OTAY RANCH PORTION OF VILLAGE 4 SPA PLAN
PUBLIC FACILITIES FINANCE PLAN

Otay Ranch Portion of Village 4 SPA Plan PFFP
Approved by:
Chula Vista City Council

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I. EXECUTIVE SUMMARY

OVERVIEW

This Public Facility Finance Plan (PFFP) addresses the public facility needs associated with the Otay Ranch Portion of Village 4 Sectional Planning Area (SPA) Plan. The proposed project as described in the SPA Plan is sometimes referred to as "The Project" in this PFFP. The PFFP has been prepared under the requirements of the City of Chula Vista's "Growth Management" ordinance and Chapter 9, Growth Management of the Otay Ranch General Development Plan (GDP). The preparation of the PFFP is required in conjunction with the preparation of the SPA Plan for the project to ensure that the phased development of the project is consistent with the overall goals and policies of the City's General Plan, Growth Management Program, and the Otay Ranch General Development Plan (GDP) which was adopted by the Chula Vista City Council on October 28, 1993 and recently updated to ensure that the development of the project will not adversely impact the City's "Growth Management" ordinance. This PFFP meets the policies and objectives of the Otay Ranch GDP.

This PFFP is based upon the phasing and project information that has been presented in the *Sectional Planning Area (SPA) Plan for Otay Ranch Village 4, November 2016 by Atlantis Group* and the associated *Otay Ranch Village Four SPA Plan Draft Environmental Impact Report, December 2016 by Dudek*. The Project consists of 73 single family dwelling units, 277 multifamily dwelling units, and associated open space, community purpose facility, and right of way uses. The PFFP begins by analyzing the existing demand for facilities based upon the demand from existing development and those projects with various entitlements through the year 2020 (using a starting date of 2016, per the EIR). Further, the PFFP uses the developer proposed single development phase to determine the associated impacts.

The SPA Plan area represents a specific geographic area within the overall Otay Ranch planning area of Chula Vista. Planning entitlement documents and technical reports surrounding the Portion of Village 4 SPA Plan have been considered in the preparation of this PFFP. Technical reports that may be referenced in this PFFP include prior analyses of Village 8 West and Village 3. Some public facility discussion in this PFFP may include discussion of those peripheral villages in proximity to Portion of Village 4.

When specific thresholds standards are projected to be reached or exceeded based upon the analysis of the phased development of the project, the PFFP provides recommended mitigation necessary for continued compliance with the Growth Management Program and Quality of Life Threshold Standards. The development phasing analyzed in this PFFP is consistent with the SPA Phasing Plan, but may indicate that the development phasing should be limited or reduced until certain actions are taken to guarantee public facilities will be available or provided to meet the Quality of Life Threshold Standards. Changes to the proposed phasing shall require approval by the Director of Development Services.

Typically, as an applicant receives each succeeding development approval, the applicant must perform the required steps to ensure the timely provision of the required facility. Failure to perform the required step curtails additional development approvals. The typical steps are illustrated below:

Performance of Facility Thresholds

GDP:

- Goals, objectives & policies established.
- Facility thresholds established.
- Processing requirements established.

SPA:

- Facility financing refined and funding source identified consistent with GDP goals, objectives & policies.
- Facility demand and costs calculated consistent with adopted land uses and GDP defined methodologies.
- Specific facility financing and phasing analysis performed to assure compliance with Growth Management Threshold Standards.
- Facilities sited and zoning identified.

Tentative Map:

- Subdivision approval conditioned upon assurance of facility funding.
- Subdivision approval conditioned upon payment of fees, or the dedication, reservation or zoning of land for identified facilities.
- Subdivision approval conditioned upon construction of certain facility improvements.

Final Map:

- Tentative Map conditions performed.
- Lots created.

Building Permit:

- Impact fees paid as required.

The critical link between the Threshold Standards and development entitlements is the PFFP. Part II, Chapter 9, Section C of the GDP/SPA Processing Requirements, General Development Plan Implementation, requires the preparation of Public Facility Financing and Phasing Plans in conjunction with SPA approval. This PFFP satisfies the GDP requirement. The PFFP requires the preparation and approval of phasing schedules showing how and when facilities and improvements necessary to serve proposed development will be installed or financed to meet the Threshold Standards, including:

- An inventory of present and future requirements for each facility.
- A summary of facilities cost.
- A facility phasing schedule establishing the timing for installation or provisions of facilities.
- A financing plan identifying the method of funding for each facility required.
- A fiscal impact report analyzing SPA consistency with the Subregional Plan (SRP).

Subsection C of the City of Chula Vista Municipal Code (CVMC) Section 19.09.100 (Growth Management Ordinance) requires that if the City Manager determines that

facilities or improvements within a PFFP are inadequate to accommodate any further development within that area the City Manager shall immediately report the deficiency to the City Council. If the City Council determines that such events or changed circumstances adversely affect the health, safety or welfare of City, the City may require amendment, modification, suspension, or termination of an approved PFFP.

A. GENERAL CONDITIONS

1. All development within the boundaries of the PFFP for the project shall conform to the provisions of Section 19.09 of the Chula Vista Municipal Code (Growth Management Ordinance) as may be amended from time to time and to the provisions and conditions of this Public Facilities Financing Plan.
2. All development within the boundaries of the Otay Ranch Portion of Village 4 PFFP for the project shall be required to pay development impact fees, unless the developer has entered into a separate agreement with the City, for public facilities, transportation and other applicable fees pursuant to the most recently adopted program by the City Council, and as amended from time to time. Development within the boundaries of the Otay Ranch Portion of Village 4 SPA shall also be responsible for fair share proportionate fees that are necessary to meet the adopted facility performance standards as they relate to the SPA Plan and subdivision application.
3. The Public Facilities Finance Plan shall be implemented in accordance with Chula Vista Municipal Code (CVMC) 19.09.090. Future amendments shall be in accordance with CVMC 19.09.100 and shall incorporate newly acquired data, to add conditions and update standards as determined necessary by the City through the required monitoring program. Amendment to this Plan may be initiated by action of the Planning Commission, City Council or property owners at any time. Any such amendments must be approved by the City Council.

4 Approval of this PFFP does not constitute prior environmental review for projects within the boundaries of this Plan. All future projects within the boundaries of this PFFP shall undergo environmental review as determined appropriate by the City of Chula Vista.

5. Approval of this PFFP does not constitute prior discretionary review or approval for projects within the boundaries of the Plan. All future projects within the boundaries of this PFFP shall undergo review in accordance with the Chula Vista Municipal Code. This PFFP analyzes the maximum allowable development potential for planning purposes only. The approval of this plan does not guarantee specific development densities.
6. The facilities and phasing requirements identified in this PFFP are based on the proposed Project Site Utilization Plan (Exhibit 3).
7. The Development Services Director will determine if any future proposed changes to the approved density and/or phasing plan requires reanalysis of public facilities and an amendment to the PFFP.

B. PUBLIC FACILITY COST AND FEE SUMMARY

The following tables identify and summarize the various facility costs associated with development of the project. The facilities and their costs are identified in detail in subsequent sections of this document. The tables indicate a recommended financing alternative based upon current Chula Vista practices and policies. However, where another financing mechanism may be shown at a later date to be more effective, the City may implement such other mechanisms in accordance with City policies. This will allow the City maximum flexibility in determining the best use of public financing to fund public infrastructure improvements.

The *Otay Ranch Village 4 Draft Final TIA dated July 2016 by Fehr & Peers*, has identified onsite and offsite road improvements that will be required as the result of the development of the project. The Portion of Village 4 SPA Project is anticipated to begin construction in 2018. The improvement projects listed for Portion of Village 4 include both offsite and onsite improvements. Most of the transportation improvement projects are eligible for funding through the City's Transportation Development Impact Fee (TDIF) program. In the event the developer constructs a TDIF improvement, the cost of the improvement may be eligible for credit against TDIF fees. Construction of non-TDIF eligible improvements shall be completed by the developer as a project exaction.

Table A.1 summarizes the public facility phasing and associated costs. Transportation Development Impact for the project total approximately $3,645,000. These fees do not include the estimated $110,000 for Traffic Signal Fees, which will be determined at the time building permits are applied for. In addition, these estimated fees do not include any credits the developer may have or may receive through a Development Agreement or through previous construction of TDIF eligible facilities.

Backbone sewer and water improvements will be funded, in part, through the payment of DIF fees and capacity fees established for these purposes. The Developer will fund on-site facilities. The Developer shall also bond for any off-site sewer improvements with the first Final Map for the Project, unless otherwise approved by the City Engineer.

The estimated project sewer fees are approximately $1,460,000 (does not include the Administration Fee for sewer connection permit). The entire project site is within the Salt Creek Sewerage Basin Development Impact Fee (DIF).

The total costs for the Portion of Village 4 SPA Plan project Capital Improvement Plan (CIP) Potable and Recycled Water Facilities will be determined by the Otay Water District (OWD). According to the OWD policy No. 26, OWD will provide for the construction and design costs associated with the development of these improvements or pursuant to any agreement or provisions in effect at the time.

The project will generate Elementary, Middle and High School age students. The project may also participate in a Community Facilities District (CFD) to be established by the Chula Vista Elementary School District and the Sweetwater Union High School District.

The project will trigger development impact fees for parks of approximately $5,077,000. Police, fire, libraries, recreation, civic center, corporation yard, and other city public facilities will be funded, in part, from revenues generated from the payment of Public Facilities Development Impact Fees (PFDIF) at building permit issuance. These public facility fee revenues total approximately $ 3,443,000, and are in addition to the aforementioned park fees.

Altogether, the City's development impact fees by phase and facility for the Project are identified on Table A.1.

Table A.1
Otay Ranch Portion of Village 4 Summary of Facilities[1]

Facility	Facility Description	Fee Estimate	DIF Program	Timing	Funding Source	Financing Method
Transportation	Transportation Facilities	$3,645,041	Transportation Facilities in Eastern Territories	Pay prior to issuance of Building Permit	DIF const./ exaction	Fee Program
	Traffic Signal	$109,976	Traffic Signal Fee		DIF exaction	Fee Program
Subtotal		**$3,755,017**				
Potable Water	624 & 711 Zones	To be Determined by OWD	City DIF fees do not apply to the OWD	Provide City Engineer OWD water availability letter and required improvements prior to approval of the Final Map.	OWD CIP Fees	Capacity Fees and Exactions
Recycled Water (If Required)	680 Zone	To be Determined by OWD	City DIF fees do not apply to the OWD		OWD CIP Fees	Capacity Fees and Exactions
Sewer	Connect to exist sewer	$343,077	Salt Creek Basin Fee	Pay prior to issuance of Building Permit	DIF exaction	Fee Program
		$1,006,208	Sewer Participation Fee[2]		CIP/Development	Fee Program
Drainage	Connect to exist SD	N/A	DIF not required for Salt Creek	N/A	Developer funded	Exaction
Schools	No specific facility	N/A	School Fees	Provide documentation that school fees have been paid prior to issuance of Building Permit	Mello-Roos CFD	CFD
Parks	PAD Fees[3]	$5,025,396	PAD Fees	Prior to issuance of Bldg Permit	PAD Fees	Fee Program
Recreation	Pay PFDIF Fee	$444,150	Public Facilities DIF	Prior to issuance of Bldg Permit	SF/Com'l PFDIF	Fee Program
Library	Pay PFDIF Fee	$584,850	Public Facilities DIF	Prior to issuance of Bldg Permit	SF/Com'l PFDIF	Fee Program
Fire & EMS	Pay PFDIF Fee	$400,026	Public Facilities DIF	Prior to issuance of Bldg Permit	SF/Com'l PFDIF	Fee Program
Police	Pay PFDIF Fee	$655,057	Public Facilities DIF	Prior to issuance of Bldg Permit	SF/Com'l PFDIF	Fee Program
Civic	Pay PFDIF Fee	$975,069	Public Facilities DIF	Prior to issuance of Bldg Permit	SF/Com'l PFDIF	Fee Program
Corporate Yard	Pay PFDIF Fee	$139,162	Public Facilities DIF	Prior to issuance of Bldg Permit	SF/Com'l PFDIF	Fee Program
Administrative	Pay PFDIF Fee	$211,782	Public Facilities DIF	Prior to issuance of Bldg Permit	SF/Com'l PFDIF	Fee Program
Subtotal		**$8,435,492**				
Total		**$13,539,794**				

[1] Fees presented in this table are estimates only. The actual fee will be calculated prior to building permit issuance.
[2] Multi-Family Residential units (277) and Single Family units (73) were calculated based on the Portion of Village 4 SPA dated November, 2016.
[3] See Table H.7 in Section IX.8 for the details of the Park Acquisition and Development Fee.

II. INTRODUCTION

II.1. Overview

The City of Chula Vista has thoroughly reviewed the issues dealing with development and the additional impacts it places on public facilities and services. City Council's approval of the "Threshold Standards and Growth Management Oversight Committee (Commission)" Policy (1987) and the "Growth Management Element" of the 1989 General Plan (adopted in 1990 and updated in 2005) were the first steps in the overall process of addressing growth-related issues. The second step in this process was the development and adoption of the City's "Growth Management Program" document (1991) and the "Growth Management" ordinance (Chapter 19.09 of the Chula Vista Municipal Code (CVMC) (1991). In 2015, the City Council adopted the "Growth Management Implementation Manual" and an updated "Growth Management" ordinance to replace these documents.

The new documents implement the Growth Management Element of the General Plan, and establish a foundation for carrying out the development policies of the City by directing and coordinating future growth in order to guarantee the timely provision of public facilities and services.

The "Growth Management" ordinance requires a Public Facilities Finance Plan (PFFP) to be prepared for future development projects requiring a Sectional Planning Area (SPA) Plan or Tentative Map and for development projects of 50 dwelling units or more, and commercial & industrial projects with 50 equivalent dwelling units or greater. The contents of the PFFP are governed by Appendix C of the "Growth Management Implementation Manual," which requires that the plan show how and when the required public facilities and services will be installed or financed.

II.2. Purpose

The purpose of the Public Facilities Finance Plan is to estimate the impact of a development or land use change on the costs and revenues to the city associated with the development. Developments must have a positive fiscal impact, or provide backstop funding for any negative years. In doing so, this implements the goals and objectives of the General Plan's Growth Management Element and the "Growth Management" ordinance. Combined, Chula Vista's Growth Management Program is designed to ensure that development occurs only when necessary public facilities and services exist or are provided concurrent with the demands of new development.

II.3. Growth Management Threshold Standards

The City's updated "Growth Management ordinance (2015) identifies 11 public facilities and services with related Threshold Standards and implementation measures, including:

- Traffic
- Police
- Fire and Emergency Medical Services
- Schools
- Libraries
- Parks and Recreation Areas
- Water

- Sewer
- Drainage
- Air Quality and Climate Protection
- Fiscal

The Growth Threshold Standards are used to identify when new or upgraded public facilities are needed to mitigate the impacts of new development, and are designed to ensure that public facilities or infrastructure improvements will keep pace with the demands of growth.

In order to be consistent with the *Project Environmental Impact Report for the Otay Ranch Village 4 Project, December 2016 by Dudek*, this PFFP is based on the 2016 Growth Management Commission's (GMOC) Annual Report. The findings of the 2016 Annual Report indicate that the Threshold Standards were found to be out of compliance for: Fire and Emergency Medical Services; Libraries; Police Priority 2 Response Times; and Traffic (One Arterial Segment: Heritage Road between Olympic Parkway and Telegraph Canyon continues to be non-compliant).

II.4. Background

The Otay Ranch General Development Plan / Sub Regional Area Plan (GDP/SRP) was originally adopted by the Chula Vista City Council and the San Diego County Board of Supervisors on October 28, 1993. The plan governs the 23,000+ acre Otay Ranch properties. The Otay Ranch GDP is based upon, and directly implements the City of Chula Vista General Plan. The Otay Ranch GDP includes plans for urban villages, a resort community, the Eastern Urban Center, industrial areas, rural estate planning areas, an 11,375+ acre open space preserve and a university. The Otay Ranch open space system, facilitates completion of the Chula Vista Greenbelt System and the Chula Vista Multi-Species Habitat Conservation Plan (MSCP) Subarea Plan. The Portion of Village 4 project area is located in the western portion of the Otay Ranch GDP (See Exhibit 1).

The Villages 2, 3, and a portion of Village 4 SPA Plan was approved by the Chula Vista City Council in 2006, which did not include the property that is the subject of this PFFP.

The Portion of Village 4 SPA Plan consists of approximately 166.02 acres. The proposed project is located within Otay Ranch in the City of Chula Vista, California (Exhibit 1). Otay Valley Quarry, LLC is proposing to develop an approximately 166.02 acre site, identified as Portion of Village 4 in the Otay Ranch General Development Plan, with approximately 73 single family residential dwelling units and 277 multi-family residential dwelling units on approximately 34.49 acres of the project site as well as approximately 12.06 acres for roadway and circulation right-of-way. The remainder of the project site, approximately 117.39 acres, would be open space. This open space consists of approximately 20 acres of private open space and approximately 97 acres Preserve Open Space (see Figure 3). The Portion of Village 4 SPA Plan proposed land uses are illustrated in Table A.2.

The site is currently vacant. The primary entry into the Portion of Village 4 SPA Plan is from La Media Road. The project proposes an approximate 2-mile eastern extension of Main Street which would provide additional access to the project site. In addition to the extension of Main Street, 4 internal village streets are proposed.

It is expected that construction of the proposed Portion of Village 4 project will commence in the third quarter of 2018 and last approximately 2 years. Grading of the project would

commence in January 2018. Construction of the infrastructure would occur over a 1-year period and would begin in August 2018 or after the mass grading is complete.

Grading of the project site would require export of approximately 1.2 million cubic yards of cut and approximately 1 million cubic yards of fill that would occur over 7 months. Building construction would take approximately 12 months.

II.5. Public Facilities Finance Plan Boundaries

Section 19.12.070 of the Municipal Code requires that the City establish the boundaries of the PFFP at the time a SPA Plan or Tentative Map(s) is submitted by the applicant. The boundaries shall be based upon the impact created by the Project on the existing and future need for facilities. The project boundaries will correlate the proposed development project with existing and future development proposed for the area of impact to provide for the economically efficient and timely installation of both onsite and offsite facilities and improvements required by the development. In establishing the boundaries for the PFFP, the City shall be guided by the following considerations:

A. Service areas, drainage, sewer basins, and pressure zones that serve the Project;

B. Extent to which facilities or improvements are in place or available;

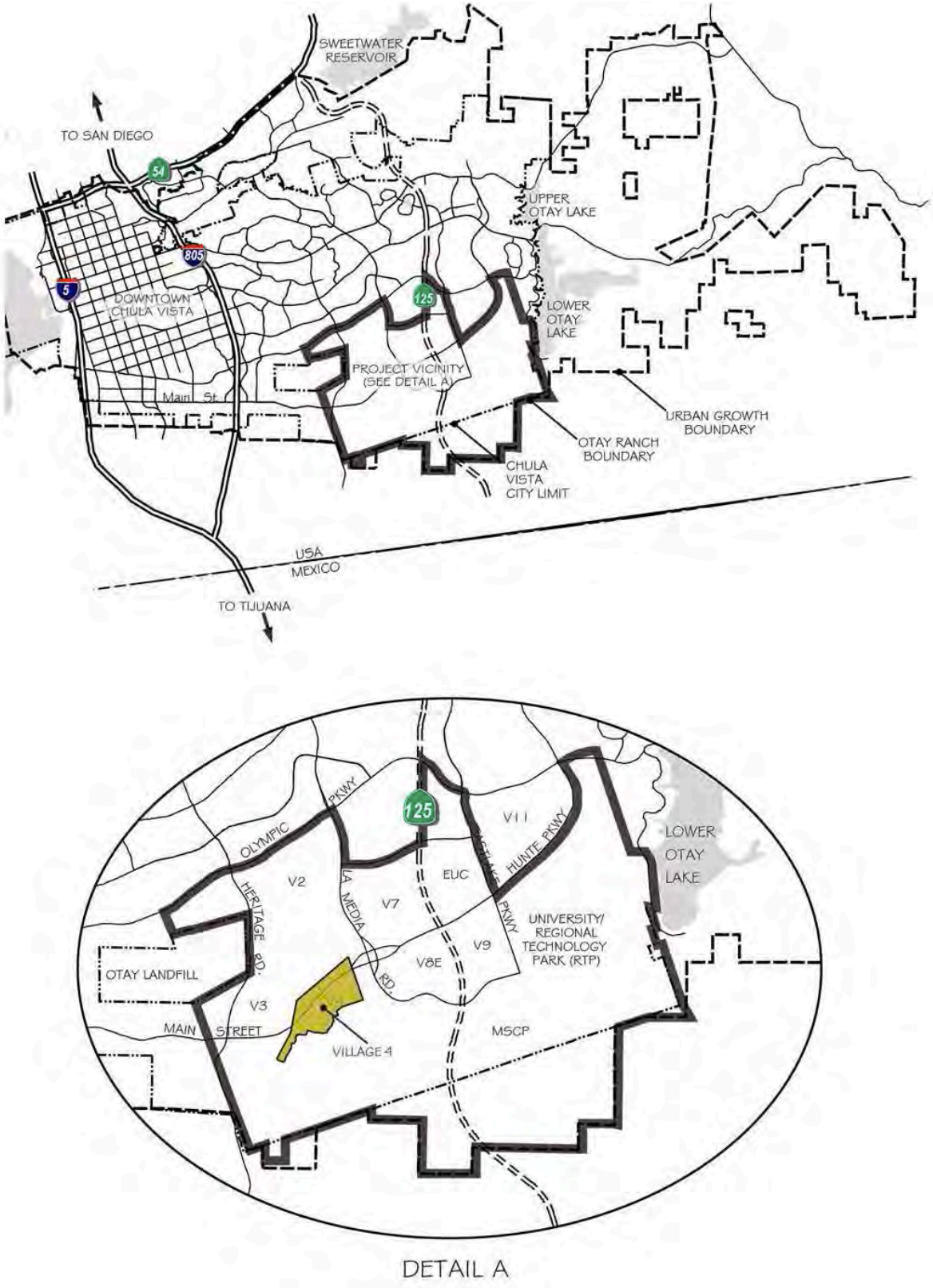
C. Ownership of property;

D. Project impact on public facilities relationships, especially the impact on the City's planned major circulation network;

E. Special district service territories;

F. Approved fire, drainage, sewer, or other facilities or improvement master plans.

The boundaries of the PFFP for the project are congruent with the SPA Plan boundaries. Also, the PFFP addresses certain facilities (streets, drainage, sewer, police, fire, etc.) that are impacted beyond the boundaries of the SPA Plan.



DETAIL A

Exhibit 1
Vicinity Map

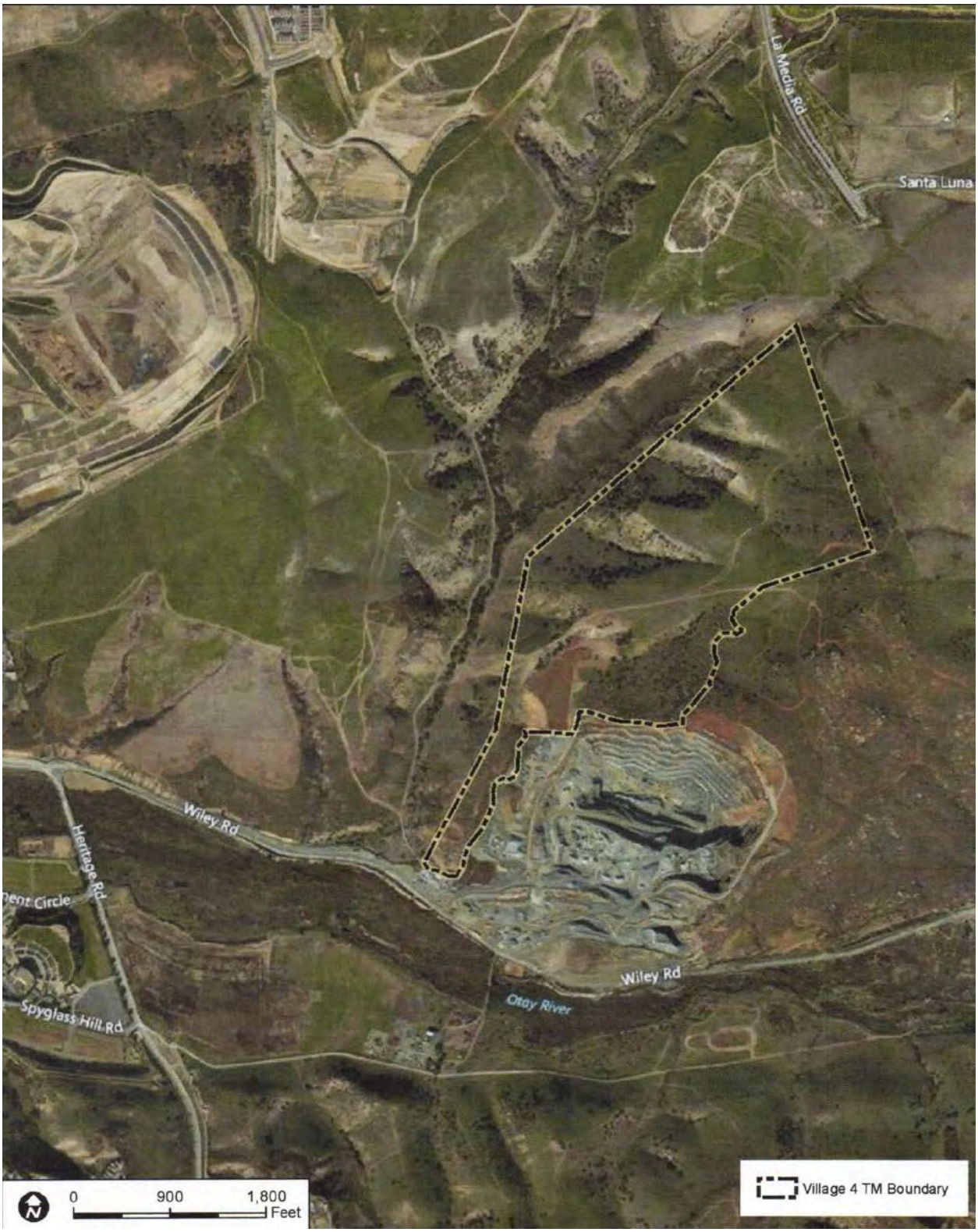


Exhibit 2
Aerial Photograph

II.6. Land Use Assumptions

II.6.1. Purpose

The purpose of this section is to quantify how the Portion of Village 4 SPA project will be analyzed in relationship to all other projects, which are at some stage in the City's development process. The Growth Management Program addressed the issue of development phasing in relationship to location, timing, and fiscal/economic considerations.

Based upon the overall elements to be considered when projecting the phasing of development and policies contained in the Growth Management Program, the City forecasts where and when residential development will take place. This forecast is updated annually and is referred to as the Annual Residential Growth Forecast. The 2016, forecast is summarized on Table A.2.

The specific factors that affect the development-phasing forecast include the status of development approvals, binding development agreements and specific road and intersection improvements. These components were reviewed as part of this PFFP in conjunction with the requirement to provide facilities and services, concurrent with the demand created by the FC to maintain compliance with the threshold standards.

The management of future growth includes increased coordination of activities between the various City departments as well as with both School Districts and the Water Districts that serve the City of Chula Vista. The Annual Residential Growth Forecast is a component of the City of Chula Vista's Growth Management Program. The Development Services Department provides annual residential growth forecasts for a 5-year period. This information enables City departments and the other aforementioned service agencies to assess the probable impacts that growth may have on maintaining compliance with the City's facilities and service Threshold Standards. In addition, with this data City departments and the other service agencies will be able to report potential impacts to the Growth Management Oversight Commission (GMOC).

II.6.2. Existing Development

As a starting point, the PFFP considers all existing development up to January 2016 as the base condition. The starting point was chosen to be consistent with the *Project Environmental Impact Report, December, 2016, Dudek.* The statistical information is based upon City of Chula Vista Development Services Department growth management monitoring data. The population of the City as of January 1, 2016 is estimated at 265,070 (California Department of Finance).

For the purposes of projecting facility demands for the Otay Ranch Portion of Village 4 SPA the City of Chula Vista utilizes a population coefficient of 3.24 persons per dwelling unit. This factor is used throughout this PFFP to calculate facility demands from approved projects. The coefficient has been confirmed for use in the PFFP by the Sequential phasing is frequently inaccurate because of unforeseen market changes or regulatory constraints. Therefore, the Otay Ranch Portion of Village 4 SPA PFFP permits non-sequential phasing by imposing specific facilities requirements for each phase to ensure that new development is adequately served and City threshold standards are met. Construction of the on-site Village Entry street from Olympic Parkway, which serves both ownerships/parcels, shall be phased according to the provisions of the PFFP.

II.6.3. Eastern Chula Vista Growth Forecast

A summary of the Eastern Chula Vista development-phasing forecast is shown in Table A.2. The table presents an estimate of the amount of development activity anticipated annually from 2015 to 2020. The number of dwelling units forecasted annually is approximately 1,211 dwelling units. It should be noted that these projections are used for analytical purposes only and unless a development agreement or other legal instrument guarantees facility capacity, some projects with varying levels of entitlement may not have committed capacity.

Table A.2
City of Chula Vista Five Year Residential Growth Forecast

PROJECT	SEPTEMBER 2015 - DECEMBER 2016 ISSUE*		JAN. - DECEMBER 2017 ISSUE*		JAN. - DECEMBER 2018 ISSUE*		JAN. - DECEMBER 2019 ISSUE*		JAN. - DECEMBER 2020 ISSUE*		Five Years Forecast SEPTEMBER 2015 - 2020 ISSUE*	
	SF	MF	SF	MF	SF	MF	SF	MF	SF	MF	SF	MF
OTAY RANCH												
Village 2 North - Baldwin & Sons	46	105	24	34	0	0	19	0	23	35	112	174
Village 2 East - Baldwin & Sons	0	0	0	300	0	0	14	0	15	0	29	300
Village 2 South - Baldwin & Sons	29	62	97	126	145	148	28	118	0	0	299	454
Village 2 West - Baldwin & Sons	0	0	0	0	0	0	44	44	40	60	84	104
Village 2 West - Homefed Village 2 West	0	0	0	0	0	0	30	0	32	0	62	0
Village 2 - JPB (Anacapa II R-9)	31	0	0	0	0	0	0	0	0	0	31	0
Village 2 - JPB (Presidio II R-7)	53	0	0	0	0	0	0	0	0	0	53	0
Village 2 - Bank-owned (R-28)	0	0	0	96	0	0	0	0	0	0	0	96
Village 3 North - Homefed Otay Land II	0	0	527	70	271	301	137	61	43	83	978	515
Village 8 East - Homefed Otay Land II	0	0	0	0	0	0	0	0	261	202	261	202
Village 8 West - Otay Land Co.	0	0	0	0	0	0	0	362	0	0	0	362
EUC - Millenia Real Estate Group	0	89	0	290	0	638	0	669	0	177	0	1,863
Freeway Commercial - Baldwin & Sons	0	26	0	0	0	0	0	0	0	0	0	26
Otay Ranch Sub-Total	159	282	648	916	416	1,087	272	1,254	414	557	1,909	4,096
BELLA LAGO - Bella Lago LLC	0	0	13	0	13	0	13	0	13	0	52	0
SUB-TOTAL	159	282	661	916	429	1,087	285	1,254	427	557	1,961	4,096
TOTAL UNITS	441		1,577		1,516		1,539		984		6,057	
										Annual Average:	1,211	

*ISSUE = Building Permit

II.6.4. Portion of Village 4 Development Summary

The Portion of Village 4 land plan proposes approximately 90 total lots, of which 73 lots are single family residential, 3 lots are multi-family residential, 8 lots are master homeowner's association (HOA) open space, 2 lots are Community Purpose Facility (CPF) lots, and 4 open space preserve lots. The project proposes 73 single family dwelling units and 277 multi-family dwelling units for a total of 350 dwelling units. The single-family residential neighborhood would be constructed at the south and east ends of the site which will be accessed by public streets.

The project access will be through the adjacent Village 8 West project to the east. The Portion of Village 4 project will extend Main Street westerly to the location of a future bridge across Wolf Canyon. The Main Street bridge and extension of Main Street to the west will be constructed by others through the City of Chula Vista development impact fees. There are currently no improved roadways through the project site.

Parks, Recreation, and Open Space

According to the GDP and the Quimby Act, Portion of Village 4 is obligated to provide 3-acres of parkland for every 1,000 residents. Based on a projected resident population of 980 persons (2.61-persons per household for multi-family and 3.52- persons per household for single-family), approximately 2.9-acres of parkland is required by the GDP. The project obligation is addressed through the payment of an In-Lieu fee.

In accordance with the Otay Ranch Resource Management Plan (RMP), the development of each Otay Ranch Village requires an open space (OP) contribution to the Otay Ranch Preserve. The anticipated conveyance obligation for Portion of Village 4 is approximately 69-acres (gross) Open Space Conveyance Obligation.

Community-Purpose Facilities

The SPA Land Use Plan provides two adjacent CPF areas for a total of 2.08-acres, (Figure 6.1 of the SPA Plan). The CPF areas are provided in the western portion of Planning Area R-2A and eastern portion of Planning Area R-2B. The CPF area is centrally located and in proximity to the majority of residential units of Portion of Village 4.

Table A.3
Site Utilization Summary

Residential				
Single-Family Residential - 3-6 du/ac				
Planning Area	**Unit Type**	**Number of Units**	**Gross Acres**	**Target Density**
R-1	SF	73	15.18	4.81
Single-Family Residential Total		**73**	**15.18**	**4.81**
Multi-Family (Medium-High) Residential – 11-18 du/ac				
Planning Area	**Unit Type**	**Number of Units**	**Gross Acres**	**Target Density**
R-2A	MF	110	7.91	13.91
R-2B	MF	40	4.24	9.43
Sub-Total		**150**	**12.15**	**12.35**
Multi-Family (High) Residential - 18-27 du/ac				
Planning Area	**Unit Type**	**Number of Units**	**Gross Acres**	**Target Density**
R-3	MF	127	7.16	17.74
Sub-Total		**127**	**7.16**	**17.74**
Multi-Family Residential Total		**277**	**19.31**	**14.34**
Residential TOTALS		**350**	**34.49**	**10.15**
Other				
Community Purpose Facility (CPF)				
Planning Area	**Land Use Type**	**Number of Units**	**Gross Acres**	**Target Density**
CPF-1	CPF	N/A	1.21	N/A
CPF-2	CPF	N/A	0.87	N/A
CPF Sub-Total		**N/A**	**2.08**	**N/A**
Open Space (OS)				
Planning Area	**Land Use Type**	**Number of Units**	**Gross Acres**	**Target Density**
OS-1	Open Space	N/A	0.59	N/A
OS-2	Open Space	N/A	3.03	N/A
OS-3	Open Space	N/A	3.08	N/A
OS-4	Open Space	N/A	1.57	N/A
OS-5	Open Space	N/A	0.59	N/A
OS-6	Open Space	N/A	3.11	N/A
OS-8	Open Space	N/A	1.35	N/A
OS-9	Open Space	N/A	6.87	N/A
Total Private Open Space		**N/A**	**20.19**	**N/A**
Open Space Preserve (OSP)				
OS-7	Preserve	N/A	1.37	N/A
OS-10	Preserve	N/A	6.67	N/A
OS-11	Preserve	N/A	44.27	N/A
OS-12	Preserve	N/A	44.89	N/A
Total Preserve Open Space		**N/A**	**97.20**	**N/A**
Open Space Sub-Total		**N/A**	**117.39**	**N/A**
Circulation				
Planning Area	**Land Use Type**	**Number of Units**	**Gross Acres**	**Target Density**
Main Street	Circulation	N/A	10.82	N/A
Internal Streets	Circulation	N/A	1.24	N/A
Circulation Sub-Total		**N/A**	**12.06**	**N/A**
Other TOTAL		**N/A**	**131.54**	**N/A**
TOTALS		**350 Units**	**166.02**	

Source: Otay Ranch Portion of Village 4 SPA Plan November, 2016

Source: Portion of Village 4 SPA Plan

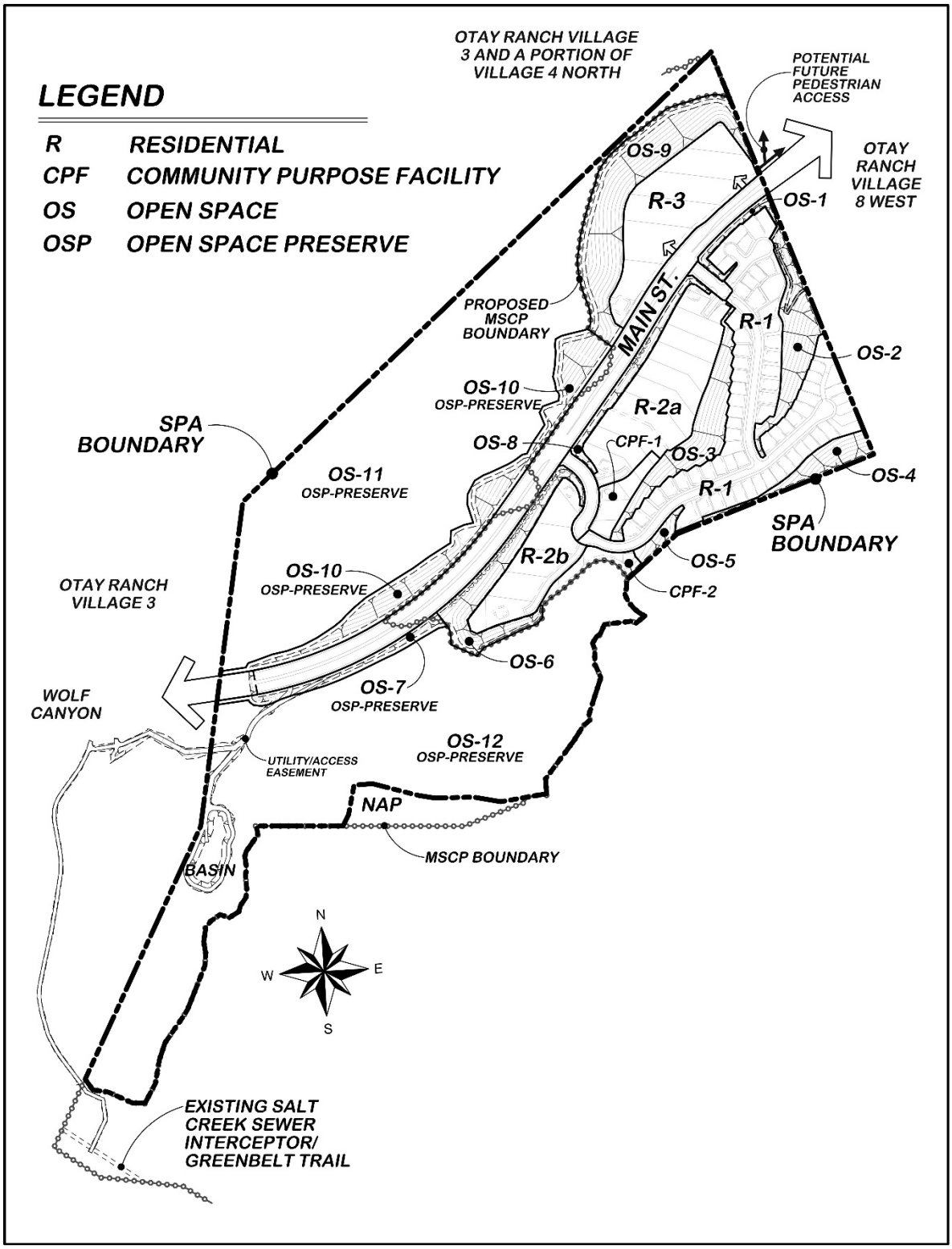


Exhibit 3
Portion of Village 4 Site Utilization Plan

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II.6.5. Phasing:

Development of the SPA may be completed in multiple phases to ensure construction of necessary infrastructure and amenities for each phase as the project progresses.

Table A.4
Otay Ranch Portion of Village 4 SPA
Phasing Plan Summary

Facility	Facility Description	Triggers	Financing Method
Streets	As presented in the *Otay Ranch Portion of Village 4 TIA July, 2016 by Fehr & Peers*	By EDU's See Traffic Section	TDIF[4] or Exaction
Traffic Signals	Pay Fees	Concurrent w/ Building Permit	Fee Program
Potable Water	Zone 624 and 711 Improvements per OWD	Concurrent w/ Phasing	OWD CIP Fees
Recycled Water	Zone 680 Improvements per OWD	Concurrent w/ Phasing	OWD CIP Fees
Sewer	Connection to existing sewer system	Concurrent w/ Phasing	Fee Program
	Sewer Improvements per city	Concurrent w/ Phasing	Exaction
	Pay Fees	Concurrent w/ Building Permit	Fee Program
Storm Drain	Connect to Existing Drainage System	Concurrent w/ Grading Permit	Exaction
Schools	No specific facility subject to fees	Pay School Fees	State Mandated Fees
Parks	Park Dedication & Construction	Concurrent with Phasing	Credit/PAD Fees
Recreation	Pay PFDIF Fee	Pay @ Bldg Permit	Fee Program
Library	Pay PFDIF Fee	Pay @ Bldg Permit	Fee Program
Fire & EMS	Pay PFDIF Fee	Pay @ Bldg Permit	Fee Program
Police	Pay PFDIF Fee	Pay @ Bldg Permit	Fee Program
Civic	Pay PFDIF Fee	Pay @ Bldg Permit	Fee Program
Corp Yard	Pay PFDIF Fee	Pay @ Bldg Permit	Fee Program
Other	Pay PFDIF Fee	Pay @ Bldg Permit	Fee Program

II.6.6. Development Impact and In-Lieu Fee Programs

A. Transportation

The current Transportation Development Impact Fee (TDIF) Ordinance 3328 sets forth the calculation of development impact fees. This PFFP uses the CVMC Chapter 3.54 as the basis for the estimated TDIF fees. Table A.8 below illustrates the current fee schedule:

[4] TDIF Streets will be constructed by Developer (receiving TDIF credits). Non TDIF Streets are developer exaction.

Table A.5 TDIF Schedule[5]		
Land Use Classification		**TDIF Rate**
Residential (Low)	0-6 DU/Ac.	$13,541 per EDU
Residential (Med.)	6.1-18 DU/Ac.	$10,832 per EDU
Residential (High)	>18.1 DU/Ac.	$8,124 per EDU
Senior housing	8 EDU/Ac.	$5,416 per EDU
Residential mixed use	0.4 EDU/Ac. (+18 DU/Ac.)	$5,416 per EDU
Commercial mixed use	16 EDU/20 KSF	$216,656 per 20,000 sq. ft.
General Commercial (Ac)	16 EDU/Ac. (6 stories +)	$216,656 per Acre
Regional Commercial (Ac)	11 EDU/Ac. (+60 acres or +800 KSF	$148,951 per Acre
High Rise Commercial (Ac)	28 EDU/Ac. (6 stories +)	$379,148 per Acre
Office (Acre) 9 EDU/Acre	Up to 5 stories height	$121,869 per Acre
Industrial (Acre)	9 EDU/Gross Acre	$121,869 per Gross Acre
Regional Technology Park	8 EDU/Gross Acre	$108,328 per Gross Acre
18-Hole Golf Course	70 EDU per Golf Course	$947,870 per Gross Acre
Medical Center	65 EDU per Gross Acre	$880,165 per Gross Acre

B. Public Facilities

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 7, 2006 by adoption of Ordinance 3050. Current applicable fees for Single Family Residential is $10,180/unit and for Multi-Family Residential it's $9,628/unit. The PFDIF amount is subject to change as it is amended from time to time. Only residential development impact fees apply to the project. The calculations of the PFDIF due for each facility are addressed in the following sections of this report. Table A. provides a break-down of what facilities the fee funds. The CPF site may be subject to PFDIF, based upon characteristics of the permittee and use.

Table A.6[6] Public Facilities Estimated DIF Fee Components				
Component	**Single Family/DU**	**Multi-Family /DU**	**Commercial /Acre**	**Industrial /Acre**
Civic Center	$2,907	$2,754	$9,276	$2,931
Police	$1,760	$1,901	$8,314	$1,793
Corporation Yard	$472	$378	$8,038	$3,785
Libraries (residential only)	$1,671	$1,671	$0	$0
Fire Suppression	$1,469	$1,057	$3,884	$773
Administration	$632	$598	$2,019	$638
Recreation (residential only)	$1,269	$1,269	$0	$0
Total per Residential Unit	**$10,180**	**$9,628**		
Total per Com'l/Ind. Acre			**$31,531**	**$9,920**

5 TDIF Fees based on Form 5509 dated 9/27/2016, Rev 9/29/2016. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

6 DIF Fees based on Form 5509 dated 9/27/2016, Rev 9/29/2016. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

C. Traffic Signal Fee

Chula Vista Municipal Code Chapter 15.51 requires participation by private developers of residential, commercial or industrial uses in the financing and/or installing of Traffic Signals. Most new projects proposed in the City are subject to a Traffic Signal Fee based on expected trip generation and calculated at $37.28 per trip. Please contact Development Services to confirm current rate schedule.

D. Parkland Acquisition & Development (PAD) Fee

All new development in the City of Chula Vista is subject to the requirements contained in the City's Parkland Dedication Ordinance CVMC Chapter 17.10. The ordinance establishes fees for park land acquisition and development, sets standards for dedication and establishes criteria for acceptance of parks and open space by the City of Chula Vista. Fees vary depending upon the type of dwelling unit that is proposed. There are three types of housing; Single-Family dwelling units (defined as all types of single-family detached housing and condominiums), Multi-Family dwelling units (defined as all types of attached housing including townhouses, attached condominiums, and duplexes), and Mobile Homes. The current Acquisition Fee component is based on $12,676/Single Family Unit and $9,408/Multi-Family Unit and the Development Fee component is based on $5,549/Single Family Unit and $4,118/Multi-Family Unit. Please contact Development Services to confirm current rate schedule.

E. Salt Creek Sewer Basin Fee

Chapter 13.14 of the CVMC authorizes the collection of fees prior to a connection to the public sewer system. The *Salt Creek Sewer Basin Development Impact Fee Study by Bartle Wells Associates, June, 2015* was prepared to update the Salt Creek Basin DIF originally established in 1994 and last updated in 2004. These fees are typically collected at the time building permits are issued. The current Salt Creek Sewer fee is $1,381/Equivalent Dwelling Unit (EDU). Please contact Development Services to confirm current rate schedule.

F. Sewer Participation Fee

Prior to connection to the city's public sewer system, the CVMC authorizes the collection of a fee to aid in the cost of processing sewerage generated within the city. The current fee is $3,584/EDU. Please contact Development Services to confirm current rate schedule.

III. FACILITY ANALYSIS

This portion of the PFFP contains 13 separate subsections for each facility addressed by this report. Of the 13 facilities, 11 have adopted Threshold Standards; the Civic Center and Corporation Yard do not. Table B.1 highlights the level of analysis for each facility.

Table B.1
Level of Analysis

Facility	Citywide	East of I-805	Service Area Sub-basin	Special District
Traffic		✓		
Pedestrian Bridges			✓	
Police	✓			
Fire/EMS	✓		✓	
Schools				✓
Libraries	✓			
Parks, Recreation & Open Space		✓		
Water			✓	✓
Sewer			✓	
Drainage			✓	
Air Quality	✓			
Civic Center	✓			
Corp. Yard	✓			
Fiscal	✓		✓	

Each subsection analyzes the impact of the Otay Ranch Village 3 & a Portion of 4 SPA Project based upon the adopted Threshold Standards. The analysis is based upon the specific goal, objective, and Threshold Standard and implementation measures. The proposed SPA plan is used to determine facility adequacy and is referenced within the facility section.

Each analysis is based upon the specific project processing requirements for that facility, as adopted in the Growth Management Program. These indicate the requirements for evaluating the project consistency with the threshold ordinance at various stages (General Development Plan, SPA Plan/Public Facilities Finance Plan, Tentative Map, Final Map and Building Permit) in the development review process.

A service analysis section is included which identifies the service provided by each facility. The existing plus forecasted demands for the specific facility are identified in the subsection based upon the adopted Threshold Standard.

Each facility subsection contains an adequacy analysis followed by a detailed discussion indicating how the facility is to be financed. The adequacy analysis provides a determination of whether or not the Threshold Standard is being met and the finance section provides a determination if funds are available to guarantee the improvement. If the threshold standard is not being met, mitigation is recommended in the Threshold Compliance subsection, which proposes the appropriate conditions or mitigation to bring the facility into conformance with the Threshold Standard.

IV. TRAFFIC

IV.1. Threshold Standard

A. Arterial Level of Service (ALOS) for Nonurban Streets. Those Traffic Monitoring Program (TMP) roadway segments classified as other than urban streets in the "Land Use and Transportation Element" of the City's General Plan shall maintain LOS "C" or better as measured by observed average travel speed on those segments; except that during peak hours LOS "D" can occur for no more than two hours of the day.

B. Urban Street Level of Service (ULOS). Those TMP roadway segments classified as Urban Streets in the "Land Use and Transportation Element" of the City's General Plan shall maintain LOS "D" or better, as measured by observed or predicted average travel speed, except that during peak hours LOS "E" can occur for no more than two hours per day.

Notes to Standards:

1. Arterial Segment: LOS measurements shall be for the average weekday peak hours, excluding seasonal and special circumstance variations.
2. The LOS measurement of arterial segments at freeway ramps shall be a growth management consideration in situations where proposed developments have a significant impact at interchanges.
3. Circulation improvements should be implemented prior to the anticipated deterioration of LOS below established standards.
4. The criteria for calculating arterial LOS and defining arterial lengths and classifications shall follow the procedures detailed in the most recent Highway Capacity Manual (HCM) and shall be confirmed by the city's traffic engineer.
5. Level of service values for arterial segments shall be based on the HCM

IV.2. Service Analysis

The Public Works Department of the City of Chula Vista is responsible for ensuring that traffic improvements are provided to maintain a safe and efficient street system within the City. Through project review, City staff ensures the timely provision of adequate local circulation system capacity in response to planned development while maintaining acceptable LOS. To accomplish their review the Public Works Department has adopted guidelines for Traffic Impact Studies (January, 2001). These guidelines ensure uniformity in the preparation of traffic studies. Further, the guidelines assist in maintaining acceptable standards for planned new roadway segments and signalized intersections at the build out of the City's General Plan and Circulation Element. The Circulation Element of the General Plan serves as the overall facility master plan.

In conformance with requirements of the Congestion Management Program (CMP), an analysis of CMP freeways and arterials is required for any project that generates 2,400 daily or 150 peak hour trips. The *Otay Ranch Village 4 Draft Final, July, 2016, by Fehr & Peers* is the basis of the PFFP and environmental documentation. The TIA document is referred to as the "Fehr & Peers TIA" throughout this PFFP.

The Fehr & Peers TIA addresses both existing and planned circulation system conditions and details necessary improvements. Further, the Fehr & Peers TIA also include an evaluation of impacts that are considered significant as a result of project development.

IV.3 Trip Generation and Phasing

A. Proposed Project:

According to the Fehr & Peers TIA, the trip generation associated with the Otay Ranch Portion of Village 4 project utilized *Traffic Generators, Not So Brief Guide, SANDAG, April 2002*. Table C.1 illustrates the AM and PM peak hour project trips for various proposed lan0d uses. The project would generate a total of 2,950 daily trips, including 236 AM peak hour trips and 295 PM peak hour trips, all of which would be generated by Portion of Village 4. The CPF is a land use for community use and the majority of trips generated by the CPF are internal to the project site; therefore, the CPF will not affect the off-site roadway network, and is not included in the trip generation estimates.

Table C.1
Portion of Village 4 Project Trip Generation

Project Description		Daily		AM Peak				PM Peak Hour			
Land Use	**Units[1]**	**Rate**	**Trips**	**Rate[2]**	**Trips**	**In**	**Out**	**Rate[1]**	**Trips**	**In**	**Out**
Apartment	275 DU	8 trips/DU	2,200	8%	176	35	141	10%	220	154	66
Single Family	75 DU	10 trips/DU	750	8%	60	18	42	10%	75	53	23
Total	**350 DU**		**2,950**		**236**	**53**	**183**		**295**	**207**	**89**

Note: [1] Actual numbers of units may vary.
[2] Percent of daily trips.

Source: Fehr & Peers TIA

The Otay Ranch Portion of Village 4 project access is planned from Main Street at the western and eastern boundaries. Traffic signals are planned to control both access points. The project will be responsible for constructing Main Street along the project frontage from La Media Road to the property line. The construction of the Main Street bridge was not assumed to occur with this project. Access to the project will be limited to Main Street via La Media Road until the bridge is constructed by others or by the City through 0the Transportation Development Impact Fees (TDIF) program.

The Fehr & Peers TIA includes a projection of the project trip distribution patterns associated with the project. See the Fehr & Peers TIA for the details of the trip distribution analysis

B. Project Phasing:

Project construction is anticipated to occur in one phase with construction beginning in 2018, pending project approval in 2017. Construction of the homes is anticipated to take approximately nine months.

IV.4. Traffic Operations

A. Existing Conditions:

The Fehr & Peers TIA was prepared for existing, 2018, 2020 and 2030 conditions. As required by the City of Chula Vista, the Fehr & Peers TIA was prepared in accordance with the City's Adopted General Plan. The City's goal for acceptable levels of service is generally LOS D or better at signalized and unsignalized intersections and LOS C along roadway segments.

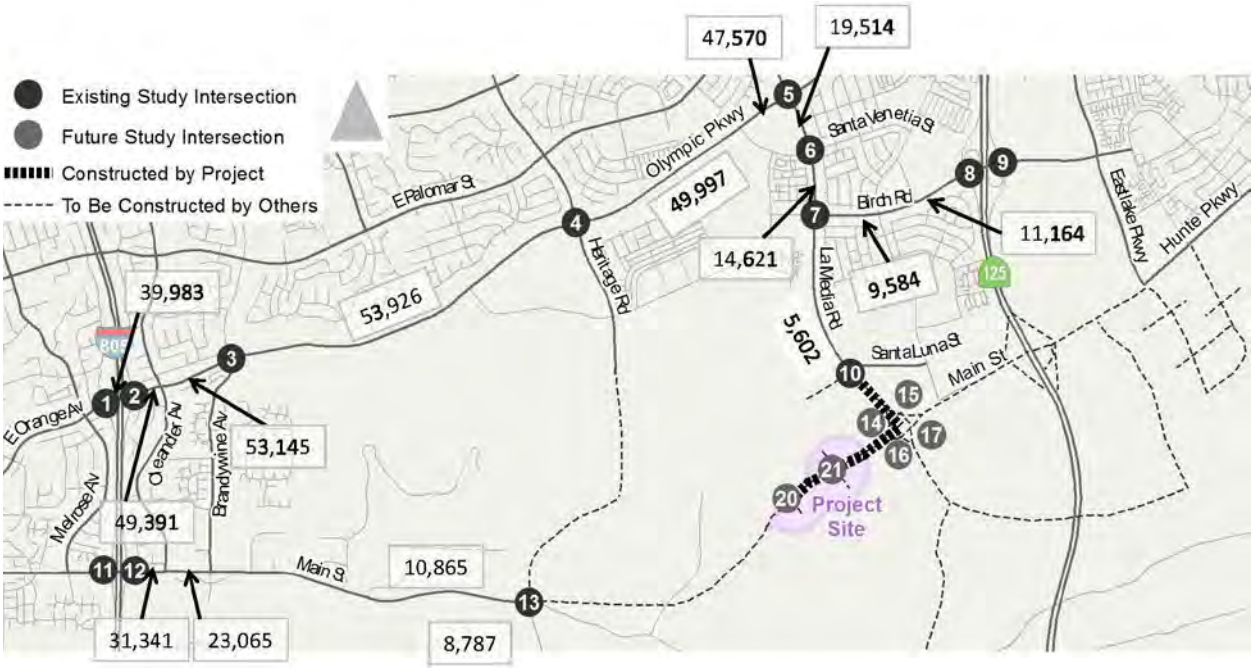

Exhibit 5
Study Area Existing Condition Plus Project
Daily Traffic Volumes & Roadway Network

Source: Fehr & Peers TIA

The Fehr & Peers TIA study area is illustrated in Exhibit 5. The existing plus Project peak hour intersection volumes and intersection geometry are illustrated in the TIA. The daily traffic volumes and roadway network that was evaluated in this scenario are illustrated in Exhibit 5. Peak hour trips and daily trips that were calculated for project buildout were distributed on the existing roadway network (summarized in Table C.1).

Table C.2
Existing Plus Project Conditions Roadway Segment Level of Service

Facility	From	To	Cross-Section	ADT w/ Project	LOS Threshold (LOS C)	LOS w/ Project	Project ADT (>800)	Project Contribution (>5%)	Intersection @ LOS D or Better?	Impact
Olympic Pkwy	Oleander Avenue	Brandywine Avenue	6-Ln w/RM	53,000	50,000	**D**	738	1.39%	-	**Cumulative Impact**
Olympic Pkwy	Brandywine Avenue	Heritage Road	6-Ln w/RM	53,723	50,000	**D**	1,033	1.92%	-	**Cumulative Impact**

Source: Fehr & Peers TIA

The Fehr & Peers TIA provides the roadway segment analysis. Table C.2 summarizes the two segments of Olympic Parkway that are forecast to operate at LOS D, E or F, which results in a cumulative project impact. The remaining segments as indicated in Exhibit 5 operate at LOS C or better.

Table C.3
Existing Plus Project Conditions Intersection Level of Service

Intersection		AM Peak Hour		PM Peak Hour		LOS E/F	% Project Trips			Impact?
		Delay	LOS	Delay	LOS					
1.	I-805 SB Ramps & Olympic Pkwy	40.7	D	**64.3**	**E**	✓	0.91%	/	0.92%	**Cumulative Impact**
2.	805 NB Ramps & Olympic Pkwy	**70.4**	**E**	39.2	D	✓	1.16%	/	1.44%	**Cumulative Impact**
3.	Olympic Pkwy & Brandywine Ave	43.7	D	**61.8**	**E**	✓	1.02%	/	1.29%	**Cumulative Impact**

Source: Fehr & Peers TIA

The results of the Fehr & Peers TIA peak hour intersection analysis are based on the project description. The level of service worksheets and findings are provided in the Fehr & Peers TIA**.** All of the studied intersections (see Exhibit 5) will operate at a level of service C or better except three intersections. Table C.3 summarizes the three intersections that are forecast to operate at LOS E or F during the a.m. or p.m. peak period:

- Olympic Parkway / I-805 SB Ramps (p.m. peak)
- Olympic Parkway / I-805 NB Ramps (a.m. peak)
- Olympic Parkway / Brandywine Avenue (p.m. peak)

B. Near Term (2018) Conditions:

The City of Chula Vista's Growth Management Program (GMP) requires the analysis of roadway segments under near term conditions on an annual basis when existing operating conditions along a roadway reach or exceed the LOS D threshold. The previous existing conditions analysis indicates that the following roadway segments currently operate at LOS D, E or F within the study area:

- Olympic Parkway: Brandywine Avenue to Oleander Avenue
- Olympic Parkway: Oleander Avenue to Heritage Road

C. Mid-Term (2020) Conditions:

The Portion of Village 4 project is anticipated to be fully constructed (350 units) by 2020. For this scenario, the Fehr & Peers TIA mid-term 2020 traffic volumes were forecast based on the volumes as reported in the *University Villages Traffic Impact Analysis Report, 2014, by Chen Ryan.* These volumes included the residential land uses in Portion of Village 4, which is denser than proposed project. Therefore, the volumes forecast using the SANDAG Series 11 "Southbay 2" model are considered a conservative estimate of the long-term volumes in the study area.

The analysis of the mid-term 2020 roadway segment can be found in the Fehr & Peers TIA. Table C.4 shows that four segments of Olympic Parkway are forecast to operate at LOS E or F under the Mid-Term (2020) Conditions:

- Olympic Parkway: I-805 SB Ramps to I-805 NB Ramps
- Olympic Parkway: I-805 NB Ramps to Oleander Avenue

- Olympic Parkway: Oleander Avenue to Brandywine Avenue
- Olympic Parkway: Brandywine Avenue to Heritage Road

Although certain Main Street segments are forecast to operate at LOS D, the intersections along these segments are forecast to operate at acceptable LOS D or better during the peak period.

Table C.4 presents the impacted roadway segments for the Portion of Village 4 project trip generation. The average daily traffic (ADT) segment volume is directly from the *University Villages Traffic Impact Analysis Report, 2014, by Chen Ryan*. However, the project contribution percentages changed. The project contribution to these segments fall below the level of significance criteria for daily traffic volume (800 vehicles per day) and/or account for less than 5% of the total traffic on these segments. As a result, the impacts along these segments were determined by the Fehr & Peers TIA to be cumulative impacts and are mitigated through the payment of TDIF fees.

Table C.4
Mid-Term (2020) Conditions Roadway Segment Level of Service

Facility	From	To	Cross-Section	ADT w/ Project (1)	LOS Threshold (LOS C)	LOS w/ Project	Project ADT (>800)	Project Contribution (>5%)	Intersections @ LOS D or Better?	Impact?
Olympic Pkwy	I-805 SB Ramps	I-805 NB Ramps	6-Ln	64,000	50,000	**F**	443	0.69%	No	**Cumulative Impact**
Olympic Pkwy	I-805 NB Ramps	Oleander Avenue	6-Ln w/RM	71,000	50,000	**F**	738	1.04%	No	**Cumulative Impact**
Olympic Pkwy	Oleander Avenue	Brandywine Avenue	6-Ln w/RM	65,400	50,000	**F**	738	1.13%	No	**Cumulative Impact**
Olympic Pkwy	Brandywine Avenue	Heritage Road	6-Ln w/RM	59,500	50,000	**E**	1,033	1.74%	No	**Cumulative Impact**

Notes:
Bold letter indicates unacceptable LOS (D), E, or F
RM = Raised Median

(1) **Source:** University Villages TIA, Chen Ryan, 2014.

Source: Fehr & Peers TIA

The results of the mid-term (2020) conditions intersection level of service peak hour analysis are summarized in Table C.5. As shown, several intersections are forecast to operate at LOS E or F in either the a.m. or p.m. peak period by year 2020:

- I-805 SB Ramps & Olympic Pkwy
- I-805 NB Ramps & Olympic Pkwy
- Olympic Pkwy & Brandywine Ave
- Olympic Pkwy & Heritage Road

Project trips added to the deficient intersections fall below the 5% significant impact threshold. Therefore, the impacts are identified as cumulative and will be mitigated through the payments to the TDIF program. The extension of Main Street, which is included in the TDIF program and is included in the City's General Plan Circulation Element, will reduce reliance on Olympic Parkway and La Media Road and will result in improved operating conditions at these intersections.

Table C.5
Mid-Term (2020) Conditions Intersection Level of Service

	Intersection	AM Peak Hour		PM Peak Hour		LOS E/F	% Project Trips (AM/PM)	Impact?
		Delay	LOS	Delay	LOS			
1.	I-805 SB Ramps & Olympic Pkwy	**93.4**	**F**	**136.6**	**F**	✓	1.18% / 1.11%	**Cumulative Impact**
2.	I-805 NB Ramps & Olympic Pkwy	**128.3**	**F**	**141.4**	**F**	✓	1.34% / 1.42%	**Cumulative Impact**
3.	Olympic Pkwy & Brandywine Ave	**97.2**	**F**	**83.6**	**F**	✓	1.47% / 1.66%	**Cumulative Impact**
4.	Olympic Pkwy & Heritage Road	**79.3**	**E**	49.5	D	✓	1.94% / 2.19%	**Cumulative Impact**

Source: Fehr & Peers TIA

D. Long-Term (2030) Conditions:

The Fehr & Peers TIA analysis of 2030 considers buildout of the City of Chula Vista General Plan Circulation Element. Future roadways that are considered to be built by others in the year 2030 analysis include:

- Extension of Heritage Road from Olympic Parkway to Main Street as a six lane Prime Arterial
- Extension of Main Street from Heritage Road to La Media Road
- Otay Valley Road from Main Street to Village 9 including crossing at SR-125
- Main Street from La Media Road to East Lake Parkway including bridge at SR-125
- Construction of SR-125 Ramps at Main Street

The Fehr & Peers TIA long term 2030 roadway segment analysis is summarized in Table C.6. Several roadway segments are forecast to operate at LOS D or LOS E by year 2030.

However, none of the roadway segments are forecast to operate at LOS F. Of those segments forecast to operate at LOS D or LOS E, the adjacent intersections are forecast to operate at acceptable levels of service. As stated in the City's Thresholds of Significance, no impacts occur along deficient segments where adjacent intersections are operating at acceptable levels of service. The segment of Olympic Parkway from I-805 to Oleander Avenue is forecast to operate at a deficient LOS and the adjacent I-805 NB Ramp is forecast to operate at LOS E. Fehr & Peers determined that the project will result in a cumulative impact on this segment. The cumulative impact will be mitigated through the payment toward the TDIF program.

Segments of both La Media Road and Main Street are forecast to operate at LOS D. However, they are not forecast to be impacted by the project.

Table C.6
Long-Term (2030) Conditions Roadway Segment Level of Service

Facility	From	To	Cross-Section	ADT w/ Project (1)	LOS Threshold (LOS C)	LOS w/ Project	Project ADT (>800)	Project Contribution (>5%)	Intersections @ LOS D or Better?	Impact?
Olympic Pkwy	I-805 NB Ramps	Oleander Avenue	6-Ln Prime	56,500	50,000	**E**	384	0.68%	**No**	**Cumulative Impact**
Main St	I-805 NB Ramps	Oleander Avenue	6-Ln Prime	51,100	50,000	D	424	0.83%	**Yes**	No
Main St	Oleander Avenue	Brandywine Avenue	6-Ln Prime	54,900	50,000	D	424	0.77%	**Yes**	No
Main St	La Media Road	SR-125 SB Ramps	6-Ln Prime	54,800	50,000	D	883	1.61%	**Yes**	No
Main St	SR-125 SB Ramps	SR-125 NB Ramps	6-Ln Gateway	54,900	54,500	D	530	0.96%	**Yes**	No
Main St	SR-125 NB Ramps	Eastlake Parkway	6-Ln Gateway	60,500	54,500	D	353	0.58%	**Yes**	No
Heritage Rd	Main Street	Avenida de las Vistas	6-Ln Prime	60,700	50,000	**E**	353	0.58%	**Yes**	No

Notes:
Bold letter indicates unacceptable LOS (D), E, or F

(1) Source: University Villages TIA, Chen Ryan, 2014.

Source: Fehr & Peers TIA

The projected intersection LOS were determined to be the same as the total intersection volume from the *University Villages Traffic Impact Analysis Report, 2014, by Chen Ryan*. However, the project contribution percentages were diminished for the I-805 ramps identified in Table C.7. At the time the Fehr & Peers TIA was prepared, no feasible mitigation measures or fee programs were in place to mitigate the cumulative identified impacts at the I-805/Olympic Parkway ramps or through the interchange. Therefore, these impacts are forecasted to be significant and unavoidable.

Table C.7
Long-Term (2030) Conditions Intersection Level of Service

Intersection		AM Peak Hour		PM Peak Hour		LOS E/F	% Project Trips			Impact?
		Delay	LOS	Delay	LOS					
1.	I-805 SB Ramps & Olympic Pkwy	49.3	D	**109.0**	**F**	✓	0.70%	/	0.70%	**Cumulative Impact**
2.	805 NB Ramps & Olympic Pkwy	**75.3**	**E**	52.8	D	✓	0.72%	/	0.89%	**Cumulative Impact**
3.	Olympic Pkwy & Brandywine Ave	37.7	D	52.7	D		1.14%	/	1.43%	
4.	Olympic Pkwy & Heritage Road	53.6	D	54.8	D		1.00%	/	1.24%	
5.	La Media Rd & Olympic Pkwy	54.2	D	49.4	D		1.50%	/	1.76%	
6.	La Media Rd & Santa Venetia St	52.9	D	37.4	D		2.20%	/	3.33%	
7.	La Media Rd & Birch Rd	48.9	D	54.5	D		2.33%	/	2.68%	
12.	I-805NB Ramps & Main Street	35.8	D	51.1	D		0.96%	/	1.00%	
13.	Heritage Road & Main Street	46.7	D	54.7	D		1.02%	/	1.09%	

Source: Fehr & Peers TIA

IV.5. PFFP Assessment

The purpose of this Public Facilities Financing Plan (PFFP) assessment is to determine on-site and off-site improvement triggers required for the proposed project. The subsequent section discusses necessary on-site & offsite facilities and mitigation measures identified in Fehr & Peers TIA (analysis years 2018, 2020, and 2030).

Project impacts were evaluated based on city's criteria (see Chapter 2.0 of the Fehr & Peers TIA) and were determined based on thresholds of significance accepted by City of Chula Vista as outlined in the City's Traffic Impact Analysis Guidelines. The TIA indicates that four study intersections are forecast to operate at deficient levels of service. The impacts were identified as cumulative since the thresholds of significance were not exceeded on any of the identified study intersections. Payment toward the TDIF program will mitigate project impacts at the City owned intersections.

The Fehr & Peers TIA concluded that all impacts are identified as cumulative impacts. Cumulative impacts on City owned roadway segments are mitigated through the payment of TDIF fees. By Long-Term (2030), most roadway segments are forecast to operate at acceptable LOS.

At the time that Fehr & Peers prepared the TIA there was no feasible mitigation measures or fee programs in place to mitigate the identified impacts at the I-805/Olympic Parkway ramps or through the interchange. Therefore, these impacts are forecast to be significant and unavoidable. A summary of recommended mitigation measures is provided in Table C.10.

IV.6 Cost & Financing Traffic Improvements

A. Street Improvements

The Portion of Village 4 project will improve Main Street through the project site and provide signalization improvements, as required, during the first construction phase.

B. Transportation Development Impact Fee (TDIF)

The Portion of Village 4 project is within the boundaries of the TDIF program and, as such, the project is subject to the payment of the fees at the rates in effect at the time of payment.

The TDIF is established by the City of Chula Vista Municipal Code Chapter 3.54. This fee is adjusted on October 1st of each year automatically without further council action. The amount is also subject to change as the code is amended from time to time. The City's Master Fee Schedule considers Low Density Residential Developments to have a density of 0 to 6 DU/Acre. The current TDIF for Low Density is $13,541 per Equivalent Dwelling Unit (EDU). Medium Density Residential Developments have a 6.1 to 18 DU/Acre density. Medium Density Residential are charged $10,832/EDU. High Residential Developments have an 18.1 or higher DU/Acre density. High Density Residential is charged $8,124/EDU. General Commercial is charged at the rate of $216,656 per acre of land. Commercial Mixed Use is charged at the rate of $216,656 per 20,000 square feet. The CPF sites may be subject to TDIF, based upon characteristics of permittee and use. The total number of estimated TDIF for the Portion of Village 4 project is presented in Table C.8.

Table C.8
Portion of Village 4 SPA Plan
Estimated TDIF Fees[1/2]

	MF >18.1 DU/Ac.	Fee/MF DU	MF <18.1 DU/Ac.	Fee/MF DU	MF +18.1 DU/Ac.	Fee/MF DU	Fees
	73	$13,541					$988,493
			150	$10,832			$1,624,800
					127	$8,124	$1,031,748
Total	**73**		**150**		**127**		**$3,645,041**

1 Estimated TDIF is based on the Revised September 27, 2016, City of Chula Vista Development Checklist for Municipal Code Requirements (Form 5509) and is subject to annual adjustments. Actual TDIF may be different.

2 The CPF site may be subject to TDIF, based upon characteristics of permittee and use.

C. Traffic Signal Fee

Future development within Freeway Commercial will be required to pay Traffic Signal Fees in accordance with Chula Vista Council Policy No. 475-01. The estimated total signal fee is calculated at $109,976 (see Table C.9).

Table C.9
Portion of Village 4 SPA Plan
Traffic Signal Fees[7]

Development	Trips	Traffic Signal Fee @ $37.28/Trip
Portion of Village 4	2,950	$109,976
Total	**2,950**	**$109,976**

D. Non-DIF Streets

The Portion of Village 4 project contains internal public streets that by city policy are not eligible for DIF credit. These streets will be funded by the development.

IV.7 Project Compliance

A. Threshold compliance will continue to be monitored through the Chula Vista Traffic Monitoring Program.

B. The project shall be conditioned to pay TDIF fees and Traffic Signal fees at the rate in effect at the time of payment.

C. Table C.9 summarizes the required mitigation measures.

D. The City of Chula Vista shall require the following prior to issuance of each Final Map:

- Owner/Developer shall be responsible for assuring right-of-way improvements (curb, gutter, street, sidewalk, landscape, and traffic controls) necessary for vehicular and pedestrian connection from the subject map area to existing public roadways. Connection shall be provided to the satisfaction of the City Engineer.
- Owner/Developer shall be responsible for assuring enhancements within the right-of-way (landscaping, pedestrian lighting, and street furniture) which abut the subject map area.
- Owner/Developer shall be responsible for assuring all in-tract improvements within the subject map area.
- Owner/Developer shall be responsible for assuring enhancements outside the right-of-way and internal to the subject map area (open space lots, landscape and irrigation of slopes).
- Prior to issuance of Final Map, Owner/Developer shall assure applicable off-site infrastructure improvements (storm drains, water quality facilities) which are sized to serve subject map area.
- The owner/developer for any individual neighborhood shall be required to post or provide use of surety bonds which secure the Owner/Developer's construction cost of the infrastructure requirements identified above. The bond shall be for the value of improvements necessary to complete approved public improvements. Permission to use existing, approved improvement plans and bonds shall be an acceptable means of satisfying the above listed requirements, to the satisfaction of the city engineer.
- Modification to any of the above listed requirements requires approval by the City Engineer.

[7] Table is provided as an estimate only. Fees may change depending upon the actual number of square feet of buildings and multi-family units. Final square foot calculations and the actual number of residential units will be known at time building permits are applied for.

E. The project applicant shall comply with the Project EIR Transportation, Circulation and Access mitigation measures. A full discussion of these mitigation measures can be found in the Project EIR.

F. The first final map will be submitted for approval prior to the construction of identified improvements by others and open to traffic. One of the following steps shall be taken, to the satisfaction of the City Engineer:

- The applicant shall submit roadway improvement plans for the roadways that provide direct access to the project site. Specifically, La Media Road from its southern terminus to Main Street and Main Street from La Media Road to the westerly project boundary. The roadway improvements shall be constructed and open prior to issuance of the first building permit; or,
- If the developer chooses to not construct La Media Road from its southern terminus to Main Street and Main Street from La Media Road to the westerly project boundary, development of Portion of Village 4 shall stop until those assumed future roadways are constructed by others as presently planned; or

Table C.10
Summary of Recommended Mitigation Measures

Intersections

Intersection	Impact Scenario	Direct or Cumulative	Recommended Mitigation
1. I-805 SB Ramps & Olympic Pkwy	Existing Plus Project 2020 2030	Cumulative	Significant and Unavoidable
2. I-805 NB Ramps & Olympic Pkwy	Existing Plus Project 2020 2030	Cumulative	Significant and Unavoidable
3. Olympic Pkwy & Brandywine Ave	Existing Plus Project 2020	Cumulative	Payment of TDIF
4. Olympic Pkwy & Heritage Road	2020	Cumulative	Payment of TDIF

Roadway Segments

Facility	From	To	Impact Scenario	Direct or Cumulative	Recommended Mitigation
Olympic Pkwy	I-805 SB Ramps	I-805 NB Ramps	2020	Cumulative	Significant and Unavoidable
Olympic Pkwy	I-805 NB Ramps	Oleander Avenue	2020 2030	Cumulative	Significant and Unavoidable
Olympic Pkwy	Oleander Avenue	Brandywine Avenue	Existing Plus Project 2020	Cumulative	Payment of TDIF
Olympic Pkwy	Brandywine Avenue	Heritage Road	Existing Plus Project 2020	Cumulative	Payment of TDIF

Source: Fehr & Peers TIA

V. POLICE

V.1. Growth Management Threshold Standard

A. Priority 1- Emergency Calls[8] - Properly equipped and staffed police units shall respond to at least 81 percent of Priority 1 calls within seven minutes 30 seconds and shall maintain an average response time of six minutes or less for all Priority 1 calls (measured annually).

B. Priority 2 - Urgent Calls[9] - Properly equipped and staff police units shall respond to all Priority 2 calls within 12 minutes or less (measured annually).

Note: For growth management purposes, response time includes dispatch and travel time to the building or site address, otherwise referred to as "received to arrive."

V.2. Service Analysis

The City of Chula Vista Police Department provides police services. The purpose of the Growth Management Threshold Standard is to ensure that the current level of police services throughout the City is maintained or improved as growth occurs. Providing adequate levels of staff, equipment and training help accomplish this goal.

V.3. Existing Conditions

The Chula Vista Police Department (CVPD) provides law enforcement services to the area encompassing the project. The CVPD is located 315 Fourth Avenue in Chula Vista. This facility is expected to be adequate through the build-out of eastern Chula Vista. Currently, the city's FY 2016-2017 Adopted Budget calls for 235 sworn officers and 92 civilian support personnel. The actual number may be slightly different. The Project is within Police Patrol Beat 24 that is served by at least one Beat Officer per shift.

V.4. Adequacy Analysis

Per City Ordinance No. 3339 (2015) the Police Priority 1 Threshold Standard was changed from 7 minutes to 7 minutes 30 seconds, with an average response time changed from 5 minutes 30 seconds to 6 minutes. The implementation of the new Threshold Standard included changing the reporting methodology by:

- Starting the clock at "received to arrive" rather than "route to arrive";
- Eliminating a "normalization" calculation that was created due to higher reporting times in eastern versus western Chula Vista;
- Adding false alarms to the call volume.

According to the GMOC 2016 Annual Report the response times for Priority 1 Calls for Service (CFS) were not met during the 2014-2015 time period (see Table D.1). The CVPD responded to 71.2 percent of Priority 1 emergency response calls within 7 minutes and 30 seconds, which is 9.8 percent below the threshold standard of 81 percent, and 1.7 percent below the percentage reported for the previous year. Using the new methodology, the average response time was 6 minutes and 49 seconds, which is 49 seconds short of the threshold standard.

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[8] Priority 1 - Emergency calls are life-threatening calls; felony in progress; probability of injury {crime or accident); robbery or panic alarms; urgent cover calls from officers. Response: Immediate response by two officers from any source or assignment, immediate response by paramedics/fire if injuries are believed to have occurred.

[9] Priority 2 - Urgent calls are misdemeanor in progress; possibility of injury; serious non-routine calls {domestic violence or other disturbances with potential for violence); burglar alarms. Response: Immediate response by one or more officers from clear units or those on interruptible activities {traffic, field interviews, etc.).

The Department attributed the shortfalls to "chronically low staffing in the Community Patrol Division." During the current review period, however, staffing has increased significantly (as of October 2015, there were 98 officers on patrol, just 5 short of the desired 103); several Community Service Officers (CSOs have been added); and fleet mobile data computers (MDCs) were updated in the patrol fleet. Therefore, improvements are expected by the Department.

Table D.1
Priority 1 -- Response Times

Fiscal Year	Call Volume	% of Call Response w/in 7:30 Minutes	Average Response Time (Old Methodolgy*)	Average Response Time (New Methodolgy)
Threshold Standard		**81.0%**	**5:30**	**6:00**
2014-15	675 of 64,008	**71.2%**	**5:17**	**6:49**
		% of Call Response w/in 7:30 Minutes	**Average Response Time (Old Methodolgy*)**	**Average Response Time**
Threshold Standard		**81.0%**	**5:30**	**6:00**
2013-14	711 of 65,645	79.3%	4:57	6:45
2012-13	738 of 65,741	81.5%	4:57	6:42
2011-12	726 of 64,386	78.4%	5:01	6:31
2010-11	657 of 64,695	85.7%	4:40	6:03
2009-10	673 of 68,145	85.1%	4:28	5:50
2008-09	788 of 70,051	84.6%	4:26	5:58
2007-08	1,006 of 74,192	87.9%	4:19	6:13
2006-07	976 of 74,277	84.5%	4:59	5:52
2005-06	1,068 of 73,075	82.3%	4:51	6:19
2004-05	1,289 of 74,106	80.0%	5:11	6:37

** Old Methodology criteria: 1) Calculated from "route to arrive" rather than "received to arrive"; 2) Includes normalization calculation; and 3) Excludes false alarm calls for service.*

Source: GMOC 2016 Annual Report

Priority 2 CFS during the FY 2014-15 time period were not met. The Priority 2 CFS has not been met for several years. Table D.2 indicates that the Priority 2 Average Response Time came in 1:50 short of the new Threshold Standard.

As with the Priority 1 Threshold Standard, a revised Priority 2 Threshold Standard was adopted in 2015, per City Ordinance 3339. The new Priority 2 "Average Response Time" was changed from 7 minutes 30 seconds to 12 minutes, and the "percentage of calls responded to within 7 minutes" portion of the Threshold Standard was eliminated. Implementation of the new Priority 2 Threshold Standard follows the same methodology used for the new Priority 1 Threshold Standard, including: 1) Starting the clock at "received to arrive" rather than "route to arrive"; 2) Eliminating a "normalization" calculation that was created due to higher reporting times in eastern versus western Chula Vista; and 3) Adding false alarms to the call volume.

Table D.2 Priority 2 - Response Times			
Fiscal Year	**Call Volume**	**Average Response Time (Old Methodolgy)**	**Average Response Time (New Methodolgy)**
Threshold Standard		**7:30**	**12:00**
FY 2013-14	17,817 of 65,645	11:26	13:50
FY 2013-14	17,817 of 65,645	11:26	13:36
FY 2011-12	18,505 of 65,741	11:37	13:44
FY 2011-12	22,121 of 64,386	11:54	14:20
FY 2010-11	21,500 of 64,95	10:06	12:52
FY 2009-10	22,240 of 68,145	9:55	12:40
FY 2008-09	22,686 of 70,051	9:16	12:00
FY 2007-08	23,955 of 74,192	9:18	12:07
FY 2006-07	24,407 of 74,277	11:18	14:21
FY 2005-06	24,876 of 73,075	12:33	15:28
FY 2004-05	24,923 of 74,106	11:40	14:38

Source: GMOC 2016 Annual Report

The non-compliance with the Priority 2 Response Times is attributed by the Department to the same reasons that the Priority 1 Threshold Standard was not met.

V.5. Financing Police Facilities

The Public Facilities Development Impact Fee (PFDIF) was last updated by the Chula Vista City Council on November 7, 2006 by adoption of Ordinance 3050. The PFDIF is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The current Police PFDIF Fee for Single Family Development is $1,760/unit. The Police PFDIF Fee for Multi-Family Development is $1,901/unit (see Table A.7)[10]. This amount is subject to change as it is amended from time to time. The project will be subject to the payment of the fee at the rate in effect at the time building permits are issued. At the current fee rate, the project Police Fee obligation at build-out is $655,057.

Table D.3 Police Fee for Portion of Village 4			
Development	**DU's**	**PFDIF/DU**	**Police Fee**
Single Family Residential	73	$1,760	$128,480
Multi-Family Residential	277	$1,901	$526,577
Totals	**350**		**$655,057**

The projected fee illustrated in Table D.3 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities, industrial acreage or commercial acreages. The

[10] Fee based on Form 5509 dated 9/27/2016, Rev 9/29/2016. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

proposed CPF site may be subject to PFDIF, based upon the characteristics of the permittee and use.

V.6. Project Compliance

Compliance will be satisfied with the payment of Public Facilities Fees. The proposed project will be required to pay public facilities fees for police services, based on the number of dwelling units and non-residential acreage, prior to the issuance of building permits; the fees shall be paid at the rate in effect at the time payment is made.

VI. FIRE AND EMERGENCY MEDICAL SERVICES

VI. 1. Threshold Standard

Emergency Response: Properly equipped and staffed fire and medical units shall respond to calls throughout the City within 7 minutes in at least 80 percent of the cases (measured annually).

Note: For growth management purposes, response time includes dispatch, turnout and travel time to the building or site address.

VI. 2. Service Analysis

The City of Chula Vista Fire Department (CVFD) provides Fire and Emergency Medical Services (EMS). EMS is provided on a contract basis with American Medical Response (AMR). The City also has countywide mutual and automatic aid agreements with surrounding agencies, should the need arise for their assistance. The purpose of the Growth Management Threshold Standard and the monitoring of response times is to ensure that the current level of fire protection EMS in the City is maintained or improved as growth occurs. Fire/EMS facilities are provided for in the City's Fire Facility, Equipment and Deployment Master Plan (FFMP), which was adopted by City Council on January 28, 2014. The FFMP indicates that the number and location of fire stations primarily determine response time. The FFMP evaluates the planning area's fire coverage needs, and recommends a twelve (12) station network at build out to maintain compliance with the Threshold Standard (see Table E.1).

VI. 3. Existing Conditions

There are currently nine (9) fire stations serving the City of Chula Vista. The existing station network is listed below:

Table E.1
Current Fire Station Facilities

Station	Location	Equipment	Staffing
Current Fire Station Facilities			
Station 1	447 F St.	Engine 51/Truck 51/Battalion 51	Assigned: 24 - On Duty: 8
Station 2	80 East J St.	Engine 52	Assigned: 9 - On Duty: 3
Station 3	1410 Brandywine Ave.	US&R[11] 53 + Tender & Trailer	Assigned: 12 - On Duty: 4
Station 4	850 Paseo Ranchero	Engine 54	Assigned: 9 On Duty: 3
Station 5	391 Oxford St.	Engine 55	Assigned: 9 On Duty: 3
Station 6	605 Mt. Miguel Rd.	Engine 56/Brush 56	Assigned: 9 On Duty: 3
Station 7	1640 Santa Venetia Rd.	Engine 57/Truck 57/Battalion 52	Assigned: 24 On Duty: 8
Station 8	1180 Woods Dr.	Engine 58	Assigned: 9 On Duty: 3
Station 9	291 E. Oneida Street	Engine 59	Assigned: 9 On Duty: 3
Planned Fire Station Facilities			
	Millenia	New Engine/ New Truck	Unknown
	Bayfront	New Engine/ New Truck	Unknown
	Village 8 West	New Engine/ New Truck	Unknown

Source: CVFD

[11] National Urban Search and Rescue (US&R) Response System Team

The adopted FFMP sets forth a plan for a Fire/Emergency Medical Services delivery system within the City of Chula Vista that can, upon build-out, meet the expected growth of the City. The FFMP recommends the expansion of one existing fire station and the addition of three new fire stations for a total of 12 fire stations. Two of the new fire stations are planned for Otay Ranch, one in Village 8 West, the other in the Millennia project, which is consistent with the Otay Ranch GDP and Millenia SPA Plan. Additionally, a third fire station would serve the Bayfront. All future growth projected in the City will be served by the station locations and configuration as outlined within the FFMP.

During the City's next comprehensive update of the PFDIF program, the level of capital program financial support required from both the General Fund and the PFDIF will be determined. The City's Public Facilities Development Impact Fee (PFDIF) program is the primary funding source for the one-time fire related facility capital expenditures; the General Fund is the funding source for the operating costs. Cost sharing between the City and the PFDIF will also be determined during the PFDIF update and the new aforementioned development related facilities will be added to the PFDIF program fee calculation.

American Medical Response (AMR) is contracted by the City of Chula Vista to provide Emergency Medical Services. There are four AMR units that provide paramedics and emergency transport services to the City of Chula Vista. Currently two full-time units are stationed within the city limits and are dedicated to Chula Vista, while two other full-time units are shared with other cities. The Chula Vista Fire Department is also providing an Advance Life Support (ALS) program to provide residents with the most appropriate emergency medical care in a timely manner.

VI. 4. Adequacy Analysis

The City of Chula Vista Fire Department (CVFD) currently serves areas within the City's boundaries, including the Portion of Village 4 project area. The *Fire Protection Plan, Otay Ranch Village Four South, November, 2016, by Dudek* (FPP) provides a detailed discussion and analysis of the fire risk at the site, proposed measures to mitigate risk and measures to comply with the City of Chula Vista Municipal Code. The closest CVFD stations to the project site are:

- Fire Station #7, located at 1640 Santa Venetia (Village 2) – 1.9 miles.
- Fire Station #3, located at 1410 Brandywine Ave. – > 4.6 miles.
- Fire Station #6, located at 605 Mt. Miguel Road – 5.5 miles.
- Fire Station #8, located at 1180 Woods Drive – 5.6 miles.
- Planned Fire Station, located in Millenia – 2.27 miles.
- Planned Fire Station, located in Village 8 West – > 1 mile.

Station #7 is approximately 1.9 miles away and is closest to the Portion of Village 4 project site. Because Station #7 is a three-person engine company (3 crew members), and the City follows the Occupational Safety and Health Administration (OSHA) two-in and two-out standard[12], the weight of the initial response is considered insufficient. Until either the Millenia or the Village 8 W planned fire stations are operational, either a fourth firefighter would need to be added to the Station 7 engine company or an additional engine would need to be able to respond within 5 minutes throughout the project.

[12] 1990 Occupational Safety Health Administration (OSHA) Staffing Policy is commonly called the "two-in/two-out" policy. This policy requires firefighters to enter serious building fires in teams of two, while two more firefighters are outside and immediately ready to rescue them should trouble arise.

The Chula Vista FFMP indicates that the proposed Village 8 West Fire Station and the Millenia Fire Station construction are anticipated and will be located approximately 0.73 miles and 2.27 miles respectively from Portion of Village 4's most remote buildable lot. Either station would respond to emergency calls for service within 5 minutes to satisfy the two in, two out standard. Existing Fire Station #3 (approximately 4.6 miles from the project) could also respond depending on the type of emergency. However, according to the FPP report, Fire Station #3 cannot meet the 5-minute requirement for the entire project.

Table E.2
Portion of Village 4 CVFD Emergency Response Analysis

Chula Vista Fire Department Station No.	Total Mileage to Village 4 South (furthest point)	Estimated Response Travel Time	% of Village Lots within 5-minute Travel Time
		First Arriving	*First Arriving*
7	1.88	3 min. 50 sec.	100%
3**	4.63	8 min. 31 sec.	0%
3 (future road network)	3.9	7 min. 17 sec.	0%
6	5.61	10 min. 11 sec.	0%
6 (future road network)	5.5	10 min.	0%
8	5.74	10 min 25 sec.	0%
8 (future road network)	5.66	10 min 16 sec	0%
Proposed Village 8 West	0.73	1 min. 54 sec.	100%
Approved Millenia***	2.27	4 min31 sec.	100%

* Table 8 presents results of response travel time utilized the ISO formula (T=.65+1.7D) that discounts speed to account for slowing along the response route whereas Figures 10 through 19 illustrate model runs with a constant speed of 35 mph which results in faster overall coverage times and 100% coverage under 5 minutes.

** The Station 3 emergency response analysis was conducted for travel distance and time from La Media Road via Olympic Parkway to the northeast entrance on Main Street. It was assumed that the Main Street extension and bridge were not built at this point in time.

*** Note that the Millenia Fire Station was used for modeling since it was determined to be the optimal location for a new fire station (FFMP 2012)

As indicated in Table E.2, the first arriving engine from Station #7 achieves a 5-minute travel time throughout the entire development, conforming with the approved response goal of 7 minutes 90% of the time (5 minutes travel + dispatch + turnout). The 100% achievement is based on the FPP analysis of the number of lots in the project and the percentage of those lots that can be reached within 5 minutes travel using the Insurance Service Office's travel time formula. Station #7 can successfully achieve response for 73 single-family (100%) and 3 multi-family lots (100%) of Portion of Village 4 within 3 minutes 50 seconds travel time.

Based on the available city firefighting resources from existing stations, the call volume currently experienced along with that generated by Portion of Village 4, and the response times achievable by the existing stations, the FPP expects that overall response meets the City's standards with the exception of the initial response weight of only 3 on-scene firefighters from Station #7 within 5 minutes.

Estimated call volumes at Stations #7, #3, #6, and #8 are currently estimated at 1,904, 1,594, 953, and 1,121 per year, respectively (CVFD 2015 Annual Stats Report). The additional 0.23 call per day is expected to be generated by Portion of Village 4 would not significantly stress existing emergency response capabilities of existing stations, but when considered cumulatively with surrounding development and related calls, would have the potential to result in a significant impact.

According to the GMOC 2016 Annual Report "the percentage of "Calls Responded to Within

7 Minutes" fell just 1.7% short of the 80% Threshold Standard, which was a 1.8% improvement from the previous review period. The average response time for all calls was 12 seconds slower."

Table E.3
Portion of Village 4 SPA
Fire and EMS Response Times

Years	Call Volume	% of All Call Responded to Within 7:00 Minutes (Threshold = 80%)	Average Response Time for all Calls[2]	Average Travel Time	Average Dispatch Time	Average Turn-out Time
FY 2015	12,561	78.3	6:14	3.51	1:12	1:10
FY 2014	11,721	76.5	6:02	3.34	1:07	1:21
FY 2013	12,316	75.7	6:02	3:48	1:05	1:08
FY 2012	11,132	76.4	5:59	3:43		
FY 2011	9,916	78.1	6:46	3:41		
FY 2010	10,296	85.0	5:09	3:40		
FY 2009	9,363	84.0	4:46	3:33		
FY 2008	9,883	86.9	6:31	3:17		
FY 2007	10,020	88.1	6:24	3:30		
CY 2006	10,390	85.2	6:43	3:36		
CY 2005	9,907	81.6	7:05	3:31		
FY 2003-04	8,420	72.9	7:38	3:32		
FY 2002-03[1]	8,088	75.5	7:35	3:43		
FY 2001-02[1]	7,626	69.7	7:53	3:39		
FY 2000-01	7,128	80.8	7:02	3:18		

Note [1]: Reporting period for FY 2001-02 and 2002-03 is for October 1, 2002 to September 30, 2003. The difference in 2004 performance when compared to 2003 is within the 2.5% range of expected yearly variation and not statistically significant.
Note [2]: Through FY 2012, the data was for "Average Response Time for 80% of Calls."

Source: GMOC 2016 Annual Report

The FFMP includes additions to the existing fire station network. According to the plan, these additions to the network will allow fire department emergency response time improvement to 7 minutes 90% of the time. The improvement in response times will not be realized until completion of the aforementioned fire station network improvements. The FFMP does not specify definitive dates or triggers for fire station construction to begin; nor has a funding mechanism been identified.

The fire department has determined that the following system improvements are required to make significant improvements in compliance:

- Additional fire stations within the network
- Additional improvements in call for service dispatch processes
- Improved management of response time performance to include interactive discussion with fire crews, use of mapping capabilities, and shared data with stakeholders.

VI. 5. Fire & EMS Facility Analysis:

The CVFD has four fire stations west of Interstate 805 and 6 fire stations east of I-805. Response times are good for west side stations since they are located within a traditional grid street pattern plus fewer calls for service than the eastern stations. New developments in the eastern portion of the city will require better street connectivity and an increased awareness for emergency vehicle access to improve response times. The CVFD has indicated that new fire stations and associated apparatus are necessary to accommodate new growth over the next five years.

VI. 6. Financing Fire & EMS Facilities:

The Public Facilities Development Impact Fee (PFDIF) was last updated by the Chula Vista City Council on November 7, 2006 by adoption of Ordinance 3050. The PFDIF is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The Fire PFDIF Fee for Single Family Development is $1,469/unit. The Fire PFDIF Fee for Multi-Family Development is $1,057/unit (see Table A.7)[13]. This amount is subject to change as it is amended from time to time. The project will be subject to the payment of the fee at the rate in effect at the time building permits are issued. At the current fee rate, the project Fire Fee obligation at build-out is $400,026.

Table E.4
Fire/EMS Fee for Portion of Village 4

Development	DU's	PFDIF/DU	Fire Fee
Single Family Residential	73	$1,469	$107,237
Multi-Family Residential	277	$1,057	$292,789
Totals	**350**		**$400,026**

The projected fee illustrated in Table E.4 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities and non-residential acreages. The proposed CPF site may be subject to PFDIF, based upon the characteristics of the permittee and use.

VI. 7. Project Compliance:

A. Prior to the issuance of each building permit, the applicant(s) shall pay PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in this document, unless stated otherwise in a separate development agreement.
B. City to monitor the issuance of building permits so that when the permit for the 121st house is applied for, the developer and CVFD will negotiate to determine the contribution by the developer to fully fund a 4th firefighter, to be paid prior to the issuance of the 121st building permit, and that the process would continue annually until either the Millenia or the Village 8 West fire station is operational.
C. The developer will assure the maintenance of the defensible space by a property owner's association that would raise funds through fees paid by each property owner and/or participation in a CFD established over the entire project to raise funds through the creation of a special tax for defensible space maintenance purposes. If a property owner's association will be responsible, the developer will provide evidence to the city that the association's initial budget appropriately funds the maintenance.

[13] Fee based on Form 5509, Rev 9/29/2016. Please verify with City of Chula Vista at the time of building permit.

VII. SCHOOLS

VII.1. Growth Management Threshold Standard

The city shall annually provide the Chula Vista Elementary School District (CVESD) and the Sweetwater Union High School District (SUHSD) with the city's annual 5-year residential growth forecast and request an evaluation of their ability to accommodate forecasted growth, both citywide and by subarea. Replies from the school districts should address the following:

A. Amount of current classroom and "essential facility" (as defined in the Facility Master Plan) capacity now used or committed;

B. Ability to absorb forecasted growth in affected facilities and identification of what facilities need to be upgraded or added over the next five years;

C. Evaluation of funding and site availability for projected new facilities identified; and

D. Other relevant information the school district(s) desire(s) to communicate to the City and GMOC.

VII.2. Service Analysis

School facilities and services in Chula Vista are provided by two school districts. The Chula Vista Elementary School District (CVESD) administers education for kindergarten through sixth grades. The Sweetwater Union High School District (SUHSD) administers education for the Junior/Middle and Senior High Schools of a large district, which includes the City of Chula Vista. The purpose of the threshold standard is to ensure that the districts have the necessary school sites and funds to meet the needs of students in newly developing areas in a timely manner, and to prevent the negative impacts of overcrowding on the existing schools. Through the provision of development forecasts, school district personnel can plan and implement school facility construction and program allocation in line with development.

On November 3, 1998, California voters approved Proposition 1A, the Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998. Prior to the passage of Proposition 1A, school districts relied on statutory school fees established by Assembly Bill 2926 ("School Fee Legislation") which was adopted in 1986, as well as judicial authority (i.e., Mira-Hart-Murrieta court decisions) to mitigate the impacts of new residential development. In a post Proposition 1A environment, the statutory fees provided for in the School Fee Legislation remains in effect and any mitigation requirements or conditions of approval not memorialized in a mitigation agreement, after January 1, 2000, will be replaced by Alternative Fees (sometimes referred to as Level II and Level III Fees). The statutory fee for residential development is referred to in these circumstances as the Level I Fee (i.e., currently for unified school districts at $3.48 per square foot for new residential construction and $0.56 per square foot for new commercial and industrial construction).

CVESD utilizes their current *Fee Justification Report, by SDFA*, to quantify the impacts of new residential development on the district's school facilities, and to calculate the permissible Alternative Fees to be collected from such new residential development. To ensure the timely construction of school facilities to house students from residential development, alternative fees or implementation of a Mello Roos Community Facilities District (CFD) will be necessary.

Both CVESD and SUHSD are justified per Gov't Code to collect the maximum fee of $3.48 per square foot for new residential construction. CVESD has an agreement with SUHSD specifying the amount of the development fee that each district collects from new residential development.

Sweetwater Union High School District utilizes their current "Sweetwater Union High School District Long Range Comprehensive Master Plan." Implementation of the SUHSD Plan is ongoing and has resulted in the upgrading of older schools and accommodating growth. In November 2006, the community supported Proposition O, a 644-million-dollar bond measure. This bond measure addresses the critical and urgent safety needs of the district's campuses. The types of repairs and improvements that Prop O addresses included: improving handicap accessibility, removing asbestos and lead paint, and upgrading fire and life safety systems.

In November 2012, the community supported Proposition E, a 90-million-dollar bond measure. This bond measure addressed the renovation and upgrades of the existing campuses within the CVESD.

VII.3. Project Processing Requirements

The PFFP is required by the Growth Management Program to address the following issues for School Services:

A. Identify student generation by phase of development.

B. Specific siting of proposed school facilities will take place in conformance with the *Sweetwater Union High School District Long Range Comprehensive Plan,* and Chula Vista Elementary School District's Standards and Criteria.

C. Reserve school sites, if necessary, or coordinate with the district for additional school classrooms.

D. Provide cost estimates for facilities.

E. Identify facilities consistent with proposed phasing.

F. Demonstrate the ability to provide adequate facilities to access public schools in conjunction with the construction of water and sewer facilities.

G. Secure financing.

VII.4. Existing Conditions

A. School Facilities Inventory, Chula Vista Elementary School District

Currently, the CVESD's inventory consists of 45 elementary schools including 6 Charter schools. Table F.1 lists existing schools together with the capacity and enrollment of each. Capacity using existing facilities is approximately 30,000. Estimated enrollment for the 2015-2016 school year is approximately 28,580. Thirty-nine of of the districts 46 schools are located within the City of Chula Vista. Most of the District's 39 schools have some capacity (see Table F.1). The existing district schools in the vicinity of the Portion of Village 4 SPA project (Wolf Canyon, Arroyo Vista Charter, Corky McMillin, Olympic View, Salt Creek and Veterans) have little or no capacity at this time. However, according to the GMOC 2016 Annual Report, the CVESD reported that, within the next five years, they should be able to provide the facilities necessary to accommodate additional students in eastern Chula Vista.

Table F.1 Chula Vista Elementary School District Enrollments vs. Capacity			
Schools	**2015/2016 Projected Enrollment**	**Approximate Capacity**	**Remaining Capacity**
Allen	382	438	56
Arroyo Vista Charter	849	850	1
Burton C. Tiffany	543	586	43
Camarena	1058	1000	-58
Casillas	542	577	35
Castle Park	401	489	88
Chula Vista Hills	498	588	90
Chula Vista LCC	962	888	-74
Clear View Charter	480	586	106
Cook	356	513	157
Discovery Charter	810	938	128
Eastlake	580	702	122
Feaster/Ed Charter	1,029	1,113	84
Finney	383	586	203
Halecrest	511	577	66
Harborside	687	864	177
Hedenkamp	1,065	1,150	85
Heritage	857	900	43
Hilltop Drive	556	564	8
Juarez-Lincoln	571	727	156
Kellogg	288	427	139
Lauderbach	783	1052	269
Liberty	745	752	7
Loma Verde	556	650	94
Los Altos	379	489	110
Marshall	658	686	28
McMillin	851	813	-38
Montgomery	380	513	133
Mueller Charter	902	900	-2
Olympic View	817	825	8
Otay	550	713	163
Palomar	383	436	53
Parkview	385	536	151
Rice	636	739	103
Rogers	465	639	174
Rohr	285	489	204
Rosebank	574	727	153
Salt Creek	958	975	17
Silver Wing	416	488	72
Sunnyside	468	489	21
Valle Lindo	540	677	137
Valley Vista	563	634	71
Veterans	890	901	11
Vista Square	627	689	62
Wolf Canyon	1361	927	-434
Totals	**28,580**	**31,802**	**3,222**

Source: GMOC 2016 Annual Report

Table F.2 Sweetwater Union High School District Enrollments vs. Capacity			
School Site	**12/31/16 Projected Enrollment**	**Approximate Capacity**	**Capacity vs. Projected**
Middle Schools			
Bonita Vista	1,191	1,187	-4[1]
Castle Park	873	1,129	256
Chula Vista	816	1,030	214
EastLake	1,684	1,523	-161[1]
Hilltop	1,030	1,148	118
Rancho del Rey	1,789	1,414	-375[1]
Subtotal	**7,383**	**7,431**	**48**
High Schools			
Bonita Vista	2,415	2,056	-359[1]
Castle Park	1,443	1,681	238
Chula Vista	2,503	2,162	-331[1]
EastLake	3,037	2,291	-746[1]
Hilltop	2,096	2,096	0
Olympian	2,583	1,913	-670[1]
Otay Ranch	2,523	2,126	-397[1]
Palomar	291	479	188
Subtotal	**16,891**	**14,804**	**-2,087**
Total	**24,274**	**22,235**	**-2,039**
Note 1: Per the District: This enrollment is accommodated on-site through master scheduling and travelling teachers which allow classrooms to be used an extra period each day.			

Source: GMOC 2016 Annual Report

B. School Facilities Inventory, Sweetwater Union High School District

The SUHSD currently administers eleven (11) junior high/middle schools and thirteen (13) senior high schools including one continuation high school within the District. Planned for the future is middle school #12 and high school #14. Last year the district projected the need for Middle School #12 and High School #14 after 2015. The new high school will relieve EastLake, Otay Ranch and Olympian High Schools. The district has not established attendance boundaries and therefore cannot project exactly how the affected school's enrollment will be reduced. However, according to the GMOC 2016 Annual Report, the SUHSD reported that, within the next five years, they should be able to provide the facilities necessary to accommodate additional students in eastern Chula Vista.

C. Community Facilities District (CFD)

Several master-planned communities within eastern Chula Vista are currently in a CFD while other communities have entered into agreements with the District to form a CFD. Because these developments have already secured mitigation to ensure the timely construction of school facilities to house students generated from these developments they are deemed Mitigated Developments by the district and are excluded from the payment of Alternative Fees. Residential development projects that have currently not mitigated the impacts that result from their development projects are considered "Unmitigated Developments."

In the event that schools are overcapacity, the school district uses relocateable classrooms to temporarily house additional students until a new facility opens. In recognition of the impact on school facilities created by new development, the District and developers may enter into various mitigation agreements in order to ensure the timely construction of school facilities to house students from new residential development ("Mitigation Agreement"). Historically, developers and school districts have entered into School Mitigation Agreements and community facilities district ("CFD"), pursuant to the Mello-Roos Community Facilities District Act of 1982 (CVESD), to finance school facilities. However, per AB 2926, in the absence of a mitigation agreement, the developer shall pay the statutory school fees under state law in effect at the time of building permit issuance.

VII.5. School Sizing and Location

The project is proposed to consist of 277 multi-family and 73 single family residential dwelling units at build out. At completion, the proposed project could generate approximately 207 students using the following Student Generation Factors:

Table F.3
Student Generation Rates

District	Single Family Detached	Multi-Family
CVESD	0.3402	0.3238 students/d.u.
SUHSD Middle School	0.0936	0.0810 students/d.u.
SUHSD High School	0.1171	0.1939 students/d.u.

Source: CVESD & SUHSD

By school category, the project is expected to generate the following students:

Table F.4
Estimated Project Student Generation

	# of Dwelling Units	Elementary (K-6)	Middle (7-8)	High School (9-12)	Total Students
Single Family Dwelling Units	73	25	7	9	41
Multi- Family Dwelling Units	277	90	22	54	112
Totals	**350**	**115**	**29**	**63**	**165**

School Size Standards:	Elementary	750-1,000 students
	Middle	1,500 students
	Senior High	2,400 students

Chula Vista Elementary School District

As noted in Table F.4, the build-out of the project would generate the need to house approximately 115 elementary school age students. In order to accommodate the new elementary school students from eastern Chula Vista planned developments including Portion of Village 4, an 11.4-acre elementary school site has been reserved as Parcel S in the adjacent Village 8 West SPA. If selected by the Chula Vista Elementary School District, this school site will be large enough to accommodate up to 750 students. The site will be reserved for acquisition by the School District. Construction timing of the school will be determined by the district. Until such time that the school is completed, students residing within Portion of Village 4 will attend schools in neighboring villages as determined by the school district.

The district is anticipating Muraoka Elementary School with an 800-student capacity in Otay Ranch Village 2 will open in July 2017, providing relief to Wolf Canyon Elementary, which is nearing capacity. This will result in Wolf Canyon having excess capacity to accommodate students generated in PA12, Millenia and Otay Ranch Villages 3 and 4.

A second school in Village 2, which will accommodate approximately 600 students, is also planned. The school district is limiting and eventually discontinuing zone transfers (from the west side to the east side) so that students that live in the new communities can attend their home school.

Sweetwater Union High School District

The proposed project is anticipated to generate approximately 29 middle school students and 63 high school students. The project is currently within the EastLake Middle School and Olympian High School attendance areas. Both schools are at capacity and the Project will generate additional need for new schools. All eastside schools are at capacity and closed to new intradistrict transfers.

To fulfill the educational need of new middle school students from eastern Chula Vista planned developments including Portion of Village 4, a 20.2-acre middle school site has been reserved as Parcel D of the Village 8 West SPA Plan. This school will be large enough to accommodate up to 1,000 students. The site will be reserved for acquisition by the Sweetwater Union High School District. Construction timing of the school will be determined by the School District. Until such time that school is completed, students residing within Portion of Village 4 will attend schools in neighboring villages as determined by the School District.

The school district is working on updating its Long-Range Facilities Master Plan and has met with the City to discuss potential high school and middle school sites. Current plans are to begin construction of high school #14 on the northeast corner of Eastlake Parkway and Hunte Parkway, and middle school #12 in Otay Ranch Village 8 West in 2017 and open in July 2019. The district will need to acquire another 25-50-acre site to accommodate future growth.

The property is not within a CFD. The developer will have the option of forming a new CFD or paying the State mandated school fee.

Demand for adult school facilities will be satisfied within existing facilities in the Sweetwater Union High School District, until a new facility can be constructed in the Millenia site or a site reserved pursuant to the Otay Ranch GDP.

VII.6. Financing School Facilities

California Government Code section 65995 et. seq. and Education Code Section 17620 et. seq. authorizes school districts to impose facility mitigation exactions on new development as a way to address increasing enrollment caused by that development.

Although the collection of school fees is one method available to defray the cost of new development, it is not an acceptable solution since the maximum amount that could be collected by law represents less than one-fourth the cost to construct schools. The SUHSD is unable to meet the needs of this project with current school facilities and it is unable to construct new facilities to meet the impacts of this project through the provision of school fees.

In recognition of this funding deficiency, it is the policy of each district to fully mitigate the facility impacts caused by a master planned community via the creation of a Mello Roos Community Facilities District. The following Mello-Roos Districts have been created by each district:

SUHSD

CFD Number	Location
1	EastLake
2	Bonita Long Canyon
3	Rancho del Rey
4	Sunbow
5	Annexable
6	Otay Ranch
7	Rolling Hills Estate
8	Coral Gate (Otay Mesa)
9	Ocean View Hills
10	Remington Hills/Annexable
11	Lomas Verdes
12	Otay Ranch (Village 1 West)
13	San Miguel Ranch
14	Otay Ranch Village 11

CVED

CFD Number	Location
1	EastLake
2	Bonita Long Canyon
3	Rancho del Rey
4	Sunbow
5	Annexable
6	Otay Ranch
10	Annexable for future annexations
11	Otay Ranch (Lomas Verde)
12	Otay Ranch (Village 1, West)
13	San Miguel Ranch
14	Otay Ranch Village 11 (Brookfield/Shea)
15	Otay Ranch Village 6 (ORC)
17	Otay Ranch Village 2 & portion of V7
18	Eastern Urban Center (Millennia)
19	Portion of PA12 & Village 2

Based on historical data available from each district an estimate of costs for the construction of school facilities on a per student basis is provided. Both districts follow state standards for determining the costs and size for school construction. The cost for a high school, including land acquisition, is approximately $38,500 per student (2010 dollars). Excluding land, the cost for a high school is approximately $32,000 per student. The cost for a middle school, including land acquisition, is approximately $36,000 per student (2010 dollars). Excluding land, the cost for a middle school is $32,000 per student. The cost for an elementary school, including land acquisition, is approximately $33,500 per student (2010 dollars). Excluding

the land, the cost for an elementary school is approximately $30,000 per student. Land acquisition cost is calculated at approximately $350,000/net usable acre (10-acre elementary school site). Using the aforementioned costs per student together with the school size, the following costs per facility can be anticipated.

Elementary School Cost	
(1000 students) ($30,000/student w/o land cost)	$30,000,000
(1000 students) ($33,500/student w/land cost)	$33,500,000
Middle School Cost	
(1,500 students) ($32,000/student w/o land cost)	$48,000,000
(1,500 students) ($36,000/student w/ land cost)	$54,000,000
High School Cost	
(2,400 students) ($32,000/student w/o land cost)	$80,000,000
(2,400 students) ($38,500/student w/ land cost)	$92,500,000

VII.7. Project Compliance

Prior to the issuance of each building permit for any residential dwelling units, the applicant(s) shall provide evidence or certification by the SUHSD and CVESD that any fee charge, dedication or other requirement levied by the school district has been complied with or that the district has determined the fee, charge, dedication or other requirements do not apply to the construction or that the applicant has entered into a school mitigation agreement. School Facility Mitigation Fees shall be in accordance with the fees in effect at the time of building permit issuance.

VIII. LIBRARIES

VIII.1. Growth Management Threshold Standard

The city will not fall below the citywide ratio of 500 gross square feet (GSF) of library space, adequately equipped and staffed, per 1,000 population.

VIII.2. Service Analysis

The City of Chula Vista Library Department provides library facilities.

VIII.3. Project Processing Requirements

The PFFP is required by the Growth Management Program to address the following issues for Library services:

A. Identify phased demands in conjunction with the construction of streets, water and sewer facilities.

B. Specifically identify facility sites in conformance with the Chula Vista Library Master Plan.

VIII.4. Existing Conditions

The City provides library services through the Civic Center Branch Library, the South Chula Vista Branch Library and, Otay Ranch Town Center Branch Library. The Civic Center Branch Library is located at 365 F Street, approximately seven miles from the FC-2 project and is the largest library facility within the city, consisting of a two-story, 55,000-square-foot building. The South Chula Vista Branch Library is located at 389 Orange Avenue, approximately six miles from the project and consists of approximately 37,000 square feet. The Otay Ranch Branch Library is located at 2015 Birch Road in the Otay Ranch Town Center, approximately one-quarter mile from the project and consists of approximately 5,400 square feet. The existing and future libraries are listed on the Table G.1 and Table G.2, respectively.

Table G.1
Existing Library Facilities

Existing Libraries	Square Footage
Civic Center	55,000
South Chula Vista	37,000
Otay Ranch Town Center	5,400
Total Existing Square Feet	**97,400**

The Chula Vista Public Library Strategic Facilities Plan identified ways to improve library service delivery to the community, particularly to residents of eastern Chula Vista. The plan indicates that the additional needed library square footage can be developed as multiple smaller branches, or as one large library. However, the library's operating budget has been significantly reduced and capital funding is not currently available. Therefore, the facilities plan does not determine which option would be implemented. The options will be evaluated when capital and operating funds become available. Additional measures such as mall outlets, book vending machines, a bookmobile, and service partnerships are identified as possible interim measures. One recent interim measure was the mall branch at Otay Ranch Town Center, which opened in April 2012, which was augmented with a 2,000-square foot expansion in 2014.

VIII.5. Adequacy Analysis

Using the Threshold Standard of 500 square feet of library space per 1,000 population, the demand for library space based on Chula Vista's estimated population of 261,187[14] as of 12/31/2016 is approximately 130,594 square feet. Chula Vista currently provides approximately 97,400 square feet of library space. This represents an approximate 33,200 square-foot deficit. The demand generated by the 6,630 forecasted dwelling units (GMOC 2016 Annual Report) is approximately 10,600 square feet (6,630 x 3.21[15]/1,000) x 500). By 2019, the demand for library space generated by the existing and forecasted dwelling units totals approximately 141,200 (130,600 + 10,600) square feet. Comparing this demand to the existing library square footage of 97,400 square feet results in a deficit of approximately 43,800 square feet unless the city completes the Rancho Del Rey or Millennia Regional Library or a combination of a Regional Library and numerous branch libraries before 2020.

Table G.2 illustrates the need to increase Library Facilities over the next five years to keep pace with the city's projected growth. The table assumes the Millenia Library is completed and the Otay Ranch Branch is closed. The SANDAG 2030 build-out population for Chula Vista is approximately 289,044. This population will require approximately 144,500 square feet of Library Facilities.

The GMOC Threshold Standard for libraries is 500 square feet of library space per 1,000 residents. According to the 2016 GMOC Annual Report, the current service ratio for FY 2014-2015 was approximately 380 square feet for every 1,000 residents. Therefore, the City does not currently meet the threshold standard for libraries.

Construction of the proposed 30-35,000 square foot Library at the Millenia project may not achieve the City's Threshold Standard compliance. The GMOC Annual Report indicated that "either doubling the size of the Millenia library to 70,000 square feet or constructing two 35,000 square-foot libraries – one in Millenia and one on the Rancho del Rey library site – will be necessary to achieve compliance at build-out."

[14] GMOC 2016 Annual Report

[15] City forecasting Population coefficient of 3.21 persons per household.

Table G.2 Library Space Demand vs. Supply				
	Estimated Population	**Demand Square Footage**	**Estimated Supply Square Footage**	**Variance**
Estimated Existing Citywide 12/31/16	261,187	130,594	97,412	(33,182)
Regional library at Millenia (formerly EUC) 2020			30,000	30,000
Regional library at Rancho del Rey (2020)			30,000	30,000
Forecasted Projects to 2020	21,000	10,500		**(10,500)**
Subtotal	**282,187**	**141,094**	**157,412**[1]	**16,318**
Note 1: Assumes the Millenia Library completed with the closing of the Otay Ranch Branch and new Rancho del Rey Branch Library				

Source: 2016 GMOC Annual Report

VIII.6. Financing Library Facilities

The Public Facilities Development Impact Fee (PFDIF) was last updated by the Chula Vista City Council on November 7, 2006 by adoption of Ordinance 3010. The PFDIF is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The current PFDIF for single-family residential and multi-family development is $1,671/unit. This amount is subject to change with the adoption of Ordinance 3010. The PFDIF amount is subject to change as it is amended from time to time. The Library component of the PFDIF only applies to residential development. The calculations of the PFDIF due for each facility are addressed in the following sections of this report. At the current library fee rate, the Otay Ranch Portion of Village 4 Library Fee obligation at build-out is $584,850 (see Table G.3).

Table G.3 Portion of Village 4 Estimated Library Fee[16]			
Development	**DU's**	**PFDIF/DU**	**Library Fee**
Single Family Residential	73	$1,671	$121,983
Multi-Family Residential	277	$1,671	$462,867
Totals	350		$584,850

The projected fee illustrated in Table G.3 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities. The proposed CPF site may be subject to PFDIF, based upon the characteristics of the permittee and use.

[16] Fee based on Form 5509 dated 9/27/2016, Rev 9/29/2016. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

VIII.7. Project Compliance

A. Project compliance will be satisfied with payment of the Library component of the Public Facilities Development Impact Fee. Library fees will be assessed based on the number of dwelling units at the rate in effect at the time payment is made.

IX. PARKS AND RECREATION AREAS

IX.1. Growth Management Park and Recreation Threshold Standard

Population Ratio: Three (3) acres of neighborhood and community park land with appropriate facilities per 1,000 residents east of I-805.

IX.2. Service Analysis

The City of Chula Vista provides public park and recreational facilities and programs. All park development plans are reviewed by City staff and presented to the Parks and Recreation Commission for review. A recommendation is made by this Commission to the City Council.

The City Council approved the Chula Vista Parks and Recreation Master Plan in November 2002. The Plan provides guidance for planning, siting and implementation of neighborhood and community parks. There is a draft update for the Master Plan dated December 2017.

The Portion of Village 4 SPA Plan must conform to the current approved Chula Vista Parks and Recreation Master Plan, which provides the guidance for planning, siting and implementation of neighborhood and community parks. Further, the SPA Plan must conform to the City of Chula Vista Greenbelt Master Plan and the Otay Valley Regional Park Concept Plan.

IX.3. Project Processing Requirements

A. Identify phased demands in conformance with the number of dwelling unit's constructed, street improvements, and in coordination with the construction of water and sewer facilities.

B. Specific siting of the facility will take place in conformance with the Chula Vista Parks and Recreation Master Plan.

C. Site/s reserved for park purposes within the project.

IX.4. Existing Conditions

The existing and future parks as depicted in the Public Facilities & Services Element of the General Plan and as updated by the inclusion of more recent information are contained in the City's Parks and Recreation Master Plan.

IX.5. Project Park Requirements

According to the GDP, Portion of Village 4 is required to provide 3-acres of parkland for every 1,000 residents. Based on a Portion of Village 4 projected resident population of 980 persons (2.61-persons per household (pph) for multi-family and 3.52-pph for single-family), approximately 2.94-acres of parkland is required by the GDP. See Table H.1 GDP Park Requirements below.

Table H.1
GDP Parkland Requirements

Number of Units	Persons per Household (pph)	Population (pop)	Required Acreage (3 acres/1000 pop)
277 MF	2.61	723	2.17
73 SF	3.52	257	0.77
350 Units		**980**	**2.94**

To meet the City's "Growth Management" Ordinance Threshold Standard requirements, the amount of parkland dedicated is based on a standard of 3 acres per 1,000 populations (see Table H.1). The standard is based on State of California Government Code 66477, also known as the Quimby Act, which allows a city to require by ordinance, the dedication of land or payment of fees for park or recreational purposes.

Table H.2
Quimby Act Parkland Requirements

Portion of Village 4 SPA Population	Standard	Parkland Acres Required
980	3 acres per 1,000 population	2.94

All new development in the City of Chula Vista is subject to the requirements contained in the City's Parkland Dedication Ordinance CVMC Chapter 17.10. The ordinance establishes fees for park land acquisition and development, sets standards for dedication and establishes criteria for acceptance of parks and open space by the City of Chula Vista. Fees vary depending upon the type of dwelling unit that is proposed. There are three types of housing: Single-Family dwelling units (defined as all types of single-family detached housing and condominiums), Multi-Family dwelling units (defined as all types of attached housing including townhouses, attached condominiums, and duplexes) and Mobile Homes. Single-Family Housing is defined as a free-standing structure with one residential unit. Multi-Family Housing is defined as any free-standing structure that contains two or more residential units. Parkland dedication requirements are shown below on Table H.3.

Table H.3
City of Chula Vista Parkland Dedication Ordinance Standards

Dwelling Unit Type	Land Dedication per Unit	Dwelling Units per Park Acre
Single-Family	460 sf/du	95 du/ac.
Multi-Family	341 sf/du	128 du/ac.

Table H.4
Portion of Village 4 SPA Plan
Preliminary Parkland Dedication Requirements
City Ordinance Applied to Planning Prediction of Unit Numbers and Types

Dwelling Unit Type*	Number of D.U.	Parkland Required/DU	Required Acres
Single Family Detached	73	460 sf/du	0.77
Multiple Family	277	341 sf/du	2.17
TOTALS	**350**		**2.94**

* Dwelling unit type - Note that number and type of units listed reflect 'Land Use Designations' listed in the Otay Ranch General Development Plan, since this level of information is all that is available at the time of this document's preparation irrespective of underlying zoning district. Actual fee obligation calculation to be based on implementing ordinance definition of dwelling unit type irrespective of underlying zoning district containing said dwelling unit. Definitions of dwelling unit types used for calculating park obligations are based upon from the City's Parkland Dedication Ordinance CVMC chapter 17.10. These definitions differ from the way unit types are defined from a planning, land-use and zoning perspective that uses unit density per acre to categorize the type of unit. CVMC chapter 17.10 uses product type to categorize the type of unit distinguishing between attached and detached units. Consequently, the figures in this chart are preliminary estimates, and shall be recalculated at the time when the obligations are due as determined by chapter 17.10 of the CVMC.

The City's Parklands and Public Facilities Ordinance (CVMC 17.10) is based on the Quimby Act. Based on the City's Parklands and Public Facilities Ordinance, the parkland requirement is approximately 2.94 acres (see Table H.4).

Table H.5
Otay Ranch Portion of Village 4 SPA Plan
Park Acres & Eligible Credits[17]

Park Identification	Net Acreage	Proposed Credit %	Eligible Credit Ac.
Open Space (OS-1, 6, 8 & 9)	20.24	100%	0.00
Open Space Preserve (OSP 7, 10 & 11)	97.20	100%	0.00
Total Acres Eligible for Credit Against PAD			**0.00**
Portion of Village 4 SPA PAD Requirements			**2.94**
Subtotal Portion of Village 4 SPA Deficit			**2.94**
Total PAD Deficit			**2.94**

Table H.5 identifies the park acres that the city has determined will be given credit for purposes of satisfying the project's parkland dedication as measured against the City's Parkland Dedication Ordinance.

[17] Parkland fee and acreage obligations are subject to change pending changes in the dwelling unit types and numbers, or clarification of unit type at the time when obligations are due.

IX.6. Park Adequacy Analysis

Table H.6 is a comparison of park acreage demands and supply east of Interstate 805 for existing, approved projects, as well as the phased addition of the project. A review of the existing and approved park demands for Chula Vista east of I-805 including the project indicates the estimated 2016 demand of approximately 427.64 acres of Neighborhood and Community Parks. The 2015 reflects a shortfall of 9.2 acres from 2015. By 2020, the shortfall is projected to increase by 21.17 acres, for a total shortfall of 30.37 acres.

Table H.6
Estimated Park Acreage Demand Compared to Supply East of Interstate 805

	Population East of I-805[18]	Demand Park Acres[19]	Existing Park Acres	Eligible Credit Acres	Net Acres +/-Standard
Estimated 6/30/16	148,714	427.64	418.44[20]	418.44	- 9.2
Forecasted 2021	19,226[21]	57.68	36.51[22]	36.51	- 21.17
Total	**157,169**	**485.32**	**454.95**	**454.95**	**- 30.37**

Source: GMOC 2017 Threshold Standard Compliance Questionnaire

The proposed development of the project requires per the Quimby Act approximately 2.94 acres (see Table H.1) for public parkland. The project proposes two canyon overlook seating areas overlooking Wolf Canyon, on the north side of Main Street. However, the canyon overlook seating areas are not eligible for credit against the PAD. The total park obligation will consist of the payment of PAD fees.

IX.7. Open Space

The Otay Ranch GDP requires the provision of open space in addition to local parks at a ratio of 12 acres for every 1,000 residents. Based on an estimated population of 980 residents, approximately 11.76 acres of open space is required. This requirement is met through the provision of approximately 117.4 acres of open space in the form of open space preserve, non-preserve open space, manufactured slopes and other interior open spaces within the SPA Plan area.

In accordance with the Otay Ranch Resource Management Plan (RMP), the development of each Otay Ranch Village requires an open space (OP) contribution to the Otay Ranch Preserve. This requirement is equal to 1.188-acres of open space conveyance per acre of development less the acreage of "common use lands," i.e. local schools, parks, arterial roads, and other lands designated as public use areas. At 1.188-acres of conveyance per developed acre, the anticipated conveyance obligation for Portion of Village 4 is approximately 68.45-acres (gross). This acreage is an estimate only; actual acreages shall be determined at the time of Final Map.

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18 Population figures are from the GMOC 2016 Annual Report.

19 City of Chula Vista's Threshold requirement is 3 acres of parkland per 1,000 residents that are east of I-805.

20 Existing Park Acreage is from the GMOC 2016 Annual Report.

21 Population figure derived from the GMOC 2016 Annual Report.

22 Assumes completion of: V2, P-3 (Ph1) 3.9 acres. V2, P-2 7.10 acres. Millenia, Strata Park 1.51 acres. Village 3, P-1 6.7 acres. Village 8 West, P-17.5 acres. Village 8 West Town Square 3 acres. V8 East, Neighborhood Park 6.8 acres.

Open space lands indicated on the Site Utilization Plan (Exhibit 3) will be preserved through the dedication of open space easements and/or lots to the City or other appropriate agency, or Homeowners' Association, which will be determined at the Tentative Map level of approval. Uses will be strictly controlled through zoning regulations (see Chapter 3, PC District Regulations, of the SPA Plan). Landscaping within open space areas shall comply with all requirements of the Chula Vista Landscape Manual, Fire Protection Plan and Preserve Edge Plan.

The largest component of open space in the Otay Ranch is the Otay Ranch Preserve, described in the Resource Management Plan (RMP). As prescribed by the RMP, the development of each Otay Ranch Village requires conveyance of Preserve Land to the Preserve Owner/Manager. The Otay Ranch Preserve Conveyance requirement as described in the Otay RMP will be met through dedication of land within the Preserve to the Preserve Owner / Manager (POM) comprised of the City of Chula Vista and the County of San Diego.

Approximately 97.20-acres of Preserve open space (Parcels OS-7, OS-10, OS--11, and OS-12) is available on-site; however, 80.29-acres of on-site Preserve were obligated with the approval of the Quarry Reclamation plan. Therefore, 16.91-acres will be conveyed into the MSCP Preserve with the Portion of Village 4 SPA Plan and Tentative Map/Final Map. The remaining conveyance obligation acreage (51.54-acres) will be provided off-site, in accordance with the RMP requirements prior to Final Map recordation. The SPA Plan provides design standards for open space preserve areas.

An additional 9.98-acres of open space is provided as perimeter slope (OS-6 and OS-9) and consist of the Preserve Edge. The actual location of perimeter slopes, internal slopes, and the Preserve Edge is shown on the tentative map which is being concurrently processed and will be provided on Final Map(s).

IX.8. Financing Park Facilities

Chapter 17.10 of the Chula Vista Municipal Code, as amended, governs the financing of parkland and improvements. Included as part of the regulations are Park Acquisition and Development (PAD) fees established for the purpose of providing neighborhood and community parks. The Ordinance provides that fees are paid to the City prior to approval of a final subdivision map, or in the case of a residential development that is not required to submit a Final Map, at the time of the final building permit application.

The project is responsible for both the park development component and the acquisition component PAD Fees. The project parkland demand is approximately 2.9 acres based on CVMC 17.10 (Table H.4). .

PAD Fees are subject to periodic annual increases. Table H.7 identifies the fees calculated for the parkland acquisition and development components of the PAD. These fees are estimates only and are dependent upon the actual numbers of units filed on the final map. Fees are also subject to change by the City Council. Single Family dwelling units are defined as all types of single-family detached housing and condominiums. Multi-Family dwelling units are defined as all types of attached housing including townhouses, attached condominiums, duplexes, triplexes and apartments.

Table H.7 Otay Ranch Portion of Village 4 SPA Acquisition and Development (PAD) Fees (Preliminary Calculation)*					
Residential Units	**MF Acquisition Fee $9,408**	**MF Development Fee $4,118**	**SF Acquisition Fee $12,676**	**SF Development Fee $5,549**	**Total**
73 SF			$925,348	$405,077	$1,330,425
277 MF	$2,606,016	$1,140,686			$3,746,702
					$5,077,127
* Figures in this table are preliminary estimates, and shall be recalculated at the time when the obligations are due as determined by the fees in effect at the time of building permits					

IX.9. Financing Recreation Facilities

Chapter 17.10 of the CVMC, which requires the collection of fees from residential developments to pay for parkland acquisition and various park facilities within the City of Chula Vista, is subject to changes by the City Council from time to time. On October 25, 2005, the City Council Approved Ordinance 3026 relating to the periodic annual review and adjustment of park acquisition and development fees. Approval of Ordinance 3026 resulted in an increase fee for parkland acquisition. In January of 2004 the Chula Vista City Council approved Ordinance 2945. This Ordinance amended Chapter 17.10 of the CVMC, which requires the collection of In-Lieu Park Acquisition and Development Fees from residential developments that are not required to submit a subdivision map or parcel map.

Chapter 17.10 of the Chula Vista Municipal Code, first adopted in 1971, details requirements for parkland dedication, park improvements and the collection of in-lieu fees (i.e., PAD fees) from developers of residential housing in subdivisions or in divisions created by parcel maps, both east and west of I-805. PAD fees cover parkland acquisition and the cost of related capital items associated with parkland development, including:

- Drainage Systems
- Street Improvements
- Lighted Parking Lots
- Concrete Circulation Systems
- Security Lighting
- Park Fixtures *(drinking fountains, trash receptacles, bicycle racks, etc.)*
- Landscaping *(including disabled accessible surfacing)*
- Irrigation Systems
- Restrooms and Maintenance Storage
- Play Areas *(tot lots, etc.)*
- Picnic Shelters, Tables, Benches
- Utilities

- Outdoor Sports Venues *(tennis courts, baseball/softball fields. basketball courts, multi-purpose sports fields, skateboard and roller blade venues)*

In addition to parks-related items, a 1987 revision called for the dedication, within community parks, of major recreation facilities to serve newly developing communities, including:

- Community centers
- Gymnasiums
- Swimming pools

Historically, PAD fees have not been sufficient to construct these additional large capital items. However, major recreation facilities are now funded through a newly created component of the Public Facilities DIF. The major capital items to be included in the new component are: community centers, gymnasiums, swimming pools, and senior/teen centers. Based on the Parks and Recreation Master Plan, 140,595 square feet of major recreation facilities will be required to meet new development growth through build-out at a gross construction cost of over $32 million. Since the demand for major public recreation facilities is created by residential development, facilities costs are not spread to commercial/industrial development. Table H.8 provides an estimate of the Recreational PFDIF Fees for the project.

TABLE H.8
Portion of Village 4 SPA
Public Facilities Fees for Recreation[23] (Preliminary Calculation)

	Dwelling Units		Recreation Fee $1,269/Unit	Total
	SF	MF		
	73	277	$444,150	$444,150

[23] The PFDIF Fee is subject to change as it is amended from time to time. The total number of dwelling units and type of dwelling unit filed on the Final Map or for which building permits are required shall determine the actual fee amount.

IX.10. Project Compliance

A. Project Compliance will be satisfied through the payment of the Recreation component of the Public Facilities Development Impact Fee and Parkland Acquisition and Development (PAD) in-lieu fees. Fees will be assessed based on the number of dwelling units, at the rate in effect at the time payment is made as stated in CVMC Chapter 17.10 as amended from time to time. PAD fees may be reduced based upon dedication and/or development of acceptable parkland, as determined by the Director of Development Services.

B. The Applicant shall submit and obtain approval of the overlook plans, consistent with City standards as required by the Development Services Director. The overlooks will be maintained an HOA.

Source: Otay Ranch Portion of Village Design Guide, October 2017

Landscape Concept
Exhibit 6

X. WATER

X.1. Threshold Standard

A. Adequate water supply must be available to serve new development. Therefore, developers shall provide the city with a service availability letter from the appropriate water district for each project.

B. The city shall annually provide the San Diego County Water Authority, the Sweetwater Authority and the Otay Municipal Water District with the city's annual 5-year residential growth forecast and request that they provide an evaluation of their ability to accommodate forecasted growth. Replies should address the following:

1. Water availability to the city, considering both short- and long-term perspectives.
2. Identify current and projected demand, and the amount of current capacity, including storage capacity, now used or committed.
3. Ability of current and projected facilities to absorb forecasted growth.
4. Evaluation of funding and site availability for projected new facilities.
5. Other relevant information the district(s) desire to communicate to the city and the Growth Management Oversight Commission (GMOC).

X.2. Service Analysis:

The Otay Water District (OWD) will provide water service for Otay Ranch Portion of Village 4 SPA Plan area. Annexation into Improvement Districts 22 and 27 will be required prior to water service being provided. The district has existing and planned facilities in the vicinity of the project site. Expanding the existing system can provide future water service. This PFFP provides recommendations for improvements in the 624 and 711 Zones needed to provide water service to the proposed development. The OWD will also be the purveyor of recycled water to the project.

Water supply information provided in this PFFP is based on the *Overview of Water Service for Otay Ranch Village Four South, July 2016, Dexter Wilson Engineering, Inc.*, referred to the Dexter Wilson Water Study in this PFFP. Additionally, the PFFP also relies on the *Otay Ranch Village Four South, Water Conservation Plan, December 2016, Dexter Wilson Engineering, Inc.*

The developer of the project will be required to prepare, for review and approval by the Otay Water District, a Subarea Water Master Plan (SAMP) prior to approval of final engineering plans for the project. The SAMP will provide more detailed information on the project such as project phasing; pump station and reservoir capacity requirements, and extensive computer modeling to justify recommended pipe sizes. The OWD will not approve final engineering improvement plans until a SAMP has been approved for the project.

The design criteria implemented to evaluate the potable and recycled water systems for the project are established in accordance with the *Otay Water District Water Resources Master Plan, April 2013, Otay Municipal Water District.* The design criteria are utilized for analysis of the existing water system as well as for design and sizing of proposed improvements and expansions to the existing system to accommodate demands within the SPA Plan area.

X.3. Project Processing Requirements

The SPA Plan and the PFFP are required by the Growth Management Program to address the following issues for water services.

A. Identify phased demands in conformance with street improvements and in coordination with the construction of sewer facilities.

B. Identify location of facilities for onsite and offsite improvements in conformance with the master plan of the water district serving the proposed project.

C. Provide cost estimates and proposed financing responsibilities.

D. Identify financing methods.

E. A Water Conservation Plan shall be required for all major development projects (50 dwelling units or greater), or commercial and industrial projects with 50 EDUs of water demand or greater.

X.4 Existing Conditions

The California Urban Water Management Planning Act (UWMP) requires that each urban water supplier providing water for municipal purposes, either to more than 3,000 customers, or more than 3,000 acre feet of water annually, must prepare, adopt, and update a UWMP at least once every five years. This applies to Metropolitan Water District (MWD), San Diego County Water Authority SDCWA, and its member agencies, including the OWD. The intent of an UWMP is to present information on water supply, water usage/demand, recycled water, and water use efficiency programs within a water district's service area over a 25 year time frame.

The UWMP process ensures that water supplies are being planned to meet future growth. The most current supply and demand projections are contained in the 2010 UWMPs of MWD, SDCWA, and OWD. San Diego County Water Authority member districts rely on the UWMPs and Integrated Resources Plans (IRPs) of MWD and the Regional Water Facilities Master Plan of SDCWA to document supplies available to meet projected demands.

In the 2010 UWMPs, MWD, SDCWA, and all SDCWA member agencies, including OWD, have determined that adequate water supplies would be available to serve existing service areas under normal year, single dry year, and multiple dry year conditions through the year 2035.

The GMOC annually distributes a questionnaire to relevant city departments and public facility and service agencies to monitor the status of Threshold Standards compliance. The response from OWD in the 2016 GMOC Annual Report included the topic of existing water system adequacy to serve projected growth for Chula Vista. The response identified OWD's capital improvement programs required to serve the forecasted water demands and identified a list of capital improvement projects (CIPs) that would need to be implemented in order to meet projected demand. The OWD concluded that the existing potable and recycled water systems including their CIP projects should be adequate to meet Chula Vista's forecasted growth over the next five-years.

The Otay Water District reported to the GMOC that despite the State of California's water conservation mandates between June 1, 2015 and February 13, 2016, Chula Vista's water supply is in good shape because customers have been exceeding water conservation goals for several years, in preparation for the drought. The district also noted that City's required Water Conservation Plans for all SPA Plans, Tentative Maps, and major development projects has been positive for water conservation within the City. The GMOC 2016 Annual Report indicated that water was compliant with the threshold standards.

With ample water in storage, the Otay Water District's water supply is very high—well over what is currently demanded. They continue to pursue a future desalination plant in Rosarito, Mexico as another source of water, however, saying that doing so may provide price stability.

A. Metropolitan Water District:

In November 2010, MWD adopted their 2010 Regional UWMP, which evaluates water supply reliability, over a 20-year period, for average, single-dry, and multiple-dry years within its service area. MWD developed estimates of total retail demands for the region, factoring in the impacts of conservation. The water reliability analysis identifies both the current supplies and supplies under development to meet projected demands. MWD's reliability assessment showed that MWD can maintain reliable water supplies to meet projected demands through the year 2035. MWD also identified a planning buffer supply intended to protect against the risk that future demands could be higher than projected. As part of its implementation of the planning buffer, MWD periodically evaluates water supply development, supply conditions, and projected demands to ensure that the region is not under or over developing supplies. The planning buffer will ensure that Southern California, including San Diego County, will have adequate water supplies to meet long-term future demands.

B. San Diego County Water Authority:

The SDCWA service area covers approximately 951,000 acres and encompasses the western third of San Diego County. SDCWA has 24 member agencies, including OWD. SDCWA is responsible for ensuring a safe and reliable water supply to support the region's economy and quality of life for over three million residents. SDCWA imports between 70% and 95% of the water used in the San Diego region from MWD. In 2008, MWD provided 71% of the San Diego region's water supply. Most of this water is obtained from the Colorado River and the State Water Project (SWP) through a system of pipes, aqueducts, and associated facilities. Historically, SDCWA has relied on imported water supplies purchased from MWD to meet the needs of its member agencies. SDCWA is the largest MWD member agency in terms of deliveries, accounting for nearly 25% of MWD's delivered water.

According to the SDCWA 2010 UWMP, the San Diego region has reduced water usage over 50,000 acre feet average during the past three years. Conserved agricultural transfer water from the Imperial Valley has begun flowing to the San Diego region. This source provided approximately 70,000 acre feet in 2010 and will provide approximately 200,000 acre feet by 2021. This relatively new source of water is the result of SDCWA entering into the Quantification Settlement Agreement (QSA) with other water agencies in October 2003. The QSA resolved long-standing disputes regarding Colorado River water use among several agencies, and established a water budget for the agricultural agencies. This resolution permitted the implementation of several water conservation and transfer agreements, including the SDCWA/Imperial Irrigation District (IID) transfer agreement.

Table I.1
Average/Normal Water Year Supply and Demand Assessment (acre feet/year)

Local Supplies	2015	2020	2025	2030	2035
Surface Water	48,206	47,940	47,878	47,542	47,289
Water Recycling	38,660	43,728	46,603	48,278	49,998
Groundwater	11,710	11,100	12,100	12,840	12,840
Groundwater Recovery	10,320	15,520	15,520	15,520	15,520
Seawater Desalinization	0	56,000	56,000	56,000	56,000
Imported Supplies					
IID Water Transfer	100,000	190,000	200,000	200,000	200,000
Supply from MWD	358,189	230,601	259,694	293,239	323,838
Coachella Canal and All American Canal Lining Projects	80,200	80,200	80,200	80,200	80,200
Total Projected Supplies	**647,285**	**675,089**	**717,995**	**753,619**	**785,685**
Total Estimated Demands[1]	**647,285**	**675,089**	**717,995**	**753,619**	**785,685**
Difference	**0**	**0**	**0**	**0**	**0**

[1] With Conservation

Source: University Villages Project Environmental Impact Report

Table I.2
Single Dry Water Year Supply and Demand Assessment (acre feet/year)

Local Supplies	2015	2020	2025	2030	2035
Surface Water	17,932	17,932	17,932	17,932	17,932
Water Recycling	38,660	43,728	46,603	48,278	49,998
Groundwater	9,977	9,977	9,977	9,977	9,977
Groundwater Recovery	10,320	15,520	15,520	15,520	15,520
Seawater Desalinization	0	56,000	56,000	56,000	56,000
Imported Supplies					
IID Water Transfer	100,000	190,000	200,000	200,000	200,000
Supply from MWD	430,431	305,101	338,501	376,023	409,389
Coachella Canal and All American Canal Lining Projects	80,200	80,200	80,200	80,200	80,200
Total Projected Supplies	**687,520**	**718,458**	**764,733**	**803,930**	**839,016**
Total Estimated Demands[1]	**687,520**	**718,458**	**764,733**	**803,930**	**839,016**
Difference	**0**	**0**	**0**	**0**	**0**

[1] With Conservation

Source: University Villages Project Environmental Impact Report

The SDCWA UWMP contains documentation of existing and planned water supplies. These supplies include MWD (imported Colorado River water and SWP water), and local member agency supplies that include (1) IID water transfer supplies; (2) supplies from conservation projects to line the Imperial Valley's All-American Canal and the Coachella Valley's Coachella Canal; and (3) development of a seawater desalination facility at the Encina Power Plant in Carlsbad, which is anticipated to produce 56,000 acre feet per year of water supplies. Additionally, since 1980, approximately 5 to 30% of member agency water has come from local sources, primarily from surface water

reservoirs. Recycled water and groundwater recovery projects are growing in importance in the region. These projects coupled with water conservation efforts have made SDCWA member agencies less dependent on imported water.

Based on the imported and member agency local water sources, SDCWA estimates that it, along with member agency local sources, will be able to supply 647,284 acre feet of water in 2015. Therefore, according to the MWD and SDCWA 2010 UWMPs, there is available water to meet all of the region's anticipated demand, as shown in Table I.1, and I.2.

C. Otay Water District:

The Project is within the boundaries of the OWD, which provides water services to a large portion of San Diego East County and Eastern Chula Vista, including the Eastlake community, Otay Ranch, and Otay Mesa along the U.S./Mexico International Border. OWD covers 137 square miles with approximately 450 miles of pipelines, 21 pump stations, and 37 reservoirs with a total storage capacity of approximately 190 million gallons. OWD provides approximately 90% of its water service to residential and approximately 10% to commercial, industrial, and other land uses. Average daily consumption is approximately 40,324 acre feet. OWD also operates the Ralph W. Chapman Water Recycling Facility.

The OWD 2010 UWMP provides an overview of OWD's service area, its current water supply sources, supply reliability, water demands, and measures to reduce water demand, and planned water supply projects and programs. Reliability for water service is based on the documentation in the UWMP's prepared by MWD and SDCWA and that these agencies have determined that they will be able to meet potable water demands through 2035, during normal and dry year conditions. The OWD 2010 UWMP relies on MWD and SDCWA for its potable supply, and OWD works with these agencies to prepare consistent demand projections for OWD's service area.

The OWD has several connections to SDCWA Pipeline No. 4 which delivers filtered water from the Metropolitan Water District's filtration plant at Lake Skinner in Riverside County. The OWD also has a connection to the La Mesa - Sweetwater Extension Pipeline, which delivers, filtered water from Helix Water District's (HWD) R.M. Levy Water Treatment Plant. Recently, OWD service reliability levels were enhanced with additional major facilities including an increase in supply capacity from the Levy Water Treatment Plant.

1. **Existing Potable Water System:** There are no existing potable water facilities within the Project area. The project can be served by the Central Service Area of OWD. This area is supplied water from Connection Nos. 10 and 12 to the SDCWA aqueduct, which fills 624 Zone reservoirs. Water is then distributed within the 624 Zone and pumped to the 711 Zone storage and distribution systems. To receive potable water, the Portion of Village 4 SPA Project must expand the existing 624 and 711 Zone Systems. According to the Dexter Wilson Water Study the following existing potable water facilities are located in the vicinity of the project area:

   624 Zone: The 624 Zone has three existing storage reservoirs. The 624-2 Reservoir is located adjacent to the San Diego County Water Authority aqueduct between Otay Lakes Road and East H Street, has a capacity of 8.0 million gallons, and is supplied by Connection Number 10 to the San Diego County Water

Authority aqueduct. The 624-1 and 624-3 Reservoirs are supplied by Connection Number 12 and have a capacity of 12.4 million gallons and 30 million gallons, respectively. The 624-1 reservoir is located adjacent to the eastern boundary of Otay Ranch Village 5 and the 624-3 reservoir is located along Eastlake Parkway, just north of Olympic Parkway. There are currently no 624 Zone facilities in the vicinity of Portion of Village 4. Water will be supplied to the 624 Zone in this area of the District by pressure reducing off the 711 Zone system.

711 Zone: There is currently one pump station in the 711 Zone, referred to as the Central Area Pump Station, located at the 624-1 Reservoir site adjacent to the eastern boundary of Otay Ranch Village 5. This station pumps water from the 624 Zone system into the 711 Zone distribution system and into two existing 711 Zone reservoirs located in the Eastlake Greens development. The 711 Zone Pump Station currently has five pumps (one of which is a standby pump), each rated for 4,000 gpm which results in a firm station capacity of 16,000 gpm.

There are three existing reservoirs in the 711 Zone. Two reservoirs are located at the same site within the Eastlake Greens development and have capacities of 2.8 and 2.2 million gallons for a total of 5.0 million gallons. A 16.0-million-gallon reservoir, 711-3, was constructed north of the Rolling Hills Ranch project. With the construction of this reservoir, the District now has enough storage within the 711 Zone to meet the demands from ultimate development in this zone.

The major 711 Zone pipelines in the vicinity of the Portion of Village 4 project include 12-inch lines in La Media Road and Magdalena Avenue.

2. **Existing Recycled Water:** The Ralph W. Chapman Water Recycling Facility currently has a rated capacity of 1.3 mgd with a maximum production of approximately 1.1 mgd and could be expanded to an ultimate capacity of 2.5 mgd. Typically, summer demands exceed the 1.1 mgd plant capacity. The District has the capability to supplement the recycled water supply with the potable 980 Zone water system which has facilities in the area. The South Bay Water Treatment Plant has an ultimate rated capacity of 15 mgd and the OWD obtained capacity rights of 8.0 mgd of recycled water. This additional source of recycled water will allow the District to meet existing and future recycled water demands. The District has master planned a series of pump stations, reservoirs, and transmission lines to integrate this source of water into the existing recycled water system. A number of these facilities have already been constructed.

   680 Zone: Storage of the effluent from the Ralph W. Chapman facility is provided by two ponds in the District's Recycled Use Area. The storage ponds have a high water line of approximately 944 feet and 927 feet and provide the storage and supply for the 927 Zone distribution system. The 680 Zone distribution system has been supplied by pressure reducing off the 927 Zone system, but ultimately will be supplied by the South Bay Water Reclamation Plant.

   Conveyance facilities to convey water from the South Bay Treatment Plant to the use areas including the 680 Zone use areas are currently being implemented. A 12-inch 680 Zone pipeline has been constructed in Hunte Parkway along the southern

boundary of Village 11 and 680 Zone pipelines have been constructed in La Media Road and Heritage Road.

X.5. Adequacy Analysis

A. Water Conservation Plan

A Water Conservation Plan is required for all major development projects (50 dwelling units or greater, or commercial and industrial projects with 50 EDUs of water demand or greater). This plan is required at the Sectional Planning Area (SPA) Plan level or equivalent for projects which are not processed through a Planned Community Zone. The city has adopted guidelines for the preparation and implementation of the Water Conservation Plan.

The *Otay Ranch Village Four South II.8, Water Conservation Plans, July 2016, Dexter Wilson Engineering Inc.*, provides an analysis of water usage requirements of the proposed project, as well as a detailed plan of proposed measures for water conservation, use of recycled water, and other means of reducing per capita water consumption from the proposed project, as well as defining a program to monitor compliance. The Water Conservation Plan is presented in conjunction with the SPA Plan document.

B. Otay Ranch 4 SPA Water Demand

Table I.3 presents the duty factors used in projecting the total average day potable and recycled water demands for the project. The required fire flows and durations are also listed. The City of Chula Vista utilizes the Uniform Fire Code for determining required fire flows and durations for new development. For single-family residences, a fire flow of 1,500 gpm for duration of two hours is typically required.

Table I.3
Water Duty Factors

Land Use Designation	Domestic Demand	Required Fire Flow	Required Fire Flow Duration Hours
Single Family-Medium (1-3 DU/AC)	850 gpd/unit	1,500 [1]	2
Single Family-High (3-8 DU/AC)	500 gpd/unit	1,500 [1]	2
Single Family Detached (>8 DU/AC)	300 gpd/unit	2,500	2
Multi-Family (>8 DU/AC)	255 gpd/unit [2]	5,000	4
CPF	714 gpd/ac [2]	3,500	3
Irrigation (Recycled Water)	2,155 gpd/ac	--	--

[1] Applies to single family homes th.at are less than 3,600 sf.
[2] Demand factors for these land uses are from Table 4-27 of the OWD Master Plan, assuming the use of recycled water.

Source: Dexter Wilson Engineering

Table I-4 provides the projected potable water demand for the Portion of Village 4 project by water pressure zone. The total estimated average day demand potable water use is 0.109 mgd. The resulting maximum day demand and peak hour factors are 3.0 and 7.0, respectively. Thus, the maximum day potable demand is 0.327 mgd (227 gpm) and the peak hour potable demand is 0.763 mgd (630 gpm).

Table I.4
Portion of Village 4
Projected Potable Water Demands

Planning Area	Land Use	Quantity	Unit Demand	Total Average Demand, gpd	EDUs
624 Zone					
R-1	SF	22 Units	500 gpd/unit	11,000	22
R-2A	MF	110 Units	255 gpd/unit	28,050	56
R-2B	MF	40 Units	255 gpd/unit	10,200	20
R-3	MF	127 Units	255 gpd/unit	32,385	65
CPF-1, CPF-2	CPF	2.08 Acres	714 gpd/unit	1,485	3
711 Zone				**83,120**	**166**
R-1	SF	51 Units	500 gpd/unit	25,500	51
Subtotal 711 Zone				25,500	51
Total				**108,620**	**217**

Source: Dexter Wilson Engineering

Table I.5 provides the projected recycled water demand for the project. The Portion of Village 4 project will utilize recycled water for the irrigation of open space slopes, parkway and median landscaping, and the common areas of the multi-family residential site. The total estimated recycled water demand is 0.061 mgd.

Table I.5
Portion of Village 4
Projected Recycled Water Demands

Land Use	Quantity	Units	Percentage to be Irrigated	Irrigated Acreage	Recycled Water Irrigation Factor	Average Recycled Water Demand, gpd
Open Space Slopes	20.19	Acres	100	20.19	2,155 gpd/ac	43,509
Parkway Landscaping [1]	1.70	Acres	100	1.70	2,155 gpd/ac	3,664
Multi Family	277	Units	15	--	45 gpd/ac	12,465
Community Purpose Facility	2.08	Acres	20	0.42	2,155 gpd/ac	905
Total						**60,543**

[1] Parkway landscaping estimated as 19 feet of landscape buffer for stretch of 3,800 feet on Main Street

Source: Dexter Wilson Engineering

X.6. Proposed Facilities:

A. Potable Water:

The Dexter Wilson Water Study indicates that the Otay Ranch Portion of Village 4 Project can receive water service by expanding the existing 624 and 711 Zone water systems. Exhibit 7 provides the recommended onsite water facilities for Portion of Village 4. A Subarea Master Plan (SAMP) will be prepared prior to the approval of the first final map for the project. Generally, the project must ensure that the OWD looping criteria is met during all construction phases. This criteria limits development to a maximum of 70 EDU s or 1,320 feet of piping on an unlooped system.

All facilities within the boundaries of the project will be required to be constructed by the developer. Final location, sizing, phasing, and hydraulic modeling of the project water system will be presented in the SAMP that is prepared for the project. The developer will be eligible for reimbursement for the construction of facilities that are included in the District's Capital Improvement Program. A summary of water facilities by zone is provided below.

- **624 Zone**
  The majority of development within Portion of Village 4 will be served by the 624 Zone. Service to the Portion of Village 4 development will be provided by extending a 16-inch 624 Zone water line from Main Street to the east. This line is proposed to be stubbed to the property boundary by Village 8 West. A redundant source of 624 Zone water to the project will ultimately be provided by a 16-inch line in Main Street to the west to the proposed Village 3 North system. Since this offsite line to the west, which is tied to the construction of the Main Street bridge timing, is not required to be constructed by the Portion of Village 4 project, a temporary 711/624 Zone pressure reducing station within the project will be required. Onsite development will be served by constructing 8-inch and 12-inch lines off this backbone 624 Zone loop.

- **711 Zone**
  There are 53 single family residential lots in the southeast corner of the project that will require service from the 711 Zone. These lots are proposed to be served by a connection to the Village 8 West 711 Zone system. The proposed length of unlooped 711 Zone piping will require a minor design deviation from OWD for the proposed 711 Zone onsite system.

B. Recycled Water

Potentially the largest project recycled water use areas include open space slopes and parkway landscaping. Recycled water may also be utilized to irrigate the common areas of the multi-family residential site as well as CPF areas. The project will be served by extending the 680 Zone and recycled water system in Main Street. The primary source of the supply for the 680 Zone is the 680-1 Pump Station and the 3.4 MG 680 Zone Reservoir. Exhibit 8 provides the recommended recycled water requirements for Portion of Village 4. The slopes at the southeast corner of the site are at elevations that are too high to receive adequate service pressures from the 680 Zone system. These areas are planned to be served by a private irrigation pump at the point of connection to the public 680 Zone system.

X.7. Financing Water Facilities:

The financing and construction of potable water facilities is provided by two methods:

- **Capacity Fees:** OWD's Capital Improvement Program (CIP) wherein the District facilitates design and construction of facilities and collects an appropriate share of the cost from developers through collection of capacity fees from water meter purchases. Capital Improvement Projects typically include supply sources, pumping facilities, operational storage, terminal storage, and transmission mains.

  The OWD may use bond debt financing from Improvement Districts 22 and 27 to assist in the financing of the District's CIP program. CIP projects are paid for by capacity fees collected on the sale of water meters after building permit issuance.

- **Exaction:** The developer is required to finance, construct, dedicate water and recycled water facilities that serve only their development to the OWD.

Potable Water Improvement Costs
The total capital cost for potable water facilities will be determined at the time the system is designed and the SAMP is approved. In accordance with District Policy No. 26, the District may provide reimbursement for construction and design costs associated with development of these improvements.

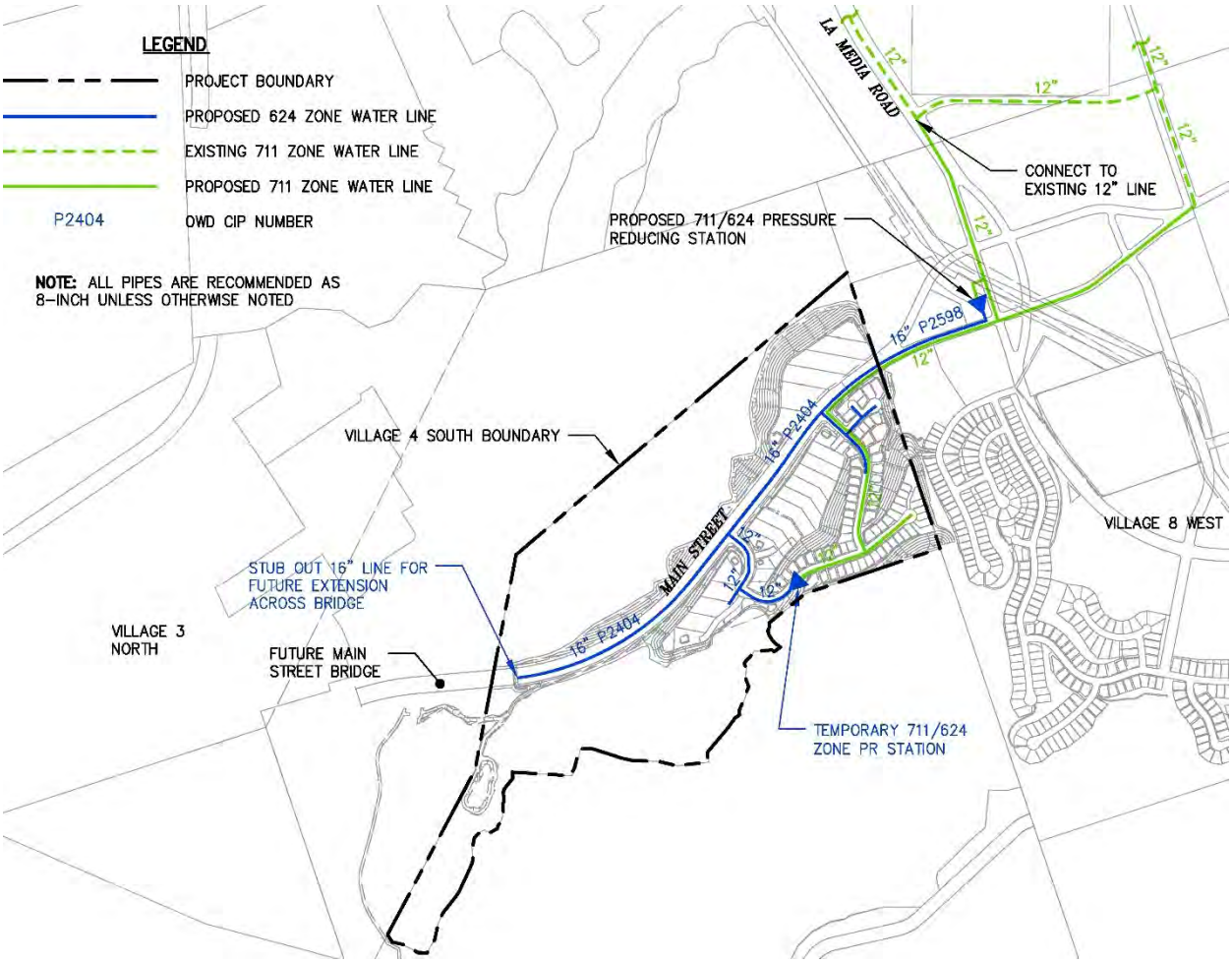
Recycled Water Improvement Costs
The total capital cost for recycled water facilities will be determined at the time the system is designed and the SAMP is approved. The District may provide reimbursement for construction and design costs associated with development of these improvements.

X.8. Project Compliance

A. The developer of the project shall be required to prepare, for review and approval by the OWD, a Subarea Master Plan (SAMP). The SAMP will be initiated prior to the approval of the project tentative map. The OWD requires the SAMP to be approved prior to approval of final engineering improvement plans. The SAMP will provide more detailed information on project phasing, recycled water system improvements, processing requirements, and computer modeling to justify recommended pipe sizes.

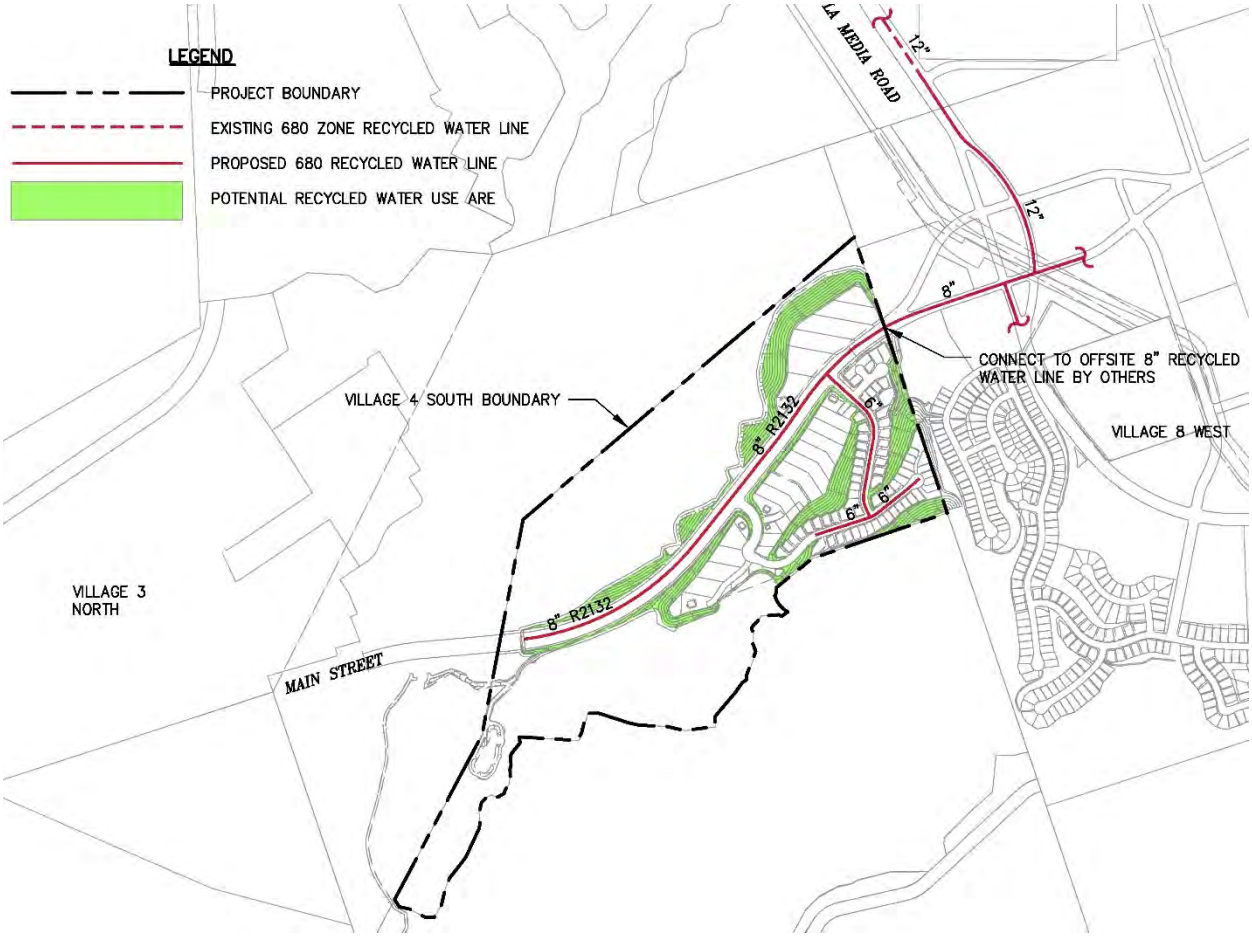
B. The developer shall request and deliver to the City a service availability letter from the OWD prior to a final map being approved for the Portion of Village 4 Project.

C. If the results of the SAMP for this project indicate that a looped water system is necessary, no final map shall be approved until the looped system is designed and bonded for.



Source: Dexter Wilson Engineering Inc.

Proposed Onsite Potable Water Facilities
Exhibit 7



Source: Dexter Wilson Engineering Inc.

Proposed Onsite Recycled Water Facilities
Exhibit 8

XI. SEWER

XI.1. Growth Management Threshold Standard

A. Existing and projected facility sewage flows and volumes shall not exceed city engineering standards for the current system and for budgeted improvements, as set forth in the Subdivision Manual.

B. The city shall annually ensure adequate contracted capacity in the San Diego Metropolitan Sewer Authority or other means sufficient to meet the projected needs of development.

XI.2 Service Analysis

The City of San Diego Metro provides sewer treatment services for the City of Chula Vista and 14 other participating agencies in accordance with the terms of a multi-agency agreement (Metro Agreement). The Metro system currently has adequate sewage treatment capacity to serve the region until approximately 2025. The Developer shall pay capacity fees prior to building permit issuance. Development shall not occur without adequate sewer capacity as determined by the City Engineer. Building permits will not be issued if the City Engineer has determined that adequate sewer capacity does not exist. All development must comply with the Municipal Code, specifically Municipal Code sections 19.09.010(A) 6 and 13.14.030.

The source of information regarding the existing and recommended sewer facilities in this PFFP is from the *Overview of Sewer Service for Otay Ranch Portion of Village 4, July 2016 by Dexter Wilson Engineering, Inc.* This study is referred to as the Dexter Wilson Sewer Study throughout this PFFP.

The proposed Portion of Village 4 SPA Plan Project proposes one single family neighborhood and three multi-family residential sites with a project total of 350 units. The remainder of the property is a mix of community facility use, open space, and preserve lands with circulation roads to support the project.

XI.3 Project Processing Requirements

The SPA Plan and the PFFP are required by the Growth Management Program to address the following issues for Sewer Services:

A. Identify phased demands for all sewer trunk lines in conformance with the street improvements and in coordination with the construction of water facilities.

B. Identify location of facilities for onsite and offsite improvements, including reclaimed water facilities, in conformance with the Wilson Study.

C. Provide cost estimates for all facilities and proposed financing responsibilities.

D. Identify financing methods.

XI.4 Existing Conditions

There are no existing sewer facilities within the Portion of Village 4 SPA Project Area. The Salt Creek Interceptor is located south of the project. Exhibit 9 provides the location of the existing sewer facilities in the vicinity of Portion of Village 4.

The Salt Creek Interceptor was constructed, and completed approximately 9 years ago, to serve regional development in the area of the project. This interceptor starts as a 15-inch line in Hunte Parkway within the Rolling Hills Ranch project. From there, the line increases in size to 36-inch south of the Portion of Village 4 SPA Plan. The interceptor follows the Otay River to a point of connection with the City of San Diego Metro Sewer System.

All sewage generated within the City of Chula Vista is currently conveyed to the City of San Diego Metro Sewer System for treatment and disposal. The Metro sewer system treats wastewater from the City of San Diego and 15 other cities and districts, including Chula Vista. Flows are conveyed to the Point Loma Wastewater Treatment plant which has a capacity of 240 mgd and currently treats approximately 180 mgd.

The City of Chula Vista has capacity rights to 20.864 mgd in the Metro sewer system. Current flows in the City average approximately 16.2 mgd. While this excess available capacity is not anticipated to be adequate to serve ultimate buildout needs of the City, the current available capacity represents approximately 20,000 EDUs that can be connected to the system before the capacity is used up

XI.5 Adequacy Analysis

Sewer flows generated by the project were estimated by Dexter Wilson Engineering. Their estimates were based on current city planning criteria for the permanent and interim on-site sewer system conditions. These estimated flows are the basis for design of new sewer facilities and the evaluation of existing facilities that will serve the project.

A. Wastewater Treatment:

The Dexter Wilson Sewer Study used the sewage generation factors from Table J.1.

Table J.1
City of Chula Vista
Sewage Generation Factors

Land Use	Average Flow Factor
Single Family Residential	230 gpd/unit
Multi-Family Residential	182 gpd/unit
Community Purpose Facilities	1,313 gpd/acre

Source: City of Chula Vista

The Dexter Wilson Sewer Study provides the design criteria used to evaluate the sewer system for the Portion of Village 4 Project. The design criteria were used to analyze the existing sewer system as well as the design and sizing of proposed required improvements and expansions to accommodate flows in the study area. Dexter Wilson Engineering used the design criterion from the City of Chula Vista Wastewater Master Plan (2014).

On-site and off-site collection, trunk, and interceptor facilities were evaluated in the Dexter Wilson Sewer Study based on this sewage flow. In addition, the City's design criteria were used for the analysis of the existing sewer system as well as for design and sizing of proposed improvements and expansions to the system to accommodate the flows anticipated to be generated by the University Villages Project, which includes Village 3 North & portion of 4 SPA Plan.

According to the GMOC 2016 Annual Report, the city's sewer facilities are in compliance with the Threshold Standard and it is projected to remain in compliance for the next five years (See Table J.2). However, additional treatment capacity will be required as the city begins to approach build-out projections

Table J.2
City of Chula Vista
Sewage Flow & Treatment Capacity

Million Gallons per Day (mgd)	12/13 Fiscal Year	13/14 Fiscal Year	14/15 Fiscal Year	Projection for next 18 months	Projection for next 5 years	Projection for "Build-out"*
Average Flow	15.734	15.466	15.729	16.59	18.6	29.89
Capacity	20.864	20.864	20.864	20.864	20.864	20.864

* Buildout Projection based on Chula Vista Wastewater Master Plan (2014).

Source: GMOC 2016 Annual Report

B. Salt Creek Interceptor:

The Salt Creek Interceptor was completed approximately 9 years ago to serve regional development in the area, which includes the Portion of Village 4 as well as the adjacent Village 3 North & portion of 4, Village 8 West, and the Village 8 East projects. Reimbursement to the City for the construction cost of the Salt Creek Interceptor comes from development that connects to this line. New development must pay a development impact fee. Ordinance 2974 provides the fees to be collected by the City for properties to be served by the Salt Creek Interceptor. Table J.4 summarizes the estimated Salt Creek Sewer impact fees to be paid by the Portion of Village 4 SPA Project.

The Salt Creek Interceptor Technical Sewer Study for South Otay Ranch, October 2010 by PBS&J, specifically looked at the impact that the revised Chula Vista General Plan, including the densification of properties in the area, would have on the Salt Creek Interceptor. This study concluded that certain sections of the Salt Creek Interceptor may require upgrades at ultimate buildout, but these sections are upstream of the proposed Portion of Village 4 project. The EDU projections for the Portion of Village 4 property in this study was 486 EDUs which is higher than the current projection of 303.7 EDUs (see Table J.4). The Dexter Wilson Sewer Study concluded that the Portion of Village 4 project is not anticipated to impact the capacity of the Salt Creek Interceptor.

The *Salt Creek Sewer Basin Development Impact Fee Study, June 2015, by Bartle Wells Associates* is the most recent update to the Salt Creek Basin development impact fee originally established in 1994 and last updated in 2004. The Salt Creek DIF was calculated based on the costs of capital facilities less available DIF fund reserves divided by the remaining EDUs within the basin benefitting from the facilities. The 2015 updated fee is based on the final cost of the Salt Creek Interceptor (Reaches 1-9A) and estimated costs for the Wolf Canyon Trunk Sewer lines (Rock Mountain Road/Main Street, Heritage Road, and lines identified in the 2014 Wastewater Master Plan Update). The fee also accounts for developer credits, financing costs, environmental mitigation, administrative costs, and available fund reserves. Approximately $27.5 million in costs are attributable to the Salt Creek DIF. These costs were divided amongst the estimated 20,668 EDUs remaining in the Salt Creek Sewer Basin. The 2015 updated fee was $1,330, which was equal to the DIF at that time.

XI.6 Recommended Sewerage Facilities

Portion of Village 4 area can be served by constructing onsite gravity sewer lines to convey flows south to a point of connection with the Salt Creek Interceptor. The connection to the Salt Creek Interceptor will require an offsite alignment in a utility easement. Exhibit 9 shows the existing sewer facilities in the vicinity of the Portion of Village 4. Exhibit 10 illustrates the proposed sewer lines. The sizing for future sewer lines is preliminary and based on assumed sewer slopes and should be verified during final engineering when slopes of the sewer lines have been established.

Currently all sewage from the City of Chula Vista is collected and conveyed to the City of San Diego Metro System for treatment and disposal. The City currently has capacity rights of 20.864 mgd of flow in the Metro sewer system. Existing average flows in the City are approximately 16.2 mgd. The estimated year 2030 flows based on the 2005 General Plan were 23.3 mgd. As a result of densification in the 2010 General Plan Update, the projected year 2030 average flow for the preferred alternative was increased to 26.222 mgd. Thus, the City would have needed to acquire capacity rights for an additional 5.358 mgd to accommodate year 2030 flows. The October 2010 study prepared by PBS&J as a supporting document to the General Plan Amendment EIR addresses the City's current projections regarding the need to acquire additional treatment plant capacity in the future and includes potential increased flows from the Bayfront Redevelopment project. With these flows included, the total future treatment capacity needed in the cumulative condition, including the proposed project, is 32.548 mgd, leaving 11.684 mgd of capacity that would need to be acquired above current capacity rights. The City may acquire rights for this additional capacity in the Metro system through negotiations with the City of San Diego, but the City of Chula Vista is also evaluating the construction of a new wastewater treatment plant and other alternatives to meet its future treatment capacity and disposal requirements. The project will be timed to proceed with the City's acquisition of additional treatment capacity. Building permits will be issued only if the City Engineer has determined that adequate sewer capacity exists.

XI.7. Financing Sewerage Facilities

To fund the necessary improvements to the Salt Creek Interceptor, development impact fees have been established by the City of Chula Vista. A discussion of the required fees is provided below.

The *Salt Creek Basin Study by Wilson Engineering, November 1994* established a fee to fund future improvements to the Salt Creek Interceptor System. This fee is required to be paid by all future developments within the Salt Creek Drainage Basin to fund improvements required to serve ultimate development within the drainage basin. City of Chula Vista Ordinance Number 2617 established the Salt Creek Sewer Basin development impact fee (DIF) to be paid for future development within the Salt Creek Basin that connects into the existing system.

The Salt Creek DIF was revised in 2004 by City staff to reflect the final construction cost of the Salt Creek Sewer, which included: Reach 9A; the Rock Mountain Road/Main Street and Heritage Road Trunk Sewer lines located in the Wolf Canyon Basin; to add developer credits and financing costs; and to revise the remaining EDUs predicted to develop in the basin. The 2004 study increased the cost recovered by the DIF from $8.2 million to $34.1 million. The 2004 study increased the Salt Creek DIF from $284 to $1,330 per EDU.

In 2015 the *Salt Creek Sewer Basin Development Impact Fee Study, June, 2015, by Bartle Wells Associates* was updated the Salt Creek Basin DIF originally established in 1994 and last

updated in 2004. Table J.3 summarizes the current fees to be paid by each Portion of Village 4 land uses. These fees are typically collected at the time building permits are issued.

Table J.3
Salt Creek Sewer Impact Fees

Land Use	EDU Factor	Fee $
Single Family-Residential	1.0 EDU/unit	$1,381/unit
Multi-Family Residential	0.79 EDU/unit	$1091/unit
CPF	5.71 EDU/acre	$7,885.51/acre

The project estimated Salt Creek Basin Fee is approximately $ 419,578 (see Table J.4). The estimated fee may change depending upon the final number of dwelling units, changes in acreages and/or fee revisions by the City Council.

Table J.4
Salt Creek Basin Impact Fees

Land Use	# Units or Acres	EDU's	Fee	Total
Single Family	73 Units	73.00	$1,381/EDU	$100,813
Multi-Family	277 Units	218.83	$1,381/EDU	$302,204
CPF	2.08 Acres	11.88	$1,381/EDU	$16,406
Total	**350 Units**	**303.71**		**$419,578**

The project estimated Sewer Participation Fee is $1,006,208 (see Table J.5). The estimated fee may change depending upon the final number of dwelling units, changes in acreages and/or fee revisions by the City Council.

Table J.5
Estimated Sewerage Participation Fees

Land Use	# Units	EDU's	Fee/EDU	Total
Single Family	73 Units	73.00	$3,584	$261,632
Multi-Family	277 Units	218.83	$3,584	$ 784,287
CPF		11.88	$3,584	$42,578
Total	**350 Units**	**303.71**		**$1,088,497**

XI.8. Project Compliance

A. The City of Chula Vista would need to acquire capacity rights for an additional 5.4 mgd to accommodate year 2030 flows. The Salt Creek Interceptor Technical Sewer Study for South Otay Ranch addresses the City's current projections regarding the need to acquire additional treatment capacity. The City may acquire rights for this additional capacity in the Metro system through negotiations with the City of San Diego. In addition, the City of Chula Vista is evaluating construction of a new wastewater treatment plant and other alternatives to meet its future treatment capacity and disposal requirements. The cumulative projects will be timed to proceed with the City's acquisition of additional treatment capacity. Building permits will be issued only if the City Engineer has determined that adequate sewer capacity exists.

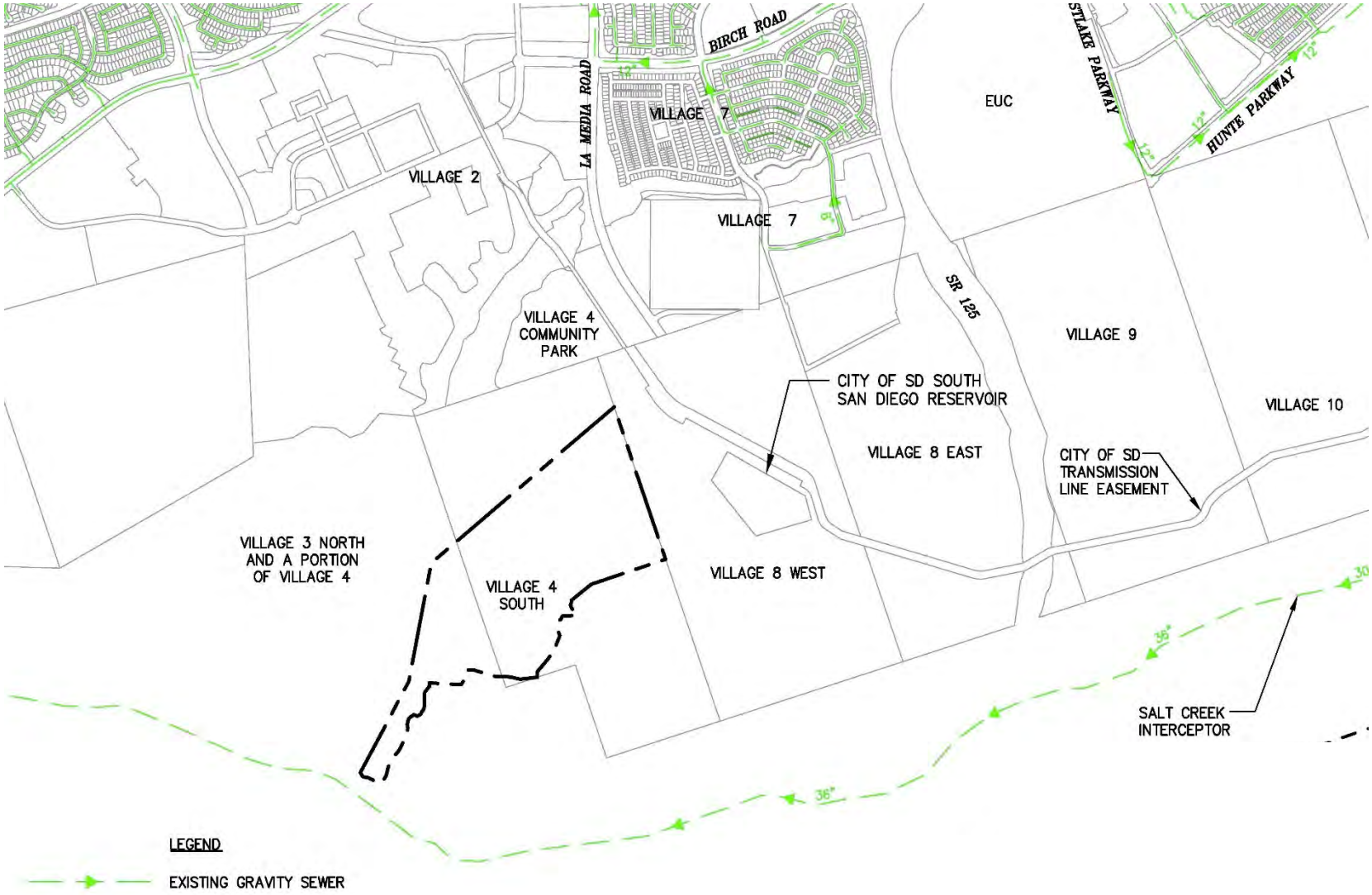
Furthermore, all developments are required to prepare a PFFP that articulates needed facilities and funding mechanisms. The proposed project includes a PFFP and requires new and expanded sewer facilities to serve the proposed development. Implementation of existing policies and expanded sewer facilities would therefore avoid significant cumulative impacts associated with inadequate treatment capacity. Mitigation measures are also provided to ensure that adequate wastewater facilities are provided concurrently

B. Facilities to accommodate sewer flows have been identified in the Dexter Wilson Sewer Study.

C. All gravity sewers will be designed to convey peak wet weather flow. For pipes with diameter of 12 inches and smaller, the sewers will be designed to convey this flow when flowing half full. For pipes of diameter larger than 12 inches, the sewers will be designed to convey peak wet weather flow when flowing at three-fourths of the pipe depth. All new sewers will be designed to maintain a minimum velocity of two feet per second (fps) at design capacity to prevent the deposition of solids.

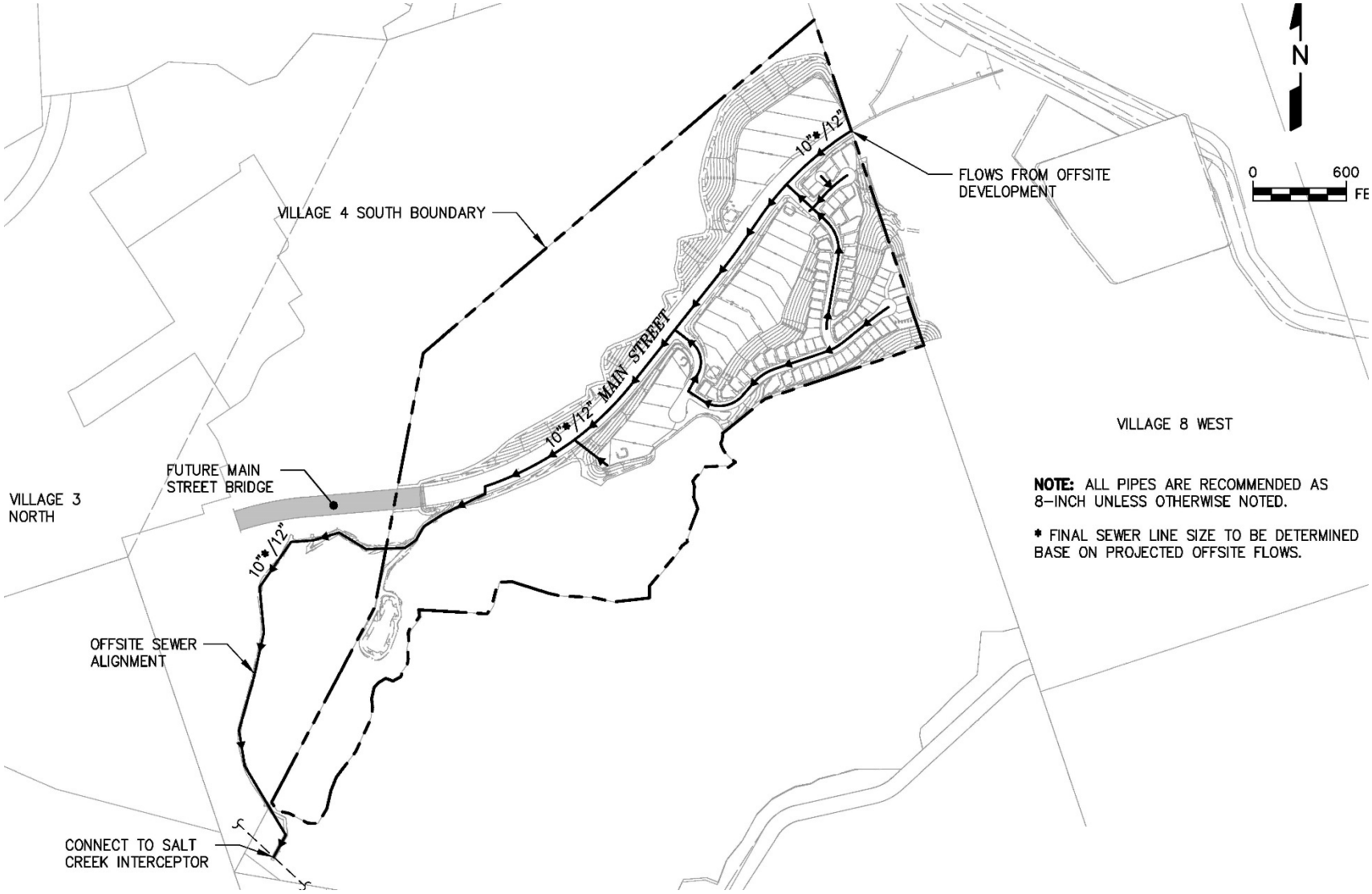
D. The applicant for the project shall:
   1. Underwrite the cost of all studies and reports required to support the addition of sewer flows to existing lines.
   2. Assume the capital cost of all sewer lines and connections identified herein.
   3. Pay all current sewer fees required of the City of Chula Vista.
   4. Comply with Section 3-303 of the City of Chula Vista Subdivision Manual.
   5. Construct off-site connections as required by the City Engineer.

F. The project applicant shall comply with the Project EIR Sewer Utility mitigation measures. A full discussion of these mitigation measures can be found in the Project EIR.



Source: Dexter Wilson, 2016

Existing Sewer Facilities
Exhibit 9



Source: Dexter Wilson, 2016

Conceptual On-site Sewer Facilities
Exhibit 10

XII. DRAINAGE

XII.1. Growth Management Threshold Standard

A. Storm water flows and volumes shall not exceed city engineering standards and shall comply with current local, state and federal regulations, as may be amended from time to time.

B. The GMOC shall annually review the performance of the city's storm drain system, with respect to the impacts of new development, to determine its ability to meet the goal and objective for drainage.

XII.2 Service Analysis

The City of Chula Vista Public Works Department is responsible for ensuring that safe and efficient storm water drainage systems are provided concurrent with development in order to protect the residents and property within the city. City staff is required to review individual projects to ensure that improvements are provided which are consistent with the drainage master plan(s) and that the project complies with all City engineering drainage standards. *The City of Chula Vista Subdivision Manual; Engineering Department and Land Development; section 3, March 2012,* provides design criteria to comply with city design standards.

The Portion of Village 4 SPA Plan project is under the jurisdiction of the San Diego Regional Water Quality Control Board (SDRWQCB) and is also subject to the National Pollutant Discharge Elimination System (NPDES) requirements both during and after construction. NPDES requirements stem from the Federal Clean Water Act and are enforced either by the State Water Resources Control Board (SWRCB) or the SDRWQCB. The Project is also subject to the current Hydromodification Management Plan (HMP) standards.

The Portion of Village 4 SPA Plan Pre-Development and Post-Development Conditions are identified in the *Tentative Map Drainage Study for Otay Ranch Portion of Village 4 SPA, dated December 21, 2016, by Hunsaker & Associates.* This report is referred to as the Hunsaker Drainage Study in this PFFP. The purpose of the Hunsaker Drainage Study is to prepare hydrologic models to quantify existing and developed condition peak flows to the Otay River.

The treatment of the runoff from the Portion of Village 4 SPA project is addressed in the *Priority Development project (PDP) Storm Water Quality Management Plan for Otay Ranch Portion of Village 4 SPA Tentative Map, dated December 21, 2016, by Hunsaker & Associates*. The Master Water Quality Management Plan (WQMP) will be referred to as the Hunsaker SWQMP. The proposed design will utilize on-site Low Impact Development (LID), Best Management Practices (BMPs) and Bioretention Integrated Management Practices (IMP's) Treatment Controls to treat the 85th percentile flow from the development.

The *City of Chula Vista BMP Design Manual, December 2015*, addresses the onsite post-construction storm water requirements for Standard Projects and Priority Development Projects (PDPs) and provides procedures for planning, preliminary design, selection, and design of permanent storm water BMPs based on the performance standards as required by the Municipal Storm Water Permit for the San Diego Region [Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100].

The requirements in the Chula Vista BMP Design Manual were effective February 16, 2016 and replaced the City of Chula Vista Storm Water Manual (January 2011). All development projects must comply with the requirements

XII.3 Project Processing Requirements

The SPA Plan and the PFFP are required to address the following issues for drainage issues:

A. Identify phased demands.

B. Identify locations of facilities for onsite and offsite improvements.

C. Provide cost estimates.

D. Identify financing methods.

The *Development Storm Water Manual (DSWM), 2011, City of Chula Vista* applies to all projects requiring any permit approvals on or after March 24, 2010. The DSWM provides guidance for new development, redevelopment and public projects to achieve compliance with the City of Chula Vista's Standard Urban Storm Water Mitigation Plan (SUSMP). On May 8, 2013, the SDRWQCB adopted Order No. R9-2013-0001, renewing the Municipal Storm Water Permit. This order was amended by Order No. R9-2015-0001 (February 1, 2015) and Order No. R9-2015-0100 (November 18, 2015). The Order as amended includes several changes to requirements for post-construction stormwater management and would result in SUSMPs being modified and changes to standards for post-construction stormwater management practices. Specific changes that would directly affect the design of the proposed project include:

- **Low Impact Development (LID) BMP Requirements.** Project applicants with Priority Development Projects (projects subject to SUSMP requirements) are required to implement LID BMPs that collectively minimize directly connected impervious areas and promote infiltration. The LID BMP requirements are described in Order No. R9-2013-0001, as amended.

- **Hydromodification.** Limitations on Increases of Runoff Discharge Rates and Durations: Under Order No. R9-2013-0001, the Co-permittees would be required to prepare a Hydromodification Management Plan (HMP) and incorporate its requirements into their SUSMPs. Hydromodification refers to changes in a watershed's runoff characteristics resulting from development, together with associated morphological changes to channels receiving the runoff, such as changes in sediment transport characteristics and the hydraulic geometry (width, depth, and slope) of channels. These changes result in streambank erosion and sedimentation, leading to habitat degradation due to loss of overhead cover and loss of in-stream habitat structures.

  In 2011 the Hydomodification Management Plan included an exemption for the Eastern Reach of the Otay River. Subsequently, in the Fall of 2014 the Eastern Otay River Reach was not included as an exemption in the Watershed Management Area Analysis. Public comments were submitted to the SDRWQCB requesting an exemption with supporting technical reports. However, the board denied the request, clarifying that the consideration of an exemption requires the submittal of the Water Quality Improvement Plan Annual Report. In January 2017, the 2015-1016 Annual Report was submitted. If the exemption is approved by the board, Hydromodification will not be required.

XII.4. Existing Conditions

Approximately 117 acres within the nearly 166-acre project area consists of Open Space and a Multiple Species Conservation Program (MSCP) preserve area. This open space area will be

preserved as undisturbed areas, slopes, and natural drainage courses. The preserve area within the project boundary is located within Wolf Canyon and along the Otay River corridor. The remainder of project site will include single and multi-family residential, a community purposes facility (CPF) site, and Road Right of Way.

The Portion of Village 4 SPA Plan site naturally flows in a northwesterly direction towards a tributary of Wolf Canyon. The runoff will then travel west then south towards the Otay River. Development of the site will cut portions of land located at the higher elevations. Runoff will be collected within the proposed storm drain system which will eventually outlet into Wolf Canyon. Per the Flood Insurance Rate Map No. 06073C2178, the site lies outside the FEMA floodplain boundary. Therefore, a Letter of Map Revision is not required.

The MSCP Open Space Preserve is located along the northern and western boundaries of the site. Excepting the proposed sewer line and storm drain routing, the development of Otay Ranch Portion of Village 4, as proposed in the TM, will not encroach into the MSCP area and will have an assigned easement through the preserve. However, this project is located adjacent to a Preserve area and shall adhere to Section 7.5.2 of the City's *MSCP Subarea* Adjacency Guidelines pertaining to drainage and water quality.

See the Hunsaker Drainage Study for a detailed description of the methodology used for the computation of design rainfall events, runoff coefficients, and rainfall intensity values. The criterion used by Hunsaker & Associates is based on the most current San Diego County Hydrology Manual and the City of Chula Vista Subdivision Manual.

Table K.1 below summarizes the 50 and 100-year pre-development peak flows from the site in existing condition. A runoff coefficient of 0.60 was used by Hunsaker for the existing tributary areas per the City of Chula Vista Subdivision Manual. These coefficients correspond to vegetated steep slopes.

Table K.1
Summary of Pre-Developed Flows to the Wolf Canyon

Discharge Location	Drainage Area (ac)	50-Year Peak Flow (cfs)	100-Year Peak Flow (cfs)
Wolf Canyon	201.4	266.21	295.29

Source: Hunsaker Drainage Study

XII.5. Surface Water Quality

The Porter-Cologne Act establishes a comprehensive program for the protection of beneficial uses of the waters of the state (see California Water Code Section 13050(f). Per the code section: "Beneficial uses of the waters of the state that may be protected against quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves." The list of the beneficial uses and their definitions for Otay River, Wolf Canyon and San Diego Bay are provided in the Hunsaker SWQMP.

On October 30, 2006, the SWRCB approved the Section 303(d) list, which was approved by the EPA on November 30, 2006. The EPA approved the SWRCB's inclusion of all waters and pollutants identified for the San Diego region in its 2006 list of Water Quality Limited Segments. Within the Otay Hydrologic Unit, the San Diego Bay is impaired for pollution from organic compounds. Wolf Canyon and the Otay River are not on the 303(d) list.

Within the Otay Hydrologic Unit, the San Diego Bay is impaired for pollution from organic compounds. Wolf Canyon and the Otay River are not on the 303(d) list.

The *Final Hydromodification Management Plan (HMP), March 2011, County of San Diego*, exempts the Otay River from hydromodification criteria. Due to the combination of low gradients, significant peak attenuation, and wide floodplain areas, similar to those found in the Otay River, there is a low potential for channel erosion. Therefore, the outlets into the Otay River are exempt from hydromodification requirements. However, the proposed outlet into Wolf Canyon is not exempt.

The Otay Hydrographic Unit contains groundwater that is rated poor to very poor due to high levels of total dissolved solids. Typically, groundwater elevations are dependent on seasonal precipitation, irrigation, and land use, among other factors, and vary as a result.

XII.6. Flooding

Per the Flood Insurance Rate Map No. 06073C2178, the site lies outside the FEMA floodplain boundary. Therefore, a Letter of Map Revision is not required. See Exhibit 3 for an overlay of the site on Flood Insurance Rate Map which also includes the Savage Dam inundation flood line.

XII.7. Proposed Facilities

A. Storm Drainage

The Otay Ranch Portion of Village 4 Tentative Map consists of single and multi-family residential dwelling units, roads for circulation, and open space areas. The extension of Main Street west from the Village 8 West project boundary is also included with this development as well as offsite sewer lines and stormwater facilities. The proposed 'water quality/HMP' basin will be located on the south side of Main Street and west of the developed portions of Portion of Village 4.

The extension of Main Street will be approximately 3,700 linear feet from the eastern boundary of the site where it connects to Village 8 West. Runoff from Village 8 West does not drain onto Portion of Village 4. Inlets within Village 8 West collect and direct runoff north towards a proposed water treatment basin before discharging into the Wolf Canyon tributary located immediately north of Portion of Village 4 (see Hunsaker Drainage Study for details). Proposed HMP treatment of the onsite Main Street runoff will be performed with the Portion of Village 4 basin.

Generally, runoff from the developed site will drain north towards Main Street. Inlets placed throughout the site will collect the runoff and the storm drain will convey it towards the Main Street storm drain system, which will convey flows west and then south before it reaches the future location of the proposed bridge abutment. Flows will outlet into the proposed basin located south of Main Street. The basin design will meet the requirements as set forth by the SDRWQCB Order R9-2013-0001.

Table K.2 below summarizes the 50 and 100-year developed condition peak flows at the location of the Wolf Canyon discharge including the effect of detention from the proposed basin. The Hunsaker runoff coefficients for the proposed roads, multi-family development

and single-family development shall be consistent with the City of Chula Vista Subdivision Manual.

Table K.2
Summary of Developed Flows to Otay River

Discharge Location	Drainage Area (ac)	50-Year Peak Flow (cfs)	100-Year Peak Flow (cfs)
Wolf Canyon	203.09	259.32	292.50

Source: Hunsaker Drainage Study

Table K.3 summarizes the effects of site development at the receiving Otay River.

Table K.3
Summary of Pre- vs. Post-Developed Flows from Portion of Village 4

	PRE-DEVELOPED		POST-DEVELOPED		DIFFERENCE	
Discharge Location	Drainage Area (ac)	100-Year Peak Flow (cfs)	Drainage Area (ac)	100-Year Peak Flow (cfs)	Area (ac)	100-Year Peak Flow (cfs)
Wolf Canyon	201.4	295.29	203.09	292.50	+1.69*	-2.79

*-Increase in area is due to the basin area which was not included in the Existing Condition.

Source: Hunsaker Drainage Study

Development of the Otay Ranch Portion of Village 4 Project results in the net decrease of runoff discharged to Wolf Canyon of approximately 2.79 cfs when considering the effect of the
proposed detention basin.

The Hunsaker Drainage Study concluded that the existing finger canyons along the northern side of the site will result in a flow reduction. Therefore, the potential for erosion has been greatly reduced immediately downstream of these finger canyons. Since the flows have been reduced for these subareas the existing flow velocities are not expected to be exceeded once the site has been developed. Consequently, erosion is not expected at the downstream points of these subareas.

Erosion Control: The developer shall monitor any erosion at the project's outfall at Wolf Canyon and, prior to the last building permit for the project, obtain approval for and complete any reconstructive work necessary to eliminate any existing erosion and prevent future erosion from occurring, all to the satisfaction of the Development Services Director.

Scour Analysis: Concurrent with all grading plan submittals, the applicant shall prepare a scour analysis for all structures within the 100-year flood hazard area. Additionally, all said structures shall be monitored until the last building permit for the project has been issued.

All developed areas within the Village SPA runoff shall receive full water quality treatment prior to discharge from the site, in accordance with the most current City of Chula Vista Storm Water Manual standards applicable at the time of final engineering. The project will be designed to avoid violation of any water quality standards or waste discharge requirements. Details of the proposed storm water treatment design are provided in the Hunsaker SWQMP.

The following is a summary of the Hunsaker Drainage Study conclusions:

- Drainage facilities within the Portion of Village 4 SPA will be designed in accordance with the requirements of the Chula Vista Subdivision Manual, the San Diego County Hydrology Manual and the requirements of the SDRWQCB.

- Development of the project site will not further degrade potential beneficial uses of downstream water bodies as designated by the Regional Water Quality Control Board, including water bodies listed on the Clean Water Section 303d list.

- Onsite and offsite drainage easements shall be provided to the satisfaction of the Director of Public Works.

B. Storm Water Quality

Urban runoff discharged from municipal storm water conveyance systems has been identified by local, regional, and national research programs as one of the principal causes of water quality problems in most urban areas. The Municipal Storm Water Pollutant Discharge Elimination System (NPDES) Permit (Municipal Permit), originally issued on February 21, 2001 to the City of Chula Vista, the County of San Diego, the Port of San Diego, and 17 other cities in the region by the SDRWQCB, requires re-issuance every 5 years. The City of Chula Vista and the other aforementioned County jurisdictions must update their development and implementation of storm water regulations every 5 years to address the storm water pollution issues in private and public development planning and construction projects.

In May 2013, the SDRWQCB reissued a municipal storm water, National Pollutant Discharge Elimination System permit (Municipal Separate Storm Sewer Systems [MS4] Permit) that covered its region. The MS4 Permit reissuance to the San Diego County Co-permittees went into effect in 2013 (Order No. R9- 2013-0001). The reissued MS4 Permit updates and expands storm water requirements for new developments and redevelopments. In February 2015, the MS4 Permit was amended by Order R9-2015-0001, and again in November 2015 by Order R9-2015-0100.

The City of Chula Vista adopted BMP Design Manual modifies the content of the Model BMP Design Manual to include City-specific guidelines and requirements (effective date February 16, 2016. The BMP Design Manual addresses updated onsite post-construction storm water requirements for Standard Projects and Priority Development Projects (PDPs), and provides updated procedures for planning, preliminary design, selection, and design of permanent storm water BMPs based on the performance standards presented in the MS4 Permit. The Portion of Village 4 project design must comply with the city's BMP Design Manual.

The City requires that sufficient information and analysis on how the project will meet the water quality requirements shall be provided as part of the Tentative Map and/or Site Plan review process. In this manner, the type, location, cost, and maintenance characteristics of the selected BMPs will be given consideration during the project planning and design. Therefore, the City requires that prior to approval of any Tentative Map and/or Site Plan for the project, whichever occurs first, the applicant shall obtain the approval of the City Engineer of a Water Quality Technical Report containing specific information and analysis on how the project will meet the requirements of the City of Chula Vista Storm Water and Discharge

Control Ordinance and the NPDES Municipal Permit (including the Final Model SUSMP for the San Diego Region).

The Portion of Village 4 SPA Plan includes one regional biofiltration basin at the downstream portion of the site which will act to address both pollution control and flow control measures. The BMP was selected based on their effectiveness for pollutant removal and ability to also be used for flow control.

The Portion of Village 4 SPA Plan proposes Bio-retention based BMPs (Best Management Practices) to treat urban run-off pollutants generated via the proposed internal roadways and sidewalks. To ensure that all runoff contained within the storm drain systems are treated prior to entering the storm drains, these BMPs will be located throughout the site at the proposed storm drain inlet locations. Urban run-off will be treated in conformance with the Hunsaker SWQMP. The residential roadways will route run-off through the landscaping located in the adjacent parkways. Low Impact Development (LID) practices will also be incorporated within the roadway and sidewalk design in accordance with state and local requirements to ensure that, to the maximum extent practicable, requirements are met for water quality with the Portion of Village 4 SPA. Bio-retention facilities located in the front of single family residential lots shall be dedicated as an easement to the City to allow access and conduct inspections and to restrict property owners from changing the geometry and landscaping of these BMPs.

The Hunsaker SWQMP proposes Low Impact Design (LID) based BMP's to treat the 85th percentile runoff from the Village 10 SPA project prior to discharge to the downstream storm drain. The plan lists the proposed LID BMPs and the sizing of Bioretention Impact Management Practices (IMP) areas.

The 85th percentile flows generated by the paved streets, sidewalks and other impervious areas for the development of Portion of Village 4 SPA will receive treatment via bioretention based IMPs, filtering out sediments, nutrients, heavy metals, organic compounds, trash and debris, oxygen demanding substances and oil/hydrocarbons.

After review and analysis of various treatment options, Hunsaker selected the Bioretention IMPs and LID Site Design BMPs that were deemed to be the most effective and feasible BMP treatment for the Portion of Village 4 SPA project.

The Hunsaker SWQMP summarizes the following City of Chula Vista's standard water quality mitigation measures to be implemented for the Portion of Village 4 SPA project.

- **Storm Water Pollution Prevention Plan:** Prior to issuance of each grading permit for Otay Ranch Portion of Village 4 or any land development permit, including clearing and grading, the project applicant shall submit a notice of intent and obtain coverage under the NPDES permit for construction activity from the SWRCB. Adherence to all conditions of the General Permit for Construction Activity is required. The applicant shall be required under the SWRCB General Construction Permit to develop a SWPPP and monitoring plan that shall be submitted to the City Engineer and the Director of Public Works. The SWPPP shall be incorporated into the grading and drainage plans and shall specify both construction and post construction structural and non-structural BMPs on site to reduce the amount of sediments and pollutants in construction and post-construction surface runoff before it is discharged into off-site storm water facilities. Section 7 of the City's Storm Water Manual outlines construction site BMP requirements.

The SWPPP shall also address operation and maintenance of post-construction pollution prevention measures, including short-term and long-term funding sources and the party or parties that will be responsible for said measures. The grading plans shall note the condition requiring a SWPPP and monitoring plans.

- **Supplemental Water Quality Report:** Prior to issuance of each grading permit, the applicant shall submit a supplemental report to the Hunsaker SWQMP that identifies which on-site storm water management measures from the Master Water Quality Technical Report have been incorporated into the project to the satisfaction of the City Engineer.

- **Post-Construction/Permanent BMPs:** Prior to issuance of each grading permit, the City Engineer shall verify that parcel owners have incorporated and will implement post-construction BMPs in accordance with current regulations.

- **Limitation of Grading:** The project applicant shall comply with the Chula Vista Development Storm Water Manual limitation of grading requirements.

- **Hydromodification Criteria:** The project applicant shall comply, to the satisfaction of the City Engineer, with current hydromodification criteria or the hydrograph modification management plan, as applicable.

The combination of proposed construction and permanent BMP's will reduce, to the maximum extent practicable, the expected project pollutants and will not adversely impact the beneficial uses of the receiving waters. If new technology that increases treatment capacity at the time of construction is developed, it will also be utilized.

XII.8. Financing Drainage Facilities

A. Onsite Facilities

City policy requires that all master planned developments provide for the conveyance of storm waters throughout the project to City engineering standards. The project will be required to construct all onsite facilities that have not yet been identified through the processing of a subdivision.

In newly developing areas east of I-805, it is the City's policy that development projects assume the burden of funding all maintenance activities associated with drainage facilities. As such, the City will enter into an agreement with the project applicant whereby maintenance of drainage facilities will be assured by one of the following funding methods:

1. A property owner's association that would raise funds through fees paid by each property owner; or
2. A Community Facilities District (CFD) established over the entire project to raise funds through the creation of a special tax for drainage maintenance purposes.

B. Offsite Facilities

Off-site drainage facilities that are necessary to support the proposed project are either constructed or are in the process of being designed and processed with the City of Chula Vista by other projects. There are no off-site drainage facilities required of the project. However, if other projects do not complete an off-site drainage facility that is necessary for this project the applicant may be required to complete the facility.

XII.7. Project Compliance

A. Prior to approval of the Tentative Map and/or Site Plan by the Design Review Committee, whichever occurs first, applicant shall demonstrate compliance with the City of Chula Vista Storm Water and Discharge Control Ordinance and the NPDES Municipal Permit (including the Final Model SUSMP for the San Diego Region). The Applicant shall obtain the approval of the City Engineer of a SWQMP.

B. The project shall comply with the recommended mitigation measures provided in the Hunsaker Drainage Study and the Hunsaker SWQMP.

C. The project shall be responsible for the conveyance of storm water flows in accordance with City Engineering Standards. The City Engineering Division will review all plans to ensure compliance with such standards.

D. The project shall incorporate urban runoff planning in the Tentative Map.

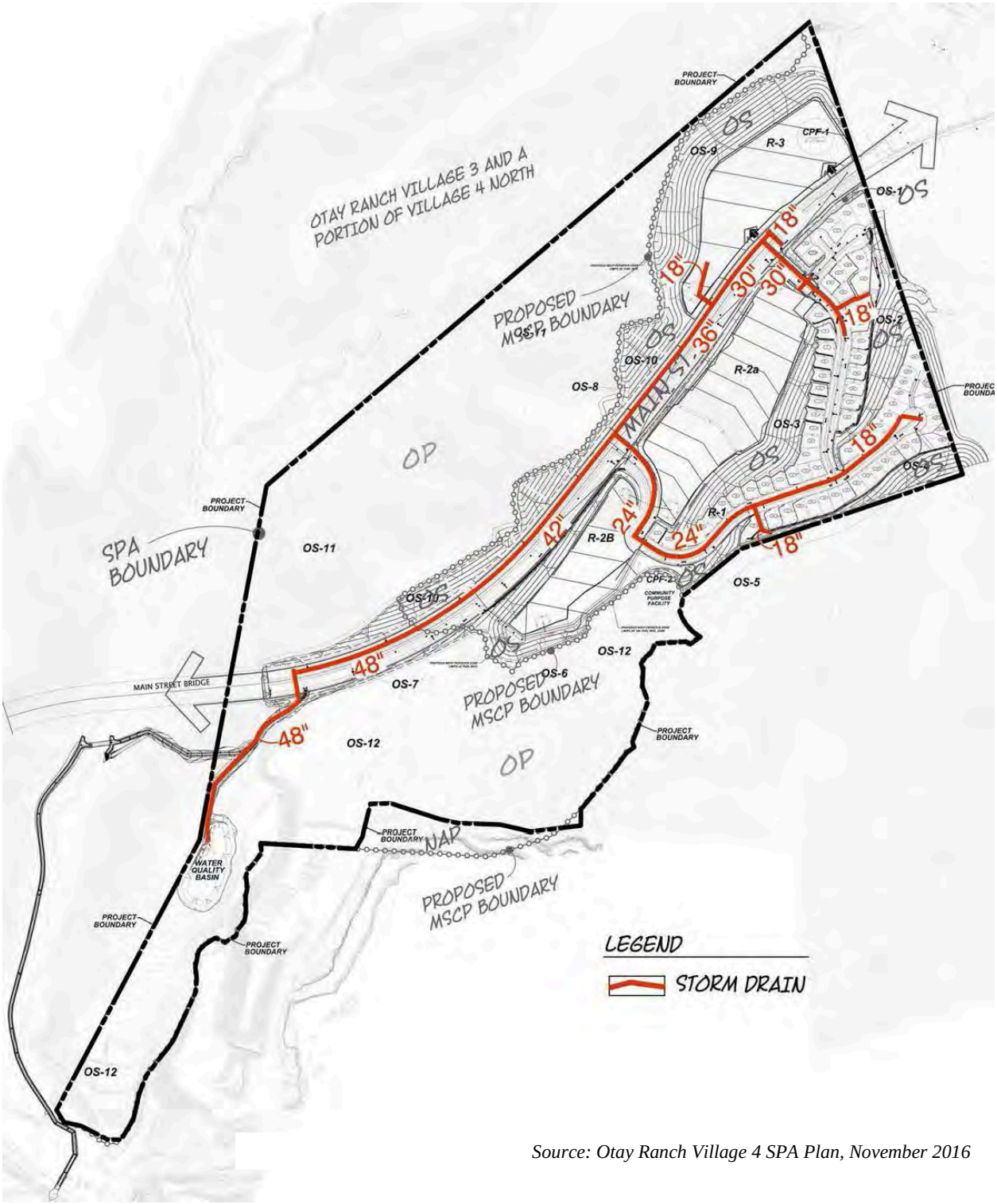
E. The project shall be required to comply with all current regulations related to water quality for the construction and post construction phases of the project. Both the future land development construction drawings and associated reports shall be required to include details, notes and discussions relative to the required or recommended BMPs.

F. The project applicant will assure the maintenance of drainage facilities by a property owner's association that would raise funds through fees paid by each property owner and/or participation in a CFD established over the entire project to raise funds through the creation of a special tax for drainage maintenance purposes.

G. Additional drainage analysis may be required at the tentative map phase of the project to demonstrate the adequacy of the proposed on-site storm drain system(s) and the existing storm drain connections.

H. Future drainage reports shall be prepared by the Applicant, as required by the City of Chula Vista, for the final engineering phase(s) of the project.

I. The project applicant shall comply with the Project EIR Water Quality & Hydrology mitigation measures.



Source: Otay Ranch Village 4 SPA Plan, November 2016

Proposed Drainage Facilities
Exhibit 11

XIII. AIR QUALITY AND CLIMATE PROTECTION

XIII.1 Growth Management Threshold Standard

The city shall pursue a greenhouse gas emissions reduction target consistent with appropriate city climate change and energy efficiency regulations in effect at the time of project application for SPA plans or for the following, subject to the discretion of the Development Services Director:

A. Residential projects of 50 or more residential dwelling units;

B. Commercial projects of 12 or more acres (or equivalent square footage);

C. Industrial projects of 24 or more acres (or equivalent square footage); or

D. Mixed use projects of 50 equivalent dwelling units or greater.

XIII.2 Service Analysis

The City of Chula Vista has a Growth Management Element (GME) in its General Plan. One of the stated objectives of the GME is to be proactive in its planning to meet federal and state air quality standards. This objective is incorporated into the GME's action program.

To implement the GME, the City Council has adopted the "Growth Management" ordinance, which requires Air Quality Improvement Plans (AQIP) for major development projects (50 residential units or commercial/industrial projects with equivalent air quality impacts). Title 19 (Sec. 19.09.080) of the Chula Vista Municipal Code requires that a SPA submittal contain an AQIP. The AQIP shall include an assessment of how the project has been designed to reduce emissions as well as identify mitigation measures in accordance with the adopted AQIP Guidelines.

The Chula Vista City Council adopted the 2008 state Energy Code (Title 24) with an amendment requiring an increased energy efficiency standard. This amendment went into effect on February 26, 2010, as Section 15.26.030 of the Municipal Code. As required by this amendment, all building permits applied for and submitted on or after this date are subject to these increased energy efficiency standards. The increase in energy efficiency is a percentage above the new 2008 Energy Code and is dependent on climate zone and type of development proposed.

- New residential and nonresidential projects that fall within climate zone 7 must be at least 15% more energy efficient than the 2008 Energy Code.

- New low-rise residential projects (three-stories or less) that fall within climate zone 10 must be at least 20% more energy efficient than the 2008 Energy Code.

In Addition, per Section 15.12 of the City's Municipal Code, all new residential construction, remodels, additions, and alterations must provide a schedule of plumbing fixture fittings that will reduce the overall use of potable water by 20%.

The City of Chula Vista has developed a number of strategies and plans aimed at improving air quality. The City is a part of the Cities for Climate Protection Program, which is headed by the International Council of Local Environmental Initiatives (ICLEI). In November 2002, Chula Vista adopted the CO_2 Reduction Plan to lower the community's major greenhouse gas emissions, strengthen the local economy, and improve the global environment. The CO_2 Reduction Plan focuses on reducing fossil fuel consumption and decreasing reliance on power generated by fossil

fuels, which would have a corollary effect in the reduction of air pollutant emissions into the atmosphere.

XIII.2 Adequacy Analysis

In 1983, the California Legislature enacted a program to identify the health effects of Toxic Air Contaminants (TACs) and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." The California Health and Safety Code defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a present or potential hazard to human health.

Impacts to air quality are addressed in *Air Quality and Global Climate Change Technical Report for Otay Ranch Village 4 Project, August, 2015, Dudek.* This report is referred to as the Dudek Air Quality Improvement Plan (AQIP) or Dudek AQIP.

The Dudek AQIP evaluates the potential for significant adverse impacts to the ambient air quality due to construction and operational emissions resulting from the Portion of Village 4 project. Construction of the project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction of the proposed project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. The AQIP concluded that the criteria air pollutant emissions associated with project construction would not exceed the City of Chula Vista's significance thresholds.

The Dudek AQIP also concluded the criteria air pollutant emissions associated with operation of the project would not exceed the City of Chula Vista's significance thresholds. Although the project would not exceed any of the City of Chula Vista's significance thresholds, cumulative impacts associated with operation of the proposed project were found to be significant and unavoidable even with incorporation of recommended mitigation measures due to surrounding cumulative projects. Finally, the proposed project would be consistent at a regional level with the underlying growth forecasts in the *Regional Air Quality Strategy* (RAQS) and *State Implementation Plan* (SIP).

Based on the traffic added to local and regional roadways the project would not result in CO Hotspots and therefore impacts would be less than significant. Regarding odors, the proposed project involves residential uses similar to those that currently exist on site and would not result in the creation of a land use that is commonly associated with odors. Therefore, project operations would result in an odor impact that is less than significant.

The Dudek AQIP evaluated the project's potential effect on global climate. Emissions of greenhouse gases (GHGs) were estimated based on the use of construction equipment and vehicle trips associated with construction activities as well as operational emissions once construction phases are complete. With implementation of GHG reduction measures, the proposed project would reduce GHG emissions by 24.1% from business as usual. The proposed project would therefore exceed the target of 20% below business as usual that has been established for the purposes of assessing operational GHG emissions of projects in the City of Chula Vista. Furthermore, the proposed project would not obstruct any applicable plans and policies adopted

for the purpose of reducing GHG emissions, including the City's Carbon Dioxide Reduction Plan, the SANDAG 2050 RTP/SCS, and Executive Order S-3-05. The project would not have a-significant impact on global climate change.

XIII.3 Project Compliance

The project applicant shall comply with the Project EIR Air Quality mitigation measures and the Dudek AQIP. A full discussion of the recommended mitigation measures (i.e. AQ-1 & AQ-2) can be found in the Dudek AQIP.

XIV. CIVIC CENTER:

XIV.1 Growth Management Threshold Standards:

There are no adopted Threshold Standards for the Civic Center. Funds for the most recent renovation of the Civic Center are tied to the PFDIF fees in effect at the time building permits are issued.

XIV.2 Existing Conditions:

The Chula Vista Civic Center Complex, the construction of the new Public Services Building and the gutting and remodeling of the old Police Station for additional city offices was completed in 2008. This complex was designed to accommodate the projected growth of the City of Chula Vista.

XIV.3 Adequacy Analysis:

The need for the Civic Center cannot be easily related to population figures or acres of commercial and industrial land which will be developed in the future. The 2008 expansion of the Civic Center Complex included space planning, design, and construction to keep pace with demand for future work space. The Civic Center Complex includes a state of the art Council Chambers, a conversion of the old Police Station to additional office space and rebuilding of the Public Services Building.

XIV.4 Financing Civic Center Facilities:

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 7, 2006 by adoption of Ordinance 3050. The PFDIF amount is subject to change as it is amended from time to time. The Civic Center PFDIF Fee for Single Family Development is $2,907/unit. The Civic Center PFDIF Fee for Multi-Family Development is $2,754/unit. Only residential development impact fees apply to the project. The PFDIF amount is subject to change as it is amended from time to time. At the current fee rate, the project Civic Center Fee obligation at buildout is approximately $975,069 (see Table L.1).

Table L.1
Civic Center Fee for Portion of Village 4

Development	DU's	PFDIF/DU	Civic Center Fee
Single Family Residential	73	$2,907	$212,211
Multi-Family Residential	277	$2,754	$762,858
Totals	**277**		**$975,069**

Table L.1 is only an estimate. Actual fees at the time building permits are requested may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities, industrial acreage or commercial acreages. The proposed CPF site may be subject to PFDIF, based upon the characteristics of the permittee and use.

They are to be paid prior to the issuance of building permits at the rate in effect at the time payment is made.

XV. CORPORATION YARD

XV.1. Growth Management Threshold Standards:

There are no adopted Threshold Standards for the Corporation Yard.

XV.2. Existing Conditions:

The 2.5-acre John Lippitt Public Works Center located at 1800 Maxwell Road was previously an SDG&E equipment and repair facility. The city renovated and added new improvements for the maintenance and repair of city owned equipment. The administration building was renovated and updated to provide offices for City of Chula Vista Public Works Department. Also, the facilities consist of shop buildings and the maintenance building, including parking for employees, city vehicles and equipment. In addition, there is a Bus Wash/Fuel Island/CNG and associated equipment on-site.

XV.3 Adequacy Analysis:

The need for a Corporate Yard cannot be easily related to population figures or acres of commercial and industrial land which will be developed in the future. The growth in population, increase in street miles and the expansion of developed areas in Chula Vista, requires more equipment for maintenance as well as more space for storage and the administration of increased numbers of employees. The need for a larger Corporation Yard has been specifically related to new development.

XV.4. Financing Corporate Yard Facilities:

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 7, 2006 by adoption of Ordinance 3050. The PFDIF amount is subject to change as it is amended from time to time. The Corporate Yard PFDIF Fee for Single Family Development is $472/unit and for Multi-Family Development it is $378/unit. At the current fee rate, the Village 3 North & Portion of 4 SPA Corporate Yard Fee obligation at build-out is $139,162 (see Table M.1).

Table M.1
Corporate Yard Fee for Portion of Village 4

Development	DU's	PFDIF/DU	Corporate Yard Fee
Single Family Residential	73	$472	$34,456
Multi-Family Residential	277	$378	$104,706
Totals	**277**		**$139,162**

Table M.1 is only an estimate. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities. The proposed CPF site may be subject to PFDIF, based upon the characteristics of the permittee and use. Actual fees may be different.

They are to be paid prior to the issuance of building permits at the rate in effect at the time payment is made.

XVI. ADMINISTRATION

XVI.1. Growth Management Threshold Standard:

There are no adopted Threshold Standards for Administrative Facilities which are part of the Public Facilities Development Impact Fee (PFDIF) Program. The information regarding these capital items is being provided in this section of the PFFP to aid the city in calculating the required PFDIF.

XVI.2. Existing Conditions:

The City collects funds from building permit issuance in the Eastern Territories for deposit to the accounts associated with Administration costs only and not the other aforementioned public facilities. Funds are not currently collected for Records Management, Telecommunications, Computer Systems and GIS.

XVI.3. Financing Other Public Facilities:

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 7, 2006 by adoption of Ordinance 3050. The PFDIF amount is subject to change as it is amended from time to time. The Administration PFDIF Fee for Single-Family Development is $632/unit and Multi-Family Development is $598/unit. At the current fee rate, the Village 3 North & portion of 4 SPA Other Public Facilities Fee obligation at build-out is approximately $211,782 (see Table N.1).

Table N.1
Administration Facilities Fee for Portion of Village 4

Development	DU's	PFDIF/DU	Administration Fee
Single Family Residential	73	$632	$46,136
Multi-Family Residential	277	$598	$165,646
Totals	**277**		**$211,782**

Table N.1 is an estimate only since PFDIF Fees are subject to change as they are amended from time to time. Changes in the number of dwelling units and non-residential acreage may affect the estimated fee. The proposed CPF site may be subject to PFDIF, based upon the characteristics of the permittee and use.

The PFDIF shall be paid prior to the issuance of building permits at the rate in effect at the time payment is made.

XVII. FISCAL

XVII.1. Growth Management Threshold Standard

A. Fiscal Impact Analyses and Public Facilities Financing Plans, at the time they are adopted, shall ensure that new development generates sufficient revenue to offset the cost of providing municipal services and facilities to that development.

B. The city shall establish and maintain, at sufficient levels to ensure the timely delivery of infrastructure and services needed to support growth, consistent with the threshold standards, a Development Impact Fee, capital improvement funding, and other necessary funding programs or mechanisms.

XVII.2. Facility Master Plan

There is no existing Master Plan for fiscal issues. However, an economic base study and a long range fiscal impact study was included as part of the Chula Vista General Plan.

XVII.3. Project Processing Requirements

The SPA Plan and the PFFP are required by the Growth Management Program to prepare a phased fiscal/economic report dealing with revenue vs expenditures including maintenance and operations.

XVII.4 Project Description

Otay Valley Quarry, LLC has prepared and submitted the Otay Ranch Portion of Village 4 SPA Plan, which includes the south portion of Portion of Village 4 only. The proposed SPA Plan also includes a portion of Portion of Village 4. The Otay Valley Quarry, LLC retained HR&A Advisors (HR&A), an experienced fiscal consultant, to estimate the fiscal impacts of the proposed project on the City of Chula Vista's General Fund. The project proposes approximately 350 single-family, and multi-family residential units, approximately 2.0 acres of CPF, and nearly 120 acres of permanent open space.

XVII.5 Fiscal Analysis of Project

This section of the PFFP is based upon the *Fiscal Impact Analysis of Otay Ranch Portion of Village 4 Sectional Plan Area Development to the City of Chula Vista, dated July 27, 2017, by HR&A Advisors*. This FIA is referred to as the HR&A FIA throughout this document. The HR&A FIA evaluates the net fiscal impacts to the City of Chula Vista by the development of the Portion of Village 4 SPA Plan. Net fiscal impacts represent total fiscal revenues to the City of Chula Vista less fiscal costs.

The HR&A FIA provides the results and supporting calculation detail of the net fiscal impacts of the Project. The draft net fiscal impact of the Project was prepared using the City of Chula Vista's new fiscal impact model and protocol developed in July 2015 ("City Fiscal Impact Model"). The project represents the first village analyzed using the 2015 Fiscal Impact Model. The City is currently in the process of developing a new model, which will be applied in future fiscal impact analyses. Outcome variances between the two models are anticipated but cannot be estimated at this time. Table O.1 provides a summary of the total Project revenues less the total Otay Ranch Portion of Village 4 expenditures to calculate the net fiscal impact of the Project to the City of Chula Vista's General Fund.

The detailed methodology of the SPA Fiscal Impact Framework is described in the memorandum *"SPA Fiscal Analysis –Fiscal Model Methodology Including the Development of Fiscal Factors in the Analysis of SPA Proposals", dated February 2008*.

XVII.6. Fiscal Impacts

To calculate the net fiscal impact of the Project, HR&A developed and applied a series of inputs into the City Fiscal Impact Model. Otay Ranch Valley Quarry, LLC provided HR&A with certain Project information including the number of residential units, lane miles, number of community purpose facilities, amount of open space, and amount of preserve space. HR&A conducted a high-level market review of the Otay Ranch area's single-family and multi-family sales prices, multi-family rental rates, rental/ownership residential distribution, and residential absorption. (detailed in Appendix A). HR&A estimated the Project absorption based on California Department of Finance estimates of historical housing growth as well as City housing growth forecasts. To calculate single-family sale and multi-family value per unit, HR&A evaluated recent unit sales using RedFin. HR&A used data from CoStar and Zillow.com to estimate multi-family rents. The distribution of owned versus rented multi-family units is based on US Census data for the average distribution of owner occupied vs. renter-occupied multi-family units in Otay Ranch. In addition, the City Fiscal Impact Model spreads the residential property tax for single-family and multi-family units across a five-year period. Results are, thus, reported for a five-year period.

The annual net fiscal impact associated with the Project over the five-year period is summarized in Table 10, below. The Project is expected to generate a positive annual net fiscal revenue to the City of Chula in Year 5 of approximately $136,000.

Project expenditures over the five-year period are illustrated in the Appendices. HR&A projected annual expenditures associated with the Project to increase each year from Years 1-3. There is a significant increase in expenditures between Year 1 and 2, primarily attributed to Police and Fire expenditures as all the new residential units are absorbed. Thereafter, projected expenditures remain constant at $337,000, because the Project is expected to be built out as of Year 3. The largest sources of expenditures throughout the five-year period are from the Police Department ($122,000 in Year 5) and the Fire Department ($85,000 in Year 5).

Project revenues over the five-year period are detailed in the Appendices. Annual projected revenues associated with the Project increase each year over the five-year period; the largest increase occurs between Years 1-2 ($139,000 to $330,000), mostly attributed to the addition of the current secured property taxes in Year 2 from the absorption of multi-family residential units upfront. Revenues continue to grow as the balance of the residential assessed value absorbs based on the City Fiscal Impact Model's absorption for residential units. The largest sources of revenues throughout the five-year period are from property taxes ($151,000 in Year 5) and MVLF-in lieu fees ($112,000 in Year 5), which make up 57 percent of total revenues.

Table O.1
Annual Net Fiscal Impact of the Portion of Village 4 SPA
on the City of Chula Vista General Fund (Current Year Dollars)

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	$139,276	$329,366	$399,291	$438,002	$480,573
Expenditures	$172,450	$300,630	$337,298	$337,298	$337,298
Net Fiscal Impact Estimate	**$(33,174)**	**$28,736**	**$61,993**	**$100,704**	**$143,275**

XVIII. PUBLIC FACILITY FINANCE

XVIII.1 Overview

The City will ensure the appropriate public facilities financing mechanisms are utilized to fund the acquisition, construction and maintenance of public facilities required to support the planned development of the Portion of Village 4 project in compliance with the City's Growth Management Program.

Public facilities are generally provided or financed in one of the following three ways:

1. Subdivision Exaction:	Developer constructed and financed as a condition of project approval.
2. Development Impact Fee:	Funded through the collection of an impact fee. Constructed by the public agency or developer constructed with a reimbursement or credit against specific fees.
3. Debt Financing:	Funded using one of several debt finance mechanisms. Constructed by the public agency or developer.

It is anticipated that all three methods will be utilized for the Portion of Village 4 project to construct and finance public facilities.

XVIII.2 Subdivision Exactions

Neighborhood level public improvements will be developed simultaneously with related residential and non-residential subdivisions. Through the Subdivision Map Act, it is the responsibility of the developer to provide for all local street, utility and recreation improvements. The use of subdivision conditions and exactions, where appropriate, will ensure that the construction of neighborhood facilities is timed with actual development.

The imposition of subdivision conditions and exactions does not preclude the use of other public facilities financing mechanisms to finance the public improvement, when appropriate.

XVIII.3 Development Impact Fee Programs

Development Impact Fees are imposed by various governmental agencies, consistent with State law, to contribute to the financing of capital facilities improvements within the City of Chula Vista. The distinguishing factor between a fee and a subdivision exaction is that exactions are requested of a specific developer for a specific project whereas fees are levied on all development projects throughout the City or benefit area pursuant to an established formula and in compliance with State law.

Portion of Village 4, through policy decisions of the City of Chula Vista and other governing agencies, is subject to fees established to help defray the cost of facilities that benefit Portion of Village 4 and areas beyond this specific project. These fees may include but not be limited to:

1. Transportation Development Impact Fee (TDIF) — established to provide financing for circulation element road projects of regional significance in the area east of I-805.
2. Traffic Signal Fee — to pay for traffic signals associated with circulation element streets.
3. Public Facilities Development Impact Fee (PFDIF)— Fee established to collect funds for Civic Center Facilities, Police Facilities, Corporation Yard, Library System, Fire Suppression System Administration and Major Recreation Facilities.
4. Parkland Acquisition & Development Fee (PAD) —Fee established to pay for the acquisition and development of park facilities.
5. Salt Creek Sewer Basin Development Impact Fee — to pay for constructing sewer improvements within the Salt Creek basin.
6. Sewerage Capacity Fee — established fee to aid in the cost of processing sewerage generated in the city.
7. Otay Water District Fees — It should be noted that the Water District may require the formation of or annexation to an existing improvement district or creation of some other finance mechanism which may result in specific fees being waived.

XVIII.4 Debt Finance Programs

The City of Chula Vista has used assessment districts including Mello Roos to finance a number of street improvements, as well as sewer and drainage facilities. Numerous Mello Roos Community Facility Districts exist within the eastern portion of the City of Chula Vista. Both school districts have implemented Mello-Roos Community Facilities Districts to finance school facilities.

Assessment Districts

Special assessment districts may be proposed for the purpose of acquiring, constructing, maintaining certain public improvements under the Municipal Improvement Act of 1913, the Improvement Bond Act of 1915, the Benefit Assessment Act of 1982, and the Lighting and Landscape Act of 1972. The general administration of the special assessment district is the responsibility of the public agency.

Special assessment financing may be appropriate when the value or benefit of the public facility can be assigned to a specific property. Assessments are levied in specific amounts against each individual property on the basis of relative benefit. Special assessments may be used for both publicly dedicated on-site and off-site improvements and maintenance.

As a matter of policy, the City limits the type of improvements, which can be financed by assessment district bonding in residential projects. Such improvements are generally limited to collector streets and larger serving entire neighborhood areas or larger. This policy applies to backbone infrastructure including streets, water, sewer, storm drain, and dry utility systems.

Mello-Roos Community Facilities Act of 1982

The Mello-Roos Community Facilities Act of 1982 authorizes formation of community facilities districts, which impose special taxes to provide the financing of certain public facilities or services. Facilities that can be provided under the Mello-Roos Act include the purchase, construction, expansion, or rehabilitation of the following:

1. Local park, recreation, or parkway facilities;
2. Elementary and secondary school sites and structures;
3. Libraries;
4. Any other governmental facilities that legislative bodies are authorized to construct, own or operate including certain improvements to private property.

XVIII.5 Other Methods Used to Finance Facilities

General Fund

The City of Chula Vista's general fund serves to pay for many public services throughout the City. Those facilities and services identified as being funded by general fund sources represent those that will benefit not only the residents of the proposed project, but also Chula Vista residents throughout the City. In most cases, other financing mechanisms are available to initially construct or provide the facility or service, then general fund monies would only be expected to fund the maintenance costs once the facility is accepted by the City.

State and Federal Funding

Although rarely available to fund an entire project. Federal and State financial and technical assistance programs have been available to public agencies, in particular the public school districts.

Dedications

Dedication of sites by developers for public capital facilities is a common financing tool used by many cities. In the case of Portion of Village 4, the following public sites are proposed to be dedicated:

1. Roads (if public)
2. Open space

Homeowners Associations

One or more Community Homeowner Associations may be established by the developer to manage, operate and maintain private facilities and common areas within the Portion of Village 4 SPA Plan.

Developer Reimbursement Agreements

Certain facilities that are off-site and/or provide regional benefits may be constructed in conjunction with the development of FC-2 SPA Amendment. In such instances, developer reimbursement agreements will be executed to provide for a future payback to the developer for the additional cost of these facilities. Future developments are required to pay back their fair share of the costs for the shared facility when development occurs.

Special Agreements/Development Agreement

An approved development agreement exists between the City of Chula Vista and the Developer of FC-2. This development agreement will play an essential role in the implementation of the Public Facilities Financing Plan. The Public Facilities Financing Plan clearly details all public facility responsibilities and assures that the construction of all necessary public improvements will be appropriately phased with actual development, while the development agreement identifies the obligations and requirements of both parties.

XVIII.6 Public Facility Finance Policies

The following finance policies were included and approved with the Growth Management Program to maintain a financial management system that will be implemented consistently when considering future development applications. These policies will enable the City to effectively manage its fiscal resources in response to the demands placed on the City by future growth.

1. Prior to receiving final approval, developers shall demonstrate and guarantee that compliance is maintained with the City's adopted threshold standards.

2. The Capital Improvement Program Budget will be consistent with the goals and objectives of the Growth Management Program. The Capital Improvement Program Budget establishes the timing for funding of all fee related public improvements.

3. The priority and timing of public facility improvements identified in the various City fee programs shall be made at the sole discretion of the City Council.

4. Priority for funding from the City's various fee programs shall be given to those projects which facilitate the logical extension or provision of public facilities as defined in the Growth Management Program.

5. Fee credits, reimbursement agreements, developer agreements or public financing mechanisms shall be considered only when it is in the public interest to use them or these financing methods are needed to rectify an existing facility threshold deficiency. Such action shall not induce growth by prematurely extending or upgrading public facilities.

6. All fee credit arrangements or reimbursement agreements will be made based upon the City's plans for the timing and funding of public facilities contained in the Capital Improvement Program Budget.

7. Public facility improvements made ahead of the City's plans to construct the facilities will result in the need for additional operating and maintenance funds. Therefore all such costs associated with the facility construction shall become the responsibility of the developer until such time as the City had previously planned the facility improvement to be made.

XVIII.7 Lifecycle Cost

Section 19.09.060 Analysis subsection F(2) of the Growth Management Ordinance requires the following:

> "...The inventory shall include Life Cycle Cost ("LCC") projections for each element in 19.09.060(E)...as they pertain to City fiscal responsibility. The LCC projections shall be for estimated life cycle for each element analyzed. The model used shall be able to identify and estimate initial and recurring life cycle costs for the elements..."

Background

The following material presents information on the general aspects of life cycle cost analysis as well as its specific application to the City of Chula Vista operations. The discussion regarding the general benefits and process of LCC is meant to provide a common base of understanding upon which further analysis can take place.

Life cycle costing (LCC) is a method of calculating the total cost of asset ownership over the life span of the asset. Initial costs and all subsequent expected costs of significance are included in the life cycle cost analysis as well as disposal value and any other quantifiable benefits to be derived as a result of owning the asset. Operating and maintenance costs over the life of an asset often times far exceed initial costs and must be factored into the (decision) process.

Life cycle cost analysis should not be used in each and every purchase of an asset. The process itself carries a cost and therefore can add to the cost of the asset. Life Cycle Cost analysis can be justified only in those cases in which the cost of the analysis can be more than offset by the savings derived through the purchase of the asset.

Four major factors, which may influence the economic feasibility of applying LCC analysis, are:

1. Energy Intensiveness — LCC should be considered when the anticipated energy costs of the purchase are expected to be large throughout its life.
2. Life Expectancy — For assets with long lives (i.e., greater than five years), costs other than purchase price take on added importance. For assets with short lives, the initial costs become a more important factor.
3. Efficiency — The efficiency of operation and maintenance can have significant impact on overall costs. LCC is beneficial when savings can be achieved through reduction of maintenance costs.
4. Investment Cost — As a general rule, the larger the investment the more important LCC analysis becomes.

The four major factors listed above are not, however, necessary ingredients for life cycle cost analysis. A quick test to determine whether life cycle costing would apply to a purchase is to ask whether there are any post-purchase costs associated with it. Life cycle costs are a combination of initial and post-purchase costs.

Applications for LCC Analysis

City staff uses LCC techniques in the preparation of the City's Five-Year Capital Improvement Budget (CIP) as well as in the Capital Outlay sections of the annual Operating Budget.

City Codes and Regulations provide the standards and design specifications that are required for infrastructure. Developers and contractors are required to meet city standards and design regulations. These standards and specifications have been developed over time to achieve the maximum life cycle of infrastructure that will be owned and maintained by the city. Prior to approval of new infrastructure, City Staff thoroughly reviews all plans and specifications to insure the maximum life cycle.

The initial construction of roads, traffic signals, sewers, drainage, lighting, etc., usually accounts for the bulk of the costs associated with a project. The initial construction activities consist of preliminary engineering, construction engineering, traffic control, etc. Subsequent to initial construction, the City of Chula Vista is responsible for maintenance, rehabilitation and eventual reconstruction/replacement over a projected life expectancy.

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Project Compliance

Major infrastructure elements are listed in Table P.1 with cost in 2017 dollars and life expectancy to derive an annualized cost of replacement in 2017 dollars.

Table P.1						
Portion of Village 4 Lifecycle Cost Analysis						
Facility	**Unit**	**Quantity**	**Unit cost**	**Total Cost**	**Useful Life (yrs)**	**Annualized Replacement Cost**
Main St AC Paving	SF	310,930	$ 5.58	$ 1,734,989	40	$43,375
AC Paving	SF	269,840	$ 3.25	$ 876,980	40	$21,925
Sidewalk	SF	55,900	$ 3.25	$ 181,675	75	$2,422
Ped Ramp	EA	14	$ 600.00	$ 8,400	75	$112
Median	SF	47,700	$ 8.00	$ 381,600	100	$3,816
Curb and Gutter	LF	22,980	$ 14.50	$ 333,210	75	$4,443
Traffic Signal	EA	2	$ 250,000.0	$ 500,000	50	$10,000
Street Lights	EA	50	$ 4,200.00	$ 210,000	50	$4,200
8" Sewer	LF	11,150	$ 33.00	$ 367,950	100	$3,680
Manholes	EA	55	$ 4,200.00	$ 231,000	100	$2,310
Drainage						
18" RCP	LF	3,310	$ 53.00	$ 175,430	100	$1,754
24" RCP	LF	1,450	$ 65.00	$ 94,250	100	$943
30" RCP	LF	1,150	$ 85.00	$ 97,750	100	$978
36" RCP	LF	1,280	$ 105.00	$ 134,400	100	$1,344
42" RCP	LF	2,730	$ 125.00	$ 341,250	100	$3,413
48" RCP	LF	1,250	$ 150.00	$ 187,500	100	$1,875
Triple Box Culvert	LF	60	$ 3,000.00	$ 180,000	100	$1,800
Cleanout	EA	58	$ 4,200.00	$ 243,600	100	$2,436
Inlet	EA	40	$ 4,300.00	$ 172,000	100	$1,720
Subtotal						$112,544
Design	10%					$11,254
% for Contingency	10%					$11,254
Total Annualized Replacement Cost Reserve						$135,052
Notes: No grading, no trails						
Design, but no other soft costs (fees, bonds)						

APPENDICES

A. HR&R Advisors Fiscal Impact Analysis