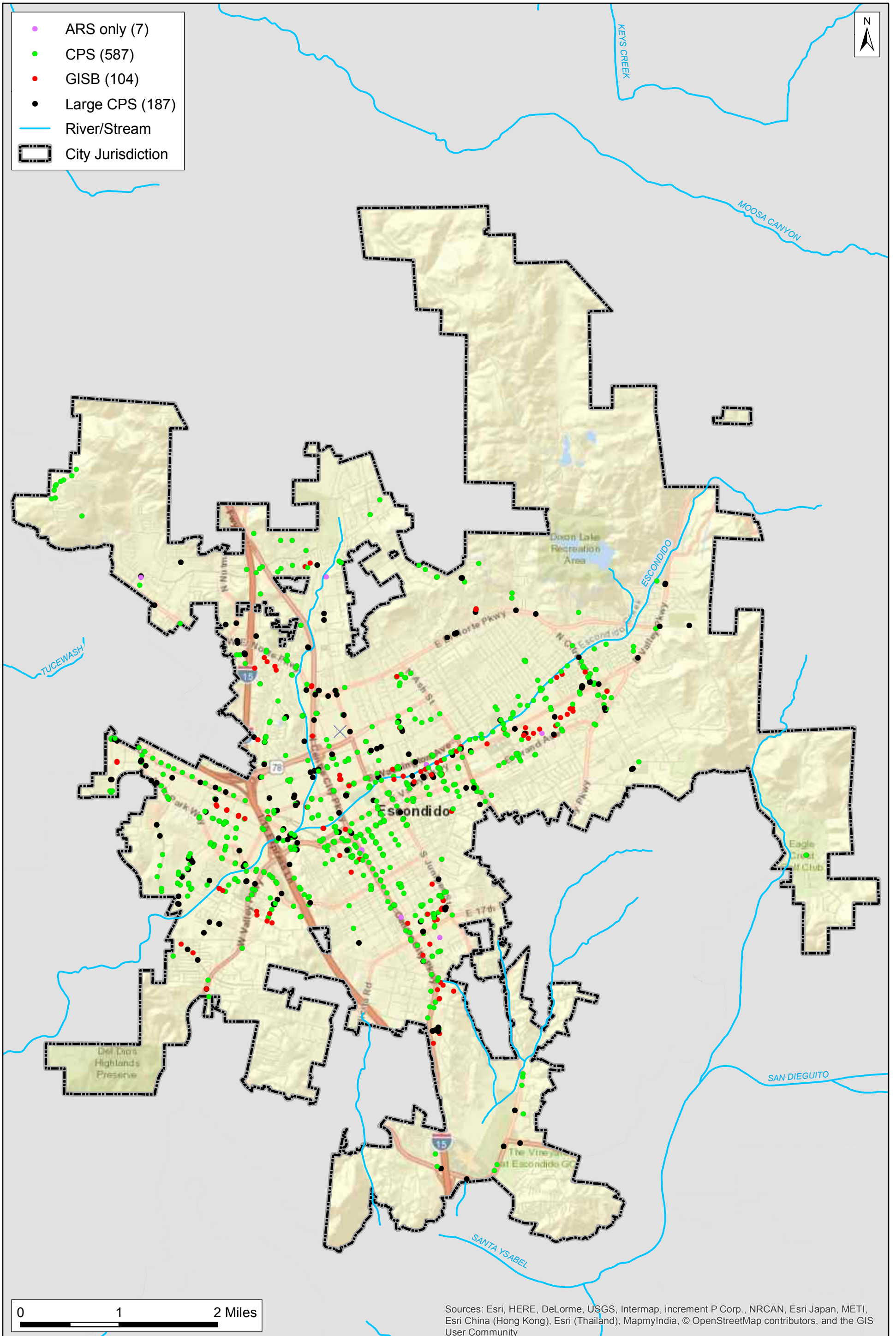
Appendix 2 – Map of Priority Land Uses and Affected Storm Drain Inlets



Base Data Sources: ESRI, SanGIS, and City of Escondido. See note in bottom right corner of map for additional information. There are no mixed use land uses within the City's jurisdiction.



Track 1 - Scenario 2: Small BMPs, Parks PLU Change



Base Data Sources: ESRI, SanGIS, and City of Escondido. See note in bottom right corner of map for additional information. There are no mixed use land uses within the City's jurisdiction.



Appendix 3 - Track 1 and Track 2 BMP, Monitoring, and Reporting Comparison

Consideration	Track 1	Track 2
Full Capture System (FCS) installation locations	Treat all runoff from Priority Land Uses (PLU)	As needed to remove enough trash to show full capture equivalency (likely $\geq 50\%$ of credit needed)
Use of regional treatment BMPs	Must be sized for 1-yr, 1-hr storm and capture all trash ≥ 5 mm	Allowed regardless of sizing, but must quantify trash removal volume
Credit for removing trash from	Discharges to inlets receiving PLU runoff only	Discharges to all inlets or conveyances, regardless of upstream land use types
Credit for BMPs that are not Full Capture Systems		
Trash removal credit	<ul style="list-style-type: none"> • Direct: none¹ • Indirect: reduces cleaning frequency for downstream FCS • No credit if no downstream FCS 	Credit if quantify trash removal volume
Credit for future non-full capture BMPs	Indirect: reduces cleaning frequency for downstream FCS	Credit if quantify trash removal volume. Credit for trash removal in areas without direct, immediate pathway to MS4 (e.g., in fields at parks) may only receive partial credit.
Credit for existing street sweeping and MS4 cleaning		
Credit for trash removal at parks		
Credit for optimizing street sweeping and MS4 cleaning		
Credit for other existing or additional nonstructural BMPs		
Credit for creek and unauthorized encampment cleanups	Not Applicable no credit	Full credit if outside water body, partial credit if cleanup is within water body

¹ Assumes existing structural BMPs, even ones that have full capture certification, will not get FCS credit because they are not sized for a 1-yr, 1-hr storm (approx 0.45 in/hr for Escondido area). Most BMPs were built for SUSMP purposes, and the SUSMP flow-through design standard is 0.2 in/hr. Volume based BMPs, such as detention basins, could potentially be retrofitted as full capture BMPs since the 1-yr, 1-hr storm depth (0.45 in) is less than the 85th percentile, 24-hr storm depth (approx 0.6 to 0.7 in).

Appendix 3 - Track 1 and Track 2 BMP, Monitoring, and Reporting Comparison

Consideration	Track 1	Track 2
Recordkeeping, Monitoring, and Reporting		
Additional recordkeeping	<ul style="list-style-type: none"> • Maintain list of FCS locations and applicable cleaning frequencies • Document O&M (likely similar to existing tracking) 	<ul style="list-style-type: none"> • All Track 1 items <u>and</u> • Quantify trash volume removal for all activities for which will claim trash reduction credit
Additional GIS work	Delineate drainage area for each installed FCS	Delineate drainage area or areas covered for each FCS <u>and</u> other structural or non-structural BMP
Monitoring	None	Characterize trash discharges from MS4, trash levels in receiving waters, and trash generation rates
Implementation Plan	None	Required by summer 2018
Type of reporting	<ul style="list-style-type: none"> • FCS list • Mapped FCS drainage areas • Proof of FCS O&M 	<ul style="list-style-type: none"> • All Track 1 items <u>and</u> • Amount of trash removed by FCS • Amounts of trash removed by each other BMP • Mapped FCS drainage areas or locations for each other BMP • Overall compliance assessment
Program Management and Administration Factors		
Compliance standard clarity	Clear and not up for negotiation; directly stated in Trash Amendments	Must be negotiated with Regional Board. Given general direction with SD Regional Board, likely to involve a public process.
Risk of third party lawsuits	Minimal. Environmental groups have stated they prefer Track 1 and believe FCS are effective.	Higher. "Full capture equivalency" is loosely defined, and may be hard to prove trash in receiving waters is not from MS4s and/or is less than what would have been observed if Track 1 was pursued.

Appendix 3 - Track 1 and Track 2 BMP, Monitoring, and Reporting Comparison

Consideration	Track 1	Track 2
Role of adaptive management (adjustments to program implementation over time)	<ul style="list-style-type: none"> • Adjust FCS cleaning frequencies based on amount of trash observed to be collected during O&M • Adjust existing nonstructural BMP frequencies and timing to reduce FCS cleaning • Add more FCS at upstream inlets based on cleaning data (if start with installing FCS at more downstream inlets only) 	<ul style="list-style-type: none"> • All Track 1 items <u>and</u> • Adjust nonstructural BMP implementation to prevent more trash discharges (e.g., time sweeping of high trash areas to occur just before rain) • May be able to avoid further increases to BMPs if low trash levels observed in water bodies
Main risks	<ul style="list-style-type: none"> • Lack of capital funding to install FCS • Lack of ongoing funds for staff or contractors to maintain FCS 	<ul style="list-style-type: none"> • All Track 1 items (to a lesser degree, since fewer FCS) <u>and</u> • Regulators may not accept trash reduction credit claimed from difficult to quantify non-structural BMPs (e.g., inspections) • Potential differences in compliance standard interpretation • Potential to be held responsible for non-MS4 sources of trash in receiving waters

Appendix 4 - Cost Analysis Assumptions

Cost Analysis Assumptions

Note: Blue cells are estimated costs and may be revised.		
Variables Linked to Cost Estimates Tab	Cost	Estimate basis
Staff and Equipment Costs		
Public Works Hourly Rate (Staff 1) (\$/hr)	\$35	Based on actual costs provided by the City for storm drain maintenance staff.
Public Works Hourly Rate (Staff 2) (\$/hr)	\$35	Based on actual costs provided by the City for storm drain maintenance staff.
Storm Water Staff Hourly Rate (\$/hr)	\$45	Estimated cost.
Storm Water Inspection Staff Hourly Rate (\$/hr)	\$45	Estimated cost.
Enforcement Staff Hourly Rate (\$/hr)	\$45	Estimated cost.
Storm Water Program Manager Hourly Rate (\$/hr)	\$60	Estimated cost.
Public Works Director Hourly Rate (\$/hr)	\$60	Estimated cost.
Vactor Truck Hourly Rate (\$/hr)	\$110	Based on actual costs provided by the City.
Vehicle Cost Hourly Rate (\$/hr)	\$20	Based on actual costs provided by the City.
Inspection and Maintenance		
Number of Annual CPS/large CPS Inspections	1	Estimated number of annual inspections (without cleaning)
Number of Annual CPS	3	Estimated number of annual cleanings (inspection is also assumed as part of the cleaning cost)
Number of Annual large CPS Cleanings	4	Estimated number of annual cleanings (inspection is also assumed as part of the cleaning cost)
Number of Annual Hydrodynamic Separator Inspections (Year 1)	6	Estimated number of annual inspections (without cleaning)
Number of Annual Hydrodynamic Separator Inspections (Year 2+)	2	Estimated number of annual inspections (without cleaning)
Number of Annual Hydrodynamic Separator Cleanings	2	Estimate number of annual cleanings.
Storm Drain Inspection Cost by City Staff	\$45	Based on actual costs provided by the City. Assumes an inspection takes 0.5 hours for two Public Works staff. Assumes vehicle cost of \$20/hr.
Storm Drain Cleaning Cost by City Staff	\$174	Based on actual costs provided by the City. Cleaning occurs when debris is above 40% capacity of the catch basin. Assumes a cleaning takes 0.8 hours with an assumed staff hourly rate of \$35.27/hr/person for a team of two. Assumes Vactor truck cost of \$110/hr. Disposal assumed to be \$30 per inlet.
Storm Drain Inspection Man Hours by City Staff	1	Based on estimate provided by City staff.
Storm Drain Inspection and Cleaning Cost Man Hours by City Staff	1.6	Based on estimate provided by City staff.
GISB/R-GISB Inspections		
# Annual GISB Inspections	0	Assumes unit is never inspected without a cleaning.
# Annual GISB Cleanings	20	Conservative estimate based on monthly cleanings (12) and (8) additional cleanings after rain events.
GISB/R-GISB Cleaning by Vendor	\$150	Actual estimate from vendor Bio Clean Environmental. Price for cleaning 1 unit.
GISB/R-GISB Cleaning by Vendor	\$79	Actual estimate from vendor Bio Clean Environmental. Price for cleaning 2-3 units.
GISB/R-GISB Cleaning by Vendor	\$69	Actual estimate from vendor Bio Clean Environmental. Price for cleaning 4-9 units.
GISB/R-GISB Cleaning by Vendor	\$59	Actual estimate from vendor Bio Clean Environmental. Price for cleaning 10-19 units.
GISB/R-GISB Cleaning by Vendor	\$50	Actual estimate from vendor Bio Clean Environmental. Price for cleaning 20+ units.
NSBB Inspection Costs		
NSBB Inspection Costs by City (ESC_134)	\$113	Assumes two Public Works staff require 75 minutes to inspect one NSBB unit. Includes vehicle cost.
NSBB Inspection Costs by City (IWC_W)	\$113	Assumes two Public Works staff require 75 minutes to inspect one NSBB unit. Includes vehicle cost.
NSBB Inspection Costs by City (RDY_114)	\$113	Assumes two Public Works staff require 75 minutes to inspect one NSBB unit. Includes vehicle cost.
NSBB Inspection Costs by City (860.2_2_W)	\$171	Assumes two Public Works staff require 113 minutes to inspect both NSBB units. Includes vehicle cost.
NSBB Inspection Costs by City (ESC_149)	\$113	Assumes two Public Works staff require 75 minutes to inspect one NSBB unit. Includes vehicle cost.
NSBB Inspection Costs by City (IWC_E)	\$113	Assumes two Public Works staff require 75 minutes to inspect one NSBB unit. Includes vehicle cost.

Cost Analysis Assumptions

Note: Blue cells are estimated costs and may be revised.		
Variables Linked to Cost Estimates Tab	Cost	Estimate basis
CDS Inspection Costs		
CDS Inspection Costs by City (ESC_134_S)	\$136	Assumes two Public Works staff require 90 minutes to inspect both 12' CDS units. Includes vehicle cost.
CDS Inspection Costs by City (IWC_W)	\$136	Assumes two Public Works staff require 90 minutes to inspect both 10' CDS units. Includes vehicle cost.
CDS Inspection Costs by City (RDY_114)	\$91	Assumes two Public Works staff require 60 minutes to inspect one 10' CDS unit. Includes vehicle cost.
CDS Inspection Costs by City (860.2.2_W)	\$136	Assumes two Public Works staff require 90 minutes to inspect both 12' CDS units. Includes vehicle cost.
CDS Inspection Costs by City (ESC_149)	\$136	Assumes two Public Works staff require 90 minutes to inspect both 10' CDS units. Includes vehicle cost.
CDS Inspection Costs by City (IWC_E)	\$91	Assumes two Public Works staff require 60 minutes to inspect one 12' CDS units. Includes vehicle cost.
NSBB Cleaning Costs		
NSBB Cleaning Costs by City (ESC_134_S)	\$226	Assumes two Public Works staff require 150 minutes to clean one NSBB unit. Includes vehicle cost.
NSBB Cleaning Costs by City (IWC_W)	\$226	Assumes two Public Works staff require 150 minutes to clean one NSBB unit. Includes vehicle cost.
NSBB Cleaning Costs by City (RDY_114)	\$226	Assumes two Public Works staff require 150 minutes to clean one NSBB unit. Includes vehicle cost.
NSBB Cleaning Costs by City (860.2.2_W)	\$340	Assumes two Public Works staff require 225 minutes to clean both NSBB units. Includes vehicle cost.
NSBB Cleaning Costs by City (ESC_149)	\$226	Assumes two Public Works staff require 150 minutes to clean one NSBB unit. Includes vehicle cost.
NSBB Cleaning Costs by City (IWC_E)	\$226	Assumes two Public Works staff require 150 minutes to clean one NSBB unit. Includes vehicle cost.
CDS Cleanings Costs		
CDS Cleaning Costs by City (ESC_134_S)	\$272	Assumes two Public Works staff require 180 minutes to clean both 12' CDS units. Includes vehicle cost.
CDS Cleaning Costs by City (IWC_W)	\$272	Assumes two Public Works staff require 180 minutes to clean both 10' CDS units. Includes vehicle cost.
CDS Cleaning Costs by City (RDY_114)	\$181	Assumes two Public Works staff require 120 minutes to clean one 10' CDS unit. Includes vehicle cost.
CDS Cleaning Costs by City (860.2.2_W)	\$272	Assumes two Public Works staff require 180 minutes to clean both 12' CDS units. Includes vehicle cost.
CDS Cleaning Costs by City (ESC_149)	\$272	Assumes two Public Works staff require 180 minutes to clean both 10' CDS units. Includes vehicle cost.
CDS Cleaning Costs by City (IWC_E)	\$181	Assumes two Public Works staff require 120 minutes to clean one 12' CDS unit. Includes vehicle cost.
Hydrodynamic Separator Disposal (NSBB and CDS)		
Hydrodynamic Separator Cleaning Disposal Costs by City (ESC_134_S)	\$2,861	Estimate at \$1 per gallon of liquid waste (for 200 gallons of water for disposal). Assumes 16.5 tons of sediment are removed at \$124 per ton (75% capacity of the unit). Disposal cost assumed to be 75% of rate provided in quote from vendor (DownStream Services, Inc).
Hydrodynamic Separator Cleaning Disposal Costs by City (IWC_W)	\$2,104	Estimate at \$1 per gallon of liquid waste (for 200 gallons of water for disposal). Assumes 13.7 tons of sediment are removed at \$124 per ton (75% capacity of the unit). Disposal cost assumed to be 75% of rate provided in quote from vendor (DownStream Services, Inc).
Hydrodynamic Separator Cleaning Disposal Costs by City (RDY_114)	\$1,052	Estimate at \$1 per gallon of liquid waste (for 200 gallons of water for disposal). Assumes 6.9 tons of sediment are removed at \$124 per ton (75% capacity of the unit). Disposal cost assumed to be 75% of rate provided in quote from vendor (DownStream Services, Inc).
Hydrodynamic Separator Cleaning Disposal Costs by City (860.2.2_W)	\$2,861	Estimate at \$1 per gallon of liquid waste (for 200 gallons of water for disposal). Assumes 16.5 tons of sediment are removed at \$124 per ton (75% capacity of the unit). Disposal cost assumed to be 75% of rate provided in quote from vendor (DownStream Services, Inc).
Hydrodynamic Separator Cleaning Disposal Costs by City (ESC_149)	\$2,104	Estimate at \$1 per gallon of liquid waste (for 200 gallons of water for disposal). Assumes 13.7 tons of sediment are removed at \$124 per ton (75% capacity of the unit). Disposal cost assumed to be 75% of rate provided in quote from vendor (DownStream Services, Inc).
Hydrodynamic Separator Cleaning Disposal Costs by City (IWC_E)	\$1,431	Estimate at \$1 per gallon of liquid waste (for 200 gallons of water for disposal). Assumes 8.2 tons of sediment are removed at \$124 per ton (75% capacity of the unit). Disposal cost assumed to be 75% of rate provided in quote from vendor (DownStream Services, Inc).
NTT Inspections		
Netting TrashTrap Inspection Cost by City	\$45	Estimate from Public Works staff.
Netting TrashTrap Cleaning Cost by City (four nets)	\$323	Estimate from Public Works staff.
Netting TrashTrap Inspection Cost by Vendor	\$500	Estimate from vendor (Fresh Creek Technologies) for one unit.
Netting TrashTrap Inspection Man Hours by City Staff	1.4	Based on estimate provided by City staff.

Cost Analysis Assumptions

Note: Blue cells are estimated costs and may be revised.		
Variables Linked to Cost Estimates Tab	Cost	Estimate basis
Netting TrashTrap Cleaning Cost by Vendor (one net): IWC_W and RDY_114	\$3,400	Estimate for contractor through vendor (Fresh Creek Technologies). Cost includes crane, labor, and disposal.
Netting TrashTrap Cleaning Cost by Vendor (four nets): 860.2.2_W, ESC_149, IWC_E, ESC_134, ESC_128	\$3,900	Estimate for contractor through vendor (Fresh Creek Technologies). Cost includes crane, labor, and disposal.
Netting TrashTrap Cleaning Cost by Vendor (ten nets): IWC	\$5,300	Estimate for contractor through vendor (Fresh Creek Technologies). Cost includes crane, labor, and disposal.
Netting TrashTrap Cleaning for four sites per day	\$8,100	Estimate for contractor through vendor (Fresh Creek Technologies). Cost includes nets crane, labor, and disposal.
Netting TrashTrap Cleaning for eight sites over two days	\$16,000	Estimate for contractor through vendor (Fresh Creek Technologies). Cost includes nets crane, labor, and disposal.
Netting TrashTrap Cleaning for eight sites in one day	\$12,000	Estimate for contractor through vendor (Fresh Creek Technologies). Cost includes nets crane, labor, and disposal.
Netting TrashTrap # Inspections	8	Maximum estimated from vendor (Fresh Creek Technologies).
Netting TrashTrap # Cleanings	8	Maximum estimate from vendor (Fresh Creek Technologies). Minimum number of cleanings expected to be 6 times per year
Replacement Net Cost (1 net systems)	\$300	Estimate from vendor (Fresh Creek Technologies).
Replacement Net Cost (4 or 10 net systems)	\$200	Estimate from vendor (Fresh Creek Technologies).
Other Disposal Costs		
40 yd dumpster disposal cost	\$260	Estimate from I Love a Clean San Diego Program Manager.
3 yd dumpster disposal cost	\$30	Estimate from I Love a Clean San Diego Program Manager.
BMP Staff Hours		
Storm Drain Inlet Inspection Staff Hours		
CPS	1	Based on actual storm drain inspection data provided by the City.
Storm Drain Inlet Cleaning Staff Hours		
CPS	2	Based on actual storm drain cleaning data provided by the City.
NTT Inspection Staff Hours		
All trash nets	1.4	Hours estimated based on inspection costs.
NTT Cleaning Staff Hours		
All trash nets	0	Assumes vendor (Fresh Creek Technologies) will perform maintenance.
NSBB Inspection Staff Hours		
NSBB Inspection Staff Hours (PW) (ESC_134)	1.25	Hours estimated based on inspection costs.
NSBB Inspection Staff Hours (PW) (IWC_W)	1.25	Hours estimated based on inspection costs.
NSBB Inspection Staff Hours (PW) (RDY_114)	1.25	Hours estimated based on inspection costs.
NSBB Inspection Staff Hours (PW) (860.2.2_W)	1.9	Hours estimated based on inspection costs.
NSBB Inspection Staff Hours (PW) (ESC_149)	1.25	Hours estimated based on inspection costs.
NSBB Inspection Staff Hours (PW) (IWC_E)	1.25	Hours estimated based on inspection costs.
CDS Inspection Staff Hours		
CDS Inspection Staff Hours (PW) City (ESC_134_S)	1.5	Hours estimated based on inspection costs.
CDS Inspection Staff Hours (PW) City (IWC_W)	1.5	Hours estimated based on inspection costs.
CDS Inspection Staff Hours (PW) City (RDY_114)	1	Hours estimated based on inspection costs.
CDS Inspection Staff Hours (PW) City (860.2.2_W)	1.5	Hours estimated based on inspection costs.
CDS Inspection Staff Hours (PW) City (ESC_149)	1.5	Hours estimated based on inspection costs.

Cost Analysis Assumptions

Note: Blue cells are estimated costs and may be revised.		
Variables Linked to Cost Estimates Tab	Cost	Estimate basis
CDS Inspection Staff Hours (PW) City (IWC_E)	1.5	Hours estimated based on inspection costs.
NSBB Cleaning Staff Hours		
NSBB Cleaning Staff Hours (PW) (ESC_134_S)	2.5	Hours estimated based on cleaning costs.
NSBB Cleaning Staff Hours (PW) (IWC_W)	2.5	Hours estimated based on cleaning costs.
NSBB Cleaning Staff Hours (PW) (RDY_114)	2.5	Hours estimated based on cleaning costs.
NSBB Cleaning Staff Hours (PW) (860.2.2_W)	3.75	Hours estimated based on cleaning costs.
NSBB Cleaning Staff Hours (PW) (ESC_149)	2.5	Hours estimated based on cleaning costs.
NSBB Cleaning Staff Hours (PW) (IWC_E)	2.5	Hours estimated based on cleaning costs.
CDS Cleanings Staff Hours		
CDS Cleaning Staff Hours (PW) (ESC_134_S)	3	Hours estimated based on cleaning costs.
CDS Cleaning Staff Hours (PW) (IWC_W)	3	Hours estimated based on cleaning costs.
CDS Cleaning Staff Hours (PW) (RDY_114)	2	Hours estimated based on cleaning costs.
CDS Cleaning Staff Hours (PW) (860.2.2_W)	3	Hours estimated based on cleaning costs.
CDS Cleaning Staff Hours (PW) (ESC_149)	3	Hours estimated based on cleaning costs.
CDS Cleaning Staff Hours (PW) (IWC_E)	2	Hours estimated based on cleaning costs.
BMP Costs		
CPS Costs		
CPS Cost 32" - 48" W x 18" - 42" H (1-10 units)	\$682	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
CPS Cost - 48" W x 18" - 42" H (11-50 units)	\$578	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
CPS Cost - 48" W x 18" - 42" H (51-100 units)	\$568	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
CPS Cost - 48" W x 18" - 42" H (101-500 units)	\$548	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
CPS Cost - 48" W x 18" - 42" H (501-1000 units)	\$538	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Large CPS Cost - 4' - 6'	\$1,812	Estimate from vendor (Stormtek). Includes product and installation cost. 10% cost added for City design and planning.
CPS Flow Deflector cost	\$320	Estimate from vendor (United Storm Water). Assumes all pipes > 36" diameter require a flow deflector for ARS unites purchased from United Storm Water Inc. 10% cost added for City design and planning.
Repair Costs		
CPS Repair Cost	\$0	CPS have 3 year warranty. No repair costs are assumed
ARS Repair Cost	\$0	Warranty on parts for 3 years from a vendor United Storm Water.
ARS Inspection Cost	\$0	Assumed to be included in CPS inspection cost
GISB Costs		
GISB (12" x 12" x 12")	\$1,492	Estimate from vendor Bio Clean Environmental Services. Cost includes installation and traffic control cost. Order apply for less than 100 units. Includes 10-year warranty. 10% cost added for City design and planning.
GISB (18" x 18" x 18")	\$1,568	Estimate from vendor Bio Clean Environmental Services. Cost includes installation and traffic control cost. Order apply for less than 100 units. Includes 10-year warranty. 10% cost added for City design and planning.
GISB (24" x 24" x 24")	\$1,738	Estimate from vendor Bio Clean Environmental Services. Cost includes installation and traffic control cost. Order apply for less than 100 units. Includes 10-year warranty. 10% cost added for City design and planning.
GISB (36" x 36" x 24")	\$2,109	Estimate from vendor Bio Clean Environmental Services. Cost includes installation and traffic control cost. Order apply for less than 100 units. Includes 10-year warranty. 10% cost added for City design and planning.
GISB (>36")	\$4,059	Estimated cost assumed 75% price increase from unit sized 36" x 36" x 24". 10% cost added for City design and planning.
ARS Costs		

Cost Analysis Assumptions

		Note: Blue cells are estimated costs and may be revised.
Variables Linked to Cost Estimates Tab	Cost	Estimate basis
Wing-Gate Stainless Steel ARS 24"-60" (1 - 25 units)	\$692	Estimate from vendor (United Storm Water). Includes product and installation cost. This cost was also used for inlets <24". 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 24"-60" (26 - 50 units)	\$681	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 24"-60" (1 - 25 units)	\$622	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 24"-60" (26 - 50 units)	\$610	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 61"-85" (1 - 25 units)	\$1,219	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless ARS 61"-85" (26 - 50 units)	\$1,179	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 61"-85" (1 - 25 units)	\$1,079	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 61"-85" (26 - 50 units)	\$1,038	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 86"-121" (1 - 25 units)	\$1,253	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 86"-121" (26 - 50 units)	\$1,212	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 86"-121" (1 - 25 units)	\$1,107	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 86"-121" (26 - 50 units)	\$1,066	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 122"-169" (1 - 25 units)	\$1,881	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 122"-169" (26 - 50 units)	\$1,653	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 122"-169" (1 - 25 units)	\$1,668	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 122"-169" (26 - 50 units)	\$1,440	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 170"-253" (1 - 25 units)	\$2,961	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS >253" (1 - 25 units)	\$4,635	Estimated price assumes cost for 86" - 121" unit is added to the price for and ARS 170" - 253". 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 170"-253" (26 - 50 units)	\$2,907	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 170"-253" (1 - 25 units)	\$2,680	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Plastic ARS 170"-253" (26 - 50 units)	\$2,625	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 24"-60" (51 - 100 units)	\$708	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 61"-85" (51 - 100 units)	\$1,227	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 86"-121" (1 - 25 units)	\$1,285	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 122"-169" (51 - 100 units)	\$1,728	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 170"-253" (51 - 100 units)	\$3,247	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 24"-60" (101 - 250 units)	\$699	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 61"-85" (101 - 250 units)	\$1,209	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.

Cost Analysis Assumptions

		Note: Blue cells are estimated costs and may be revised.
Variables Linked to Cost Estimates Tab	Cost	Estimate basis
Wing-Gate Stainless Steel ARS 86"-121" (101 - 250 units)	\$1,267	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 122"-169" (101 - 250 units)	\$1,703	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 170"-253" (101 - 250 units)	\$3,202	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 24"-60" (251 - 1000 units)	\$683	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 61"-85" (251 - 1000 units)	\$1,176	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 86"-121" (251 - 1000 units)	\$1,217	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 122"-169" (251 - 1000 units)	\$1,656	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Wing-Gate Stainless Steel ARS 170"-253" (251 - 1000 units)	\$3,114	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 24" - 60" (1 - 25) units	\$734	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 24" - 60" (26 - 50) units	\$723	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 24" - 60" (51 - 100) units	\$708	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 61" - 85" (1-25 units)	\$1,279	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 61" - 85" (26 - 50 units)	\$1,239	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 61" - 85" (51 - 100 units)	\$1,227	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 86" - 121" (1 - 25) units	\$1,338	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 86" - 121" (26 - 50) units	\$1,297	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 86" - 121" (51 - 100) units	\$1,285	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 122" - 169" (1 - 25 units)	\$2,001	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 122" - 169" (26 - 50 units)	\$1,772	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 122" - 169" (51 - 100) units	\$1,728	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 170" - 253" (1 - 25) units	\$3,314	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 170" - 253" (26 - 50) units	\$3,260	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS 170" - 253" (51 - 100) units	\$3,247	Estimate from vendor (United Storm Water). Includes product and installation cost. 10% cost added for City design and planning.
Powder Coated Wing-Gate Stainless Steel ARS >253" (1-25 units)	\$5,117	Estimated cost assumes price for 170" - 253" unit is added to a 86" - 121" unit. 10% cost added for City design and planning.
Matte black powder-coating	\$38	Estimate from vendor (United Storm Water). Includes product and installation cost. Optional anti-theft coating per 5' segment of stainless
R-GISB Costs		
R-GISB 0" - 48" (1-49 units)	\$1,815	Estimate from vendor (Bio Clean Environmental Services, Inc). Includes product and installation cost. 10% cost added for City design and planning.
R-GISB 49" - 96" (1-49 units)	\$2,035	Estimate from vendor (Bio Clean Environmental Services, Inc). Includes product and installation cost. 10% cost added for City design and planning.

Cost Analysis Assumptions

Note: Blue cells are estimated costs and may be revised.		
Variables Linked to Cost Estimates Tab	Cost	Estimate basis
R-GISB 97" - 144" (1-49 units)	\$2,255	Estimate from vendor (Bio Clean Environmental Services, Inc). Includes product and installation cost. 10% cost added for City design and planning.
R-GISB 145" - 192" (1-49 units)	\$2,475	Estimate from vendor (Bio Clean Environmental Services, Inc). Includes product and installation cost. 10% cost added for City design and planning.
R-GISB > 193" (1-49 units)	\$2,695	Estimate from vendor (Bio Clean Environmental Services, Inc). Includes product and installation cost. 10% cost added for City design and planning.
NTT BMP Costs (Capital Only)		
Netting TrashTrap In-line BMP cost: IWC_W	\$234,960	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. 10% cost added for City design and planning.
Netting TrashTrap In-line BMP cost: RDY_114	\$234,960	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. 10% cost added for City design and planning.
Netting TrashTrap In-line BMP cost: 860.2.2_W	\$505,450	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. 10% cost added for City design and planning.
Netting TrashTrap In-line BMP cost: ESC_149	\$505,450	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. 10% cost added for City design and planning.
Netting TrashTrap In-line BMP cost: IWC_E	\$505,450	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. 10% cost added for City design and planning.
Netting TrashTrap In-line BMP cost: ESC_128	\$505,450	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. 10% cost added for City design and planning.
Netting TrashTrap In-line BMP cost: ESC_134_S	\$395,450	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. Revised to reduce cost by \$100,000 since BMP will be installed as part of larger Spruce Street project. 10% cost added for City design and planning.
Netting TrashTrap End-of-Pipe BMP Cost: ESC_128	\$449,845	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. 10% cost added for City design and planning.
Netting TrashTrap End-of-Pipe BMP Cost: ESC_134	\$460,845	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. Alternate location for INNNTT installed at intersection of Grand and Spruce St. 10% cost added for City design and planning.
Netting TrashTrap Channel Guard BMP cost: IWC	\$836,330	Estimate from vendor (Fresh Creek Technologies). Includes BMP and installation cost. 10% cost added for City design and planning.
Netting TrashTrap Inverts	\$5,000	Assumed for all Netting TrashTrap models.
Netting TrashTrap Geotechnical Report	\$10,000	Assumed for all in-line models.
Netting TrashTrap Estimate Useful Life (years)	30+	Information provided by vendor (Fresh Creek Technologies).
NSBB BMP Costs		
Nutrient Separating Baffle Box: ESC_134_S	\$211,631	Actual BMP estimate from vendor (Bio Clean Environmental Services).
Nutrient Separating Baffle Box: IWC_W	\$117,940	Actual BMP estimate from vendor (Bio Clean Environmental Services).
Nutrient Separating Baffle Box: RDY_114	\$116,835	Actual BMP estimate from vendor (Bio Clean Environmental Services).
Nutrient Separating Baffle Box: 860.2.2_W	\$249,715	Per discussion with vendor (Bio Clean Environmental Services) a unit in this location would require a diversion structure would be necessary. A conservative estimate of \$25,000 has been added to account for costs associated with the bypass structure based on conversations with vendor.
Nutrient Separating Baffle Box: ESC_149	\$157,238	Actual BMP estimate from vendor (Bio Clean Environmental Services).
Nutrient Separating Baffle Box: IWC_E	\$116,835	Actual BMP estimate from vendor (Bio Clean Environmental Services).
CDS hydrodynamic separator cost: IWC_W, ESC_149	\$202,400	Actual BMP estimate from vendor (Contech Engineered Solutions).
CDS hydrodynamic separator cost: RDY_114	\$101,200	Actual BMP estimate from vendor (Contech Engineered Solutions).
CDS hydrodynamic separator cost: 860.2.2_W, ESC_134_S	\$550,000	Actual BMP estimate from vendor (Contech Engineered Solutions).
CDS hydrodynamic separator cost: IWC_E	\$308,000	Actual BMP estimate from vendor (Contech Engineered Solutions).
NSBB BMP Installation Costs		
Nutrient Separating Baffle Box installation cost (pervious area)	\$50,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC. May be \$100,000 or more if underground utilities, dewatering, or long arm excavators are required.
Nutrient Separating Baffle Box installation cost (high traffic roadway)	\$100,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC. May be \$200,000 or more if underground utilities, dewatering, or long arm excavators are required.
Nutrient Separating Baffle Box installation cost (complicated high traffic area) night-shift only	\$200,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC. May be \$100,000 or more if underground utilities, dewatering, or long arm excavators are required.
Nutrient Separating Baffle Box installation cost (complicated high traffic area where utility relocation is required)	\$400,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC.
Nutrient Separating Baffle Box installation cost (complicated high traffic area where utility relocation is required for location 860.2.2_W	\$570,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC. An additional \$75,000 was included to account for additional cost associated with construction of the diversion structure. Includes 20% contingency to account for additional costs.

Cost Analysis Assumptions

Note: Blue cells are estimated costs and may be revised.		
Variables Linked to Cost Estimates Tab	Cost	Estimate basis
CDS BMP Installation Costs		
CDS hydrodynamic separator installation cost (high traffic roadway)	\$200,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC. May be \$200,000 or more if underground utilities, dewatering, or long arm excavators are required.
CDS hydrodynamic separator installation cost (complicated high traffic area)	\$300,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC. May be \$100,000 or more if underground utilities, dewatering, or long arm excavators are required.
CDS hydrodynamic separator installation cost (complicated high traffic area) night-shift only	\$400,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC. May be \$100,000 or more if underground utilities, dewatering, or long arm excavators are required.
CDS hydrodynamic separator installation cost (complicated high traffic area) utility relocation is required	\$500,000	Conservative estimate based on information provided by Innovative Construction Consulting Services, LLC. May be \$100,000 or more if underground utilities, dewatering, or long arm excavators are required.
Program Development, Monitoring, and Reporting Costs		
Scenario 1: Program Development	\$60,000	Number estimated; no implementation plan required, but assume funds will be needed for initial program setup.
Scenario 2: Program Development	\$65,000	Number estimated; no implementation plan required, but assume funds will be needed for initial program setup.
Scenario 3: Program Development	\$70,000	Number estimated; no implementation plan required, but assume funds will be needed for initial program setup.
Scenario 4: Program Development	\$75,000	Number estimated; no implementation plan required, but assume funds will be needed for initial program setup.
Scenario 5: Program Development	\$100,000	Number estimated; implementation plan required and assume funds will be needed for initial program setup.
Scenario 6: Program Development	\$110,000	Number estimated; implementation plan required and assume funds will be needed for initial program setup.
Scenario 1: Monitoring & Reporting	\$50,000	Number estimated based on experience with storm water annual reporting; also includes program management and GIS work.
Scenario 2: Monitoring & Reporting	\$50,000	Number estimated based on experience with storm water annual reporting; also includes program management and GIS work.
Scenario 3: Monitoring & Reporting	\$50,000	Number estimated based on experience with storm water annual reporting; also includes program management and GIS work.
Scenario 4: Monitoring & Reporting	\$50,000	Number estimated based on experience with storm water annual reporting; also includes program management and GIS work.
Scenario 5: Monitoring & Reporting	\$100,000	Number estimated based on experience with storm water annual reporting and dry weather MS4 outfall monitoring costs; also includes program management and GIS work.
Scenario 6: Monitoring & Reporting	\$100,000	Number estimated based on experience with storm water annual reporting and dry weather MS4 outfall monitoring costs; also includes program management and GIS work.
Scenario 1: Non-Structural BMP Costs	\$0	Additional costs for non-structural BMPs are not included for Track 1 scenarios.
Scenario 2: Non-Structural BMP Costs	\$0	Additional costs for non-structural BMPs are not included for Track 1 scenarios.
Scenario 3: Non-Structural BMP Costs	\$0	Additional costs for non-structural BMPs are not included for Track 1 scenarios.
Scenario 4: Non-Structural BMP Costs	\$0	Additional costs for non-structural BMPs are not included for Track 1 scenarios.
Scenario 5: Non-Structural BMP Costs Total	\$750,312	Total for the 10-year compliance time frame.
Scenario 6: Non-Structural BMP Costs	\$750,312	Total for the 10-year compliance time frame.
BMP Information		
CPS/ARS Estimated Useful Life (years)	20+	
CPS Warranty (years)	10	
Netting Trash Trap Estimated Useful Life (years)	20+	
Notes:		
ARS - Automatic Retractable Screen		
CPS - Connector Pipe Screen		
GISB - Grate Inlet Skimmer Box		
R-GISB - Round Curb Inlet Skimmer Box		
NTT - Netting TrashTrap		
NSBB - Nutrient Separator Baffle Box (hydrodynamic separator)		
CDS - Continuous Deflective Separation (hydrodynamic separator)		

Appendix 5 – Methodology for Determining Storm Drain Structure Types, Sizes, and Appropriate BMP Types

Identification of Inlet Structures and BMP Types

Specific inlet structures require different small BMPs which have varying maintenance frequencies. For example, the full capture GISB is more costly than CPS units and requires more frequent maintenance compared to a CPS unit. For this reason, using BMP with lower capital costs which required the least maintenance was considered preferable. In order to provide a cost estimate for the difference scenarios several factors were considered:

- Type of inlet structure
 - Curb inlet opening size for curb type inlets
 - Outlet pipe diameter for curb type inlets
- Known flooding issues

Determining the inlet structure was the first step in order to prepare a cost estimate since the capital and maintenance cost associated with different types of BMPs varies widely. Data regarding type of inlet structure was obtained from the City's MS4 storm drain structures shapefile. Several standard and non-standard drains exist within the City; eight types of storm drain structures were identified from the City's data (see section 2.2 of report). Standard types of inlet structures include curb inlet and grate inlets. Non-standard types of storm drains include other inlet, reverse sidewalk underdrain, slotted pipe inlet, swale inlet, and v-ditch inlet. In addition to these identified structures, a "grated curb inlet" structure category and "unknown" structure type were added.

Priority land use inlets were identified using GIS as described in section 3. Sixty-one inlets lacked data regarding the type of inlet structures of the inlets identified for Tracks 1 and 2. A desktop analysis was performed using Google Street View which identified the type of inlet structure for 18 inlets. The remaining 43 inlets with unknown structure types were not visible using Google Street View and field verification was performed to determine the inlet structure type. Data from fieldwork was used to update the City's MS4 layer and the updated layer is included in Attachment 1 of the report. In addition to unknown inlet structures the non-standard structure names existed within the City were also reviewed in Google Street View. In August 2016, a field team attempted to visit all inlet structures which did not include a structure type and were not visible on Google Street View; however 17 structure types were unable to be verified due to lack of access to the inlet.

In addition to determining the inlet structure type, the curb inlet opening size was necessary to determine the size of ARS that would be installed with each curb inlet. Since the City's GIS MS4 file did not include curb inlet opening sizes, field work was performed to obtain this data. A random sample of curb and grated curb inlets were visited by the field team for 78 inlets which is 10% of the PLU curb inlets in the City. Fieldwork data was used to determine the curb opening size using the proportion of curb inlet opening sizes measured in the City. A curb inlet

opening size was applied to the remaining 90% of curb inlets using the percentages provided in Table 1.

Table 1. Curb Inlet Opening Sizes Determined from Field Work

Inlet Opening Size Range ¹ (inches)	# of Inlets	% of Inlets ²
24" – 60" ³	31	44%
61" – 85"	3	4%
86" – 121"	12	17%
122" – 169"	14	20%
170" – 253"	8	11%
254" – 352"	3	4%
Total	71	100%

Notes:

¹ Curb inlet opening sizes were sorted into categories based on pricing provided by a vendor (United Storm Water Inc).

² Percent of inlets refer to inlets where CPS are feasible excluding slotted pipe inlets (see Table 2).

³ Curb inlet opening sizes less than 24" were grouped into the smallest size category.

Determination of Outflow Pipes for Connector Pipe Screens

Another factor which has an impact on cost, is the size of the inflow pipe into a catch basin. Large CPS BMPs require additional raw materials and a significant price increase was reported by vendors (Stormtek and United Storm Water Inc.) for large and non-standard CPS (Eric Taylor, G2 Construction Inc, personal communication; Terry Flury, United Storm Water Inc, personal communication).

In order to determine the size of the conveyance for a curb or grated curb inlet, the City's MS4 conveyance layer was spatially joined to the PLU inlet layer. Data for pipes which completely intersected (i.e., were within zero feet of) a MS4 pipe were used to determine the width of the outflow pipe. A spatial join was then performed to determine the number of pipes which intersected the inlet. Based on the analysis, 312 inlets intersected with multiple pipes. A join that counted the maximum pipe width was performed; however null values resulted from the join. Consequently, the original join was manually reviewed and the largest intersecting pipe size was verified for all 312 inlets. Of these inlets reviewed, 126 (13%) were revised to indicate the maximum pipe size of the pipes that intersected the inlet. If data was missing, as indicated by a value of 0 or -99, the inlet size was revised to a value of 0. Additionally, thirteen percent of the 826 identified PLU inlets were marked with a pipe width of 0 inches which denotes that the pipe size was unknown.

For the cost assumptions, quotes for a large and custom CPS provided by a vendor Stormtek was used as a conservative estimate for all pipes with an pipes size of 0 inches and for pipes greater than or equal to 36" in diameter.

BMP Selection Summary

A summary of the small BMPs selected for the cost analysis is presented in Table 2.

Table 2. Small BMPs Selected for Cost Analysis

Inlet Structure Type	Potential BMPs			Selected BMP(s)	Notes
	CPS	GISB	ARS		
Curb Inlet	✓	N/A	✓	CPS and ARS	N/A
Grate Inlet	N/A	✓	N/A	GISB	N/A
Grated Curb Inlet	✓	✓	✓	CPS and ARS	Although some trash may enter the catch basin through the grate, it was assumed no GISB would be installed. It is suggested these structures be monitored to see if more frequent cleaning for these structures is required.
Inlet	✓	N/A	✓	CPS and ARS	Most drains appeared to be curb inlets ¹
Other Inlet	✓	N/A	✓	CPS and ARS	Curb inlets appear feasible ²
Reverse Sidewalk Underdrain³	N/A	N/A	✓	ARS	A full capture BMP cannot be installed on these units because no pipe is connected to these structures. A standard size ARS of 24" – 60" was assumed. ^{1,2}
Slotted Pipe Inlet	✓	N/A	✓	CPS and ARS	CPS and ARS are feasible for these units. ² A standard size ARS of 24" – 60" was assumed. ^{1,2}
Swale Inlet	✓	N/A	✓	CPS and ARS	CPS and ARS are feasible for these units. ²
Unknown	Unknown	Unknown	Unknown	CPS and ARS	Assumed CPS and ARS were feasible for all inlets. Unable to confirm structure type during fieldwork. ^{2,4}
V-ditch Inlet	✓	N/A	✓	CPS and ARS	It appears that both CPS and ARS would be feasible for these units. ^{1,2}

Notes: CPS - Connector Pipe Screen; GISB - Grate Inlet Skimmer Box; ARS - Automatic Retractable Screen

¹ Information based off desktop analysis with Google Street View.

² Information based off fieldwork.

³ Partial capture BMPs only.

⁴ These structures were not visible in Google Earth and inlets were not accessible during fieldwork since structures were typically located on gated private property.

Appendix 6 - Large Best Management Practice (BMP) Selection and Analysis

Trash that enters the City of Escondido's (City's) municipal separate storm sewer system (MS4) can be captured using individual inlet BMPs (small BMPs) or large drainage area BMPs (large BMPs). Large BMPs have been defined as BMPs which treat a large drainage area such as an outfall drainage area. Small BMPs such as connector pipe screens (CPS) are installed in storm drain inlets and treat a much smaller drainage area. Large BMPs may be preferable to small BMPs since only staff need to inspect and clean one location a few times a year, whereas small BMPs requires all upstream inlets are inspected and maintained individually.

The large drainage area BMPs (large BMPs) require a more in-depth assessment to determine where they may be feasible and the costs associated with these BMPs. Due to the high capital and maintenance costs associated with large BMPs it was anticipated that smaller amounts of Priority Land Use (PLU) inlets, for example less than 50 inlets per drainage area, would not be cost effective when compared to the cost of installing and maintaining small BMPs.

Section 3 in the main body of the report includes additional detail on the proposed BMPs discussed in this appendix. This appendix describes desktop investigations, hydrology calculations, field work, and correspondence with vendors in order to identify potential large BMP locations. After potential large BMPs options were determined, the cost of installing and maintaining these BMP were compared to the capital and ongoing operations and maintenance costs associated with installing and maintaining small BMPs in the drainage areas upstream of the larger BMPs. The large BMP options assessed included the BMPs listed below.

Netting Trash Traps (commonly referred to as trash nets):

Netting TrashTrap BMPs come in three configurations that are appropriate for complying with the Trash Ammendments:

- Channel Guard Netting Trash Trap (Channel Guard NTTs) may only be installed in channels
- End-of-Pipe Netting TrashTraps (EOPNTTs) units are installed at the end of the MS4 conveyance
- In-Line Netting TrashTraps (INLNTTs) are installed in-line with the outfall pipe (upstream of the outfall typically in an pervious or impervious area).

Hydrodynamic Separators:

- Continuous Deflection Separators (CDS)
- Nutrient Separating Baffle Boxes (NSBBs)

Netting TrashTraps and hydrodynamic separators meet full capture requirements for trash control as these BMPs capture all particles with a diameter of 5 mm and larger and has a design treatment capacity that is either a) of not less than the peak flow rate, Q , resulting from a one-year, one-hour, storm in the subdrainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain. The NTTs BMP assessed may not be installed in the same location therefore costs for NTT systems were compared to costs for CDS and NSBB units for drainage areas that occurred upstream of an outfall or channel.

Drainage Area Selection and Design Flow Calculations

Potential large BMP locations were selected from the delineated drainage areas provided by the City as a GIS shapefile. Drainage areas which treated the largest number of PLU inlets were selected since treating a small number of PLU inlets with a large BMP would not be cost effective due to the high capital and installation costs associated with large BMPs. Three delineated drainage areas which treated the largest number of PLU inlets were selected. In addition to the three largest areas, seven smaller drainage areas were selected. Design flow calculations were performed for the seven smaller drainage areas using the Rational Method, as required by Trash Amendments, as follows:

$$Q = C*i*A, \text{ where:}$$

C is the runoff coefficient,

i is the rainfall intensity in inches per hour, and

A is the area in acres

Runoff coefficients were based off land use data. The three drainage areas and the SANDAG 2014 land use layer were intersected in GIS. The attribute table was exported to excel, and tables were created to provide the land use breakdown based on acreage. Runoff coefficients were assigned to each land use type and multiplied by the acreage of land use types within the drainage area to determine the value of A*C for each land use type. The value of A*C of each land use type was then summed to provide the total value of A*C for the drainage area. This value was multiplied by the 1-year 1-hour rainfall intensity, which is 0.449 inches per hour for the City based on the NOAA Atlas 14 (NOAA, 2016)¹. The product resulted in the trash control design flow rate for the drainage area. An example of a design flow rate calculation for a large drainage area is provided in Table below in Table 1. The drainage area design flow rate calculations are provided in Attachment 1.

Table 1. Example Design Flow Rate Calculation for ESC_134_S (upstream)

Land Use Type	Area (acres)	Runoff Coefficient (C)	A*C
Commercial	46.83	0.85	39.81
Arterial Commercial	21.16	0.85	17.98
Automobile Dealership	1.06	0.85	0.90
Hotel/Motel (Low-Rise)	1.53	0.85	1.30
Neighborhood Shopping Center	7.41	0.85	6.29
Office (Low-Rise)	2.86	0.85	2.43
Other Health Care	0.58	0.85	0.49
Parking Lot - Surface	0.70	0.85	0.59
Religious Facility	11.18	0.85	9.50
Service Station	0.35	0.85	0.30
High Density Residential	37.17		
Mobile Home Park	14.01	0.65	9.11
Multi-Family Residential	22.46	0.70	15.72
Other Group Quarters Facility	0.71	0.70	9.81
Other Land Use Type	350.19		
Elementary School	10.84	0.40	5.60
Multi-Family Residential Without Units	0.41	0.45	0.18
Open Space Park or Preserve	0.81	0.25	0.20
Orchard or Vineyard	2.17	0.25	0.54
Other Public Services	2.33	0.80	1.86
Road Right of Way	125.05	0.85	106.30
Single Family Detached	162.36	0.55	89.30
Single Family Multiple-Units	40.64	0.70	28.45
Single Family Residential Without Units	0.19	0.30	0.06
Vacant and Undeveloped Land	5.40	0.45	2.43
Grand Total	434.19	Total A*C	309
Rainfall intensity (i) in inches per hour			0.449
Design Flow Rate (cubic feet per second)			139

BMPs Selected for Analysis

Channel Guard NTTs and EOPNTTs may be customized to treat very large design flows. Since NTT systems are suitable for treating large drainage areas within channels and at outfalls, the three largest drainage areas were selected as potential locations for these types of BMPs. These very large drainage areas were not suitable for large BMPs which treat smaller drainage areas. Detailed design flow rate calculations were not required for the three largest drainage areas since the vendor for NTT, Fresh Creek Technologies, only required the size of the outfall pipe or channel and the total drainage area in order to prepare a cost estimate.

The seven smaller drainage areas were selected as potential locations for hydrodynamic separators which treat smaller design flows than EOPNTT or Channel Guard BMPs. These smaller drainage areas were reviewed to determine if INLNTT, CDS, and NSBB would be feasible at each of the 7 locations. A preliminary literature review indicated that the maximum

design flow rate for a large BMP like a CDS unit was approximately 300 cfs using a large custom unit with a diameter of 41 feet (Storm Water Technology Fact Sheet. EPA 832-F-99-017, September 1999). For this reason, it appeared that CDS units may be feasible where the NTT BMPs were proposed. Seven smaller drainage areas were also delineated in addition to the three large drainage areas. For each of the 10 areas, INLNTT, NSBB, and CDS units were also considered as an alternative to EOPNTT or Channel Guard NTT.

Site Specific Constraints

Site specific constraints for large BMPs such as CDS and INLNTT BMPs include:

- Conflicting underground utilities that would interfere with excavation;
- Overhead power line and telephone lines that would interfere with the crane necessary for installation (and maintenance for NTTs);
- Inadequate width of the street to accommodate BMPs with large diameters ;
- Traffic volume that could lead to increase traffic control costs during installation and maintenance;
- Street parking availability. Limited parking would determine whether a road would need to be fully closed during construction or if only night work would be required. Narrow roads without street parking may need to be fully closed during maintenance which may be problematic in high traffic areas; and
- Available space for equipment (crane or Vactor truck) to access the location during installation and maintenance of the BMP.

Field Work Summary

For the three largest drainage areas, field work was performed to assess the location for these potential constraints, verify the pipe sizes provided by GIS at the proposed large BMP locations, and confirm drainage area boundaries. Two drainage areas, ESC_128 and ESC_134 were identified as candidates for CDS or NSBB installation. One site, IWC, was not identified as a candidate for a CDS or NSBB located close to the base of the outfall. The field work results are presented and discussed below. Figure 1 introduces the drainage areas and proposed installation locations. Detailed maps of the proposed large BMP locations are included in Attachment 2 of this appendix.

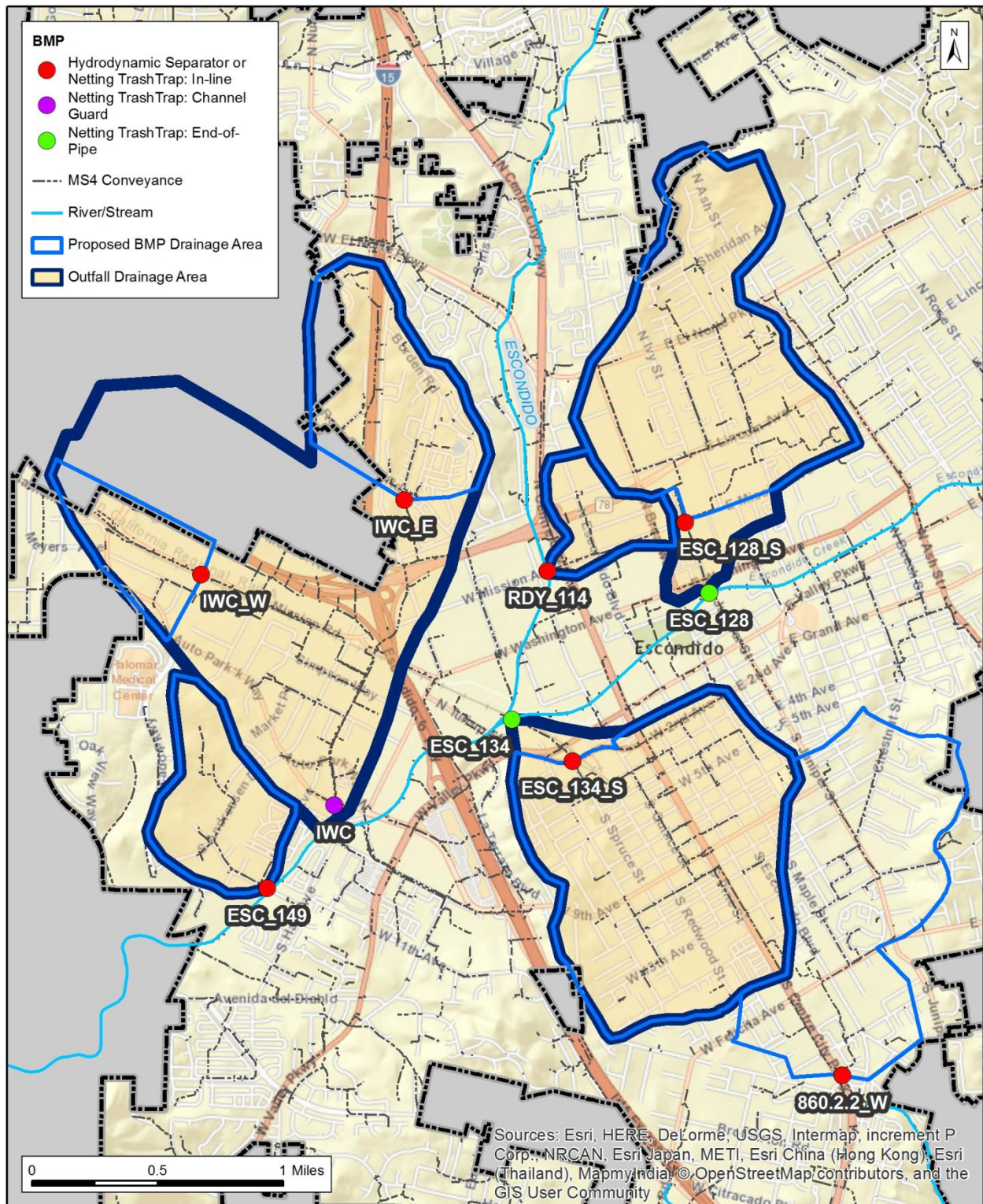


Figure 1. Proposed Locations of Large BMPs

The proposed large BMP location for ESC_134 is shown in Figure 2. The presence of significant wire crossings overhead is an example of a site constraint for large BMP installation which would result in higher installation costs. Installation costs are discussed in more detail in section report.

The pipe size could not be verified at ESC_134 due to lack of access to the main conveyance. Additionally, the pipe size could not be verified at the proposed large BMP location in ESC_128, however according to GIS the first accessible upstream location should have been located on the south side of the intersection of N Juniper Street and E Mission Avenue. The GIS MS4 conveyance layer indicated that the main line was a 78 inch pipe. In the field, the pipe appeared to be approximately 36 inches in diameter. City personnel field verified that the main line for ESC_128 is actually two 36 inch pipes rather than one 78 inch pipe and is accessible from a manhole located east of the mapped MS4 conveyance location.



Figure 2. Intersection at Spruce Street and Grand Avenue (ESC_134) with significant wire crossings overhead. Photo taken from the south side of the intersection looking west.

Discussion with Vendors

After this initial investigation, large BMP vendors were contacted for quotes and were given the calculated design flows and confirmed pipe sizes. Gerald Skoda, Director of Strategic Markets & Accounts of Contech Engineered Solutions LLC (Contech), stated that the maximum prefabricated CDS unit design flow is 64 cfs (Gerald Skoda, personal communication). He also stated that the maximum design flow of any CDS unit the company has made was 20 feet in diameter and designed for a flow rate over 100 cubic feet per second. Large units from Contech that are designed for flow rates greater than 64 cubic feet per second require a custom design and must be cast-in-place. Both large and small flow rates may require multiple units. Based on this information provided from the vendor, the three largest drainage areas would be unable to support a single CDS unit. A diversion structure that would split the flow evenly into two custom units would require multiple custom built units. Alternatively, multiple pre-fabricated CDS units could be placed further upstream, however some PLUs inlets may not be treated if flow is not directed to these units and small BMPs would be required.

Justin Blackwell, Stormwater Engineer at Bio Clean Environmental & Modular Wetlands (BioClean Environmental Services, Inc) said that NSBBs are available in several standard sizes, and they can also be custom designed and built to treat larger flows based on customer requests. Mr. Blackwell confirmed that a design flow rate of approximately 140 cfs would be acceptable and also asked that the type of traffic at each location be investigated. A desktop analysis was performed for the additional six drainage areas. Based on Mr. Blackwell's request, traffic speed was determined for each proposed large BMP location. Traffic was grouped into less than a speed limit of 35 mph or more than as speed limit of 35 mph. For proposed locations with speeds limits greater than 35 mph leads to higher costs for NSBBs because construction costs are increased to withstand higher loads from traffic. For the seven smaller

locations, traffic type was also assessed for potential NSBB locations per communication with Mr. Blackwell of BioClean using Google Street View.

The City expressed an interest in INLNNTTs, and additional quotes were requested for the seven smaller drainage areas in addition to the CDS and NSBB. The seven smaller drainage areas were analyzed for the same site constraints as the first two locations using Google Street View. Table 2 presents which BMPs may potentially be installed in the proposed locations discussed with vendors.

Findings from the fieldwork and desktop analysis are summarized in Table 3. These findings provided guidance to help determine which locations are best suited for a large BMP. Minimizing the number of constraints at a proposed location along with a manageable drainage area size and design flow rate were the main factors that made a location both cost-effective and feasible.

Table 2. Potential Large BMP Options Identified

Drainage Area Name	Size (acres)	Design Flow (cfs)	PLU Inlets Upstream	Pipe Size (inches)	Potentially Feasible BMPs
ESC_134 (outfall)	737	250	91	RCBC 60x120	EOPNTT
ESC_128 (outfall)	649	250	41	(2) 36	EOPNTT
Indian Wells Channel	1312	450	101	N/A	Channel Guard NTT
ESC_134_S (upstream)	393	139	28	72	CDS/NSBB/INLNNTT
IWC_W (upstream)	131	52	21	75	CDS/NSBB/INLNNTT
RDY_114 (upstream)	99	35	17	54	CDS/NSBB/INLNNTT
860.2.2_W (upstream)	527	139	58	(1) 48 (1) 72	CDS/NSBB/INLNNTT
ESC_149 (upstream)	189	69	25	84	CDS/NSBB/INLNNTT
IWC_E (upstream)	290	86	22	60	CDS/NSBB/INLNNTT
ESC_128_S (upstream)	584	160	31	(2) 36	INLNNTT ¹

Notes: cfs – cubic feet per second; CDS – Continuous Deflective Separation; EOPNTT – End-of-Pipe Netting Trash Trap; INLNNTT – In-Line Netting Trash Trap; IWC – Indian Wells Channel; NTT – Netting TrashTrap; NSBB – Nutrient Separator Baffle Box; PLU - Priority Land Use; RDY – Reidy Creek.

¹ESC_128 (upstream) was not assessed for CDS/NSBB units due to a delay in confirmation for location of the pipe sizes and locations as they did not match the City’s MS4 conveyance layer. Based on information and quotes for other proposed locations, these types of BMPs would be feasible for these proposed locations.

Table 3. Site Assessment Findings for the Proposed Large BMP Locations

Proposed BMP Location	Vactor Truck Access	Traffic Type	Traffic Control	Street Parking	Overhead Utilities	Underground Utilities	Street width
ESC_134 (outfall)	Yes	N/A	Required	No	Yes	Sewer	4 lanes by 2 lanes
ESC_128 (outfall)	Yes	N/A	Required	Yes	No	Gas, Sewer	5 lanes by 2 lanes
Indian Wells Channel	N/A	N/A	N/A	N/A	No	N/A	N/A
ESC_134_S (upstream)	Yes	< 35 mph	Required	Yes	No	Gas, Water	4 lanes by 2 lanes
IWC_W (upstream)	Yes	35 mph	Required	No	Yes	Gas or Water	5 lanes
RDY_114 (upstream)	Yes	35 mph	Required	No	No	No	5 lanes
860.2.2_W (upstream)	Yes	35 mph	Required	No ¹	No	No	2 lanes each way
ESC_149 (upstream)	Yes	< 35 mph	Required	Yes	No	No	3 lanes
IWC_E (upstream)	Yes	< 35 mph	Required	Yes	Yes	Electric, Gas or Water	3 lanes
ESC_128_S Upstream	Yes	35 mph	Required	No	No	Sewer	5 lanes

Notes: IWC – Indian Wells Channel; RDY – Reidy Creek.

N/A - not applicable based on location within the City's MS4 and proposed BMP type

¹ Large grass median may be suitable for parking, excavation, and future maintenance

Costs Estimation

Quotes were requested for three main BMP categories: CDS, NSBB, and NTT. Netting TrashTraps were not compared for ESC_128 (upstream) where hydrodynamic separators (CDS and NSBB) quotes were not requested as the location and size of the outfall pipes were unable to be verified during fieldwork. Additionally, based on discussions with vendors quotes were not requested for the CDS or NSBB for locations close to the base of the drainage areas as the design flow was too large for a custom built unit as these units are typically designed to treat much smaller drainage areas. Cost estimates were requested for 10 locations for large BMPs in the City. Costs for large BMPs include capital BMP cost, installation costs (which include engineering costs), and maintenance costs.

BMP Costs

Purchase costs were primarily based on vendor quotes. As mentioned earlier, the vendor Contech Engineered Solutions LLC provided quotes for CDS units. According to the vendors of CDS and NSBB, the custom models can be designed to accommodate high flows, but the costs of custom models are significantly higher than the costs of prefabricated models (Katie Husk, personal communication; Sean Hasan, Bio Clean Environmental Services, personal communication). Location and other site specific factor such as pipe depth, by-pass flows, diversions structures, are necessary to further refine the BMP costs.

Riser height was assumed to be 2 feet per manhole installed with the NSBB unit. The vendor Bio Clean Environmental Services indicated no standard riser height exists and that risers may not be necessary in some instances. Riser height was assumed to cost \$200 per vertical foot therefore no significant difference in cost is expected if the than compared to the overall capital cost of the BMP and installation.

Installation Costs

Installation costs were provided with the quote for the ChannelGuard, EOPNTT, and INLNTT systems. Installation costs for CDS and NSBB BMPs were not included in the quote provided by vendors since site specific factors may dramatically impact cost (see Table 4). Although BMP designs are provided by the vendor, geotechnical reports will need to be provided by qualified geotechnical engineers for CDS, NSBB, and INLNTT. In addition to the estimate provided by the vendor, costs for a Geotechnical Report would be required for all ILNTT, NSBB, and CDS BMPs. Additionally, an analysis of utility conflicts (including potholing) and invert elevations for the pipes would need to be determined by a separate survey for all units with the exception Channel Guard NTT and EOPNTT systems. Potholing is a technique used to expose existing utilities prior to excavation. Factors that are expected to affect large BMP installation in the City summarized in Table 5. Additionally, estimated installation costs for NSBB and CDS units and are presented in Table 5. Factors which impact installation are based on D-Max Engineering Inc's experience working with BMP retrofit projects in other jurisdictions and on input from Sean Gill (Innovative Construction Consulting Services, LLC) who we have worked with on several retrofit projects in the City of National City and who has managed similar projects across Southern California.

Table 4. Factors Which Increase Installation Costs

Factor	Description of Reasons for Additional Cost
BMP installation in pervious area or impervious area	Installing a BMP underneath existing pavement will introduce additional costs associated with removing and replacing the pavement. Additionally, specialized fill material may be required to maintain the structural integrity of the roadway.
Special equipment cost	A long arm excavator is required for CDS units that are placed at a depth from 25' and 35'. The typical cost associated with mobilization for these units is expected to cost approximately \$100,000.
Time of day for construction	For CDS units, if BMPs are proposed to be installed in a busy road the road may need to be closed for a 15 to 30 day period due to safety concerns when using a long arm excavator. If a main road cannot be closed down, additional shoring will be required for day-use of the road which may double installation costs.
Utility conflicts and relocation requirements	Cranes are required to install CDS and NSBB. If overhead power lines exist additional cost to relocate these utilities will be expected. Additionally, significant costs will be incurred if underground utilities must be relocated to accommodate the BMP.
Presence of groundwater	Depending on the location, groundwater may be encountered during construction. This may be more likely for the CDS units as opposed to the NSBB units as the depth to groundwater in the City is generally less than 40 feet (Atkins, 2012).
Abnormal soil conditions	Additional costs may be necessary for more durable units depending on site specific conditions.

Table 5. Estimated Installation Costs for NSBB and CDS BMPs

BMP Type	Site Constraints					Estimated Installation Cost (\$) ⁴
	Installed Under Pavement	High Traffic ¹	Night-shift Installation ²	Utility Conflicts	Long Arm Excavator ³	
NSBB						\$50,000
	✓	✓				\$100,000
	✓	✓	✓			\$200,000
	✓	✓	✓	✓		\$400,000
	✓	✓	✓	✓		✓
CDS	✓	✓			✓	\$200,000
	✓	✓			✓	\$200,000
	✓	✓			✓	\$300,000
	✓	✓	✓		✓	\$400,000
	✓	✓	✓	✓	✓	\$500,000

Notes: CDS – Continuous Deflective Separation; NSBB – Nutrient Separator Baffle Box.

¹ Additional cost was assumed for larger roadways which require more complicated engineering and more costly media under heavy traffic roadways.

² Night-shift installation required when it is infeasible to close the roadway for 25 – 30 days. This generally doubles installation time.

³ Long arm excavators are required for CDS installation due to the required depth of 25 to 35 feet for CDS units. No overhead wires can be present at the site.

⁴ Dewatering may be required in some locations, which generally costs an additional \$6,000 - \$7,000 per day (Sean Gill, ICCS LLC, personal communication).

Maintenance Costs

Several assumptions were made to account for expected costs associated with traffic control, inspection, maintenance, and disposal since the hydrodynamic separators proposed for this assessment are custom units located in high traffic areas. The number of annual inspections and cleanings were based off vendor estimates, and our experience inspecting these devices for several cities in San Diego County (see Table 6). Cleaning cost assumptions include disposal costs which were not provided by the City. Disposal costs were estimated based on disposal rates reported by private vendors and the storage capacity of each BMP (see Table 7). Disposal costs were assumed to be the same for CDS and NSBB for each proposed location.

Table 6. Assumed Number of Inspections and Cleanings by BMP Type

BMP	# of Annual Inspections	# of Annual Cleanings
INLNTT	8 ¹	8 ¹
EOPNTT	8 ¹	8 ¹
CDS	2 ²	2 ²
NSBB	2 ²	2 ²

Notes:

INLNTT=In-Line Netting TrashTrap; EOPNTT=End-of-Pipe Netting TrashTrap; CDS=Continuous Deflective Separation; and NSBB=Nutrient Separating Baffle Box.

¹ According to a vendor, Fresh Creek Technologies, the minimum number of cleanings is expected to be six times a year. It was assumed that City staff will inspect the nets to see if the BMPs are full and that a cleaning for the BMP will occur during a separate visit.

² Cleaning frequencies are largely based off surrounding land use. Each Large BMP may require a different cleaning frequency, for this reason we recommend that the Large BMPs be inspected six times during the first year that they are installed and additional cleanings may be necessary for certain units.

Table 7. Hydrodynamic Separator Cleaning Cost Assumptions

Drainage Area	CDS Unit Size(s) ¹	Disposal Cost per Cleaning ²
ESC_134_S (upstream)	2(12')	\$2,861
IWC_W (upstream)	2(10')	\$2,104
RDY_114 (upstream)	1(10')	\$1,052
860.2.2_W (upstream)	2(12')	\$2,861
ESC_149 (upstream)	2(10')	\$2,104
IWC_E (upstream)	1(12')	\$1,431

Notes: IWC – Indian Wells Channel; RDY – Reidy Creek.

¹ Size of the unit refers to the diameter in feet.

² Disposal costs are listed as costs for disposal of water (typically \$1/gallon) and sediment (typically \$124/ton) based on review of records from a vendor Downstream Services, Inc. It was assumed 200 gallons of water are removed with each cleaning. Trash disposal is included as part of the total disposal cost and is not typically broken out by vendors as a separate line item. Sediment quantity estimates are based on the sump at 75% capacity which is when cleaning is recommended for CDS units (Katyrn Husk, Contech Engineered Solutions, personal communication).

Large BMP Cost Comparison to Structural Individual Inlet BMPs

Some factors may reduce maintenance costs associated with large BMPs. For example, if multiple Netting TrashTrap systems are installed the vendor provides a discount for cleaning for four sites in the day for \$8,100. This discount amounts to maintenance costs reduced by over 50% which is significantly lower than the assumed costs used in this analysis (Robert Johnson, Fresh Creek Technologies, personal communication). Multiple trash nets would have to be installed within the City at the same time to receive a discount for maintenance. Despite an increase in savings for labor and equipment it is anticipated that large Netting TrashTrap systems will not be cost effective due to the replacement cost of \$200 to \$300 per net (see Table 10 for additional details).

A variety of inlet structures exist upstream of the proposed locations for the large BMPs. In order to compare the costs of the large BMPs to Scenario 1 costs it was assumed that CPS are feasible in all PLU inlets within the drainage area at a cost of \$1,647 per CPS unit. In addition to the CPS it was assumed that a powder coated ARS (standard size of 122" – 169" inches) was feasible in all inlet at a standard cost \$1,819 which is the quote cost for an order of less than 25 units. Powder coated ARS were used per direction from the City for all scenarios. All proposed large BMPs have a higher cost per inlet than if structural individual inlet full capture BMPs than the cost per inlet for Scenario 1 (Table 8).

Table 8. Comparison of 20-year Costs for Small BMPs and Large BMPs

Drainage Area	# PLU Inlets	20-year Small BMP Cost (\$)	20-year Cost (\$) ¹		
			NTT	NSBB	CDS
IWC (channel)	101	\$442,458	\$1,524,021	N/A	N/A
ESC_128 (outfall)	41	\$179,612	\$961,978	N/A	N/A
ESC_128 (upstream)	31	\$135,804	\$1,016,492	N/A	N/A
IWC_E (upstream)	22	\$96,377	\$1,016,492	\$579,740	\$912,632
ESC_149 (upstream)	25	\$109,519	\$1,016,492	\$643,134	\$785,996
860.2.2_W (upstream)	58	\$254,085	\$1,016,492	\$929,267	\$1,128,974
RDY_114 (upstream)	17	\$74,473	\$685,900	\$371,279	\$549,719
IWC_W (upstream)	21	\$91,996	\$685,900	\$602,843	\$785,996
ESC_134 (outfall)	91	\$398,650	\$972,762	N/A	N/A
ESC_134_S (upstream)	28	\$122,662	\$918,453	\$719,462	\$1,151,545

Notes:

CDS – Continuous Deflective Separation; PLU - Priority Land Use; IWC – Indian Wells Channel; NTT – Netting TrashTrap; NSBB – Nutrient Separator Baffle Box; RDY – Reidy Creek.

N/A indicates Not Applicable as NSBB and CDS units may not be installed in the channel or at the outfall. N/A has also been indicated for ESC_128 as the locations of the main outfall pipes were unable to be located when the vendor quotes were requested.

¹The 20-year cost includes the capital and operations and maintenance costs and is the net present value of the sum of the costs calculated using a 2% discount rate.

Sensitivity Analyses

As mentioned previously, the large BMP costs are based on a combination of quotes, data provided by the City, data from vendors, and other estimated costs. Since cost estimate data is dependent on these factors sensitivity analyses were performed to determine if Large BMPs areas may effective as small individual inlet structural BMPs if the disposal costs, cleaning frequencies, inspection frequency were varied. In addition to varying assumptions regarding Large BMPs the storm drain inlet maintenance frequency was also varied to determine if additional cleaning was required for small individual inlet structural BMPs if the large BMPs may be cost effective.

Overall, no larger BMPs had less capital and operations and maintenance costs than individual inlet small structural BMPs in Scenario 1 (Figure 3). In addition to the overall BMP cost, the maintenance disposal cost per inlet treated with each BMP were also analyzed (Figure 4). In Figure 4, the "worst case" cost estimate for Scenario 1, which assumes that 4 cleanings are required per PLU inlet were compared to the "best" case scenario for disposal costs for NSBB/CDS units was set at \$90/ton instead of \$124/ton. In all cases, small BMPs are more cost-effective, based on dollars per inlet and overall total cost than would be treated by the large BMP.

The staff hours associated with maintenance were also analyzed for each proposed BMP location (Figure 5). It was assumed that NTT system would be cleaned by the vendor Fresh Creek Technologies. Some locations, such as ESC_128 require less staff hours per inlet per year than if small BMPs were installed on all upstream inlets.

Table 9. NettingTrash Trap Net Replacement Cost

BMP Location	# Nets per BMP	# of Replacement Nets Required (6 Cleanings/yr)	# of Replacement Nets Required (8 Cleanings/y)	Net Cost (\$)	Total Annual Net Cost (\$) (6 Cleanings/yr)	Annual Net Cost (\$) (8 Cleanings/yr)
IWC_W (upstream)	1	6	8	\$300	\$1,800	\$2,400
RDY_114 (upstream)	1	6	8	\$300	\$1,800	\$2,400
860.2.2_W (upstream)	4	24	32	\$200	\$4,800	\$6,400
ESC_149 (upstream)	4	24	32	\$200	\$4,800	\$6,400
IWC_E (upstream)	4	24	32	\$200	\$4,800	\$6,400
ESC_134 (outfall)	4	24	32	\$200	\$4,800	\$6,400
ESC_128 (outfall)	4	24	32	\$200	\$4,800	\$6,400
IWC	10	60	80	\$200	\$12,000	\$16,000

Notes: IWC – Indian Wells Channel; RDY – Reidy Creek.

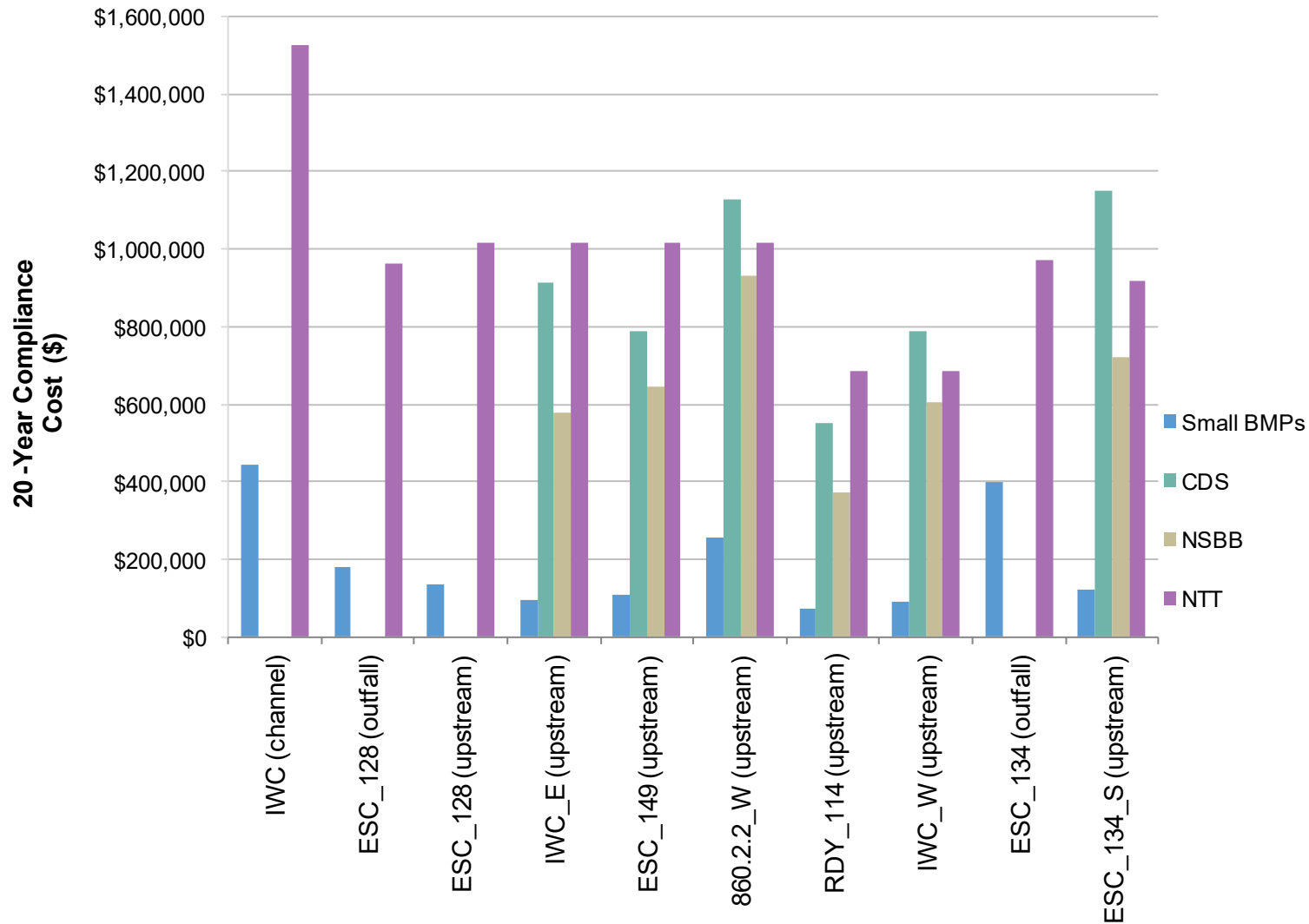


Figure 3. 20-Year Cost for Large BMPs Compared to Small BMPs. Locations IWC, ESC_128, and ESC_134 are located within a channel and may be considered a receiving water, making this location infeasible.

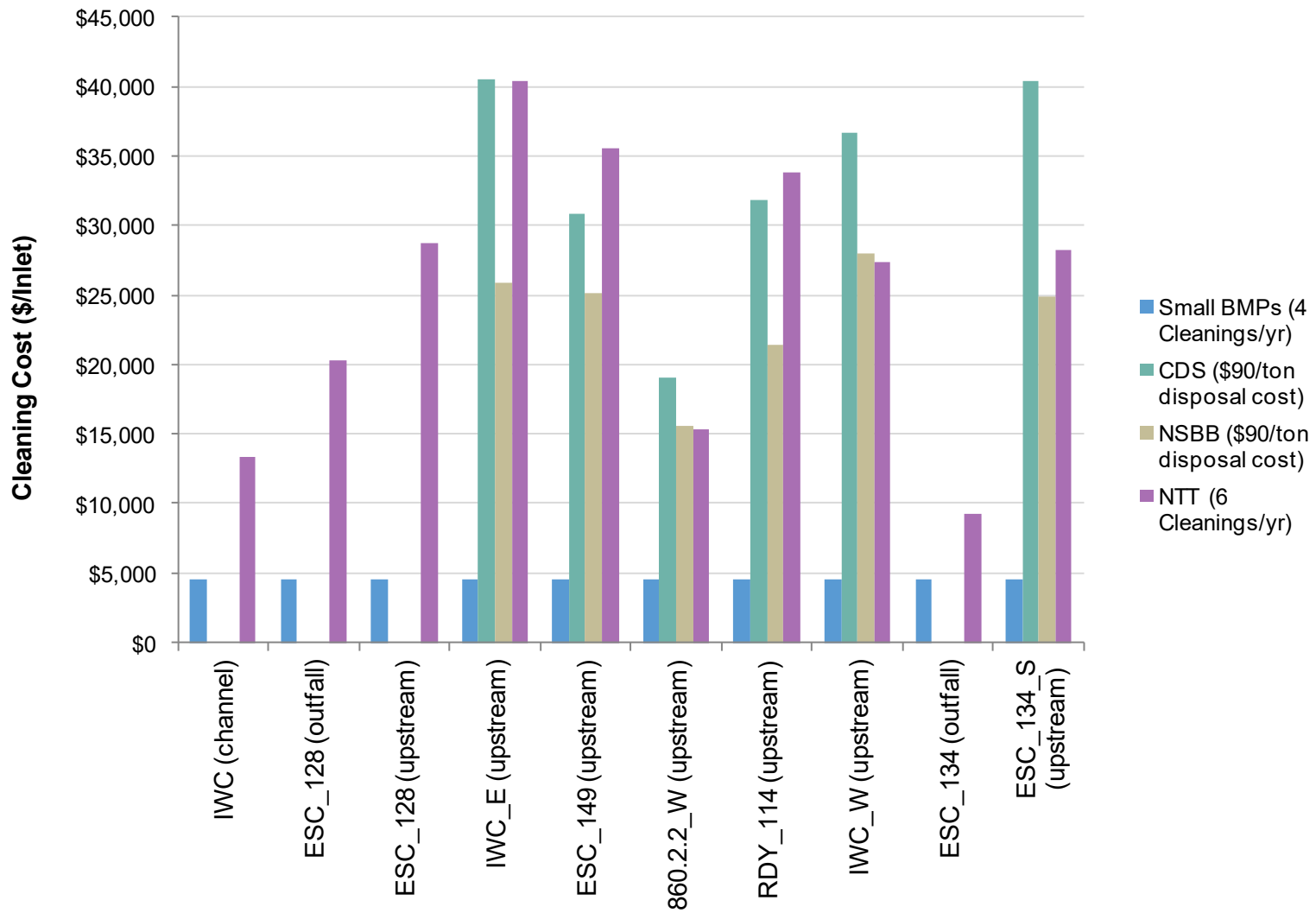


Figure 4. Low Disposal Costs for Large BMPs Compared to High Number of Cleanings for Individual Inlet BMPs. Locations IWC, ESC_128, and ESC_134 are located within a channel and may be considered a receiving water, making this location infeasible.

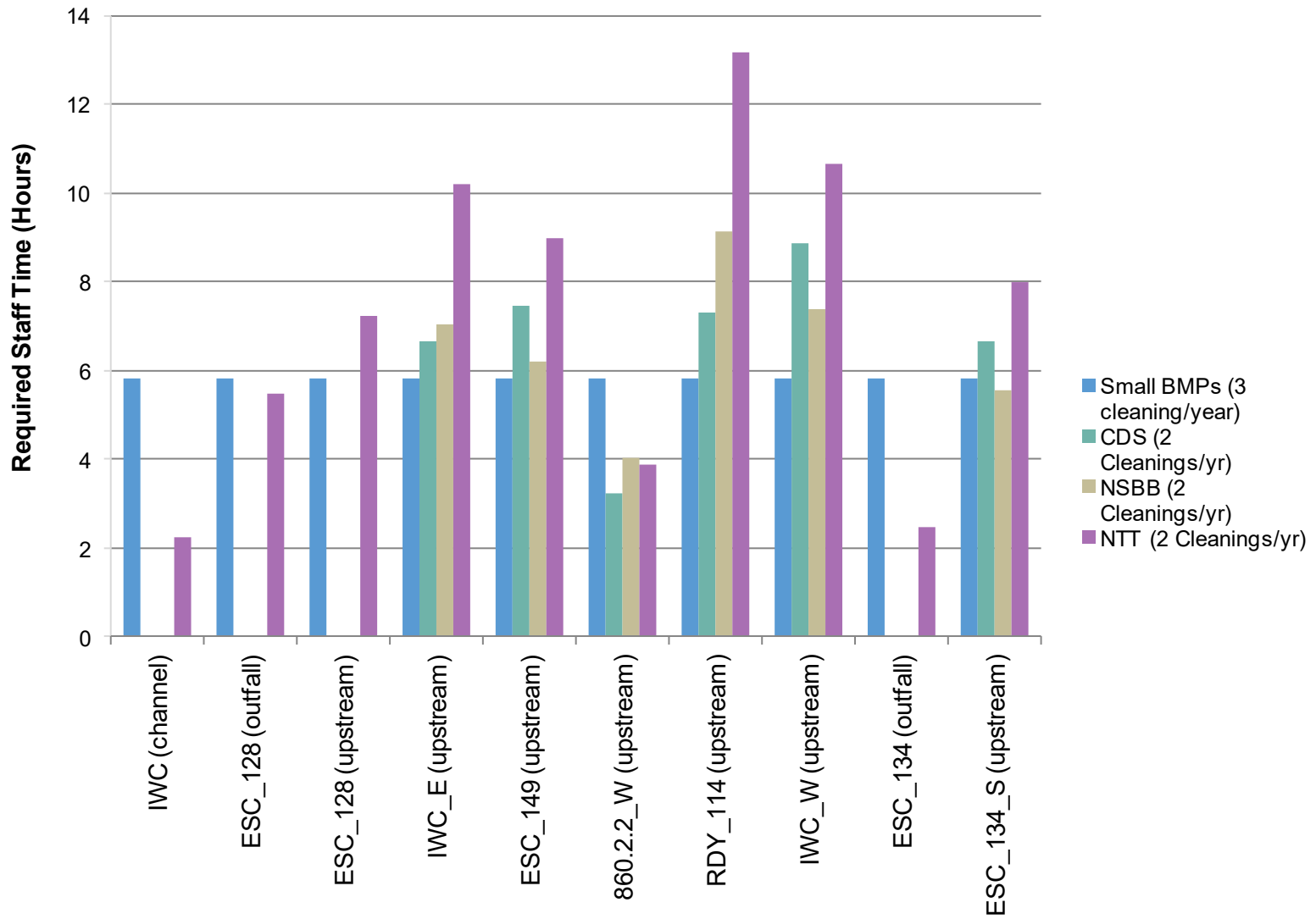


Figure 5. Comparison Large BMP Staff Hours for Large BMPs and Individual Inlet BMPs. Locations IWC, ESC_128, and ESC_134 are located within a channel and may be considered a receiving water, making this location infeasible.

Attachment 1 - Design Flow Rate Calculations

Design Flow Rate Calculations

		<i>Drainage Area: Indian Wells Channel</i>		
Land Use Group	Land Use	Area (acres)	C	A*C
Commercial	Arterial Commercial	1.0441714	0.85	0.887546
	Automobile Dealership	41.308708	0.85	35.1124
	Community Shopping Center	41.864931	0.85	35.58519
	Golf Course	4.3733157	0.85	3.717318
	Government Office/Civic Center	0.9490151	0.85	0.806663
	Hospital - General	0.206409	0.85	0.175448
	Neighborhood Shopping Center	16.017777	0.85	13.61511
	Office (Low-Rise)	0.1994693	0.85	0.169549
	Other Retail Trade and Strip Commercial	4.4597328	0.85	3.790773
	Post Office	4.2426193	0.85	3.606226
	Religious Facility	20.1085	0.85	17.09222
	Service Station	1.1516656	0.85	0.978916
High Density Residential	Mobile Home Park	39.364605	0.65	25.58699
	Multi-Family Residential	73.20549	0.7	51.24384
Industrial	Communications and Utilities	34.748502	0.95	33.01108
	Industrial Park	9.2462878	0.95	8.783973
	Light Industry - General	292.92137	0.95	278.2753
	Other Transportation	4.6586192	0.95	4.425688
	Public Storage	12.950019	0.95	12.30252
	Warehousing	6.1200922	0.95	5.814088
Transit Stations	Rail Station/Transit Center	1.6493175	0.7	1.154522
Other (non-PLU)	Elementary School	14.963135	0.4	5.985254
	Freeway	168.38186	0.9	151.5437
	Lake/Reservoir/Large Pond	1.9731216	0	0
	Landscape Open Space	6.5398696	0.25	1.634967
	Multi-Family Residential Without Units	0.0167121	0.45	0.00752
	Open Space Park or Preserve	11.436826	0.25	2.859207
	Orchard or Vineyard	0.0346289	0.25	0.008657
	Park - Active	4.2005568	0.25	1.050139
	Railroad Right of Way	16.831971	0.3	5.049591
	Residential Recreation	0.8187652	0.25	0.204691
	Road Right of Way	152.17853	0.85	129.3517
	Single Family Detached	170.93215	0.55	94.01268
	Single Family Multiple-Units	14.823269	0.7	10.37629
	Single Family Residential Without Units	0.4367266	0.3	0.131018
	Spaced Rural Residential	92.589739	0.45	41.66538
	Vacant and Undeveloped Land	44.68976	0.45	20.11039
Total		1311.6382		1000.127
$C_{Cumulative} =$	$\frac{\sum(C_{Individual Area})(A_{Individual Area})}{A_{Total}} =$	0.76		
i =		0.449		
Q =	C*i*A =	449.06		

Design Flow Rate Calculations

	Drainage Area: ESC_134_S (upstream)			
Land Use Group	Land Use	Area (acres)	C	A*C
Commercial	Arterial Commercial	21.156843	0.85	17.98332
	Automobile Dealership	1.061297	0.85	0.902102
	Hotel/Motel (Low-Rise)	1.53302	0.85	1.303067
	Neighborhood Shopping Center	7.40571	0.85	6.294854
	Office (Low-Rise)	2.86376	0.85	2.434196
	Other Health Care	0.581366	0.85	0.494161
	Parking Lot - Surface	0.6992107	0.85	0.594329
	Religious Facility	11.175743	0.85	9.499382
	Service Station	0.353707	0.85	0.300651
High Density Residential	Mobile Home Park	14.00853	0.65	9.105545
	Multi-Family Residential	22.455792	0.7	15.71905
	Other Group Quarters Facility	0.707631	0.7	9.805971
Other (non-PLU)	Elementary School	10.8416	0.4	5.603412
	Multi-Family Residential Without Units	0.4085462	0.45	0.183846
	Open Space Park or Preserve	0.806117	0.25	0.201529
	Orchard or Vineyard	2.16676	0.25	0.54169
	Other Public Services	2.329805	0.8	1.863844
	Road Right of Way	125.05366	0.85	106.2956
	Single Family Detached	162.35675	0.55	89.29621
	Single Family Multiple-Units	40.642771	0.7	28.44994
	Single Family Residential Without Units	0.1863403	0.3	0.055902
	Vacant and Undeveloped Land	5.3971611	0.45	2.428722
	Total	434.19212		309.3573
$C_{Cumulative} =$	$\frac{\sum(C_{Individual Area})(A_{Individual Area})}{A_{Total}}$	0.71		
i =		0.449		
Q =	C*i*A =	138.90		

Design Flow Rate Calculations

	<i>Drainage Area:</i>	<i>IWC_W (upstream)</i>		
Land Use Group	Land Use	Area (acres)	C	A*C
Commercial	Hospital - General	0.0326507	0.85	0.027753
	Other Retail Trade and Strip Commercial	1.7384	0.85	1.47764
	Service Station	1.15167	0.85	0.97892
Industrial	Communications and Utilities	1.0209405	0.95	0.969893
	Industrial Park	4.249547	0.95	4.03707
	Light Industry - General	65.44431	0.95	62.17209
	Other Transportation	4.55271	0.95	4.325075
	Public Storage	6.109643	0.95	5.804161
	Warehousing	2.04472	0.95	1.942484
Transit Stations	Rail Station/Transit Center	1.64932	0.7	1.154524
Other (non-PLU)	Freeway	12.269383	0.9	11.04244
	Landscape Open Space	0.0060741	0.25	0.001519
	Railroad Right of Way	7.42867	0.3	2.228601
	Road Right of Way	21.250223	0.85	18.06269
	Single Family Detached	0.5665108	0.55	0.311581
	Vacant and Undeveloped Land	1.62728	0.45	0.732276
	Total	131.14205		115.2687
$C_{Cumulative} =$	$\frac{\sum(C_{Individual Area})(A_{Individual Area})}{A_{Total}}$	0.88		
$i =$		0.449		
$Q =$	$C*i*A =$	51.76		

Design Flow Rate Calculations

		<i>Drainage Area: RDY_114 (upstream)</i>		
Land Use Group	Land Use	Area (acres)	C	A*C
Commercial	Arterial Commercial	10.324758	0.85	8.776044
	Automobile Dealership	2.96732	0.85	2.522222
	Hotel/Motel (Low-Rise)	1.4335462	0.85	1.218514
	Neighborhood Shopping Center	10.835029	0.85	9.209775
	Office (Low-Rise)	9.527926	0.85	8.098737
	Other Health Care	3.33794	0.85	2.837249
	Other Retail Trade and Strip Commercial	3.77289	0.85	3.206957
	Religious Facility	0.372052	0.85	0.316244
	Service Station	0.912662	0.85	0.775763
High Density Residential	Multi Family Residential	0.282118	0.65	0.183377
	Multi-Family Residential	11.91813	0.65	7.746785
Other (non-PLU)	Elementary School	3.6604	0.4	1.46416
	Freeway	12.97699	0.9	11.67929
	Lake/Reservoir/Large Pond	0.0408988	0	0
	Road Right of Way	17.4329	0.85	14.81797
	Single Family Detached	6.76565	0.55	3.721108
	Single Family Multiple-Units	1.732071	0.7	1.21245
	Vacant and Undeveloped Land	0.219937	0.45	0.098972
Total		98.513218		77.88561
$C_{cumulative} =$	$\frac{\sum(C_{Individual Area})(A_{Individual Area})}{A_{Total}} =$	0.79		
i =		0.449		
Q =	C*i*A =	34.97		

Design Flow Rate Calculations

	Drainage Area: 860.2.2_W (upstream)			
Land Use Group	Land Use	Area (acres)	C	A*C
Commercial	Arterial Commercial	16.272266	0.85	13.83143
	Automobile Dealership	0.3444196	0.85	0.292757
	Neighborhood Shopping Center	24.690421	0.85	20.98686
	Office (Low-Rise)	6.206808	0.85	5.275787
	Other Retail Trade and Strip Commercial	4.257288	0.85	3.618695
	Parking Lot - Surface	0.2622713	0.85	0.222931
	Religious Facility	12.525051	0.85	10.64629
	Service Station	1.1335951	0.85	0.963556
High Density Residential	Multi-Family Residential	58.205478	0.95	55.2952
	Other Group Quarters Facility	0.6834628	0.7	0.478424
Other (non-PLU)	Elementary School	14.459046	0.4	5.783618
	Landscape Open Space	0.0055425	0.25	0.001386
	Multi-Family Residential Without Units	1.1472478	0.45	0.516262
	Road Right of Way	97.238005	0.85	82.6523
	Single Family Detached	171.60537	0.55	94.38295
	Single Family Multiple-Units	68.448549	0.7	47.91398
	Single Family Residential Without Units	1.5662222	0.3	0.469867
	Spaced Rural Residential	32.174922	0.45	14.47871
	Vacant and Undeveloped Land	16.144304	0.45	7.264937
	Total	527.37027		365.076
$C_{Cumulative} =$	$\frac{\sum(C_{Individual Area})(A_{Individual Area})}{A_{Total}} =$	0.69		
i =		0.449		
Q =	C*i*A =	163.92		

Design Flow Rate Calculations

		<i>Drainage Area: ESC_149</i>		
Land Use Group	Land Use	Area (acres)	C	A*C
Commercial	Automobile Dealership	2.23779	0.85	1.902122
High Density Residential	Mobile Home Park	13.11877	0.65	8.5272
	Multi-Family Residential	4.1224	0.7	2.88568
Industrial	Communications and Utilities	19.952797	0.95	18.95516
	Industrial Park	77.85423	0.95	73.96152
	Light Industry - General	15.046146	0.95	14.29384
Other (non-PLU)	Industrial Under Construction	4.63177	0.5	2.315885
	Lake/Reservoir/Large Pond	0.0034382	0	0
	Road Right of Way	18.039394	0.85	15.33348
	Single Family Detached	8.8622102	0.55	4.874216
	Single Family Multiple-Units	0.0705915	0.7	0.049414
	Spaced Rural Residential	3.2086	0.45	1.44387
	Vacant and Undeveloped Land	21.953544	0.45	9.879095
Total		189.10168		154.4215
$C_{\text{Cumulative}} =$	$\frac{\sum(C_{\text{Individual Area}})(A_{\text{Individual Area}})}{A_{\text{Total}}}$	0.82		
i =		0.449		
Q =	C*i*A =	69.34		

Design Flow Rate Calculations

	<i>Drainage Area:</i>	<i>IWC_E (upstream)</i>		
Land Use Group	Land Use	Area (acres)	C	A*C
Commercial	Religious Facility	20.1085	0.85	17.09223
High Density Residential	Mobile Home Park	35.6107	0.65	23.14696
	Multi-Family Residential	26.703572	0.7	18.6925
Other (non-PLU)	Elementary School	11.7731	0.4	4.70924
	Freeway	35.81839	0.9	32.23655
	Landscape Open Space	2.300274	0.25	0.575069
	Multi-Family Residential Without Units	0.0167121	0.45	0.00752
	Open Space Park or Preserve	0.0540037	0.25	0.013501
	Road Right of Way	32.836936	0.85	27.9114
	Single Family Detached	75.23597	0.55	41.37978
	Single Family Multiple-Units	9.309782	0.7	6.516847
	Spaced Rural Residential	17.64121	0.45	7.938545
	Vacant and Undeveloped Land	22.864622	0.45	10.28908
	Total	290.27377		190.5092
$C_{\text{cumulative}} =$	$\frac{\sum(C_{\text{Individual Area}})(A_{\text{Individual Area}})}{A_{\text{Total}}}$	0.66		
i =		0.449		
Q =	C*i*A =	85.54		

Design Flow Rate Calculations

	<i>Drainage Area:</i> ESC_128 Upstream			
Land Use Group	Land Use	Area (acres)	C	A*C
Commercial	Arterial Commercial	4.63743	0.85	3.941816
	Automobile Dealership	11.85066	0.85	10.07306
	Other Health Care	0.308634	0.85	0.262339
	Other Recreation - High	6.19467	0.85	5.26547
	Other Retail Trade and Strip Commercial	0.238279	0.85	0.202537
	Religious Facility	3.989951	0.85	3.391458
High Density Residential	High Density Residential	73.974653	0.7	51.78226
Industrial	Communications and Utilities	0.997652	0.95	0.947769
Other (non-PLU)	Elementary School	21.03056	0.4	8.412224
	Freeway	1.1724	0.9	1.05516
	Landscape Open Space	14.026572	0.25	3.506643
	Orchard or Vineyard	23.84586	0.25	5.961465
	Other Public Services	4.956874	0.8	3.965499
	Other School	0.417654	0.4	0.167062
	Park - Active	2.63653	0.25	0.659133
	Residential Under Construction	0.998437	0.45	0.449297
	Road Right of Way	104.70512	0.85	88.99935
	Single Family Detached	251.89399	0.55	138.5417
	Single Family Multiple-Units	18.445777	0.7	12.91204
	Single Family Residential Without Units	0.7546549	0.3	0.226396
	Spaced Rural Residential	23.26292	0.45	10.46831
	Vacant and Undeveloped Land	13.389107	0.45	6.025098
	Total	583.72838		357.2161
$C_{Cumulative} =$	$\frac{\sum(C_{Individual Area})(A_{Individual Area})}{A_{Total}}$	0.61		
i =		0.449		
Q =	C*i*A =	160.39		

Attachment 2 – Large BMP Maps

Attachment 2a - ESC Large BMP Map RDY_114 and ESC_128_S



Base Data Sources: ESRI, SanGIS, and City of Escondido. See note in bottom right corner of map for additional information.

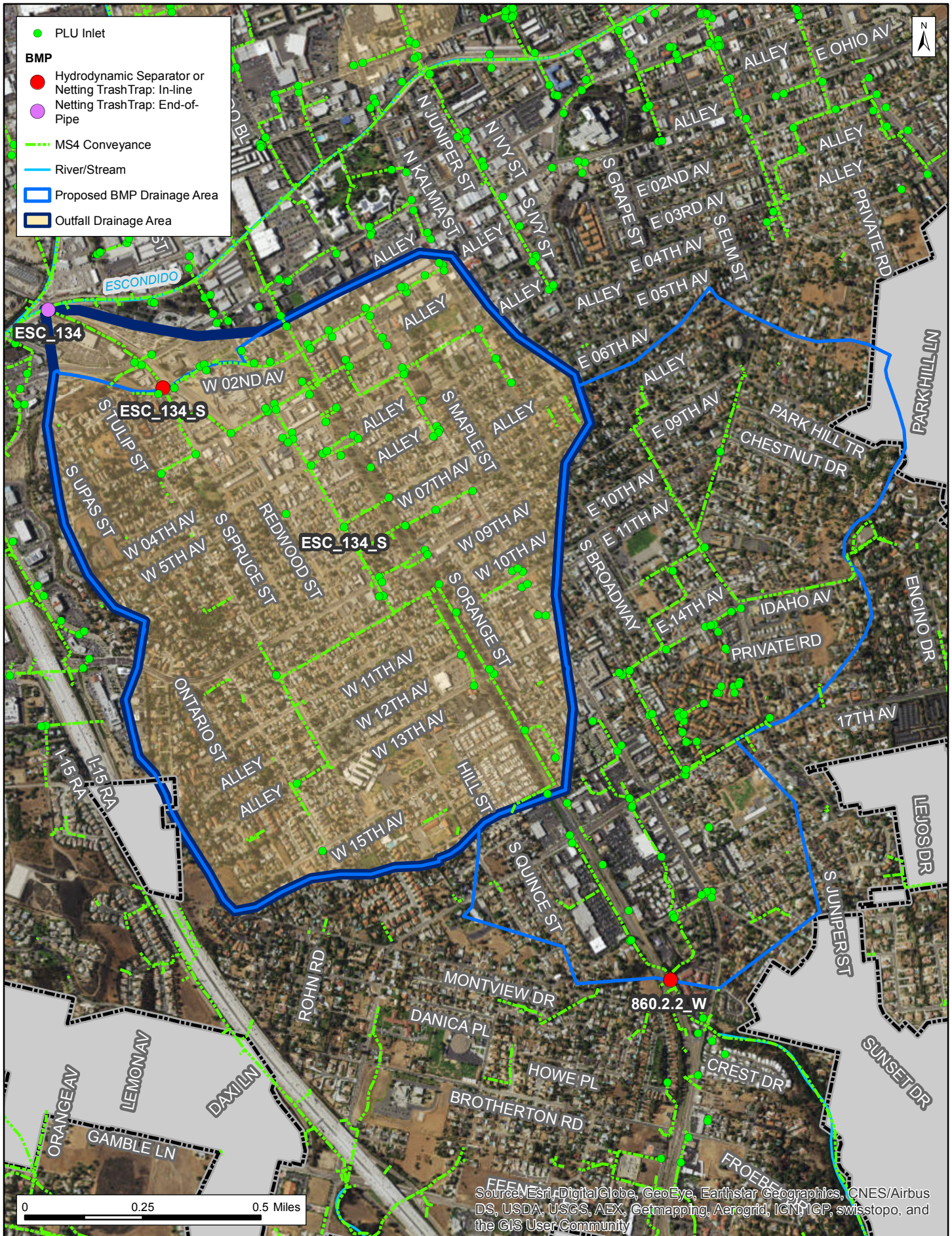
Attachment 2b - ESC Large BMP Map IWC and ESC_149

Attachment 2c - ESC Large BMP Map 860.2.2_W



Base Data Sources: ESRI, SanGIS, and City of Escondido. See note in bottom right corner of map for additional information.

Attachment 2d - ESC Large BMP Map ESC_134



Base Data Sources: ESRI, SanGIS, and City of Escondido. See note in bottom right corner of map for additional information.

Attachment 1 – GIS Files of Priority Land Uses and Affected Inlets (submitted electronically)

Attachment 2 – Cost Estimate and Assumptions Spreadsheet (submitted electronically)

RESOLUTION NO. 2017-98

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ESCONDIDO, CALIFORNIA, AUTHORIZING THE DIRECTOR OF UTILITIES OR HIS DESIGNEE TO NOTIFY THE REGIONAL WATER QUALITY CONTROL BOARD OF THE TRACK SELECTED TO COMPLY WITH R9-2017-0077

WHEREAS, the City of Escondido (“City”) owns and operates a storm drain system, or Municipal Separate Storm Sewer System (“MS4”); and

WHEREAS, the California Regional Water Quality Control Board, San Diego Region (“RWQCB”) regulates discharges of pollutants, including trash, from MS4s to surface waters; and

WHEREAS, on June 6, 2017, the RWQCB issued Trash Order No. R9-2017-0077 directing the City to submit reports pertaining to the control of trash, including implementation planning for one of two compliance tracks (Track 1 or Track 2); and

WHEREAS, the City must notify the RWQCB of the preferred compliance track by September 5, 2017; and

WHEREAS, a preliminary evaluation has been made to assess the costs for compliance using each Track; and

WHEREAS, available information leads City staff to conclude that Track 1 will be the most efficient, cost-effective and predictable option to achieve compliance.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Escondido, California:

1. That the above recitations are true.

2. That the City Council authorizes staff to notify the Regional Water Quality Control Board by September 5, 2017, that Track 1 is the preferred compliance track to comply with Trash Order No. R9-2017-0077.



CITY COUNCIL STAFF REPORT

Current Business Item No. 12

August 16, 2017

File No. 0600-10, A-3229

SUBJECT: Professional Services Agreement with Invoice Cloud, Inc. to Provide Electronic Payment and Billing Services for Utility Billing Accounts

DEPARTMENT: Finance Department

RECOMMENDATION:

It is requested that the City Council adopt Resolution No. 2017-116 authorizing the Mayor and City Clerk to execute a three (3) year Public Service Agreement with Invoice Cloud, Inc. effective September 1, 2017 through August 31, 2020, with three (3) additional one-year renewal options.

FISCAL ANALYSIS:

Bank of America is the current merchant services and payment gateway provider for utility billing online payments. The annual cost for these services is approximately \$205,000 to the Water and Wastewater Funds. This amount is based on the City's credit card sales volume and number of credit card transactions processed each year.

The fees for Invoice Cloud, Inc. are included in Attachment A to Resolution Exhibit A, and are similar to the current fee schedule with Bank of America. Invoice Cloud, Inc. will assess a \$.70 per credit card transaction and \$.50 per Auto Clearing House (ACH) transaction plus all interchange fees. Interchange fees are transaction fees that the merchant's bank account must pay whenever a customer uses a credit or debit card. The fees are paid to the card-issuing bank to cover handling costs, fraud and bad debt costs and the risk involved in approving the payment.

Once the new online payment website is live, the expectation is that the number of customers that pay online will increase. This will also increase the fees incurred by the City for online payment services. However, part of the project plan with Invoice Cloud, Inc. is to implement e-billing and electronic notifications to customers. This will decrease the costs for printing, mailing, and processing paper bills and payments.

CORRELATION TO THE CITY COUNCIL ACTION PLAN:

This item relates to the City Council's Action Plan regarding Fiscal Management by providing a streamlined method for online payment and e-billing services in order to create efficiencies in billing and collecting.

BACKGROUND:

For several years the City managed its own online payment system for Utility Billing customers to login to pay their Utility Bill. In 2015 a set of standards called the Payment Card Industry Data Security Standard (PCI) became mandatory for all businesses that accept credit card payments.

PCI security standards are technical and operational requirements set by the PCI Security Standards Council (PCI SSC) to protect cardholder data. The Council is responsible for managing the security standards, while compliance with the PCI set of standards is enforced by the founding members of the Council, American Express, Discover Financial Services, JCB International, MasterCard Worldwide and Visa Inc. PCI compliance standards are split into 12 basic requirements grouped into 6 categories to help businesses and payment processors create and maintain a reliable, secure processing system.

After reviewing the rules and regulations for the PCI compliance standards, City staff determined that the resources and infrastructure were not available to adequately ensure the compliance standards were met and that it would be best to outsource the online payment function. At around that same time, City staff were beginning a major Utility Billing software upgrade. In order to ensure both projects were completed successfully and timely, in the summer of 2015 the City utilized their current contract with Bank of America for banking services and added on the Velocity payment website for Utility Billing customers to pay their utility bill online.

Since the Velocity payment website has been live, many complaints from customers have been received. The website is difficult to use, payments are difficult to setup, passwords are cumbersome and have to be changed too often. This has resulted in frustrated customers and an increase in the volume of phone calls and City staff time devoted to assisting customers with using the website.

In order to provide a better online payment service for the City's Utility Billing customers, City staff released a Request for Proposals on March 29, 2017. The RFP closed on April 28, 2017, and seven (7) companies responded.

The proposals were first evaluated by a committee of City staff from Finance, Information Systems, and Utility Billing. Each proposal was rated based on detailed criteria.

The evaluation committee selected the two companies with the highest scores to perform a live demonstration of the product. In addition, each company was required to meet with an oral board consisting of City Management, as well as a community member.

After the product demonstrations, the total points were tabulated with Invoice Cloud, Inc. receiving the overall highest score. Invoice Cloud, Inc. provides enhanced pay online services to Utilities and Local Governments. They are a high growth company with over 2700 clients in 41 states in the USA. The services that they will provide to the City include: Electronic Bill Presentment, which helps clients save money through paper suppression; Online Payment, which reduces labor and other costs,

increases convenience to Customers and improves collections; the Customer Communications engine, which provides more opportunities for communicating with customers electronically; and Client Reconciliation & Reporting. Their mission is to improve Customer and Client experiences through industry focused innovation in software, billing, collections and integrated e-payments.

Invoice Cloud, Inc. offers extensive Web and Mobile payment options including: the ability to pay online without registering, auto pay, a mobile responsive site design, and the ability to pay by text and receive text reminders.

All of the concerns of the City's current customers and staff were addressed by Invoice Cloud, Inc. in the proposal and demonstration. The web interface customers will use to make online payments is a customer-friendly and intuitive experience, the online registration is simple but not required, and passwords are only required to be setup once.

Considering the trend towards increased online usage, service reliability, experience, and enhanced features were determined to be important factors in evaluating a firm. Based on the proposal evaluation criteria and product demonstration, the City Staff recommends entering into the Agreement with Invoice Cloud, Inc.

If approved by City Council, the installation and testing of the system is expected to begin in September. The standard timeline for implementation of the online payment system is typically ninety (90) to one-hundred and twenty (120) days.

APPROVED AND ACKNOWLEDGED ELECTRONICALLY BY:

Sheryl Bennett, Director of Administrative Services
8/9/2017 11:37 a.m.

Christina Holmes, Revenue Manager
8/9/2017 10:51 a.m.

ATTACHMENTS:

1. Resolution No. 2017-116
2. Resolution No. 2017-116 – Exhibit A: Public Services Agreement with Invoice Cloud, Inc.

RESOLUTION NO. 2017-116

A RESOLUTION OF THE CITY COUNCIL OF
THE CITY OF ESCONDIDO, CALIFORNIA,
AUTHORIZING THE MAYOR AND CITY
CLERK, TO EXECUTE, ON BEHALF OF THE
CITY, A PUBLIC SERVICES AGREEMENT
WITH INVOICE CLOUD, INC. FOR
ELECTRONIC PAYMENT AND BILLING
SERVICES

WHEREAS, on March 29, 2017, the City issued a Request for Proposal (“RFP”) for electronic payment and billing services for Utility Billing; and

WHEREAS, seven (7) proposals were timely received and evaluated by a committee of City staff and an oral board consisting of City Management, as well as a community member; and

WHEREAS, demonstrations were performed by two (2) proposers and Invoice Cloud, Inc., was the highest ranked proposer and its proposal is the most advantageous to the City; and

WHEREAS, City staff recommends the City Council approve the Public Services Agreement between the City of Escondido and Invoice Cloud Inc. for the period from September 1, 2017 through August 31, 2020, with three additional one-year renewal options.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Escondido, California, as follows:

1. That the above recitations are true.

2. That the Mayor and City Clerk, are authorized on behalf of the City, to execute the Public Services Agreement (“Agreement”) between the City of Escondido and Invoice Cloud Inc. for the period from September 1, 2017 through August 31, 2020, with three additional one-year renewal options. A copy of the Agreement is attached as Exhibit “A” and is incorporated by this reference.



CITY OF ESCONDIDO
PUBLIC SERVICES AGREEMENT

This Agreement is made this 16th day of August, 2017.

Between: CITY OF ESCONDIDO
a Municipal Corporation
201 N. Broadway
Escondido, California 92025
Attn: Sheryl Bennett, Director of Administrative Services
760-839-4586
("CITY")

And: INVOICE CLOUD, INC.
30 Braintree Hill Office Park, Suite 303
Braintree, MA 02184
Attn: Robert Lapidis
781-848-3733
("CONTRACTOR")

WHEREAS, the CITY and CONTRACTOR desire to enter into this Agreement for the performance of services;

NOW, THEREFORE, it is mutually agreed as follows:

1. Description of Services. CONTRACTOR will furnish all of the services described in "Attachment A," which is attached and incorporated by this reference. CONTRACTOR agrees to diligently perform such services to their completion, with professional quality and technical accuracy.
2. Compensation. The CONTRACTOR'S compensation for all work performed in accordance with this five-year Agreement is estimated based on customer activity. The CITY will not be charged any fees that have not been disclosed in the Pricing Schedule outlined in "Attachment A". Any breach of this Agreement will relieve CITY from the obligation to pay CONTRACTOR, if CONTRACTOR has not corrected the breach after CITY provides notice and a reasonable time to correct it. If this Agreement is amended at any time, additional compensation of CONTRACTOR contained in subsequent amendment(s) shall not exceed a cumulative total of ten percent (10%) of the maximum payment provided for in this Section 2.
3. Term and Time of Performance. The term of this Agreement will be effective for a period of three (3) years with the CONTRACTOR starting work on September 1, 2017. The City may amend the Agreement to extend it for three (3) additional one (1) year periods or parts thereof. Extension of terms or time of performance may be made only upon the City's written consent.

4. Scope of Compensation. CONTRACTOR will be responsible for performance of the tasks specified in the Description of Services in "Attachment A." No compensation will be provided for any other tasks without specific prior written consent from the CITY.
5. Performance. CONTRACTOR must faithfully perform in a proficient manner, to the satisfaction of the CITY, all the work or services described in the Description of Services, above.
6. City Property. All original documents, drawings, electronic media, and other material initially prepared by CONTRACTOR pursuant to the requirements of this Agreement, which are not derivative works or modifications of such items that are previously developed, authored, created, prepared, invented or discovered by Contractor or part of its proprietary technology and software platform, immediately becomes the exclusive property of the CITY, and may not be used by CONTRACTOR for any other purpose without prior written consent of the CITY.
7. Insurance Requirements.
 - a. The CONTRACTOR shall secure and maintain at its own cost, for all operations, the following insurance coverage, unless reduced by the City Attorney:
 - (1) General liability insurance. Occurrence basis with minimum limits of \$1,000,000 each occurrence, \$2,000,000 General Aggregate, and \$1,000,000 Products/Completed Operations Aggregate; and
 - (2) Automobile liability insurance of \$1,000,000 combined single-limit per accident for bodily injury and property damage, unless waived as provided in 7(b) below; and
 - (3) Workers' compensation and employer's liability insurance as required by the California Labor Code, as amended, or certificate of sole proprietorship; and
 - b. It is the parties' understanding that the use of a motor vehicle is not a primary subject of this Agreement. CONTRACTOR acknowledges that operating a motor vehicle is outside the scope of this Agreement and occurs only at the convenience of CONTRACTOR. A waiver of automobile liability insurance is only effective if both sets of initials appear below, otherwise such insurance is required.

Acknowledged by CONTRACTOR _____

Waiver appropriate by CITY _____

- c. Each insurance policy required above must be acceptable to the City Attorney.
 - (1) Each policy must provide for written notice within no more than thirty (30) days if cancellation or termination of the policy occurs. Insurance coverage must be provided by an A.M. Best's A- rated, class V carrier or better, admitted in California, or if non-admitted, a company that is not on the Department of Insurance list of unacceptable carriers.
 - (2) All non-admitted carriers will be required to provide a service of suit endorsement in addition to the additional insured endorsement.
 - (3) Both the General Liability and the Automobile Liability policies must name the CITY specifically as an additional insured under the policy on a separate endorsement page. The endorsement must be ISO Form CG2010 11/85 edition or its equivalent for General Liability endorsements and CA 20-01 for Automobile Liability endorsements.

- (4) The General Liability policy must include coverage for bodily injury and property damage arising from CONTRACTOR's work, including its on-going operations and products-completed operations hazard.
 - (5) The General Liability policy must be primary and noncontributory and any insurance maintained by CITY is excess.
- d. In executing this Agreement, CONTRACTOR agrees to have completed insurance documents on file with the CITY within fourteen (14) days after the date of execution. Failure to comply with insurance requirements under this Agreement will be a material breach of this Agreement, resulting in immediate termination at CITY's option.
8. Indemnification. CONTRACTOR (which in this paragraph 8 includes its agents, employees and subcontractors, if any) agrees to indemnify, defend, and hold harmless the CITY from all claims, lawsuits, damages, judgments, loss, liability, or expenses, including attorneys' fees, for any of the following:
- a. Any third party claim of liability arising out of the negligence or any acts or omissions of CONTRACTOR in the violation of this Agreement;
 - b. Any personal injuries, property damage or death that CONTRACTOR may sustain while using CITY-controlled property or equipment, while participating in any activity sponsored by the CITY, or from any dangerous condition of property; or
 - c. Any injury or death which results or increases by any action taken to medically treat CONTRACTOR.

Stormwater Indemnification. CONTRACTOR shall further indemnify, defend, and hold harmless CITY and its officers, employees, and agents from and against any and all liabilities, claims, actions, causes of action, proceedings, suits, administrative proceeds, damages, fines, penalties, judgments, orders, liens, levies, costs and expenses of whatever nature, including reasonable attorney's fees and disbursements, arising out of any violation, or claim of violation of the San Diego Municipal Storm Water Permit (Order No. R9-2013-0001), as amended or renewed, of the California Regional Water Quality Control Board Region 9, San Diego, which CITY might suffer, incur, or become subject by reason of or occurring as a result of or allegedly caused by the construction of the Project or the Improvements.

9. Anti-Assignment Clause. Since the CITY has relied on the particular skills of CONTRACTOR in entering this Agreement, CONTRACTOR may not assign, delegate, or sublet any duty or right under this Agreement, or any portion of the Description of Services except in the ordinary course of payment processing operations. Any such purported assignment, delegation, or subletting will void this entire Agreement, unless the CITY has previously approved such action in writing. Unless CONTRACTOR assigns this entire Agreement, including all rights and duties herein, to a third party with the CITY'S written consent, CONTRACTOR shall be the sole payee under this Agreement. Any and all payments made pursuant to the terms of this Agreement are otherwise not assignable.
10. Costs and Attorney's Fees. In the event that legal action is required to enforce the terms and conditions of this Agreement, the prevailing party will be entitled to reasonable attorneys' fees and costs.
11. Independent Contractor. CONTRACTOR is an independent contractor and no agency or employment relationship is created by the execution of this Agreement.
12. Merger Clause. This Agreement and its Attachments, if any, are the entire understanding of the parties, and there are no other terms or conditions, written or oral, controlling this matter. In the

event of any conflict between the provisions of this Agreement and any of its Attachments, the provisions of this Agreement must prevail.

13. Anti-Waiver Clause. None of the provisions in this Agreement will be waived by CITY because of previous failure to insist upon strict performance, nor will any provision be waived because any other provision has been waived by CITY, in whole or in part.
14. Severability. The invalidity in whole or in part of any provision of this Agreement will not void or affect the validity of any other provisions of this Agreement.
15. Choice of Law. This Agreement is governed by the laws of the State of California. Venue for all actions arising from this Agreement must be exclusively in the state or federal courts located in San Diego County, California.
16. Multiple Copies of Agreement/Counterparts. Multiple copies and/or counterparts of this Agreement may be executed, including duplication by photocopy or by computerized scanning device. Each duplicate will be deemed an original with the same effect as if all the signatures were on the same instrument. However, the parties agree that the Agreement on file in the office of the Escondido City Clerk is the copy of the Agreement that shall take precedence should any differences exist among copies or counterparts of the document.
17. Provisions Cumulative. The foregoing provisions are cumulative and in addition to and not in limitation of any other rights or remedies available to the CITY.
18. Notices to Parties. Any statements, communications or notices to be provided pursuant to this Agreement must be sent to the attention of the persons indicated below. Each party agrees to promptly send notice of any changes of this information to the other party.
19. Business License. The CONTRACTOR is required to obtain a City of Escondido Business License prior to execution of this Agreement.
20. Compliance with Applicable Laws, Permits and Licenses. CONTRACTOR shall keep itself informed of and comply with all applicable federal, state, and local laws, statutes, codes, ordinances, regulations, and rules in effect during the term of this Agreement. This shall include, but not limited to, all California Labor Code laws regarding payment of prevailing wages and all OSHA regulations. CONTRACTOR shall obtain any and all licenses, permits, and authorizations necessary to perform the services set forth in this Agreement. Neither CITY, nor any elected nor appointed boards, officers, officials, employees, or agents of CITY, shall be liable, at law or in equity, as a result of any failure of CONTRACTOR to comply with this section.
21. Prevailing Wages. If applicable, pursuant to Section 1770 et seq. of the Labor Code, CONTRACTOR agrees that a prevailing rate and scale of wages, in accordance with applicable State and Federal Law, will be paid in the carrying out of this Agreement. CONTRACTOR shall keep itself informed of and comply with all applicable federal, state, and local laws, statutes, codes, ordinances, regulations, and rules pertaining to the payment of prevailing wages. The prevailing rate and scale to be paid shall be the same as the 'General Prevailing Wage Rates' approved by the Department of Industrial Relations as of the date of the execution of this Agreement. Said rates and scales are herein referred to and adopted in this Agreement as though fully and completely set forth herein, and said scale as adopted by the Department is made a part of this Agreement by reference. Copies of the prevailing rate of per diem wages are available on the Intranet at (<http://www.dir.ca.gov/DLSR>). Neither CITY, nor any elected nor appointed boards, officers, officials, employees, or agents of CITY, shall be liable, at law or in equity, as a result of any failure of CONTRACTOR to comply with this section.

22. Immigration Reform and Control Act of 1986. CONTRACTOR shall keep itself informed of and comply with the Immigration Reform and Control Act of 1986. CONTRACTOR affirms that as a licensed Contractor and employer in the State of California, all new employees must produce proof of eligibility to work in the United States within the first three days of employment and that only employees legally eligible to work in the United States will be employed on this public project. CONTRACTOR agrees to comply with such provisions before commencing and continuously throughout the performance of this Agreement.

23. Non-Appropriation. City's funding of this Agreement shall be on a fiscal year basis and is subject to annual appropriations. Contractor acknowledges that City is a municipal corporation, is precluded by the State Constitution and other laws from entering into obligations that financially bind future governing bodies, and that, therefore, nothing in this Agreement shall constitute an obligation of future legislative bodies of the City or State to appropriate funds for purposes of this Agreement. Accordingly, the parties agree that the terms within this Agreement are contingent upon appropriation of funds.

IN WITNESS WHEREOF, the parties below are authorized to act on behalf of their organizations, and have executed this Agreement as of the date set forth below.

CITY OF ESCONDIDO

DATE: _____

Sam Abed
Mayor

Diane Halverson
City Clerk

Robert Lapidés

DATE: _____

Contractor Signature

President, Government, Utilities
and Business Services Division

APPROVED AS TO FORM:

OFFICE OF THE CITY ATTORNEY
MICHAEL R. MCGUINNESS, City Attorney

BY: _____

ATTACHMENT A

**Invoice Cloud
Statement of Work
*City of Escondido***

Overview

The Invoice Cloud (IC) suite of services (The Service) will give the **City of Escondido** (Biller) and its customers the ability to accept online payments for invoiced and non-invoiced items. The Service will allow the **City of Escondido** to offer online payment processing in a securely hosted real-time environment. Customers will be able to locate, view and print bills or invoices and payment records online and pay using credit cards, debit cards, and electronic checks.

Definitions:

1. Biller – Merchant / **City of Escondido**
2. Payer – Client customer, resident, person paying a bill or invoice
3. EBPP – Electronic Bill Presentment & Payment
4. Bill – Bill and Invoice are used synonymously throughout this document
5. RTDR - Real-Time Data Refresh – collects and aggregates the data as soon as a user accesses a specific function
6. NTDR – Near-Time Data Refresh – integration that happens periodically; the data is collected immediately but it is not aggregated until later – data can be processed every day, every hour or even every few minutes

1. Security and Industry Compliance

Invoice Cloud maintains full compliance with current Payment Card Industry (PCI) standards, Cardholder Information Security Program (CISP) regulations and National Automated Clearinghouse Association (NACHA) rules and guidelines. Invoice Cloud will be responsible for the security of all cardholder data that Invoice Cloud possesses.

- a. **PCI** - Invoice Cloud will provide secure, private and PCI compliant storage of Biller's customer payment information that is certified by Visa/Mastercard. Data is secure during collection and transmission via SSL with our patent pending encryption technology. All confidential information will be treated in accordance with the PCI standards.
- b. **Software as a Service (SaaS) Architecture** – All Biller customer financial and payment information and the invoice presentment and payment processing application is housed offsite from Biller.
- c. **Browser Compatibility** - Invoice Cloud supports the most current version of the industry's most common browsers.

2. Data Integration

Invoice Cloud maintains an integration with **Blue Heron/Oracle CC&B**. The integration for the **Blue Heron/Oracle CC&B** will include the functionality found in Appendix B.

3. Payer Portal

The Payer Portal is an electronic bill presentment and online payment portal where a Biller's customer (Payer) can view a bill and then proceed, within the same user interface, to make an online payment.

- a. Invoice Cloud will present bills electronically through a payer portal that is branded for Biller or via an email notification, if the Payer provides an email address.
- b. The electronic invoice presentment will simulate the paper invoice Biller uses and will be available in PDF and/or html format.

- d. The Service may provide the Payer the option of making a payment via credit card (Visa, MasterCard, American Express and Discover) or electronic check (also referred to as ACH, e-check, EFT).
- e. The Service provides the Payer a one-time online payment option without registration, and the capability to register to access Payer's account history, schedule a payment, or set up AutoPay payments.
- f. A Payer will have the ability to choose their payment date (also known as scheduled payments).
- g. The system will accept partial, full, or overpayments as defined by the Biller.
- h. The Payer will register with the Service using the authentication method designated by Biller.
- i. Linking Accounts - After registering with the Service, the Payer will be able to login into their account(s). If the Payer has multiple accounts and uses the same authentication information for all accounts, the Payer will be able to link their account and view from a single registration. The Payer will then have the option to choose which account they would like to pay or view in further detail.
- j. The Payer will receive an email confirmation of payment at the conclusion of any payment process.
- k. The Payer will have the ability to search and access historical bills once they register with the Service. The Service will store twenty-four (24) months of rolling history from the point of Biller's first invoice file upload to the Service. This includes invoice history and account history.
- l. Biller has the option of allowing The Payer to pay via different payment methods which include online, IVR, IC Biller Portal, Pay by Text, CloudCSRConnect and CloudPOSConnect.
- m. Payers who have scheduled a payment or registered for AutoPay will receive email notification from the Service of pending payments.
- n. The Service includes shopping cart functionality.
- o. The Service will allow the Payer the option to elect paperless billing.
- p. A Payer registered for paperless billing will be automatically placed back on paper billing if their email address is undeliverable; notification of the Payer's undeliverable email address will be sent to Biller via email.
- q. The Service complies with Federal E-Signature Act for paperless billing and AutoPay by providing a system in which a Payer must confirm enrollment in paperless billing and/or AutoPay by responding to an email sent after the Payer registers for paperless billing and/or AutoPay through online self-service.

4. **Biller Portal**

The Biller Portal is an administrative portal where Biller staff will have secure access to reporting, search customers, search invoices, search payments, initiate payments or credits, login as a Payer, modify email templates, etc.

- a. Biller can log in as the Payer on either the Biller or Payer Portal and make a payment on behalf of the Payer. There is an audit trail for who made the payment, and the source of every payment (CSR, Pay by Text, AutoPay, Web, IVR, etc.).
- b. Biller will have the capability of blocking future payments by specific Payer and payment method type (i.e. Credit Card or E-Check (ACH)).
- c. **Permissions** – The Biller Portal includes a table of role based permissions, determined by the Biller's System Administrator. Each permission is applied to a user ID on an individual basis to maximize flexibility. The system administrator can allow or disallow access to functions such as viewing data, creating reports, resending email notices, processing payments, credits or refunds, editing email

- templates and more. Since it is controlled by Biller administrator, changes can be made quickly on an as needed basis.
- d. **Administrative Email Notifications** - Biller may set up the system to send several administrative notifications and request system notifications be sent to multiple staff members. This allows different departments to get the information they need in a timely manner. The notifications include:
- ACH Reject Notifications
 - Batch Close Notifications
 - Daily Management Report
 - File Processing Notifications
 - Month End Billing Invoice
 - Paperless Customer Email Bounce Daily Report
 - Request System Notifications (this is the ticketing system available in the Invoice Cloud payer portal).
 - Status Notifications (notifications of planned outages, new features, etc.)
- e. **Biller Controlled Configuration Options** – The Biller Portal includes several biller controlled configurable options to customize the way payments and customer accounts are handled. The Biller will be able to configure for:
- allowing Auto-Pay and scheduled payments
 - allowing customers to update their phone or mailing address through the payer portal
 - allowing customers to pay less than, or more than the balance due based on receivable type
 - updating Refund Policy description
 - updating customer service phone number

5. Biller Portal - Reporting

Biller can access a selection of pre-configured reports. Biller can request reports for daily, monthly, or date range activity. Most reports can be exported to excel files or scheduled for download as a custom report, as indicated by asterisk (*) in the report name. All stored payment data is truncated and this is reflected in all reports.

- a. Reports:
- Search Customers
 - Search Invoices
 - Search Payment Transactions
 - Monthly Summary
 - Registration Report
 - AutoPay Report
 - Paperless Report
 - Data Synchronization History
 - EFT/ACH Rejects
 - View Scheduled Payments
 - Invoice File History
 - Import Errors
 - Daily Payment Received
 - Total Outstanding Invoices
 - Email Notification Summary
 - Email Statistics
 - Email Tracking
 - Bounced Email Report

6. Payer Email Notifications

Invoice Cloud provides a set of customizable email notification templates for each invoice type that are delivered for numerous events surrounding electronic invoice presentment and payment activity. Email notifications may be customized through the Biller Portal using a Word style editor and options to insert secure hyperlinks to website, links to electronic documents such as newsletter or bill inserts, and/or variable fields selected from the Biller's data file.

- a. Up to three (3) invoice notifications can be scheduled based on a date or number of days from the invoice due date. Second and third notifications will only be sent to Payers with an outstanding balance, a scheduled payment, or Payers who have signed up for Auto-Pay.
- b. At the discretion of Biller, Payer email notifications can be delivered for each of the following events.
 - First Invoice Email Notification
 - Second Invoice Email Notification
 - Third Invoice Email Notification
 - Payment Transaction Receipt
 - Declined Auto Pay Transaction
 - Late Fee Email Notification
 - Declined Scheduled Payment Notification
 - Registered Customer Welcome Email
 - AutoPay Registration Notification
 - Paperless Registration Notification
 - ACH Reject/Chargeback Notices (with reason codes and descriptors)
 - Credit Card Expiration Notification
 - Scheduled Payment Confirmation
 - AutoPay Reminder Notification
 - FlexPay Confirmation Notification
 - Scheduled Payment Reminder
 - Paperless Off Confirmation
 - Online Bank Direct Payment Receipt
 - Check 21 Payment Receipt
 - Linked Accounts First Notice Notification
 - Linked Accounts Second Notice Notification
 - Linked Accounts Second Notice Notification
 - AutoPay Off Confirmation
 - Conveyed Customer Notification
 - Multiple Registered Customers Welcome Email
 - Recurring Scheduled Payment Confirmation
 - Recurring Scheduled Payment Canceled

7. Business Rules

The Invoice Cloud solution is designed to allow maximum flexibility for customer and billers. There are many rules currently available and we will also undertake the creation of new business rules. Each bill type operates independently and can accept different payment types as well as other business rules. At Biller's option, multiple business rules can be applied to each bill type. Invoice Cloud provides flexibility regarding business rules to support specific needs, including:

- a. Ability to allow partial payments, over payments, full balance only, or late fees.
- b. Ability to allow payments beyond the due date - The service is designed to accommodate biller specific business rules like allowing payments beyond their due date.
- c. Ability to allow for multiple payment types for one customer for the same bill - The service allows multiple payment types from one customer for the same bill when partial payments are allowed.

Credit/debit card and e-check (ACH) can be run separately and an unlimited number of remittance types can be used. For example, a customer can pay part of a bill with a checking account, another part with a credit card and the remainder with a second credit card of a different type.

8. **Implementation Process**

Invoice Cloud assigns an Implementations Manager (IM) to each Biller. The IM will be the biller's primary contact during the implementation process and coordinates all necessary resources from biller, biller software company, Invoice Cloud, and any sub-contractors. The IM will provide the biller with the following documents to facilitate the project:

- a. **New Biller Questionnaire & Questionnaire Key** – Documents critical information needed to setup and initiate the service including information on business rules and feature selection.
- b. **Project Timeline** – Details project schedule and milestones.
- c. **Testing & Training Plan** – This plan walks the biller through a set of user acceptance testing criteria and facilitates training on the service.

9. **Support & Training**

- a. **Business Hours** – The business hours will be Monday through Friday from 8 a.m. to 8 p.m. Eastern Standard Time. Note: Biller Support hours are 8 am to 8 pm EST. Payer Support hours are currently 8 am to 4pm EST.
- b. **Help Desk** - The Service will provide a helpdesk ticketing system for Biller within the Biller Portal to get help from Invoice Cloud client support team. This tool will allow Biller to track and retain resolutions for historical reference.
- c. **Payer Support** – The Payer Support is two tiered with Biller staff as the first line of support regarding account, registration and billing questions. Issues with the Invoice Cloud service operation or incorrect credit card charges will be routed to Invoice Cloud Client Support via telephone or a Biller helpdesk ticket.
- d. **Biller Support** - If Biller encounters an inquiry which they cannot resolve Biller will create a helpdesk support ticket. Invoice Cloud Customer Support will resolve the issue and if applicable provide training to Biller on how to resolve that type of issue in the future. Invoice Cloud will make reasonable efforts to resolve tickets in a timely matter; most tickets will be resolved within twenty-four (24) business hours. Biller and technical support is available during business hours.
 - i. **Routine Technical Support** - Technical Support is available during business hours. Biller may call customer support directly; however, the use of the helpdesk ticketing system is encouraged as the preferred method of contact. Invoice Cloud staff views all tickets as they are submitted and routes them to the appropriate person for resolution.
 - ii. **Emergency After-Hours Support** – The helpdesk service is monitored after business hours and emergency support issues are addressed within one (1) hour. An emergency support issue is defined as an issue involving the system being down and inoperable and does not include Payer payment issues. Biller may request email notification be provided in the event the system is down and inoperable.
- e. **Service Enhancements** - Most enhancements do not require action on the part of Biller. Upgrades are done at the Invoice Cloud server level, so there are no mandatory actions for Biller to take. Support levels are not affected by enhancements.
- f. **Biller Training**- Biller staff will be guided in how to use the system through in-house training, documentation, remote live sessions, and access to our client support team.
 - All standard training will be done remotely. Invoice Cloud's training personnel will provide sessions for both Payer and Biller portals for City staff.
 - Separate training is conducted for Biller's technical staff regarding the uploading of bill files and any other applicable processes.
 - Ongoing phone and Go-To-Meeting training will be provided during the first *month of use at no additional cost to Biller.*

10. Marketing

Invoice Cloud provides marketing support that our Billers can use to promote the EBPP and IC payment solutions to its Payers, at no charge. Invoice Cloud's marketing group will schedule a 1-hour conference call to review Invoice Cloud's recommended best practices for promoting the service. Sample templates will be provided for each item and customizations can be made upon request. The marketing collateral that Invoice Cloud provides may include:

- Bill Inserts
- Newsletters
- Envelope Teasers
- Pay Button Link
- Posters with Acrylic Stands for Payment Counters
- Business card sized take-away cards with QR code
- Local cable/TV station announcement

11. CloudIVRConnect™

The IC CloudIVRConnect allows Billers to accept payments via our interactive voice response system. It provides customers with 24-hour access to account status and billing information (total balance due, past due amount, last payment made, next billing date etc.). The following options are available:

- Provides for a toll-free call and a caller ID number set by the biller
- Supports messaging in both English and Spanish
- Provides for a customizable initial greeting (includes City/County/Company name) – all remaining prompts are standard
- Ability to pay with credit card (Visa, Mastercard, Discover, American Express), debit card, or echeck (ACH)
- Replays information with Invoice Cloud generated confirmation #

12. CloudSMSConnect™ (Pay By Text)

The IC CloudSMSConnect allows Billers to accept payments via SMS text messaging. The following options are available:

- Provides interactive registration and service sign-up confirmation
- Sends notification when new bills are available for payment
- Ability to pay with credit card (Visa, Mastercard, Discover, American Express), debit card, or echeck (ACH)
- Allows for payment utilizing a stored-payment method

13. CloudStore™

The IC CloudStore allows Billers to accept payments for non-invoiced services like books, t-shirts, etc., fire, police, building permits, or activity programs. The following options are available:

- Accept electronic check and or credit/debit cards.
- Customer receives immediate email confirmation of payment.
- Department receives email notification of purchase event for instant fulfillment services.
- Ability to apply convenience fees, if required.
- Reporting by service type.
- Linked to Biller branded payment portal.
- Each service type can have its own online registration form.
- Can be setup to accept payments over the counter.

14. Online Bank Direct™

The IC Online Bank Direct (OBD) allows Billers to electronically import echeck (ACH) payments initiated from consumer bank bill sites. The following options are available:

- Auto-matching of payments with open invoices
- Email consumer a payment notification for those customers with an email address on file
- Ability to apply a single payment to multiple invoices
- Custom search capabilities to locate matching invoice(s)
- Electronic deposit of corresponding echecks

15. Privacy

Invoice Cloud is committed to protecting the confidentiality of biller and payer data. Invoice Cloud does not sell confidential data to third parties under any circumstances. If required by law to provide such information, Invoice Cloud will comply. The privacy policy is available on our website at: <https://www.invoicecloud.com/privacy.html>.

Appendix A: System Modifications

As outlined below, Invoice Cloud has agreed to make the following changes to the setup and functionality of our platform:

NONE

Appendix B: Integration Supported Features

Modules & Features	Blue Heron/Oracle	
PRODUCTS		
Invoice Types	42-Utilities	
Invoice Types	3 - Sewer	
EBPP	Supported	
Cloud IVR Connect	Supported	
Pay by Text	Supported	
Cloud POS Connect	Supported	
Cloud CSR Connect	Supported	
KIOSK	Not Supported	
DATA EXCHANGE	Method	Frequency
Invoices	Web Services	Each Billing Cycle
Payments	Data Pump (Near Time)	Near Time (Data Pump)
AutoPay Flags	Data Pump (Near Time)	Near Time (Data Pump)
Paperless Flags	Data Pump (Near Time)	Near Time (Data Pump)
Account Balances	Real Time Data Refresh	Real Time Data Refresh (RTDR)
Block Payment Method (Credit/ACH)	Real Time Data Refresh RTDR	Real Time Data Refresh (RTDR)
INVOICE FILES		
IC Translates file	Supported	
Historical Data (2 years shown online)	Supported	
BILL PRESENTMENT		
PDF Extraction (Partial/Full)	Supported	
Templates	Not Supported	
Link to PDFs	Supported	
BATCH CLOSE		
Standard or Custom	Custom	
CUSTOM OPTIONS		
Single Sign-on	Not Supported	
Branded Biller Portal	Supported	
Branded Payer Portal	Supported	

Appendix C: Biller Deliverables

Deliverable
Sample Invoice File (BIF)
White Listing of IC IP Addresses
Data Pump Payment/Tender code list
Sample Images of Bills – if PDF extraction is being used
Auto Pay Conversion data if applicable
Paperless conversion data if applicable

SALES INFORMATION										
IC Sales Rep	Carlyn Altheide			Sales Prtnr	Blue Heron			Software Prtnr	Oracle CC&B	
Order Type	New			Vertical	GUB					
PRODUCTS & SERVICES										
Products	<input checked="" type="checkbox"/> EBPP	<input type="checkbox"/> Cloud Store	<input type="checkbox"/> Cloud Pay	<input checked="" type="checkbox"/> Pay By Text	<input checked="" type="checkbox"/> IVR	<input type="checkbox"/> OBD	<input type="checkbox"/> Kiosk			
	<input type="checkbox"/> Single Sign-On	<input type="checkbox"/> Bill Processor	<input type="checkbox"/> POSConnect	<input checked="" type="checkbox"/> CSRConnect						
Payments	<input checked="" type="checkbox"/> VISA/MasterCard/Discover			<input type="checkbox"/> American Express			<input checked="" type="checkbox"/> ACH/EFT			
BILLER INFORMATION										
Ownership Type	Government				BILLER CONTACTS					
Legal Name	City of Escondido				Implementation	Christina Holmes				
Address 1	201 North Broadway				Phone	760-839-4620		Ext		
Address 2					Email Address	cholmes@escondido.org				
City	Escondido	State	CA	ZIP	92025		Technical Support	Same as Above		
Phone	760-839-4682	Fax	760-746-0612			Phone			Ext	
Website URL	www.escondido.org				Email Address					
Bus. Open Date	1888				Marketing	Same as Above				
Federal Tax ID	95-6000708				Phone			Ext		
	<i>* Federal Tax ID and Legal Name must match on all documents.</i>				Email Address					
SIGNATORY AUTHORITY										
Name	Sheryl Bennett			Title	Director of Administrative Services					
Phone	760-839-4586	Fax			Email Address	sbennett@escondido.org				
BILLER FEES										
New Biller Implementation (\$)	\$0.00			Paperless Presentment (\$)	\$0.20			Per Item		
Bill Portal Access (\$)	\$100.00	Monthly		IC Payment - Credit Card				Per Item		
Additional User(s) (\$)	\$0.00	Monthly		IC Payment - EFT/ACH				Per Item		
Online Bank Direct Access (\$)				Online Bank Direct				Per Item		
Invoice Presentment (\$)		Monthly		EFT/ACH Reject	\$10.00			Per Item		
Encrypted Reader License Fee (\$)		Monthly Per Device		Charge Back	\$15.00			Per Item		
Cloud Store Implementation (\$)		One-Time		Cloud Store Monthly Access				Monthly		
Additional Data Storage		# Years (past 2)		Bills Per Month		Total Cost (\$)				
BILLER BANK INFO										
<i>Note: Must include voided business check or bank letter for each account</i>										
Name on Account	City of Escondido			Bank Name	Bank of America					
Address	275 S. Valencia Ave, Brea, CA 92823			Phone	888-715-1000					
NOTES/SPECIAL HANDLING										
Customization Services: Future custom work such as development of a custom report or integration changes will require a scope of work and mutual agreement by the parties. \$175 per hour.										

INVOICE PARAMETERS

Invoice Parameters must be completed for each invoice type

Invoice Type	Utilities	Date	7/25/2017
Biller Software	Oracle CC&B	Pricing Model	
Products	<input checked="" type="checkbox"/> EBPP <input type="checkbox"/> Cloud Store <input type="checkbox"/> Cloud Pay <input checked="" type="checkbox"/> Pay By Text <input checked="" type="checkbox"/> IVR <input type="checkbox"/> OBD <input type="checkbox"/> Kiosk <input type="checkbox"/> Single Sign-On <input type="checkbox"/> Bill Processor <input type="checkbox"/> POSConnect <input checked="" type="checkbox"/> CSRConnect		
Services	<input checked="" type="checkbox"/> VISA/MasterCard/Discover <input type="checkbox"/> American Express <input checked="" type="checkbox"/> ACH/EFT		

BILLING DETAILS

Please indicate which months bills are **sent** by placing the bill count for each month below:

Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000

Avg Invoice \$ Max Invoice \$ BPM

PRINTED BILLS

Bill Mailing Dates	<input checked="" type="checkbox"/> 1st - 10th	<input checked="" type="checkbox"/> 11th - 20th	<input checked="" type="checkbox"/> 21st - 31st
Bill Image Provider	<input type="checkbox"/> Template	<input type="checkbox"/> Biller	<input checked="" type="checkbox"/> Biller Print Vendor
Bill Print Vendor	TBD	Contact	Phone

HARDWARE

Card Readers	<input type="text"/>	Quantity	<input type="text"/>	Provided By	Operations
Per Unit Price	<input type="text" value="\$0.00"/>	Monthly		Shipping Addr.	<input type="text"/>
Total Due	<input type="text" value="\$0.00"/>	Monthly		(if differernt than location address)	

SERVICE FEES

Select from the below to indicate if the service fee will be paid by the Payer or if Biller will absorb fee.

Paid by Payer		Paid by Biller (Non-Submitter)	
Credit Card	<input type="checkbox"/> % with <input type="text"/> \$ minimum	Credit Card	<input type="checkbox"/> Flat Fee per Item, Fee, Due Assessments + <input type="checkbox"/> Interchange, fees, due assessments + <input type="text"/> \$ + <input type="text"/> %BP
EFT/ACH	<input type="checkbox"/> \$ per item	EFT/ACH	<input type="checkbox"/> \$ per item
Flex Pay ACH	<input type="checkbox"/> \$ per item	Flex Pay ACH	<input type="checkbox"/> \$ per item

UTILITY INVOICE TYPE

Paid by Payer		Paid by Biller	
Credit Card	<input type="checkbox"/> % with <input type="text"/> \$ minimum <i>(Without Visa Acceptance)</i>	Credit Card	<input checked="" type="checkbox"/> Flat Fee per Item, Fee, Due Assessments + <input checked="" type="checkbox"/> Interchange, fees, due assessments + 0.70 \$ + <input type="text"/> %BP
EFT/ACH	<input type="checkbox"/> \$ per item	EFT/ACH	<input checked="" type="checkbox"/> 0.50 \$ per item

UTILITY FLAT RATE

Flat Rate for Utilities credit cards must be paid by payer

Credit Card	<input type="checkbox"/>	Service Fee:	<input type="text"/>	\$	Max Cap for Credit Cards	<input type="text"/>
EFT/ACH	<input type="checkbox"/>	Service Fee:	<input type="text"/>	\$	EFT/ACH Paid By	<input type="text"/>

INTERACTIVE VOICE RESPONSE (IVR)

Paid by Payer	<input type="checkbox"/>	Service Fee:	<input type="text"/>	\$	Paid by Biller	<input checked="" type="checkbox"/>	Per Item Surcharge	0.00	\$
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NOTES/SPECIAL HANDLING

IVR Surcharge is Waived.

1. License Grant & Restrictions. Subject to execution by Biller of the Invoice Cloud Biller Order Form incorporating this Agreement, Invoice Cloud hereby grants Biller a non-exclusive, non-transferable, worldwide right to use the Service described on the Biller Order Form until termination as provided herein, solely for the following purposes, and specifically to bill and receive payment from Biller's own customers, for Services that are referenced in the Biller Order Form. All rights not expressly granted to Biller are reserved by Invoice Cloud and its licensors.

Biller will provide to Invoice Cloud all Biller Data generated for Biller's Customers. Unless otherwise expressly agreed to in writing by Invoice Cloud to the contrary, Invoice Cloud will process all of Biller's Customers' Payment Instrument Transactions requirements related to the Biller Data and will do so via electronic data transmission according to our formats and procedures for each electronic payment type selected in the Biller Order Form. In addition, Biller will sign all third party applications and agreements required for the Service including without limitation payment and credit card processing agreements and merchant agreements. For invoice types listed on the Order Form (e.g. real estate taxes, utility bills, birth certificates, parking tickets, event tickets, etc.), Biller will not use the credit card processing, ACH or check processing of any bank, payment processor, entity, or person, other than Invoice Cloud via electronic data transmission or the authorization or processing of Biller's Customers' Payment Instrument Transactions for each electronic payment type selected in the Biller Order Form throughout the term of this Agreement.

Biller shall not: (i) license, sublicense, sell, resell, transfer, assign, distribute or otherwise commercially exploit or make available to any third party the Service in any way; (ii) modify or make derivative works based upon the Service; (iii) Recreate, "frame" or "mirror" any portion of the Service on any other server or wireless or Internet-based device; (iv) reverse engineer or access the Service; or (v) copy any features, functions or graphics of the Service.

2. Privacy & Security. Invoice Cloud's privacy and security policies may be viewed at <http://www.invoicecloud.com/privacy.html>. Invoice Cloud reserves the right to modify its privacy and security policies in its reasonable discretion from time to time which modification shall not materially adversely impact such policies. Invoice Cloud will maintain compliance with current required Payment Card Industry (PCI) standards and Cardholder Information Security standards.

3. Account Information and Data. Invoice Cloud does not and will not own any Customer Data, in the course of providing the Service. Biller, not Invoice Cloud, shall have sole responsibility for the accuracy, quality, integrity, legality, and reliability of, and obtaining the intellectual property rights to use and process all Customer Data. In the event this Agreement is terminated, Invoice Cloud will make available to Biller a file of the Customer Data within 30 days of termination of this Agreement (or at a later time if required by applicable law), if Biller so requests at the time of termination. Invoice Cloud reserves the right to remove and/or discard Customer Data with 30 days notice except as prohibited by applicable law or in the event of exigent circumstances which makes prior notice impracticable, and in which case, notice will be provided promptly thereafter.

4. Confidentiality / Intellectual Property Ownership. Invoice Cloud (and its licensors, where applicable) owns all right, title and interest, including all related Intellectual Property Rights, in and to the Invoice Cloud Technology, the Content and the Service and any enhancement requests, feedback, integration components, suggestions, ideas, and application programming interfaces, recommendations or other information provided by Biller or any other party relating to the Service product names associated with the Service are trademarks of Invoice Cloud or third parties, and no right or license is granted to use them.

Biller agrees that during the course of using or gaining access to the Service (or components thereof) it may be furnished with or otherwise have access to information that Invoice Cloud considers to be confidential including but not limited to Invoice Cloud Technology, customer and/or prospective customer information, pricing and financial information of the parties which are hereby deemed to be Invoice Cloud Confidential Information, or any other information by its very nature constitutes information of a type that any reasonable business person would conclude was intended by Invoice Cloud to be treated as proprietary, confidential, or private (the "Confidential Information"). Biller agrees to secure and protect the Confidential Information in a manner consistent with the maintenance of Invoice Cloud's rights therein, using at least as great a degree of care as it uses to maintain the confidentiality of its own confidential information, but in no event use less than reasonable efforts. Biller will not sell, transfer, publish, disclose, or otherwise make available any portion of the Confidential Information of the other party to third parties (and will ensure that its employee and agents abide by the requirements hereof), except as expressly authorized in this Agreement or otherwise required by applicable law.

5. Billing and Renewal. Invoice Cloud fees for the Service are provided on the Biller Order Form. Invoice Cloud's fees are exclusive of all taxes, levies, or duties imposed by taxing authorities, Invoice Cloud may assess and/or collect such taxes, levies, or duties against Biller and Biller shall be responsible for payment of all such taxes, levies, or duties, excluding only United States (federal or state) taxes based solely on Invoice Cloud's income. All payment obligations are non-cancellable and all amounts or fees paid are non-refundable. Unless Invoice Cloud in its discretion determines otherwise, all fees will be billed in U.S. dollars. If Biller believes Biller's bill or payment is incorrect, Biller must provide written notice to Invoice Cloud within 60 days of the earlier of the invoice date, or the date of payment, with respect to the amount in question to be eligible to receive an adjustment or credit; otherwise such bill or payment is deemed correct. Invoice Cloud reserves the right to modify any pricing with respect to fees owed by the Biller upon thirty days written notice to Biller based on increases incurred by Invoice Cloud on fees, assessments, and the like from credit card processors, bank card issuers, payment associations, ACH and check processors.

6. Termination. This Agreement may be terminated by either party with cause in the event of a material breach of the terms of this Agreement by the other party and the breach remains uncured for a period of 30 days following receipt of written notice by the breaching party. For example, any unauthorized use of the Invoice Cloud Technology or Service by Biller, or its authorized users will be deemed a material breach of this Agreement. Upon any early termination of this Agreement by Invoice Cloud as a result of the breach, Biller shall remain liable for all fees and charges incurred, and all periodic fees owed through the end of the calendar month following the effective date of termination. Upon any termination or expiration of this Agreement, Biller's password and access will be disabled and Biller will be obligated to pay the balance due on Biller's account computed in accordance with the Charges and Payment of Fees section above. Biller agrees that Invoice Cloud may charge such unpaid fees to Biller's Debit Account or credit card or otherwise bill Biller for such unpaid fees.

7. Invoice Cloud Responsibilities. Invoice Cloud represents and warrants that it has the legal power and authority to enter into this Agreement. Invoice Cloud warrants that the Service will materially perform the functions that the Biller has selected on the Order Form under normal use and circumstances and that. Invoice Cloud shall use commercially reasonable measures with respect to Customer Data to the extent that it retains such, in the operation of the Service; provided that the Biller shall maintain immediately accessible backups of the Customer Data. In addition, Invoice Cloud will, at its own expense, as the sole and exclusive remedy with respect to performance of the Service, correct any Transaction Data to the extent that such errors have been caused by Invoice Cloud or by malfunctions of Invoice Cloud's processing systems.

8. Limited Warranty EXCEPT AS PROVIDED IN SECTION 7 AND IN THE SERVICE LEVEL AGREEMENT IN SECTION 12 BELOW, THE SERVICES AND ALL CONTENT AND TRANSACTION DATA IS PROVIDED WITHOUT ANY EXPRESS, OR IMPLIED WARRANTY, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW BY INVOICE CLOUD AND ITS LICENSORS AND PAYMENT PROCESSORS. INVOICE CLOUD AND ITS LICENSORS AND PAYMENT PROCESSORS DO NOT REPRESENT OR WARRANT THAT (A) THE USE OF THE SERVICE WILL BE UNINTERRUPTED OR ERROR-FREE, OR OPERATE IN COMBINATION WITH ANY OTHER HARDWARE, SOFTWARE, SYSTEM OR DATA. Invoice Cloud's service may be subject to limitations, delays, and other problems inherent in the use of the internet and electronic communications. Invoice cloud is not responsible for any delays, delivery failures, or other damage resulting from such problems. Biller represents and warrants that Biller has not falsely identified itself nor provided any false information to gain access to the Service and that Biller's billing information is correct.

9. Biller's Responsibilities. Biller represents and warrants that it has the legal power and authority to enter into this Agreement. Biller is responsible for all activity occurring under Biller's accounts and shall abide by all applicable laws, and regulations in connection with Biller's and/or its customers' and a payers' use of the Service, including those related to data privacy, communications, export or import of data and the transmission of technical, personal or other data. Biller shall: (i) notify Invoice Cloud immediately of any unauthorized use of any password or account or any other known or suspected breach of security; (ii) report to Invoice Cloud and immediately stop any copying or distribution of Content that is known or suspected to be unauthorized by Biller or Biller's Users; and (iii) obtain consent from Biller's customers and payers to receive notifications and invoices from Invoice Cloud. Invoice Cloud is not responsible for any Biller postings in error due to delayed notification from credit card processor, ACH bank and other related circumstances. Biller agrees and acknowledges that in the event that Biller has access to, receives from, creates, or receives protected health information, or Biller has access to, creates, receives, maintains or transmits on behalf of electronic protected health information (as those terms are defined under the privacy or security regulations issued pursuant to the Health Insurance Portability and Accountability Act of 1996 ("HIPAA") and Subtitle D of the Health Information Technology for Economic and Clinical Health Act provisions of the American Recovery and Reinvestment Act of 2009 ("ARRA"), during the performance under this Agreement, it will comply with all such law, regulations and rules related thereto.

Biller is required to ensure that it maintains a fair policy with regard to the refund, return or cancellation of services and adjustment of Transactions. Biller is also required to disclose a refund, return or cancellation policies to Invoice Cloud and any applicable payment processors and Biller's Customers, as requested. Any change in a return/ cancellation policy must be submitted to Invoice Cloud, in writing, not less than 21 days prior to the effective date of such change. If Biller allows or is required to provide a price adjustment, or cancellation of services in connection with a Transaction previously processed, Biller will prepare and deliver to Invoice Cloud Transaction Data reflecting such refund/adjustment within 2 days of resolution of the request resulting in such refund/adjustment. The amount of the refund/adjustment cannot exceed the amount shown as the total on the original Transaction Data. Biller may not accept cash or any other payment or consideration from a Customer in return for preparing a refund to be deposited to the Customer's account; nor may Biller give cash/check refunds to a Customer in connection with a Transaction previously processed, unless required by applicable law

10. Fees.

Invoice Cloud will not charge fees related to the initial setup, initial implementation and personalization of its standard Service unless a fee is included in the Biller Order Form. Invoice Cloud will charge the Biller or payer fees as provided in the Biller Order Form. In addition, Invoice Cloud reserves the right to charge for changes to the setup, implementation or personalization performed after the completion of initial setup or implementation and any other requested work or changes including the following services, at its then standard rates:

- new file/biller set up
- template changes

- custom reports and other custom development
- new bill printer support
- invoice file format changes resulting in revision of integration/data translation
- re-implementation of a site/system and/or new billing system
- payment file revisions
- loading pdfs and importing/loading invoices
- conversion of biller customer registrations/passwords (post initial implementation)
- balance forward of invoices
- other out of scope services

11. Limitation of Liability. INVOICE CLOUD’S AGGREGATE LIABILITY SHALL BE UP TO AND NOT EXCEED \$500,000 FOR ANY LIABILITIES OR CLAIMS NOT COVERED UNDER INVOICE CLOUD’S INSURANCE POLICIES AS HELD BY CONTRACTOR OR REQUIRED UNDER THIS AGREEMENT, AND FOR CLAIMS COVERED UNDER INVOICE CLOUD’S INSURANCE POLICIES AS HELD BY CONTRACTOR OR REQUIRED UNDER THIS AGREEMENT THE LIABILITY SHALL NOT EXCEED THE AMOUNT OF THE APPLICABLE POLICY. IN NO EVENT SHALL INVOICE CLOUD AND/OR ITS LICENSORS BE LIABLE TO ANYONE FOR ANY INDIRECT, PUNITIVE, SPECIAL, EXEMPLARY, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOSS OF DATA, REVENUE, PROFITS, USE OR OTHER ECONOMIC ADVANTAGE) ARISING OUT OF, OR IN ANY WAY CONNECTED WITH THIS SERVICE, EVEN IF THE PARTY FROM WHICH DAMAGES ARE BEING SOUGHT OR SUCH PARTY’S LICENSORS HAVE BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Certain states and/or jurisdictions do not allow the exclusion of implied warranties or limitation of liability for incidental, consequential or certain other types of damages, so the exclusions set forth above may not apply to Biller.

12. Service Level Agreement (SLA) – An uptime SLA of 99.9%, which is calculated on a quarterly basis based, is defined as the customers of the Biller being able to access the Services to view or pay bills. The calculation of the Uptime SLA does not include scheduled or emergency down time which is not to exceed six (6) hours per quarter or an Excluded Event. “Excluded Event” means any event that results in an outage and is caused by (a) the acts or omissions of Biller, its employees, customers, contractors or agents; (b) the failure or malfunction of equipment, applications or systems not owned or controlled by Invoice Cloud or its consultants or any failure of the internet; (c) Force Majeure events, excluding acts resulting in a breach of Confidential Information; (d) scheduled or emergency maintenance; (e) any suspension of the services in accordance with the terms of the Agreement; (f) the unavailability of required City personnel, including as a result of failure to provide Invoice Cloud with accurate, current contact information.

13. BILLERS ADDITIONAL TERMS AND CONDITIONS (www.invoicecloud.com/termsandconditions)

1. Definitions.

As used in the Agreement and in any Biller Order Form now or hereafter:

"Agreement" or "Biller Agreement" means these terms and conditions, any Biller Order Form, whether written or submitted online and any materials available on the Invoice Cloud website specifically incorporated by reference herein;

"Biller Data" means invoices and bills of the Biller;

"Biller Order Form" means the order form referencing the services to be performed by Invoice Cloud and any add on services under any add on Biller Order Form.

"Chargeback" is a reversal of a Transaction initiated by a credit card company, processor, bank or other financial institution that Biller previously presented to Invoice Cloud under this Agreement;

"Content" means the information and documents contained or made available to Biller by Invoice Cloud in the course of using the Service;

"Customer" shall include customers, taxpayers and users of services of Biller;

"Customer Data" means any data, information or material provided or submitted by Biller or its Customers to the Service or the Biller’s customers and/or payers in the course of using the Service;

"Effective Date" means the earlier of either the date this Agreement is accepted by executing a Biller Order Form;

"Intellectual Property Rights" means unpatented inventions, patent applications, patents, design rights, copyrights, trademarks, service marks, trade names, domain name rights, mask work rights, know-how and other trade secret rights, and all other intellectual property rights, derivatives, integration components and application programming interfaces thereof, and forms of protection of a similar nature anywhere in the world;

"Integration Components" means software, which integrates the Service with third party software, and any updates or revisions thereto.

"Invoice Cloud" means collectively Invoice Cloud, Inc., a Delaware corporation and its affiliates and subsidiaries;

"Invoice Cloud Technology" means all of Invoice Cloud's proprietary technology (including software, hardware, products, processes, algorithms, user interfaces, know-how, techniques, designs and other tangible or intangible technical material or information) made available to Biller or otherwise developed by Invoice Cloud in providing the Service;

"Payment Instrument Transaction" is transaction conducted between Biller and its Customers with respect to an account, or evidence of an account, authorized and established between a Customer and a credit card association or issuer, or representatives or members thereof that Biller accepts from Customers as payment for the Services. Payment Instrument Transactions include, but are not limited to, transactions processed by credit and debit cards, ACH, EFT and Check 21 transactions, stored value cards, loyalty cards, electronic gift cards, authorized account or access numbers, paper certificates and credit accounts.

"Order Form" or "Biller Order Form" means the form evidencing the initial subscription for the Service and any subsequent Biller Order Form, specifying, among other things, the services contracted for, the applicable fees, the billing period, and other charges as agreed to between the parties, each such Biller Order Form to be incorporated into and to become a part of this Agreement (in the event of any conflict between the terms of this Agreement and the terms of any such Biller Order Form, the terms of this Agreement shall prevail);

"Reserve Account" means a Biller account which is maintained in order to protect Invoice Cloud against the risk of, among other things, existing, potential, or anticipated Chargebacks and to satisfy the other obligations under the Agreement.

"Service(s)" means Invoice Cloud's billing and payment service, the Content, the Invoice Cloud Technology and other corporate services identified on the Biller Order Form, developed, operated, and/or maintained by Invoice Cloud, accessible via www.invoicecloud.com or another designated web site or IP address, or ancillary online or offline products and services provided to Biller by Invoice Cloud, to which Biller are being granted access under this Agreement, including the Invoice Cloud Technology and the Content;

"Submitter" means the Biller's status under the Agreement and Order Form where Biller's Customers submit Transaction Data directly to the payment processor or credit card processor who then processes the Transaction Data with the associated convenience fee being paid to Invoice Cloud and Invoice Cloud being responsible to pay the applicable convenience to the payment processor.

"Transaction" is a transaction conducted between a Customer and Invoice Cloud (on behalf of Submitter) utilizing either a Payment Instrument or a bill presentment in which consideration is or to be exchanged or tax is or to be due between the Customer and Biller;

"Transaction Data" means is the written or electronic record of a Transaction, including but not limited to an authorization code or settlement record and Biller Data.

2. Biller's Responsibilities. (a) Biller is responsible for all activity occurring under Biller's accounts and shall abide by all applicable laws, and regulations in connection with Biller's and/or its customers' and a payers' use of the Service, including those related to data privacy, communications, export or import of data and the transmission of technical, personal or other data. Biller shall: (i) notify Invoice Cloud immediately of any unauthorized use of any password or account or any other known or suspected breach of security; (ii) report to Invoice Cloud and immediately stop any copying or distribution of Content that is known or suspected to be unauthorized by Biller or Biller's Users; and (iii) not impersonate another Invoice Cloud user or provide false identity information to gain access to or use the Service. Biller may not: (i) send or store material containing software viruses, worms, Trojan horses or other harmful computer code, files, scripts, agents or programs; (iii) interfere with or disrupt the integrity or performance of the Service or the data contained therein; or (iii) attempt to gain unauthorized access to the Service or its related systems or networks. Biller shall not: (i) license, sublicense, sell, resell, transfer, assign, distribute or otherwise commercially exploit or make available to any third party the Service in any way; (ii) modify or make derivative works based upon the Service; (iii) Recreate, "frame" or "mirror" any portion of the Service on any other server or wireless or Internet-based device; (iv) reverse engineer or access the Service; or (v) copy any features, functions or graphics of the Service.

Invoice Cloud is not responsible for any Biller postings in error due to delayed notification from credit card processor, ACH bank and other related circumstances.

Biller agrees to provide Invoice Cloud with complete and accurate billing and contact information. This information includes Biller's legal company name, street address, e-mail address, and name and telephone number of an authorized billing contact and License Administrator. Biller agrees to update this information within 30 days of any change to it. Invoice Cloud is provided a perpetual, non-exclusive, royalty free right, license and authorization, to the extent permitted by applicable law, to compile and collect Biller Data, create modifications and derivative works thereof, and provide third parties access to copy and view such Biller Data.

(b) Biller is required to ensure that it maintains a fair policy with regard to the refund, return or cancellation of services and adjustment of Transactions. Biller is also required to disclose any refund, return or cancellation policies to Invoice Cloud and any applicable payment processors and Biller's Customers, as requested.

Any change in a return/ cancellation policy with the transactions underlying the Transaction Data must be submitted to Invoice Cloud, in writing, not less than 21 days prior to the effective date of such change.

If Biller allows or is required to provide a price adjustment, or cancellation of services in connection with a Transaction previously processed, Biller will prepare and deliver to Invoice Cloud Transaction Data reflecting such refund/adjustment within 2 days of resolution of the request resulting in such refund/adjustment. The amount of the refund/adjustment with respect to Transactions under the Service cannot exceed the amount shown as the total on the original Transaction Data. Biller may not accept cash or any other payment or consideration from a Customer in return for preparing a refund to be deposited to the Customer's account; nor, with respect to credit card transactions, may Biller give cash/check refunds to a Customer in connection with a Transaction previously processed, unless required by applicable law.

Individual users, when they initially log in, may be asked whether or not they wish to receive marketing and other non-critical Service-related communications from Invoice Cloud from time to time. They may opt out of receiving such communications at that time or at any subsequent time by changing their preference under <http://www.invoicecloud.com/privacy.html>. Note that because the Service is a hosted, online application, Invoice Cloud occasionally may need to notify all users of the Service (whether or not they have opted out as described above) of important announcements regarding the operation of the Service.

The following is only applicable to any Biller who is a Submitter, and for AMEX credit card charges:

As to [all Transactions](#) Biller submits to Invoice Cloud for processing, Biller represents and warrants that:

- (1) The Transaction Data represents payment or refund of payment, for a bona fide transaction.
- (2) The Transaction Data represents an obligation of the Customer for the amount of the Transaction and the accuracy of all Transaction Data.
- (3) The Transaction Data does not involve any element of credit for payment of a previously dishonored payment or for any other purpose than payment for a current transaction and future payments as agreed upon by the customer.
- (4) The Transaction Data is free from any material alteration not authorized by the Customer.
- (5) The amount charged for the Transaction is not subject to any dispute, setoff, or counterclaim.

Biller Agreement

Rev 4.0

The complete Biller Agreement includes the Biller Order Form, the Online Terms and Conditions and this Agreement

- (6) Neither Biller nor its employees has advanced any cash to the Customer in connection with the Transaction, nor have you accepted payment for the Transaction from the Customer.
- (7) Biller has made no representations or agreements for the issuance of refunds except as it states in your return/cancellation policy, which has been previously submitted to Invoice Cloud in writing, and which is available to the Customer.
- (8) Any transaction submitted to Invoice Cloud to credit a Customer's account represents a refund or adjustment to a Transaction previously submitted to Invoice Cloud.
- (9) Biller has no knowledge or notice of information that would lead it to believe that the enforceability or collectability of the subject Transaction Data is in any manner impaired. The Transaction Data is in compliance with all applicable laws, ordinances, and regulations. The Transaction Data is originated in compliance with this Agreement and any applicable agreements.
- (10) For a Transaction where the Customer pays in installments or on a deferred payment plan, a Transaction Data record has been prepared separately for each installment transaction or deferred payment on the date(s) the Customer agreed to be charged. All installments and deferred payments, whether or not they have been submitted to Invoice Cloud for processing, shall be deemed to be a part of the original Transaction.
- (11) Biller has not submitted any Transaction that it knows or should have known to be either fraudulent, illegal, or otherwise in violation of any provision of this Agreement or other applicable agreements.
- (12) All Transaction Data is complete and accurate (including with respect to total due fields) and Invoice Cloud is not liable or responsible for any incomplete or inaccurate Transaction Data.

3. Chargebacks If Biller is subject of excessive Chargebacks, in addition to our other remedies under this Agreement, Invoice Cloud (or the payment processor) may take the following actions: (i) request that Biller in every case commence issuing refund and related payments directly to Customer; (ii) notify Biller of a new rate that will be charged to process Chargebacks; (iii) collect from Biller an amount reasonably determined by Invoice Cloud (or the payment processor) to be sufficient to cover anticipated Chargebacks and all related fees, penalties, expenses, and fines or request a Reserve Amount (where a Reserve Account is noted under the Biller Order Form or as otherwise required under the terms of this Agreement or other agreement with Invoice Cloud or any payment processor); or (iv) terminate the Agreement. Biller also agrees to pay any and all penalties, fees, fines and costs assessed against Invoice Cloud (or the payment processor) relating to your violation of this Agreement, or other agreement related thereto.

Biller agrees that it is fully liable if any Transaction, for which Invoice Cloud has provided Biller credit or paid Biller, is the subject of a Chargeback or ACH rejects or reversals or other refunds or credits. To the extent Invoice Cloud has paid or may be called upon to pay a Chargeback, refund or adjustment for or on the account of a Customer and Biller does not reimburse us as provided for in this Agreement, or has insufficient funds to draw from in the Billers Debit Account (to the extent applicable as provided in Section 4 below) then for the purpose of our obtaining reimbursement of such sums paid or anticipated to be paid, Biller shall indemnify, defend and hold Invoice Cloud harmless therefrom. The Billers Debit Account will contain sufficient funds to cover any estimated exposure based on reasonable criteria for Chargebacks, ACH rejects or reversals, credits, returns, and all additional liabilities anticipated under this Agreement, including, but not limited to Chargebacks, fines, fees and penalties. Invoice Cloud may (but is not required to) apply funds in the Billers Debit Account (to the extent applicable as provided in Section 4 below) toward, and set off any funds that would otherwise be payable to Biller against, the satisfaction of any amounts which are may become due from Biller pursuant to this Agreement. Invoice Cloud may, at its sole discretion, collect fees related to Chargebacks and ACH rejects and reversals, or other refunds or credits from Biller's customers.

The following are some of the most common reasons for Chargebacks; in no way is this intended to be an exhaustive list of possible Chargeback reasons:

- (1) Failure to issue a refund to a Customer as required.
- (2) Invoice Cloud did not receive Biller's response to a Retrieval Request within 7 days or any shorter time period required by the Payment Brand Rules.
- (3) A Customer disputes the Transaction, or claims that the Transaction is subject to a set-off, defense, or counterclaim.

Invoice Cloud may receive a Chargeback from a Transaction, an AMEX credit card Service or otherwise, where the possibility of Chargebacks are noted as part of the Service. Some common reasons for Chargebacks are listed. In the event that Invoice Cloud receives a Chargeback, Biller shall reimburse Invoice Cloud for such Chargebacks (which may include Invoice Cloud withdrawing such amounts from the Biller's Debit Account). In addition, Biller shall be responsible to Invoice Cloud for charges against any reserves required by payment or credit card processors; and any Chargebacks, by any party, including without limitation Chargebacks claimed by any payment and credit card processors, bank, or other financial services organization. To the extent permitted by applicable law, Biller shall indemnify and hold Invoice Cloud, its licensors and Invoice Cloud's, subsidiaries, affiliates, officers, directors, employees, attorneys, agents, and payment processors harmless from and against any and all claims, costs, damages, losses, liabilities and expenses (including attorneys' fees and costs) arising out of or in connection with any claim, cause of action, lawsuit, administrative or criminal investigation, charge, action or claim alleging: (i) charge against any reserves required by payment or credit card processors; (ii) a Chargeback, by any party, including without limitation Chargebacks claimed by any payment and credit card processors, bank, or other financial services organization; (iii) that use of any Customer Data infringes the rights of a third party; (iv) a violation by Biller of Biller's representations and warranties or the breach by Biller or Biller's Users of this Agreement including without limitation incomplete or inaccurate Transaction Data; or (v) relating directly or indirectly to Biller's or its authorized users' use of the Service. Invoice Cloud may receive a Chargeback from a Transaction where Biller has a submitter agreement, an AMEX credit card Service or otherwise, where the possibility of Chargebacks are noted as part of the Service. In the event that Invoice Cloud receives a Chargeback, Biller shall reimburse Invoice Cloud for such Chargebacks (which may include Invoice Cloud withdrawing such amounts from the Biller's Debit Account).

4. Certain Contractual Terms. The following only applies to the extent not otherwise addressed in the Agreement:

LIMITED WARRANTY: THE INTEGRATION COMPONENTS ARE PROVIDED "AS IS". ALL WARRANTIES, EXPRESSED OR IMPLIED ARE HEREBY DISCLAIMED WITH RESPECT TO THE INTEGRATION COMPONENTS INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR AGAINST LATENT DEFECTS.

INVOICE CLOUD'S AGGREGATE LIABILITY SHALL BE UP TO AND NOT EXCEED THE AMOUNTS ACTUALLY PAID BY AND/OR DUE FROM BILLER IN THE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE EVENT GIVING RISE TO SUCH CLAIM. IN NO EVENT SHALL INVOICE CLOUD AND/OR ITS LICENSORS BE LIABLE TO ANYONE FOR ANY INDIRECT, PUNITIVE, SPECIAL, EXEMPLARY, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOSS OF DATA, REVENUE, PROFITS, USE OR OTHER ECONOMIC ADVANTAGE) ARISING OUT OF, OR IN ANY WAY CONNECTED WITH THIS SERVICE, EVEN IF THE PARTY FROM WHICH DAMAGES ARE BEING SOUGHT OR SUCH PARTY'S LICENSORS HAVE BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Certain states and/or jurisdictions do not allow the exclusion of implied warranties or limitation of liability for incidental, consequential or certain other types of damages, so the exclusions set forth above may not apply to Biller.

To the extent that the Biller's Agreement does not have a Biller indemnification, limited warranty or limitation of liability clause respectively, or to the extent that there is no Biller Agreement, the clauses in this Section 4 shall apply, shall control and be binding on the Biller. Where there is no Biller Agreement, the terms of these Biller Terms and Conditions (and any order forms) shall be the sole and entire agreement between the parties.

5. **Billers Deposit Account Automatic Debit (Applicable where Biller Debit Account has been designated on the Biller Order Form)**

Where Biller authorizes Invoice Cloud's receipt of all fees and periodic fees referenced in the Biller Order Form - from payments made by Customers, or from credit card processors, bank card issuers, payment associations, ACH and check processors, as applicable. Except where prohibited by applicable law, Biller shall establish a Deposit Account(s) whereby Invoice Cloud will automatically withdraw from the Biller's account(s) used for this purpose ("Biller's Debit Account(s)") the fees and periodic fees referenced in the Order Form and any Chargebacks, ACH rejects or reversals, refunds and other fees due hereunder resulting therefrom. Biller shall be responsible for and pay all fees or charges relating to Biller's Debit Account and the automatic debit facility, in accordance with the terms thereof. In addition, with respect to any invoices and/or payments that are processed through the Service, the Biller's agreements with all such credit card processors, bank card issuers, ACH and check processors shall require remittance and payment to Invoice Cloud, of all fees and to no other account. Biller shall maintain sufficient funds in the Biller's Debit Account to pay all periodic fees, Chargebacks, ACH rejects, reversals refunds and other fees due hereunder resulting therefrom.

6. **Encrypted Card Readers. (Applicable where Card Readers has been designated on the Biller Order Form)**

Encrypted Card Readers (or Card Readers as described in the Biller Order Form), are provided to the Biller for their use under license fee provided in the Biller Order Form. Invoice Clouds provides to Biller the products on license. Biller will be fully responsible for all products including without limitation all risk of loss and damage to products while in its possession or control, save normal wear and tear.

Where Invoice Cloud provides encrypted card readers, the following additional terms apply (with "products" or "device" in this Section 6 referring to the encrypted card readers):

a. Invoice Cloud and the manufacturer warrants that the products provided pursuant to this Agreement will perform in accordance with the manufacturer's published specifications. Should this product fail to conform to manufacturer's specifications. Repair parts and replacement products will be furnished on an exchange basis and will be either reconditioned or new as specified below. This limited warranty does not include service to repair damage to the product resulting from accident, disaster, unreasonable use, misuse, abuse, customer's negligence, Reseller's negligence, or non-manufacturer modification of the product. Invoice Cloud reserves the right to examine the alleged defective goods to determine whether the warranty is applicable. Without limiting the generality of the foregoing, Invoice Cloud and manufacturer specifically disclaims any liability or warranty for goods resold in other than manufacturer's original packages, and for goods modified, altered, or treated by customers. Service may be obtained by delivering the product during the warranty period as instructed by Invoice

b. The following is the repair and replacement policy:

Replacement Requests – Biller to notify Invoice Cloud that the device is not working, via email, phone call or help desk ticket.

Invoice Cloud will update and or open a new ticket for the swap replacement request. Biller must provide the serial number of the device that is not working.

Replacement device will be shipped to the Biller the same day if request is submitted by 2 pm CST. Requests received after 2pm CST will be processed the following business day.

Shipping Method: Replacement devices will be shipped via Fed Ex 1-3 day at no charge to the Biller. If the Biller needs the device overnighted there is an additional cost of \$35.00 per device.

Biller have 14 business days to return to the device that is not working to Invoice Cloud, Inc. 1148 Vickery Lane, Cordova, TN 38016, delivery or postage pre-paid. Failure to return the non-working device may result in additional fees and charges to the Biller.

Invoice Cloud shall use reasonable efforts to provide the encrypted card reader service in an uninterrupted, continuous fashion. Biller understands and agrees that services may be periodically off line or otherwise inoperable in order for Invoice Cloud to perform maintenance, install or test software, or for other commercially reasonable business purposes and that during such time services may not be provided. Biller further understands and agrees that from time to time services may be off line or otherwise inoperable as a result of the failure of equipment or services provided to manufacturer by third parties (for example, public or private telecommunications services or internet nodes or facilities, overall Internet congestion, unavailability of generic internet services, such as DNS services), and that during such time Services may not be provided. Furthermore, Biller understands and agrees that the provisions of services and other performances hereunder will be excused for any of the reasons set forth herein. In the event of unforeseen network, or equipment failure, manufacturer will use commercially reasonable efforts to restore the Services in a reasonability prompt fashion. Manufacturer may from time to time, in its sole discretion, modify the manner in which it provides services, and modify its software and systems, all of which may result in a change in the manner in which manufacturer provides the software and systems provided, however, that such modifications and/or changes do not degrade the level of, or have a material adverse impact upon the features and functionality of the Services.

c. EXCEPT AS PROVIDED IN THIS SECTION 6, INVOICE CLOUD AND MANUFACTURER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND INVOICE CLOUD MANUFACTURER DISCLAIMS ANY WARRANTY OF ANY OTHER KIND, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. BILLER AGREES S THAT THE MANUFACTURER PRODUCT IS OFFERED AS IS.

d. Responsibilities of Biller. Biller will be responsible for the following: (i) Providing Invoice Cloud with a static IP address or a specific range of static IP addresses, (ii) Confidentiality of End User's Data. Biller is solely responsible for ensuring the secure transmission of any data that Biller transmits to Invoice Cloud ("Biller Transmitted Information"), and Invoice Cloud and Manufacturer will have no liability therefore (provided that manufacturer will use Biller Transmitted Information only for purposes of this Agreement). Biller is solely responsible for implementing security measure, procedures, and standards or any other best practice available to protect the confidentiality of Biller Transmitted Information, (iii) protecting the confidentiality of any information stored on Biller's servers, and (iv) Using the Services in the manner instructed by Invoice Cloud manufacturer and otherwise in the manner intended.

e. Network Security. Biller shall be solely responsible for ensuring that Authorized Biller Employees are not security risks. Upon Invoice Cloud's request, Biller will provide Invoice Cloud with any information reasonably necessary for Invoice Cloud to evaluate security issues relating to any Authorized Biller Employee. Each party will be solely responsible for the selection, implementation, and maintenance of security procedures and policies that are sufficient to ensure that (a) such party's use of the Network Connection is secure and is used only for authorized purposes, and (b) such party's business records and data are protected against improper access, use, loss, alteration or destruction.

f. Biller shall provide Invoice Cloud with physical access to the devices upon request after reasonable advance notice. Biller shall not, nor allow any Third Party to, modify, repair, relocate, sell, lease, assign, encumber, or otherwise tamper with any of the devices without Invoice Cloud's express written consent. Any change of the location of the devices may warrant that Biller pay Invoice Cloud any additional installation and related charges associated with such relocation, charged by Invoice Cloud's third party vendors. At the end of the term, Biller shall be responsible to return all devices, freight prepaid by Invoice Cloud, to Invoice Cloud at the place from which devices was shipped (or as otherwise designated by Invoice Cloud) in as good condition as exists at the commencement of the term, reasonable wear and tear, and casualty, in respect thereto excepted. Biller shall use devices at all times in a workmanlike manner and in such manner as will not damage or injure the devices except by the ordinary wear and tear of such devices. In the event of damage to any devices, Biller shall notify Invoice Cloud who shall replace or repair the devices at Biller's expense.

Devices and all parts and components thereof shall retain its character as personal property and all right, title and interest thereto shall not pass to Biller but title and ownership shall remain exclusively with Invoice Cloud. Biller shall be and shall have the duties of a bailee of the devices. Biller shall not remove, conceal or otherwise interfere with the title or ownership plate of Invoice Cloud affixed to devices until and unless devices is purchased and full payment therefor is made as herein provided. If Biller sells, assigns or attempts to sell or assign devices or any interest therein, or if Biller defaults in any of the covenants, conditions or provisions of this Agreement, it is agreed that Invoice Cloud may immediately and with notice take possession of devices where found and to remove and keep or dispose of the same and any unpaid fees shall at once become due and payable. If any step is taken by legal action or otherwise by Invoice Cloud to recover possession of devices or otherwise enforce this Agreement or to collect moneys due hereunder Biller shall pay Invoice Cloud the equivalent of the moneys expended or charges incurred by Invoice Cloud in such behalf, including reasonable attorney's fees.



FUTURE CITY COUNCIL AGENDA ITEMS

Updated August 10, 2017

AGENDA ITEMS AND CITY COUNCIL MEETING DATES ARE SUBJECT TO CHANGE.
CHECK WITH THE CITY CLERK'S OFFICE AT 839-4617

August 23, 2017
4:30 p.m.

PRESENTATIONS

California Center for the Arts, Escondido - Update

CONSENT CALENDAR

Annual Destruction of Records
(D. Halverson)

The records identified for destruction are more than two years old, do not affect the title to real property or liens thereon, are not court records, are not required to be kept further by a statute and are no longer required by the City. Authority to destroy these records is requested as provided by California Government Code Section 34090 and the City's adopted Records Retention Schedule.

Second Quarter 2017 Treasurer's Report
(D. Shultz)

In accordance with the City's Investment Policy, the City Treasurer is required to submit an investment report to the City Council for review on a quarterly basis. The report will include the type of investment, issuer, date of maturity, par value, book value, and market value for each security held by the City.

Resolution Establishing the Property Tax Rate and Fixed Charge Assessments for Bonded Indebtedness for Fiscal Year 2017-18
(S. Bennett)

Each year, a property tax rate is established to generate an amount of revenue from the property tax base that is sufficient to pay the General Obligation Bond debt service (principal and interest) for the current tax year.

Notice of Completion for the Cemetery Area Pipeline Replacement Project
(C. McKinney)

The Project replaced approximately 3.5 miles of old water mains in areas located in and near the Oak Hill Cemetery.

Consulting Agreements for the Continuation of Planning Services and Preparation of a Final Environmental Impact Report for the Citywide Sphere of Influence Update and the Safari Highlands Ranch Project and Related Budget Adjustment (ENV 15-0009)
(B. Martin)

On March 23, 2016, the City Council approved Michael Baker International to prepare the draft EIR consultant for the project. This contract amendment will carry through the preparation of a Final EIR and will be funded by the project applicant. A contracted planning consultant also funded by the applicant will continue to manage the EIR consultant and EIR contract.

August 23, 2017
Continued

CONSENT CALENDAR Continued

Second Amendment to Consulting Agreement for Southwest Sewer Realignment Project
(C. McKinney)

This project will install approximately 18,200 linear feet (3.5 miles) of 8-inch and 12-inch sewer main.

ORDINANCES – 2ND READING

Amendment to Article 57 (Miscellaneous Use Restrictions) of the Escondido Zoning Code to Establish Electric Vehicle Charging Regulations (AZ 17-0002)

PUBLIC HEARINGS

CURRENT BUSINESS

Library Outsourcing Contract
(J. Epp)

FUTURE AGENDA ITEMS (D. Halverson)

August 30, 2017
NO MEETING (5th Wednesday)

Weekly Activity Report



August 10, 2017

FEATURED THIS WEEK

Welcome to Escondido

This week our digital welcome sign went into rotation at the California Center for the Arts, Escondido. This is in addition to our welcome messages running on the Westfield and Lexus digital marquees. Once the Auto Park's new sign is up and running we will be featured there as well.



Staff Begins Work on Website Update

A team has been assembled and met for the first time this week to begin the overhaul of the City's website. The majority of the work will be done in-house with our existing resources and staff. The updated website is expected to be launched by 2018.

Police Receive over \$500K in Grant Funding

Our Police Department received a \$510,000 OTS grant. This amount is \$200,000 more than previous years. The large increase accounts for two approved DUI enforcement officers that will work during prime hours/days that most DUI collisions are occurring. The objective is to decrease DUI related injuries and deaths by increasing enforcement and education.

SPECIAL EVENTS

Intercession Neighborhood Appreciation Day 2017

10 a.m. to 12 p.m., Saturday August 12 – Grape Day Park

Come join Intercession Church for a time of outreach ministry. There will be arts and crafts for children, back pack and school supplies given away, music and sharing our faith. If you are interested in having a booth or volunteering, please call 760-741-6331.

ECONOMIC DEVELOPMENT

One Stop Systems, a tech company headquartered in Escondido, was recently ranked as one of the San Diego Business Journal's top 100 fastest growing privately held companies in the region. Check out their news release here: <https://www.onestopsystems.com/article/oss-named-one-san-diego%E2%80%99s-fastest-growing-companies>

COMMUNITY DEVELOPMENT

Major Projects Update

The following major projects are currently being reviewed and coordinated with Planning, Engineering, Fire, Building and Utilities staff. A complete description of each project can be viewed [here](#). Updates provided below cover project milestones that occurred last week.

Commercial / Office:

1. Escondido Research and Technology Center – East (ERTC) (Developer: James McCann) – A grading plan for a temporary parking lot to serve the hospital was approved June 13, 2016, and the parking lot is now under construction.
2. Escondido Research and Technology Center – West (ERTC) (Developer: James McCann) – Construction is underway on the approximately 76,000 square foot medical office building with a linear accelerator. A plan for a new two-story, 57,000 SF, 52-bed Palomar Rehabilitation Institute was submitted on July 31, 2017 and is now being reviewed by staff. The facility is proposed in an existing parking lot south of the hospital.
3. Springhill Suites (Developer: Raj Patel, San Bernardino Hospitality LLC) – Final interior design changes to meet Marriott's current generation prototype were approved by Esgil and Planning on July 11, 2017. Final design is close for the traffic signal at the project driveway entry.
4. Centre City Commercial Center (Developer: Todd Dwyer) – The Plot Plan has been approved and demolition has started. The applicant has submitted grading, building and landscape plans and the final parcel map. The expedited plan check process started on July 25, 2017.

Industrial

1. StorQuest 222 W. Mission Ave. (Developer: The William Warren Group, Inc.) – The grading plan has been approved and the mylars are in Engineering awaiting final posting of deposits and fees. Building plans have now been approved by Esgil, Planning and Fire. Landscape plans were submitted on June 7, 2017 and Planning reviews have been returned to the applicant.

2. Escondido Self-Storage Facility (Developer: Brandywine Homes, Inc.) – Building plans grading plans, landscape plans and the final map have been submitted and comments have been provided by staff and Esgil. Revised grading, street and improvement plans were submitted by the applicant on July 14, 2017. Planning comments will be issued this week.
3. Innovative Industrial Development (Developer: Scott Merry, Badiee Development) – Comments on the building permit application have been returned. Landscaping drawings were submitted on May 9, 2017. The second check of the grading plan is nearing approval.
4. North American Self-Storage (Developer: Russ Colvin) – This project is participating in the expedited plan check program. The demo permit has been issued. Building plans were approved by Esgil, Planning and Fire the last week of June. The grading plan was approved on August 1, 2017. The applicant is finalizing the improvement plans in response to Utilities comments on the Metcalf water line.

City Projects

1. Micro-Filtration Reverse Osmosis (Developer: City of Escondido Utilities Department) – *No further updates to this item will be provided while litigation is in progress:* The Planning Commission approved the proposed CUP on December 13, 2016. An appeal of that decision was filed and the City Council denied the appeal on January 11, and affirmed the Planning Commission’s decision to approve the project.
2. Lake Wohlford Replacement Dam (Developer: City of Escondido Utilities Department) – A Draft EIR was prepared and issued for a 45-day public review period that began on October 4, 2016 and closed on November 17, 2016. Staff and AECOM are now in the process of coordinating responses to the comments that were received during the public review period. A field visit with staff from the state and federal wildlife agencies took place on May 11, 2017, to review biological mitigation requirements. Staff sent a follow-up letter to the wildlife agencies on June 29, 2017, seeking clarification on the proposed biological mitigation requirements.

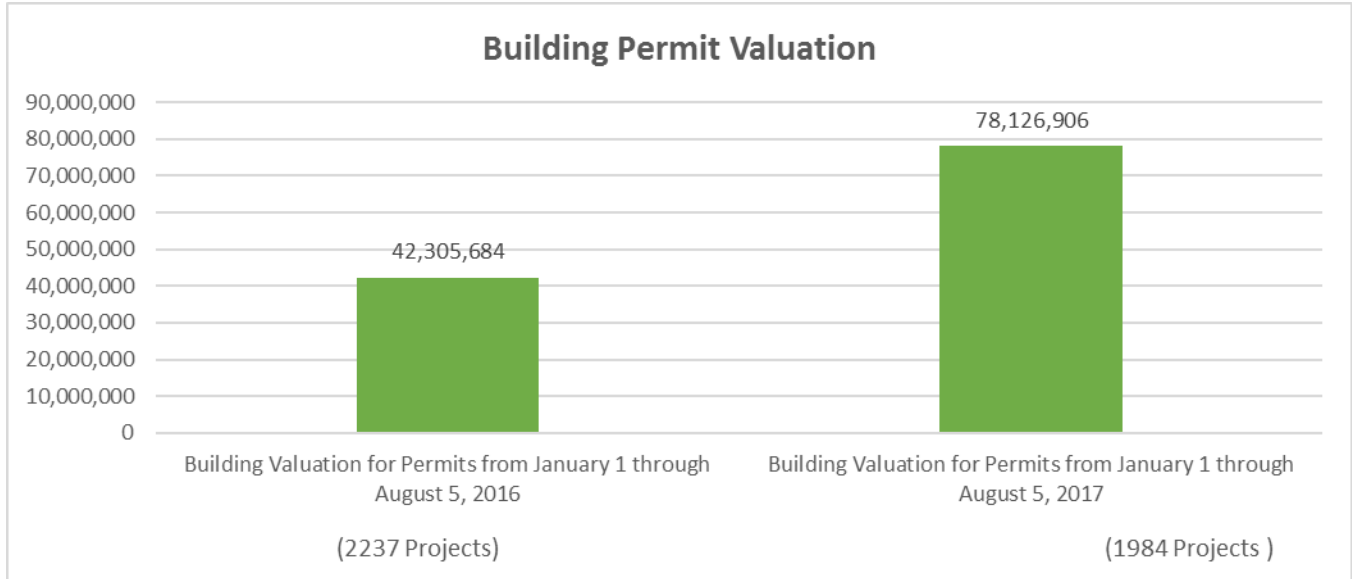
Institutional

1. Citron (formerly Stella Park) Condominiums (Developer: William Lyon Homes) – Building plans were submitted on April 6, 2017. Esgil and Planning have provided comments. Fire has approved the building plans. The rough grading has been completed on the site. The applicant resubmitted the precise grading plan on July 14, 2017.
2. Wohlford (Developer: Jack Henthorne) – The Draft EIR has been posted on the city website and released for a 45-day public review period that ended on May 12, 2017. The EIR consultant provided the responses to public comments and Final EIR will be provided to Planning this week.
3. Safari Highlands Ranch (SHR) (Developer: Jeb Hall, Concordia Homes) – A second revised tentative map depicting various minor changes and clarifications to roads, easements and drainage facilities was submitted on April 25, 2017. Revised technical engineering reports as well as responses to staff comments also have been submitted for review. The revised

studies have been loaded on the City's website at the following link: [Safari Highlands Ranch Specific Plan - City of Escondido](#).

4. 701 San Pasqual Valley Rd (Developer: Bob Stewart) – A three-year extension of time for the previously approved ten-lot subdivision (Tract 895) was approved by the City Council on June 7, 2017. Staff comments on the revised tentative map were issued the last week of July.
5. Escondido Gateway (Developer: Carolyn Hillgren, Lyon Living) – Demolition of the former police building commenced on July 25, 2017 and should be completed soon. Building plans have been approved by Esgil and Fire. Grading plans have been approved by Utilities, Planning and Fire.
6. The Villages at Escondido Country Club (Developer: Jason Han, New Urban West, Inc.) – Planning staff has provided a location on the city's website for ECC project-related documents and plans. A 45-day public review period for the Draft EIR commenced on June 28, 2017 and will end on August 18, 2017. Staff and the EIR consultant hosted an open house on July 31, 2017, to provide information related to the Draft EIR and accept written comments. The Draft EIR and appendices have been placed on the city website. This information along with project status and other related information can be accessed at the following link: [ECC - City of Escondido](#)
7. Ivy/Valley Parkway Mixed-Use Development (Developer: Abad Rahan Pars Inc./ Norm Wieme, Architect): The applicant has indicated that grading and building plans are expected to be submitted into plan check soon. The reimbursement agreement for new water infrastructure that will be installed by the project in the adjoining alley is being readied for City Council approval.
8. North Avenue Estates (Developer: Casey Johnson) – An application to re-entitle aspects of the previously approved project that have expired and modify the project design to reflect new storm water requirements was submitted to the Planning Division on March 7, 2017. A revised tentative map was submitted last week and is currently being reviewed by staff. A new annexation survey of surrounding property owners was mailed out at the request of LAFCO. A neighborhood meeting hosted by staff and the project applicant occurred on August 9, 2017.
9. Aspire and The Ivy (Developer: Addison Garza, Touchstone Communities) – The project consists of three separate downtown sites proposed for mixed-use, residential and parking garage project components on Parking Lot 1, Parking Lot 4 and the former Escondido Surgery Center property. Applications were submitted for entitlement processing on June 23, 2017. A project kick-off meeting with the applicant and city staff occurred on July 13, 2017. On July 24, 2017, staff sent a letter to the applicant indicating the project application submittal was incomplete.

Building Division

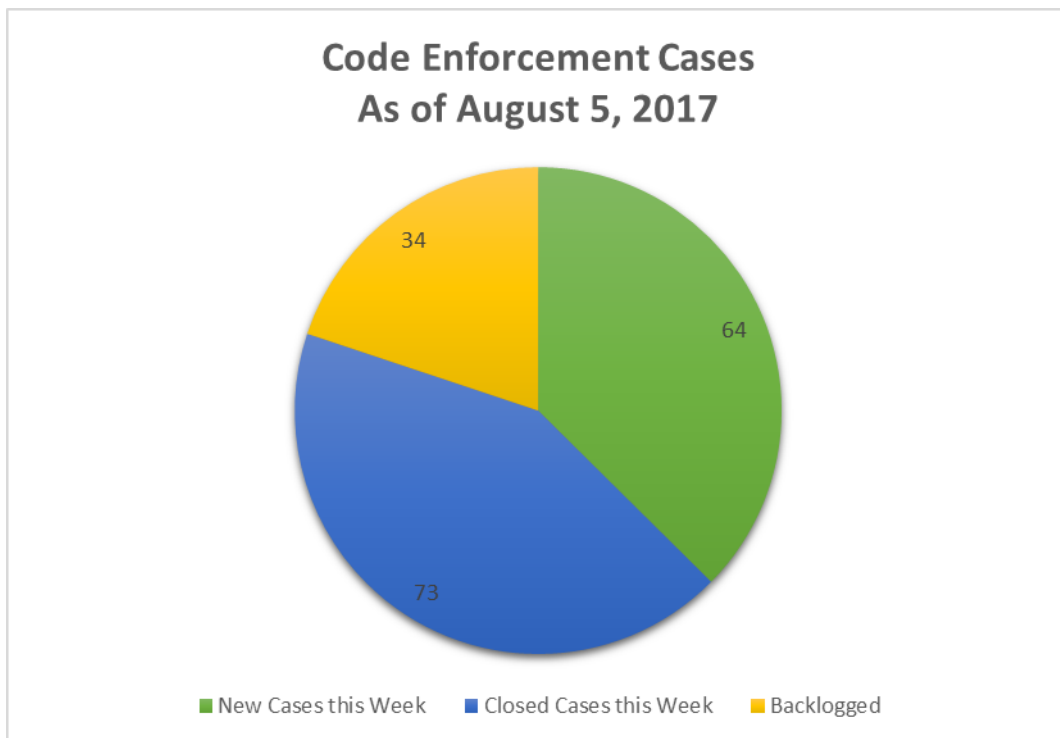


Building Permits Issued Last Week	Total Valuation
73	\$2,170,703

1. 17 solar permits were issued for the week. The Building Division has issued 564 solar permits this year compared to 759 issued for the same time last year.
2. Our building inspectors responded to 173 inspection requests for the week.
3. The total building valuation for all issued permits this year through August 5th is \$78,126,906 compared with \$42,305,684 for same time last year. Building has processed 1,984 projects to date compared with 2,237 projects in 2016.
4. Building has issued 132 single family dwelling permits this year and 224 multi-family units. This compares with 46 single family dwelling and 88 multi-family dwellings for same time last year.
5. Projects nearing permit issuance are:
 - a. 917 W Lincoln, three new apartment buildings, nine units.
 - b. 700 W. Grand, 126-unit, five-story condo development on former Police Dept. site.
6. The construction of the City Plaza three-story mixed use building at 300 S. Escondido Blvd. has received partial approval of roof framing and rough framing inspections. Drywall is now being installed throughout the building.
7. Drywall is being installed in the second floor units at the Meadowbrook, three-story apartment building with underground garage at 2081 Garden Valley Glen.
8. Phase II of Escondido Disposal's construction including scales and walls on the southern side of Washington Avenue is set to begin next week.

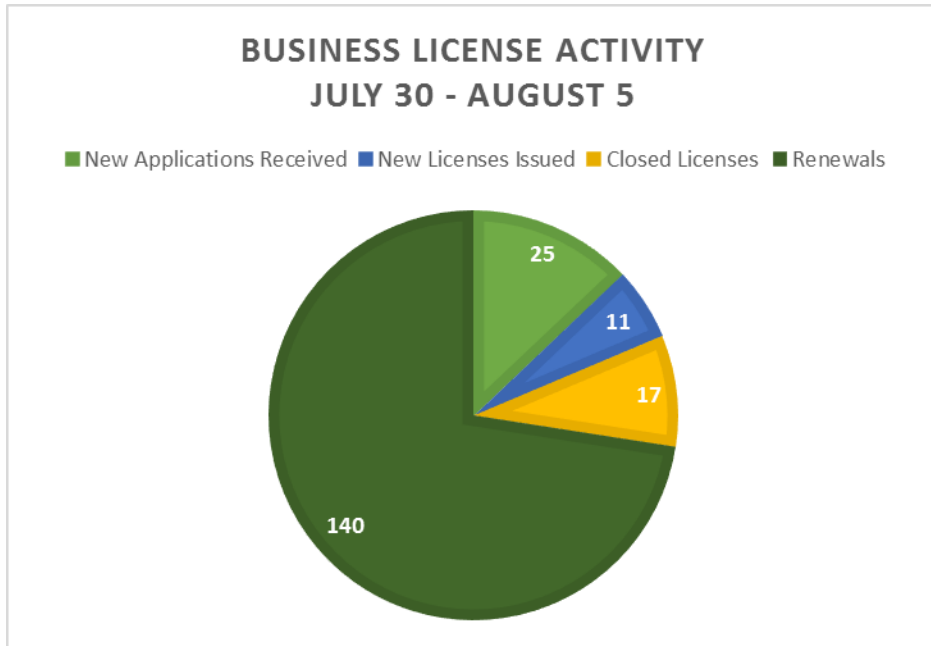
9. The medical office building at 2125 Citracado Pkwy has completed second and third floor concrete slabs and framing has commenced.
10. The medical office building at 1951 Citracado Pkwy has completed construction of the exterior masonry walls. Roof framing has commenced.
11. The Westminster Seminary at 1725 Bear Valley Pkwy is proceeding with the framing of all nine buildings.
12. The Emanuel Faith Church at 639 E 17th Ave and the Church of Resurrection at 1445 Conway have started framing of the roof structural steel.
13. The new Veterans Village project at 1540 S. Escondido Blvd. has received underground plumbing, partial foundation and masonry inspections for the residential buildings.

Code Enforcement

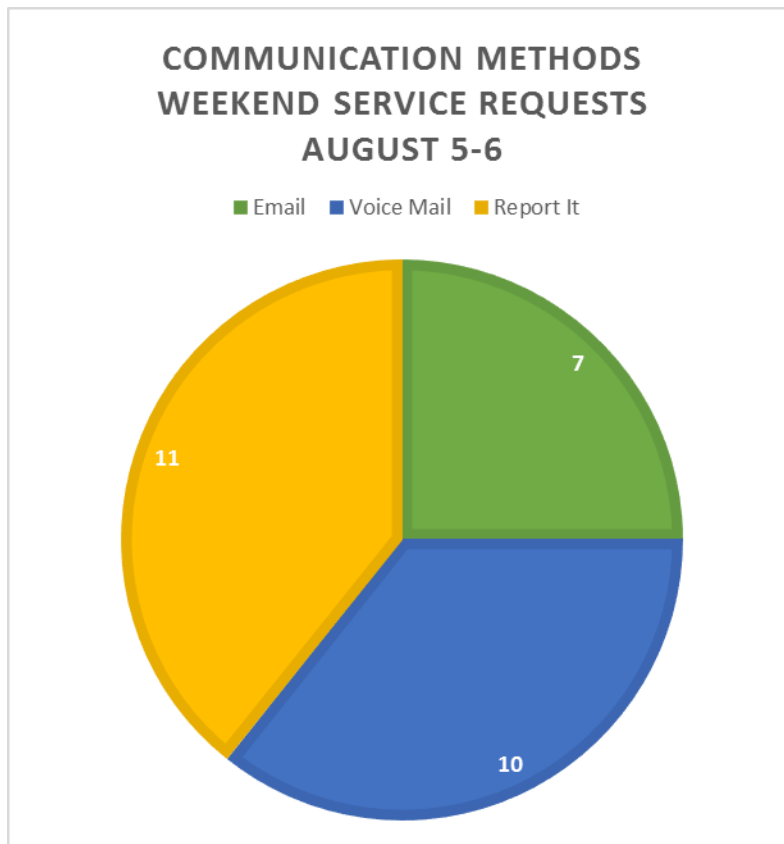


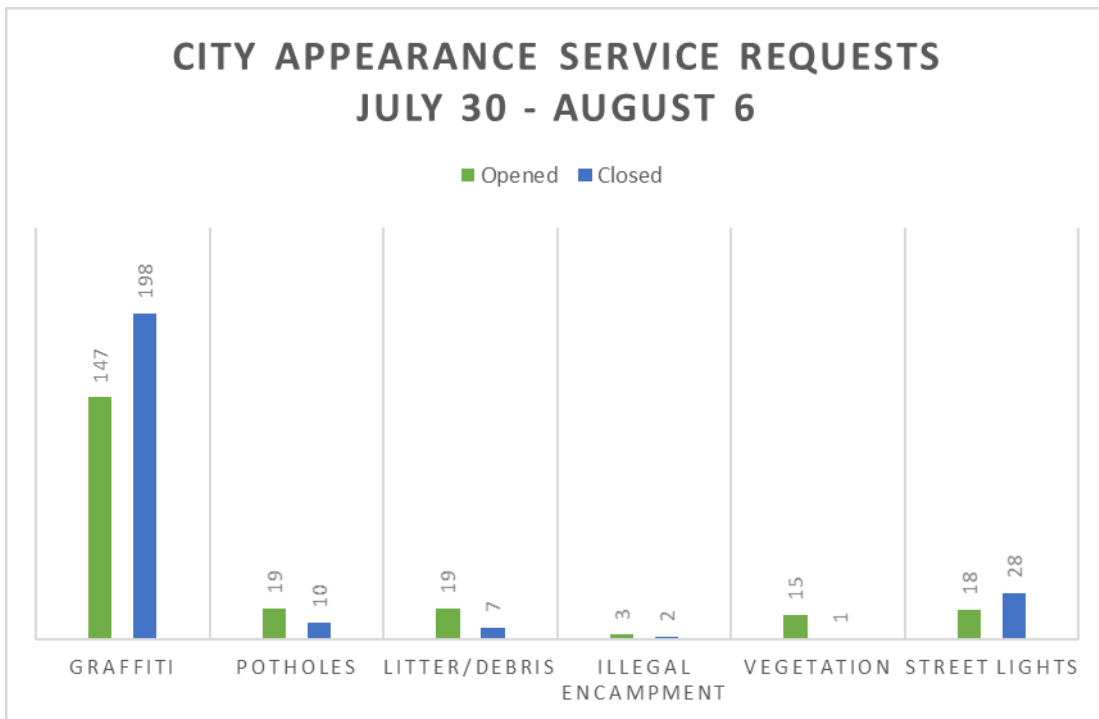
Total Open Code Cases	Illegal Signs Confiscated over the Previous Weekend
395	83

Business Licensing



Public Works Operations





Graffiti Restitution

Collected This Week	Collected Year to Date
\$180	\$6029.51

ENGINEERING

Capital Improvements

East Valley Pkwy/Valley Center Road Widening Project

This project will widen the bridge over Escondido Creek north of Lake Wohlford Road, widen Valley Center Road, add medians and landscaping, and construct sidewalk from Beven Drive to the northern City limit. This project bid on May 25, 2017, the project was awarded by the City Council at the July 12, 2017 meeting. The signed contract was received on August 8, 2017 which will set in motion the preconstruction meeting. At that meeting the Notice to Proceed will be issued.

Neighborhood Streetlight Project

This project will add new streetlights to meet current lighting standards, and retrofit existing streetlights with LED fixtures at five established communities throughout the City (Cedar-Cedar Brook, Mission Grove, Rose to Foxdale, Rustic Village, The Elms). Five bids were received, with the apparent low bid being \$500,580.00. It is anticipated that award of the construction contract will be requested of the City Council at the August 16, 2017 meeting.

Encino Street Storm Drain Repair:

The final construction of the 42" storm drain replacement was started on Monday, August 7, 2017. All work is expected to be completed by August 18, 2017.

Annual Street Maintenance Project

Bid documents for the next annual street maintenance project are being prepared. The project will replace uplifted sidewalks and trees, apply pavement treatments, and restripe with bike lanes in compliance with the City's Bike Master Plan. This year's project will focus in the NE Maintenance Zone, which is bounded by Broadway on the West, Lincoln on the South, and the City limits on the North and East. In addition, resurfacing is planned on portions of Lincoln, El Norte, Broadway, Felicita and Andreasen. Staff expects to finalize bid documents later this summer, request City Council award of the contract, and begin construction in the Fall. The list of streets to be paved will be posted on the Engineering page of City's website in August.

Private Development

Pradera - Lennar Communities

No changes from that reported last week: Phase 6 homes are being released for occupancy this week.

Lexington Model Homes - KB Homes

The installation of the water main connection at Lehner Avenue and Ash Street intersection was performed on Tuesday, August 8, 2017. Lehner Avenue at Vista Avenue was permanently closed on Thursday, August 3, 2017. This will permit the developer to complete the new improvements which include water main, storm drain, streets lights and the new Lehner Avenue cul-de-sac improvements.

Citron Project by William Lyon Homes

The mass grading of the project has resumed this week; the project is located 2516 S. Escondido Boulevard.

Escondido Boulevard at 3rd Avenue

No changes from that reported last week: The contractor is continuing to place framing along the third floor, lane closures along 3rd Avenue will be ongoing to allow for the lifting of construction materials to the third floor roof.

Tract 932 - Canyon Grove Shea Homes Community

The final concrete improvements for the Ash/Vista intersection were placed on August 7, 2017. The final paving will be installed on Thursday, August 10th, with the final traffic striping and signage being installed August 14, 2017. All traffic signal poles have been installed and the activation of the signal is scheduled for Tuesday, August 15, 2017 in preparation of the school reopening on August 16, 2017.

Latitude II Condominiums by a Lyon Homes Partnership: Washington Avenue at Centre City Parkway

The construction of the offsite water main located on Centre City Parkway between Mission Avenue and the project is continuing this week with water quality testing being performed.

Veterans Village

The project's offsite water improvement is continuing this week.

Tract 877 – Bernardo Ave. by Ambient Communities

The onsite construction, which includes importing base material for the preparation of the concrete improvements has started this week.

Palomar Medical Center

The construction of the second new driveway approach is continuing this week. The contractor has completed the rough grading of the temporary parking lot pad across from the main entrance to the hospital. Streetlight are being stood this week, the lights for the parking lot are powered by a solar panel system.

Victory Industrial Park

No changes from that reported last week: The grading operation at this site, including the importing of material, will continue this week. The project is located at 2005 Harmony Grove Road and is 5.4 acres in size.

Centerpoint Project

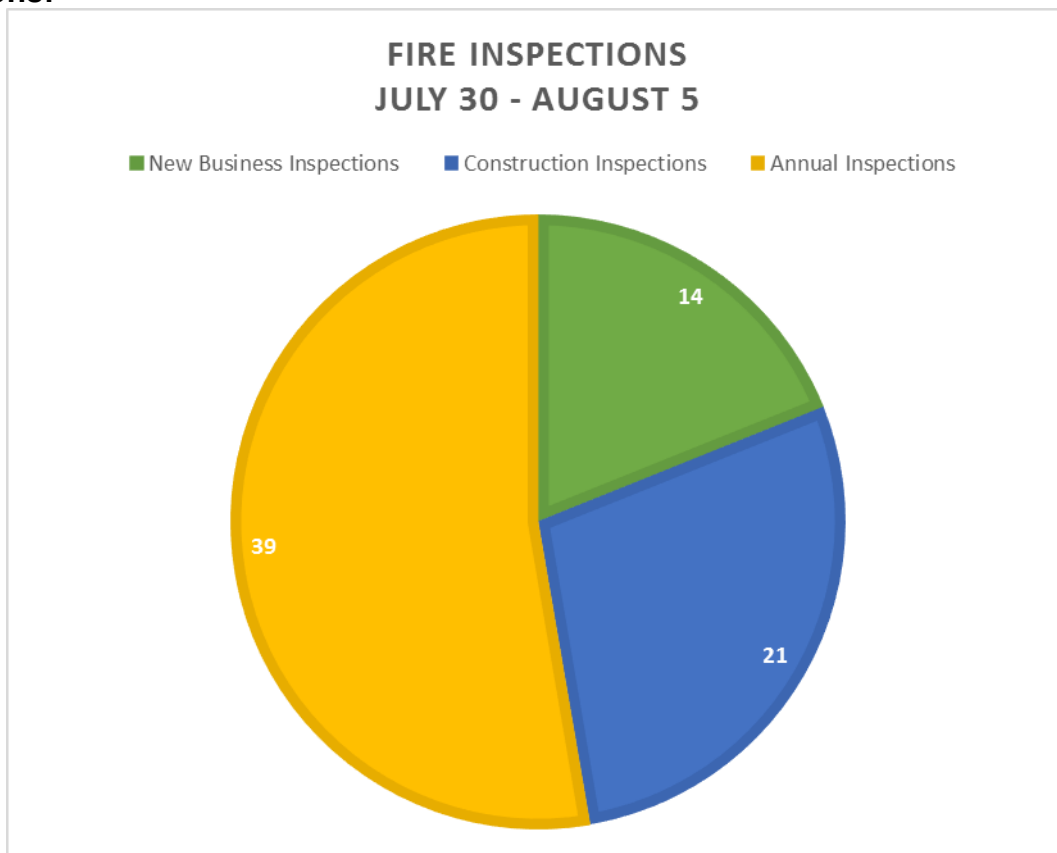
The offsite improvements have been started which include storm drain, water and sewer pipeline work. The first water line tie in is scheduled for Thursday of this week during a night time operation. The project is located at 999 Broadway.

Spring Hill Suites Hotel/ La Terraza Boulevard

The grading operation in continuing this week.

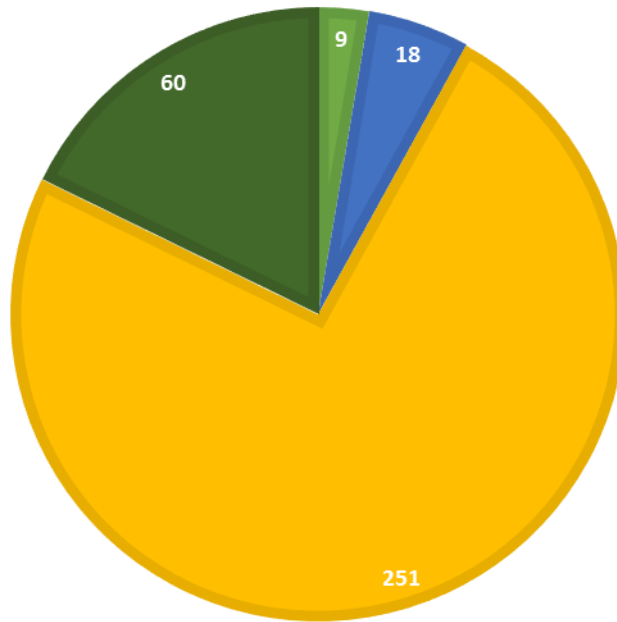
FIRE

Inspections:



FIRE EMERGENCY RESPONSES JULY 30 - AUGUST 5

■ Fires
 ■ Vehicle Accidents
 ■ EMS Responses
 ■ Other



Total Emergency Responses (Year To Date)	9,844
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News:

- Engineer Brad Bihun returned safely from the Detwiler Fire in Mariposa on Monday, July 31, 2017.
- The crew re-routed to the Jacksonville Fire in Tuolumne-Calaveras County on Saturday, July 29, 2017 was released and returned home safely on Tuesday, August 1, 2017.
- On Friday, August 4, 2017, The City of Escondido Fire Department sent a Brush Engine crew of four firefighters as part of an OES Strike Team to the Bryant Fire in San Bernardino County. The next day that strike team was redirected to the Parker 2 Fire near the town of Alturas in the Modoc National Forest (near the Oregon border). The crew returned on Sunday, August 6, 2017.
- On Saturday, August 5, 2017, The City of Escondido Fire Department sent a Battalion Chief, a Captain and Brush Engine 133 with 4 firefighters as part of a North Zone Strike Team to assist with the Parker 2 Fire (near the Oregon border). As of Sunday, August 6th, the Fire was approximately 7,900 acres and 15% contained. Updated information available here: <https://inciweb.nwcg.gov/incident/5462/>



- On Monday, August 7, 2017, The City of Escondido Fire Department also sent a Captain as a “Line Medic” to help support the Parker 2 Fire.
- There is a new feature on the www.readysandiego.org website which allows San Diego County residents and visitors to search hazards by address. In other words, you can enter your home, work, or child’s school address and the map search feature will display the level of risk at that address for tsunami, wildfire, flooding and earthquakes. The search result will also display steps you can take to prepare for these emergencies. You can find and explore the new “Know Your Hazards Tool” here: <http://www.readysandiego.org/know-your-hazards/>

POLICE

INCIDENTS:

- On 7/30/17 at 04:30 hours, an officer conducted a traffic stop and later impounded the vehicle (driver had no license), taken by Allied Towing. At 08:30 hours the driver (a 17-year-old male juvenile) arrived at Allied Towing and requested to remove property from the vehicle. He was escorted by an employee to the vehicle (06 Pontiac G6 Silver). The male advised he was taking the vehicle and when the employee protested, the male punched him and then drove the vehicle through the tow yard gate and away from the property. The vehicle was located parked at 2525 Cranston Dr. with a note and phone number requesting the vehicle not be towed. Attempts to have the suspect return to the vehicle location were negative and the vehicle was recovered and impounded again. ****Update: Suspect was later apprehended after another attempt to take back the vehicle from Allied Towing.**
- On 7/30/17 at 05:32 hours, officers responded to a roll-over traffic collision at 1811 E. Grand Ave. The driver, a female adult, was uninjured and arrested for DUI.
- On 7/31/17 at 04:12 hours, officers responded to a 911 call made by a neighbor regarding a fight at 3283 Bevin Dr. A 20-year-old male had friends over to hangout and drink. Other (uninvited) males arrived and a fight ensued. The 20-year-old (victim) confronted the subjects as they were driving away and somehow got his arm stuck in the door, causing him to be dragged a short distance. The victim’s mother heard the commotion and stepped out with a shotgun. The suspects released the victim from the car door and drove off. The mom drove her son toward the hospital at a high rate of speed. Officers intercepted mom and son, not knowing at the time if they were

suspects. Medics arrived on scene and transported the victim to a nearby hospital. The victim's injuries do not appear to be life-threatening.

- On 8/1/17 at 13:56 hours, communications received phone calls of a two-vehicle collision involving a CHP vehicle. The CHP officer was going to a crash somewhere in the Del Dios area when he collided with another car in the intersection of Valley Pkwy/Auto Park Way, resulting in minor injuries. Because it involved a CHP vehicle, the traffic division responded to investigate. The entire intersection was closed for several hours, but rush-hour traffic was diverted successfully around the area thanks to the work of a team of patrol officers and volunteers.
- On 8/1/17 at 22:45 hours, officers respond to 301 W. Vermont Ave (Felicitia Creek Apartments), regarding reports of a large fire in the middle of the complex. Officers arrived on scene and determined that the fire was in the brush area to the west of the complex. Police assisted fire with traffic and crowd control. Fire is believed to be arson. Possible suspect described as a homeless male, 60's, long white hair and beard wearing a white shirt and blue jeans.
- On 8/2/17 at 03:21 hours, officers responded to a single vehicle collision into a tree on Mission Ave just east of Metcalf St. Vehicle was occupied by two people. Both occupants were transported to Palomar Medical Center. It was ultimately determined that the driver had a fractured femur. Alcohol is not believed to be a factor.
- On 8/2/17 at 12:15 hours, dispatch received calls of a robbery in progress at the CVS Pharmacy at 1655 S. Centre City Pkwy. A male jumped the counter and filled a backpack with narcotic-based cough syrup. He simulated having a handgun underneath the sleeve of his shirt, and had something wrapped around his face when he entered the store. Officers detained several subjects in the area and arrested one person of interest, but he was later released without being charged due to lack of evidence. The investigation is on-going.
- On 8/3/17 at 01:25 hours, an officer attempted to stop a Silver Ford Fusion with no plates in the area of Broadway/Washington. The vehicle failed to yield and a pursuit ensued. Shortly after the pursuit was initiated, the officer canceled it due to dangerously high speeds and unsafe driving by the suspect. A few minutes later the officer picked up the car south bound on Ash St/Grand Ave. The vehicle continued to flee for a few miles and was ultimately lost in the area of Spruce/5th. No arrests made.
- On 8/3/17 at 06:47 hours, reports of a subject face down near the bike path of the Flood Control Channel between Midway & Rose. Officers arrive and confirm the male adult is deceased. Detectives from Crimes of Violence responded with the Medical Examiner. All signs point to accidental overdose via inhalants.
- On 8/3/17 at 06:51 hours, Dispatch receives a call for service at 505 San Pasqual Rd, regarding (3) subjects passed out in a vehicle. Upon arrival, Officers observe a Glock 32 (.357 Sig Auto) with a 22 round extended capacity magazine in the front right pocket of the front passenger. Officers order all (3) subjects from the car and detain them without incident. A search of the vehicle yielded several bottles of liquid codeine. All (3) subjects were placed under arrest. Crimes of Violence Detectives responded to the

scene and determined this to be related to the CVS robbery from the previous day (see above). Crime Lab personnel were also dispatched to assist with evidence collection from the vehicle.

- On 8/3/17 at 12:15 hours, the victim exited the bank at 1655 E. Valley Pkwy with \$1040 cash in a wallet. While walking to Big Lots from the bank, a White Dodge Charger pulls up to victim and a light skin black male exited the passenger side. The suspect ran up to victim and grabs the wallet from the victim. The male suspect then fled from the scene in the Dodge Charger. Bank teller advised a matching suspect entered the bank minutes earlier and attempted to cash a check related to an account with Insufficient Funds and a fraud alert. The male was denied the money and the teller observed the male exit the bank and get into the passenger side of a white Dodge Charger. The bank teller also confirmed a black female tried to cash a similar check from the same account earlier today. All three cases appear to be related.
- On 8/4/17 at 17:54 hours, units responded to 1163 E. Ohio Ave in reference to a call where a vehicle left the roadway and struck an occupied dwelling. Two residents of the house, a 74 year old female and a 12 year old juvenile, suffered minor lacerations but were not transported to the hospital. The driver had to be chemically restrained by Escondido Fire Department medics at the scene, but was not charged pending further investigation.
- On 8/4/17 at 23:58 hours, an officer was on his way to 611 Boyle to contact the parents of a Runaway Juvenile. While en route, he noticed a vehicle driving recklessly nearby. The officer stopped the car with the intention of giving a quick advisement. As the officer approached the driver's side door, he heard a loud metal "clunk" sound on the ground near the passenger's side door. A second officer arrived to cover and approached on the passenger side, where he found a gun on the ground next to the car. The driver/suspect was arrested on several charges, including possession of a stolen firearm. The suspect is currently on bail for possession of narcotics for sales and possession of a loaded firearm (San Diego Sheriff's Office case). Officers contacted the gun owner who confirmed the gun was stolen and there are still 2 more firearms outstanding.
- On 8/5/17 at 02:00 hours, an officer saw a white Ford Expedition he recognized as stolen in the area of 7th Ave/Orange St. After an enforcement stop, the driver and passenger were taken into custody without incident. Both were booked for Felony Auto Theft, Possession of Illegal Substances and the passenger also had 2 warrants for his arrest.
- On 8/5/17 at 23:59 hours, three suspects approached three victims in the area of Mission Ave/Fig St. The suspects demanded property from the victims and motioned toward their waistband as if they were armed. The suspects took a skateboard from one of the victims and ran to a nearby small blue SUV, and fled the scene. A short time later an Officer located the SUV and the suspects at 920 E. Mission Ave. Officers converged and three of the four suspects were arrested, and the skateboard was recovered. Suspects were charged with Robbery.

COPPS:

The Escondido Police Department COPPS (Community Oriented Policing and Problem-Solving) Unit is dedicated to increasing the quality of life for the residents of Escondido through pro-active responses to crime trends and community issues. Addressing crime and public nuisance in Grape Day Park is one project the Unit has been tasked with, along with patrolling the Downtown Business District and surrounding areas.

This Week:

- 14 citations issued, including (9) for illegal camping
- Four arrests made: (2) for Drunk in Public, (1) Probation Violation and (1) for Drug Possession
- Meeting held with CHP-Cal Trans to address illegal camping issues in 800 block of Metcalf St
- Met with Code Enforcement and Rangers to coordinate observation/reporting/enforcement actions in/around Grape Day Park

EVENTS:

- On August 1, 2017, the Escondido Police Department hosted the 2017 National Night Out event in Grape Day Park. This is an annual opportunity for law enforcement to enhance community relationships with the public by partnering with other City of Escondido divisions and non-profit organizations. Target is a major sponsor of the event, donating bikes for raffle and cooking over 450 hot dogs to give away to those in attendance. Approximately 500-1000 people attended the event, to include Mayor Sam Abed, Councilman Ed Gallo, City Manager Jeff Epp and Chief Craig Carter. There was even a dance-off!!



- On Saturday, August 5th, the police and Police Athletic League coaches could not get the Galindo Shield back. The day belonged to the PAL kids. It helped that we let 6'11" soon to be European Pro basketball player Ryan Smith play for the kids again. Ryan was 6'8" when he played with PAL four years ago. The kid keeps growing. However, the young kids did more damage. They were hitting all their 3 point shots and won by our first time ever blowout 57-42. Escondido High and Orange Glen are going to have some very good players this year! The kids now lead the series 6-2. The event raised

\$6,300.00 for PAL. Thank you Escondido Community for making this event a success. PAL also created a Public Service Announcement video to seek out more financial support for this great program that reaches over 700 youth per year!



- On Saturday, August 5, 2017, Chief Carter spoke with the Women's Group at Resurrection Church regarding general Police Department activities and answered questions.
- Escondido Police Department and the City said good-bye to 36 year employee Frank Skelton, who was a Dispatcher and Records Clerk. Enjoy retirement, Frank! Thank you for your dedication and service.



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