CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

CITY OF
HAYWARD
HEART OF THE BAY

Agenda

Tuesday, January 8, 2019

7:00 PM

Council Chambers

City Council

SPECIAL CITY COUNCIL MEETING

CALL TO ORDER Pledge of Allegiance: Mayor Halliday

ROLL CALL

CLOSED SESSION ANNOUNCEMENT

PUBLIC COMMENTS

The Public Comment section provides an opportunity to address the City Council on items not listed on the agenda or Information Items. The Council welcomes your comments and requests that speakers present their remarks in a respectful manner, within established time limits, and focus on issues which directly affect the City or are within the jurisdiction of the City. As the Council is prohibited by State law from discussing items not listed on the agenda, your item will be taken under consideration and may be referred to staff.

ACTION ITEMS

The Council will permit comment as each item is called for the Consent Calendar, Public Hearings, and Legislative Business. In the case of the Consent Calendar, a specific item will need to be pulled by a Council Member in order for the Council to discuss the item or to permit public comment on the item. Please notify the City Clerk any time before the Consent Calendar is voted on by Council if you wish to speak on a Consent Item.

CONSENT

1. MIN 19-001 Minutes of the Special City Council Meeting on December 11, 2018

Attachments: Attachment I Draft Minutes of 12/11/2018

2. CONS 19-001 Approval to Appropriate Funds from the Measure C Operating Fund for the 2016 Lease-Purchase of 532 Radios for Police and Field Personnel, Not to Exceed $2,600,000

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III Measure C 20-Year Forecast

PUBLIC HEARING

3. PH 19-001 Approval of a Revised Application for the Proposed Establishment of a Cocktail Bar and Lounge with Food Service and Cabaret Entertainment Located at 990 "B" Street, Assessor Parcel No. 428-0056-057-00. VGJB, Inc. (Applicant); Corinne and Timoleon Zaracotas (Property Owners), Requiring Approval of Conditional Use Permit Application No. 201802339 (Report from Development Services Director Simpson)

Attachments:
Attachment I Staff Report
Attachment II Draft Resolution
Attachment III Revised Business Plan and Project Plans

LEGISLATIVE BUSINESS

4. LB 19-001 Introduction of an Ordinance of the City of Hayward, Amending Chapter 7 of the Hayward Municipal Code by Amending Sections 7-2.00, 7-2.10 and 7-2.15 and Adding Sections 7-2.46 and 7-2.47 to Establish a "Dig-Once" Policy of Installing Underground Conduits and Adoption of a Resolution Amending the Master Fee Schedule for Related Program Fees (Report from Deputy City Manager Ott)

Attachments:
Attachment I Staff Report
Attachment II Ordinance
Attachment III "Dig-Once" Policy
Attachment IV Resolution
Attachment V Fiber Master Plan

5. LB 19-002 Introduction of an Ordinance of the City of Hayward, Adding Article 4 of Chapter 7 to the Hayward Municipal Code for Regulating Wireless Communication Facilities in the Public Right of Way and Adoption of a Resolution Amending the Master Fee Schedule for Related Program Fees (Report from Deputy City Manager Ott)

Attachments:
Attachment I Staff Report
Attachment II Ordinance
Attachment III Resolution
Attachment IV FCC Small Cell Order Summary

CITY MANAGER'S COMMENTS

An oral report from the City Manager on upcoming activities, events, or other items of general interest to Council and the Public.

COUNCIL REPORTS, REFERRALS, AND FUTURE AGENDA ITEMS

Oral reports from Council Members on their activities, referrals to staff, and suggestions for future agenda items.

ADJOURNMENT

NEXT MEETING, January 15, 2019, 7:00 PM

PUBLIC COMMENT RULES

Any member of the public desiring to address the Council shall limit her/his address to three (3) minutes unless less or further time has been granted by the Presiding Officer or in accordance with the section under Public Hearings. The Presiding Officer has the discretion to shorten or lengthen the maximum time members may speak. Speakers will be asked for their name before speaking and are expected to honor the allotted time. Speaker Cards are available from the City Clerk at the meeting.

PLEASE TAKE NOTICE

That if you file a lawsuit challenging any final decision on any public hearing or legislative business item listed in this agenda, the issues in the lawsuit may be limited to the issues that were raised at the City's public hearing or presented in writing to the City Clerk at or before the public hearing.

PLEASE TAKE FURTHER NOTICE

That the City Council adopted Resolution No. 87-181 C.S., which imposes the 90-day deadline set forth in Code of Civil Procedure section 1094.6 for filing of any lawsuit challenging final action on an agenda item which is subject to Code of Civil Procedure section 1094.5.

****Materials related to an item on the agenda submitted to the Council after distribution of the agenda packet are available for public inspection in the City Clerk's Office, City Hall, 777 B Street, 4th Floor, Hayward, during normal business hours. An online version of this agenda and staff reports are available on the City's website. Written comments submitted to the Council in connection with agenda items will be posted on the City's website. All Council Meetings are broadcast simultaneously on the website and on Cable Channel 15, KHRT. ****

Assistance will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the City Clerk at (510) 583-4400 or TDD (510) 247-3340.

Assistance will be provided to those requiring language assistance. To ensure that interpreters are available at the meeting, interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the City Clerk at (510) 583-4400.

File #: MIN 19-001

DATE: January 8, 2019

TO: Mayor and City Council

FROM: City Council

SUBJECT

Minutes of the Special City Council Meeting on December 11, 2018

RECOMMENDATION

That the City Council approves the minutes of the Special City Council meeting on December 11, 2018.

SUMMARY

The City Council held a meeting on December 11, 2018.

ATTACHMENTS

Attachment I Draft Minutes of 12/11/2018

MINUTES OF THE SPECIAL CITY COUNCIL MEETING
Council Chambers
777 B Street, Hayward, CA 94541
Tuesday, December 11, 2018, 7:00 p.m.

The Meeting of the Special City Council was called to order by Mayor Halliday at 7:00 p.m.

SPECIAL PRESENTATIONS

Color Guard Flag Ceremony
Hayward Police Department Honor Guard and Hayward Fire Department Honor Guard

Pledge of Allegiance
Boy Scout Troop 168
Leading the Pledge Luke Fewx

Star-Spangled Banner
Mt. Eden High School Choir
Director of Choir Ash Walker
Student Conductor Shaina Sunga

Poem
"Public Service" by Poet Laureate Bruce Roberts, read by Council Member Zermeño.

ROLL CALL

Present:	COUNCIL MEMBERS Zermeño, Márquez, Mendall, Peixoto, Lamnin, Salinas MAYOR Halliday
Absent:	None

PUBLIC COMMENTS

Ms. Ginny Delaney, Vice Chair of the Keep Hayward Clean and Green Task Force, thanked Hayward voters and campaign volunteers for the passage of Measure T (Hayward's Real Property Transfer Tax).

Ms. Angela Andrews, Hayward resident, congratulated re-elected and elected members of the City Council and thanked Hayward voters for supporting Measure T.

Mr. Satinder Malhi, on behalf of California State University East Bay, congratulated re-elected and elected members of the City Council, and thanked Council Member Peixoto for his service to the community.

Ms. Angelica Espinoza, Chabot College student, spoke about domestic violence and the benefits of seeking counseling.

Mr. Ralph Farias Jr., Hayward resident, congratulated newly elected Council Member Wahab, and spoke about the incident where Agustin Gonzalez was allegedly shot by a Hayward police officer.

Ms. Cynthia Nunes spoke on behalf of the Gonzalez family and asked about the ongoing investigations related to the incident where Agustin Gonzalez was allegedly shot by a Hayward police officer on November 15 and passed away on November 16, 2018.

Mr. Frank Carto, Hayward resident and Agustin Gonzalez's uncle, asked for accountability and justice related to excessive use of force used with his nephew.

Ms. Karla Gonzalez, Agustin Gonzalez's mother, asked for justice and more mental health crisis intervention when police officers interact with disturbed individuals.

City Manager McAdoo, on behalf of the City, apologized for the incident and noted there were two independent investigations being conducted.

Mr. Jim Drake submitted a card but did not speak.

Ms. Peggy Guernsey, Hayward resident, spoke about the AC Transit bus route cancelations and the negative impact to riders; and thanked the Council for any assistance.

Mr. Charlie Peters, Clean Air Performance Processionals representative, spoke about an electrical outage and affected businesses, and strategies to evaluate the ethanol in gasoline.

ELECTION

1. Resolution Acknowledging Receipt of Certificate of Election Results and Official Canvass of the General Municipal Election Held November 6, 2018, and Declaring the Results Thereof (Report from City Clerk Lens) **LB 18-061**

    Staff report submitted by City Clerk Lens, dated December 11, 2018, was filed.

City Clerk Lens provided a synopsis of the staff report.

It was moved by Council Member Mendall, seconded by Council Member Zermeño, and carried unanimously, to approve the following:

AYES:	COUNCIL MEMBERS Zermeño, Márquez, Mendall, Peixoto, Lamnin, Salinas MAYOR Halliday
NOES:	None
ABSTAIN:	None
ABSENT:	None

Resolution 18-248, "Resolution Acknowledging Receipt of Certificate of Election Results and Official Canvass by the City Clerk of the General Municipal Election Held November 6, 2018, and Declaring the Results Thereof"

PRESENTATION

Mr. Daniel Taylor, Housing Authority of the County of Alameda (HACA) Special Programs Manager, on behalf of the Housing Authority of the County of Alameda, presented Council Member Peixoto with a Resolution in honor and recognition of his eight years of outstanding and dedicated service on the Housing Commission. On behalf of Alameda County Supervisor Richard Valle and the Alameda County Transportation Commission, District Director Ginny DeMartini, presented Council Member Peixoto with a Certificate of Commendation for his service on the Alameda County Transportation Commission. A Certificate of Commendation was presented to Council Member Peixoto upon completion of his second four-year term as a City of Hayward Council Member and in honor of his dedication and commitment to the community of Hayward from 2010 to 2018.

Mayor Halliday and Council Members offered words of appreciation to Council Member Peixoto in recognition of his leadership, dedication and commitment to the City of Hayward. Council Member Peixoto acknowledged the support that his wife, colleagues, supporters, Hayward Police Officers Association, Hayward Firefighters Local 1909, voters, and City staff provided to him during his campaign. Council Member Peixoto spoke about the accomplishments that occurred during his tenure and the challenges that are forthcoming such as housing related items.

INSTALLATION

City Clerk Lens administered the Oath of Office to Re-Elected Mayor Barbara Halliday, Re-Elected Council Member Sara Lamnin, and Council Member-Elect Aisha Wahab.

Council Member Wahab, Council Member Lamnin and Mayor Halliday offered words of appreciation to their families, colleagues, consultants, campaign committees, treasurers, central labor councils, building trades, democratic party, volunteers, City staff, supporters, Hayward Police Officers' Association, Hayward Firefighters Local 1909, Service Employees International Union Local 1021, International Federation of Professional and Technical Engineers Local 21, Chamber's Good Government Now, endorsers, and voters of Hayward. It was noted that the 2018 election was a historic time because the City had a majority female City Council.

Council Member Márquez, in her role as a volunteer and co-chair of the Committee to Protect Hayward's Future – Yes on Measure T, acknowledged volunteers, labor unions and

associations, building trades and labor council, Hayward Firefighters Local 1909, and Clifford Moss, all of whom made possible the passage of Measure T (Hayward's Real Property Transfer Tax). Council Member Mendall, in his role as co-chair of the Committee, thanked Council Member Márquez for her leadership.

Council Members congratulated the elected and re-elected members of the City Council and thanked Hayward voters for their participation.

LEGISLATIVE BUSINESS

2. Election of Mayor Pro Tempore **LB 18-059**

   Staff report submitted by City Clerk Lens, dated December 11, 2018, was filed.

It was moved by Council Member Márquez, seconded by Council Member Salinas, and carried with the following vote, to approve electing Council Member Zermeño as Mayor Pro Tempore of the City of Hayward from January 1, 2019 to December 31, 2019.

AYES:	COUNCIL MEMBERS Zermeño, Márquez, Mendall, Lamnin, Wahab, Salinas MAYOR Halliday
NOES:	None
ABSTAIN:	None
ABSENT:	None

Resolution 18-249, "Resolution Authorizing the Election of Mayor Pro Tempore of the City of Hayward for 2019"

3. Transmittal of the Annual Mitigation Fee Act Report (AB 1600) **CONS 18-853** (Continued to December 18, 2018)

CITY MANAGER'S COMMENTS

City Manager McAdoo congratulated re-elected and elected members of the City Council on behalf of City staff.

COUNCIL REPORTS, REFERRALS, AND FUTURE AGENDA ITEMS

Mayor Halliday announced the Council would be holding a meeting on December 18, 2018.

ADJOURNMENT

Mayor Halliday adjourned the meeting at 9:01 p.m. and invited all to a reception in the Rotunda.

MINUTES OF THE SPECIAL CITY COUNCIL MEETING
Council Chambers
777 B Street, Hayward, CA 94541
Tuesday, December 11, 2018, 7:00 p.m.

APPROVED

_____
Barbara Halliday
Mayor, City of Hayward

ATTEST:

_____
Miriam Lens
City Clerk, City of Hayward

File #: CONS 19-001

DATE: January 8, 2019

TO: Mayor and City Council

FROM: Fire Chief

SUBJECT

Approval to Appropriate Funds from the Measure C Operating Fund for the 2016 Lease-Purchase of 532 Radios for Police and Field Personnel, Not to Exceed $2,600,000

RECOMMENDATION

That Council approves the attached resolution to appropriate funds from the Measure C Operating Fund for the 2016 lease-purchase of 532 radios for police and field personnel, not to exceed $2,600,000.

SUMMARY

In 2007, the City joined the East Bay Regional Communications Systems Authority (EBRCSA), a Joint Powers Authority established to facilitate regional communications interoperability in the event of a regional emergency. On September 13, 2016, the Hayward City Council adopted a resolution authorizing the City Manager to execute a lease-purchase agreement with Motorola Solutions to procure EBRCSA-compliant radios for the Police Department and critical non-safety field staff, not to exceed $2,600,000. However, the 2016 Council resolution did not identify a payment source for the lease payments. The purpose of this report is to identify and appropriate funding for this purpose. Staff recommends using the Measure C Fund as the funding source for the lease-purchase agreement, not to exceed $2,600,000 per the original resolution.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	Resolution
Attachment III	Measure C 20-Year Forecast

DATE: January 8, 2019

TO: Mayor and City Council

FROM: Fire Chief

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RECOMMENDATION

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SUMMARY

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BACKGROUND AND DISCUSSION

In 2007, the City joined the East Bay Regional Communications Systems Authority (EBRCSA). EBRCSA is a Joint Powers Authority established to facilitate regional communications interoperability in the event of a regional emergency. Radios are the primary communication tool that EBRCSA agencies use for interoperability.

In 2011, the Hayward Fire Department purchased 140 EBRSCA compliant radios, largely paid for by a federal grant. On September 13, 2016, the Hayward City Council adopted a resolution[1] authorizing the City Manager to execute a lease-purchase agreement with Motorola Solutions to procure additional radios for the entire Police Department as well as for critical non- safety field staff, not to exceed $2,600,000. The new radios purchased through this agreement replaced the previous Police Department radio system, which had reached the end of its useful life.

The radios are used for daily City operations as well as in the event of an emergency. The table below lists the number of radios assigned by department:

DEPARTMENT	RADIOS
Police Department	452
Fire Department	140
Non-Safety Departments, including Utilities and Technology Services	80
TOTAL	672

Since 2016, staff has procured and implemented the radios, achieving organization-wide and region-wide communications interoperability. Now, two years later, the first of two lease payments to Motorola is due in the amount of $1,314,719.

However, the 2016 Council resolution did not identify a payment source to fund the two lease payments. The purpose of this report is to identify and appropriate funding for this purpose. Staff recommends using the Measure C Fund as the funding source for the lease-purchase agreement, not to exceed $2,600,000 per the original resolution.

FISCAL IMPACT

The attached resolution will have a one-time fiscal impact to the Measure C Operating Fund not to exceed $2,600,000. The useful life of the radios is anticipated to be approximately ten years. The annual subscription costs of operating the radios and the annualized cost of replacing the radios are included in the City's Capital Improvement Program Budget. Should Council approve this expense, the impact on the Measure C Capital fund balance is projected in Attachment III.

STRATEGIC INITIATIVES

This agenda item is a routine operational item and does not directly relate to one of the Council's Strategic Initiatives.

Prepared by: Mary Thomas, Management Analyst

[1] https://hayward.legistar.com/LegislationDetail.aspx?ID=2831199&GUID=E4110ACE-C2A9-4EB4-ABFE-A74A63C3A162&Options=ID|Text|&Search=EBRCSA

Recommended by: Garrett Contreras, Fire Chief

Approved by:

_____

Kelly McAdoo, City Manager

HAYWARD CITY COUNCIL

RESOLUTION NO. 19-___

Introduced by Council Member _____

RESOLUTION TO APPROPRIATE MEASURE C OPERATING FUNDS TO PAY FOR A LEASE-PURCHASE AGREEMENT WITH MOTOROLA SOLUTIONS FOR 532 EBRCSA COMPATIBLE RADIOS FOR POLICE AND FIELD PERSONNEL, NOT TO EXCEED $2,600,000

WHEREAS, Communication between City departments and other cities is crucial for successful response to a major emergency, including natural disasters; and

WHEREAS, Participating in the East Bay Regional Communications System Authority (EBRCSA) increases Hayward's interoperability with other agencies and provides the City with a regional, secure, and interoperable public safety radio system; and

WHEREAS, In 2016 the City entered into a lease-purchase agreement with Motorola Solutions to acquire 532 EBRCSA-compatible radios for police and field personnel and the first payment is now due;

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hayward authorizes the appropriation of $2,600,000 from the Measure C Operating Fund for the lease-purchase of the 532 radios.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2019

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

Measure C
20-Year Financial Forecast

Updated December 2018

Measure C 20-Year Financial Forecast																				
Year Ref.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Fiscal Year	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020***	**FY 2021***	**FY 2022***	**FY 2023***	**FY 2024***	**FY 2025***	**FY 2026***	**FY 2027***	**FY 2028***	**FY 2029***	**FY 2030***	**FY 2031***	**FY 2032***	**FY 2033***	**FY 2034***
Revenues																				
Measure C	8,090,470	13,436,227	14,189,607	15,216,260	15,443,364	15,883,140	16,322,993	16,762,846	17,202,700	1,764,255	18,082,406	18,444,054	18,812,935	19,189,194	19,572,978	19,964,437	20,363,726	20,771,001	21,186,421	21,610,149
Bond Issuance		65,789,797																		
Chabot Commitment					10,000,000	10,000,000														
Total Revenues	**8,090,470**	**79,226,024**	**14,189,607**	**15,216,260**	**25,443,364**	**25,883,140**	**16,322,993**	**16,762,846**	**17,202,700**	**1,764,255**	**18,082,406**	**18,444,054**	**18,812,935**	**19,189,194**	**19,572,978**	**19,964,437**	**20,363,726**	**20,771,001**	**21,186,421**	**21,610,149**
Expenditures																				
Capital Expenditures																				
Library/Learning Center		10,607,338	17,372,241	17,051,095	16,448,905															
Fire Facilities Design		930,859	1,285,242	284,537																
Fire Station 1			358,293	618,851																
Fire Station 2			587,183	1,571,806																
Fire Station 3			472,826	1,622,186																
Fire Station 4			114,900	1,609,051																
Fire Station 5			75,973	1,207,322																
Fire Station 6			681,043	65,762	3,500,000	2,500,000														
Fire Training Academy				2,025,836	25,187,000	23,500,000														
Street Rehabilitation		490,845	10,554,232	652,521						2,000,000								2,000,000		
Police Building Rehab										2,000,000	4,000,000	3,000,000								
EBRCS Radios					1,300,000	1,300,000														
Other Projects				15,809	300,000								4,000,000	4,000,000	4,000,000					
Subtotal	**-**	**12,029,042**	**31,501,932**	**26,724,776**	**46,735,905**	**27,300,000**	**-**	**-**	**-**	**4,000,000**	**4,000,000**	**3,000,000**	**4,000,000**	**4,000,000**	**4,000,000**	**-**	**-**	**2,000,000**	**-**	**-**
Operating Expenditures																				
Police Services		569,836	1,793,135	1,935,134	2,686,402	2,874,450	3,075,662	3,290,958	3,521,325	3,767,818	4,031,565	4,313,775	4,615,739	4,938,841	5,284,559	5,654,478	6,050,292	6,473,812	6,926,979	7,411,868
Maintenance Services	205,969	708,249	601,999	614,581	794,524	850,141	909,651	973,326	1,041,459	1,114,361	1,192,366	1,275,832	1,365,140	1,460,700	1,562,949	1,672,355	1,789,420	1,914,680	2,048,707	2,192,117
Subtotal	**205,969**	**1,278,084**	**2,395,134**	**2,549,715**	**3,480,926**	**3,724,591**	**3,985,312**	**4,264,284**	**4,562,784**	**4,882,179**	**5,223,931**	**5,589,606**	**5,980,879**	**6,399,540**	**6,847,508**	**7,326,834**	**7,839,712**	**8,388,492**	**8,975,687**	**9,603,985**
Debt Service Expenditures		**2,326,436**	**2,859,637**	**2,732,875**	**5,426,563**	**5,424,813**	**5,420,938**	**5,419,563**	**5,415,313**	**5,407,938**	**5,425,488**	**5,419,188**	**5,436,938**	**5,434,838**	**5,434,063**	**5,426,800**	**5,424,913**	**5,420,657**	**5,379,350**	**5,372,350**
Total Expenditures	**205,969**	**15,633,562**	**36,756,704**	**32,007,366**	**55,643,393**	**36,449,403**	**9,406,250**	**9,683,847**	**9,978,096**	**14,290,116**	**14,649,419**	**14,008,794**	**15,417,816**	**15,834,378**	**16,281,571**	**12,753,634**	**13,264,625**	**15,809,149**	**14,355,037**	**14,976,335**
Annual Cash Flow	7,884,501	63,592,462	(22,567,097)	(16,791,106)	(30,200,029)	(10,566,263)	6,916,743	7,078,999	7,224,604	(12,525,861)	3,432,987	4,435,260	3,395,119	3,354,816	3,291,407	7,210,803	7,099,101	4,961,852	6,831,384	6,633,814
Cumulative Fund Balance	**7,884,501**	**71,476,963**	**48,909,867**	**32,118,761**	**1,918,731**	**(8,647,532)**	**(1,730,789)**	**5,348,211**	**12,572,814**	**46,953**	**3,479,940**	**7,915,200**	**11,310,319**	**14,665,135**	**17,956,542**	**25,167,345**	**32,266,447**	**37,228,299**	**44,059,683**	**50,693,497**

*The amounts identified for capital projects in future fiscal years of this projection are conceptual only and have not been approved or appropriated. Appropriation and allocation of these funds will occur annually with adoption of the City's Operating and Capital budgets.

File #: PH 19-001

DATE: January 8, 2019

TO: Mayor and City Council

FROM: Director of Development Services

SUBJECT

Approval of a Revised Application for the Proposed Establishment of a Cocktail Bar and Lounge with Food Service and Cabaret Entertainment Located at 990 "B" Street, Assessor Parcel No. 428-0056-057-00. VGJB, Inc. (Applicant); Corinne and Timoleon Zaracotas (Property Owners), Requiring Approval of Conditional Use Permit Application No. 201802339

RECOMMENDATION

That the City Council approves the revised Conditional Use Permit application for the proposed 990 Cocktail Bar and Lounge, based on the updated analysis set forth in this report and the required Findings subject to the Conditions of Approval in the draft Resolution (Attachment II).

SUMMARY

VGJB, Inc. is requesting approval of their revised Conditional Use Permit (CUP) application to occupy an existing, vacant 2,363 square-foot tenant space located at 990 "B" Street in Downtown Hayward for a new cocktail bar and lounge with food sales available. The applicant is still applying for the Alcoholic Beverage Control (ABC) license (Type 48) that is for alcohol only establishments and only allows patrons aged 21 years and older to enter. The only change to the application is the addition of a small food service component to the use. The proposed cocktail bar and lounge will include a full-service bar with a small kitchen area and cabaret entertainment (live and amplified music, dancing, etc.). The project will also include significant exterior and interior tenant improvements including updating the façade, retrofitting the interior for compliance with the Americans with Disabilities Act (ADA), and complying with current California Building Code requirements for energy efficiency.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	Resolution
Attachment III	Revised Business Plan and Project Plans

DATE: January 8, 2019

TO: Mayor and City Council

FROM: Director of Development Services

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VGJB, Inc. is requesting approval of their revised Conditional Use Permit (CUP) application to occupy an existing, vacant 2,363 square-foot tenant space located at 990 "B" Street in Downtown Hayward for a new cocktail bar and lounge with food sales available. The applicant is still applying for the Alcoholic Beverage Control (ABC) license that is for alcohol only establishments (Type 48) and only allows patrons aged 21 years and older to enter. The only change to the application is the addition of a small food service component to the use. The proposed cocktail bar and lounge will include a full-service bar with a small kitchen area and cabaret entertainment (live and amplified music, dancing, etc.). The project will also include significant exterior and interior tenant improvements including updating the façade, retrofitting the interior for compliance with the Americans with Disabilities Act (ADA), and complying with current California Building Code requirements for energy efficiency.

BACKGROUND

The project site is located in Downtown Hayward at the northwestern intersection of B Street and Main Street. The building was originally constructed in the early 20th century and since that time, the building has been remodeled numerous times by various tenants and has lost much of its historical and architectural character. Most recently, the previous tenant included

a doughnut shop (Gary's Donuts) which was opened in 1989 and closed in 2011. Since that time, the tenant space has remained vacant.

Planning Commission Hearing: On July 26, 2018, the Planning Commission[1] held a public hearing and voted 4:0:0 (two Commissioners absent) to approve the Conditional Use Permit application (Meeting Minutes[2]). Although a few members of the public were present at the meeting, no individual spoke either in opposition or support of the proposed project. The applicant and their security company consultant were present at the meeting and addressed questions from the Planning Commission regarding their proposed business operations, financial structure, and security plan.

Detective Wright of the Hayward Police Department – Vice Unit was also present at the meeting and mentioned that the project site is located within a high reporting district for police calls for service. For public safety, Detective Wright stated that it is imperative for alcohol- and/or cabaret-related establishments to have a committed security plan to assist the Police Department in the long-term operation of the business as a safe and successful establishment.

City Council Hearing: Following the Planning Commission hearing and approval of the application, the City Council called-up the Conditional Use Permit for review for final disposition in accordance with Section 10-1.2845 (Appeal and Review Process) of the Hayward Municipal Code. On September 18, 2018, the City Council[3] held a public hearing at a regularly scheduled meeting to review the application and voted 6:0:1 (Council Member Marquez recused) to deny the application without prejudice to allow the applicant to modify their application and return directly to the City Council (Meeting Minutes[4]). Council members reviewed the application and expressed concerns about the lack of food-service and activities available at the proposed establishment and cited former and current (poorly-operated) alcohol-serving establishments that have led to high calls for Police service.

Several Hayward residents, property owners, and downtown business owners were present at the meeting and spoke in favor of the proposed establishment in Downtown Hayward. One current downtown business owner urged the City Council to consider reviewing the current ordinance and expanding the definition of a 'full-service restaurant'. The applicant and their team were present and answered questions from the City Council on their anticipated business operations and security plan implementation.

DISCUSSION

Existing Conditions. The proposed site is located within the Central-City Commercial (CC-C) and Central City Plaza (CC-P) zoning district and is designated Central-City Retail and Office

[1] Planning Commission Hearing July 26, 2018 - http://hayward.granicus.com/MediaPlayer.php?view_id=1&clip_id=518

[2] Planning Commission July 26, 2018 Meeting Minutes - https://hayward.legistar.com/View.ashx?M=E3&ID=608540&GUID=70CF11C4-5980-4247-8945-E36E7345F8C1

[3] City Council Hearing September 18, 2018 - http://hayward.granicus.com/MediaPlayer.php?view_id=1&clip_id=521

[4] City Council September 18, 2018 Meeting Minutes - https://hayward.legistar.com/View.ashx?M=E3&ID=631930&GUID=A69CDE50-021D-4448-B427-C759FAD3B75B

Commercial (CC-ROC) in the *Hayward 2040 General Plan*. The entire project site (Assessor Parcel No. 428-0059-057-00) is approximately 0.17 acres and contains two (2) two-story buildings for a total building area of 13,803 square-feet. Currently, all but one of the tenant spaces within the buildings are vacant. Megan's Nail Salon operates on the first floor located at 982 B Street.

The project site is easily accessible by walking, public transit, and automobile. Public transportation options include the Hayward BART Station that is less than 0.5 miles away, numerous AC Transit bus stops are located along B Street, Mission Boulevard, and on Main Street in front of the project site. Public parking is available on street as well as in Municipal Parking Lots #1, #2, #3, and the City Hall parking garage, which are all within walking distance from the site. The University Shuttle for California State University, East Bay (CSUEB) also stops along B and C Streets.

Surrounding land uses include a variety of commercial businesses including retail storefronts, personal services (hair salons, tailoring, etc.), professional offices, full-service restaurants, quick-service eateries, and other full-service bars. Nearby residential land uses include the Prospect Hill neighborhood, which is less than a half-mile away, the future Maple and Main multi-family development with 240 apartment units, and the renovated Green Shutter Hotel with 41 apartment units, which is located at the opposite corner of the project site. The project location is also within proximity of several public and quasi-public land uses, including Hayward City Hall, Fire Station #1, the new 21st Century Library, and US Postal Office.

Proposed Project. Due to the comments, concerns, and direction given by City Council at the September 18th public hearing, the applicant has revised their project plans and business narrative (Attachment III), which provides details on the proposed operations and logistics, hours of operation, security plan, as well as existing and proposed floor plans and elevations. The project overview involves the occupation of an existing, vacant 2,363 square-foot tenant space at the corner of B and Main Streets to operate a cocktail bar and lounge with food-service and cabaret entertainment (live and amplified music, dancing, etc.).

The establishment proposes to include a full-bar that would serve cocktails, draft beers on tap, bottled beer, wine and distilled spirits as well as a small kitchen and food preparation area that would serve appetizers and meal selections. According to the preliminary menu, the appetizers and food plates would include an eclectic variety of dishes including garlic parmesan fries, charcuterie plates, flat bread pizzas, garlic cheese pull bread, sliders, and other bar snacks that may accompany alcoholic beverages. Food service shall be required to remain available from opening until 11 p.m. The establishment would need to apply for a Type 48 license from the California Department of Alcoholic Beverage Control (ABC)[5] upon approval and issuance of a CUP. ABC defines the Type 48 alcohol license and associated privileges as the following:

> "On-Sale General – Public Premises - (Bar, Night Club) Authorizes the sale of beer, wine and distilled spirits for consumption on the premises where sold. Minors are not

[5] Common Alcoholic Beverage Control Licenses - https://www.abc.ca.gov/forms/abc616.pdf

allowed to enter and remain (see Section 25663.5 for exception, musicians). Food service is not required."

The business plan proposes the hours of operation to be seven days a week, from noon to 1:30 a.m. Staffing for the bar and lounge will include a general manager, security manager, bartenders, bar backs, security guards, waiters, and a contracted disk jockey (DJ) or musician. The number of actual staff present at the establishment will vary based on the day and time and will correlate with the volume of customers. At this point in time, seating would be limited to the indoors and could accommodate between 50-75 people, depending on the final interior configuration, while the total occupancy of the tenant space will be limited to 89 persons. Only individuals 21 years of age and over will be permitted to enter.

The applicant also proposes to incorporate a cabaret entertainment component into the cocktail bar and lounge, which requires a separate license issued by the Police Department. The cabaret license would allow the establishment to include live entertainment as part of normal operations, such as dancing, and amplified and live music with certain limitations. The cabaret component of the establishment is proposed to commence no earlier than 9 p.m. until the closure of the business and would be limited to Thursday, Friday, Saturday and Sunday nights. The addition of Thursday night was requested by the applicant to offset the costs incurred by the inclusion of a kitchen facility within the establishment. The applicant envisions the cabaret entertainment to include a venue where amplified music may be played by a DJ allowing patrons the ability to dance within the designated dance area. Increased security would be present during cabaret entertainment hours for crowd management and age verification purposes, which is discussed in greater detail in the section below. To mitigate potential nuisances, the applicant will be required to install acoustic treatments (i.e. soundproofing) to the building to minimize noise disturbances to adjacent businesses, residents, and to comply with the City's Noise Ordinance.

Security Plan. The applicant submitted a detailed security plan, prepared in collaboration with The Kingdom Group[6], for City staff review. The security plan consists of procedures and precautions that will be part of the operations of the business, including on-site security, verifying legal age to enter the premises and consume alcohol, being prepared in the event of an incident, and maintaining a safe environment for the patrons. The plan states that the applicant will maintain security guard(s) on- and off-site during business hours who will check IDs, monitor patron activities, and patrol the parking lots and the perimeter of the building to prevent loitering and illicit activity. Security infrastructure will also be installed such as proper locks, cameras and video surveillance, motion sensors, window and door monitoring devices, and expanded exterior lighting. Windows will be maintained as transparent to allow visibility into the building interior. Exterior lighting will architecturally be designed and placed to enhance and activate the building, while also deterring illegal activities, especially along the rear alley of the establishment. Additional security measures will be further evaluated by the Police Department prior to any issuance of a cabaret license. The draft conditions of approval further stipulate the additional security requirements that

[6] The Kingdom Group Website - https://www.thekingdomgroup.co/

will be enforced and monitored by the Hayward Police Department and Code Enforcement Division.

Interior and Exterior Remodel. The business owners are proposing significant interior improvements to the existing tenant space and building exterior to revitalize a prominent downtown corner, improve the building façade, upgrade for ADA compliance, and improve overall lighting and security. The floor plan for the main area will consist of two new restrooms, indoor seating, a designated dance floor, the bar, and a small kitchen and food preparation area. The plans designate an approximate 130 square-foot kitchen area toward the rear of the establishment that will include a three-compartment corner sink, a solid door freezer and a Rational SelfCookingCenter with capabilities for frying, roasting, grilling, steaming, poaching, and baking dishes. In addition, a mezzanine area will also be constructed that will include a DJ station, mechanical room, office, and storage loft limited to staff only.

Exterior improvements include the renovation of the entire building facade for the subject tenant as well as the adjacent nail salon. The proposed renovation will require the removal of the existing blue awnings, decorative tile base, and the yellow paint color from the existing building. The new elevations incorporate a contemporary design approach with a dry stacked stone wainscot base, ipe shiplap wood siding at street level, window replacements with black trim, and a darker paint color on the top-half of the building. The applicant has also agreed to integrate an artistic component or art installation along the top-half of the building. The art component may include a mural, decorative metal, or other artistic feature to further enhance the prominence and architecture of the corner. A condition of approval on the artistic component has been added to the project, which will require final approval from the Planning Division prior to the issuance of a building permit for the commercial remodel.

Zoning Ordinance and Hayward 2040 General Plan. The project site is located within the City's Central-City Commercial (CC-C) and Central-City Plaza (CC-P)[7] zoning districts and is designated Central-City Retail and Office Commercial (CC-ROC)[8] in the *Hayward 2040 General Plan*. The CC-C and CC-P zoning districts conditionally permit the establishment of a cocktail bar, lounge and cabaret land uses with the approval of a Conditional Use Permit. The CC-ROC land use designation is focused on the core of the Downtown Hayward and envisions building improvements including the rehabilitation and redevelopment of underutilized properties that will assist in transforming the downtown core area into a vibrant, transit-oriented, and mixed-use city center. Allowed uses based on the land use designation include retail, dining, and service uses as well as entertainment and recreational uses.

Further, the project site is located within one of the City's designated Priority Development Areas (PDAs) that further encourages the private-sector investment into the Downtown City Center to create a compact, mixed-use, and walkable neighborhood with venues for entertainment experiences as well as recreational and cultural activities. The Economic

[7] Central City Zoning Districts - https://library.municode.com/ca/hayward/codes/municipal_code?nodeId=HAYWARD_MUNICIPAL_CODE_CH10PLZOSU_ART1ZOOR_S10-1.1520CECIOMSU

[8] City of Hayward 2040 General Plan CC-ROC Land Use Designation - https://www.hayward2040generalplan.com/land-use/mixed

Development Strategic Plan (EDSP)[9] states that the downtown area is a key retail area, and Goal SR2 (Service and Retail Industry) calls to secure new businesses in priority locations that are a good fit for the City of Hayward.

Overall, the proposed cocktail bar and lounge with cabaret entertainment will support the following *Hayward 2040 General Plan* goals and policies:

- *Land Use Policy LU-2.1 – Downtown Arts and Entertainment.* The City shall encourage private-sector investment in Downtown to transform it into a safe, vibrant, and prosperous arts and entertainment district that offers enhanced shopping, dining, recreational, and cultural experiences and events for residents, families, college students, and visitors.
- *Land Use Policy LU-2.2 – Downtown Activities and Functions*. The City shall maintain the Downtown as a center for shopping and commerce, social and cultural activities, and political and civic functions.
- *Land Use Policy LU-2.4 – Downtown Retail Frontages.* The City shall require retail frontages and storefront entrances on new and renovated buildings within the "retail core" of Downtown Hayward.
- *Land Use Policy LU-2.16 – Uses to Attract the Creative Class.* The City shall encourage the development of uses and amenities to attract creative-class professionals and businesses to Hayward's s, including: restaurants and cafes; art studios and galleries; and entertainment and cultural venues.
- *Land Use Policy LU-5.1 – Mix of Uses and Activities.* The City shall encourage a mix of retail, service, dining, recreation, entertainment, and cultural uses and activities in regional and community centers to meet a range of neighborhood and citywide needs.
- *Economic Development Policy ED-1.14 – Hospitality and Entertainment Business Clusters.* The City shall encourage the development of a hospitality and entertainment business cluster within Downtown Hayward and other appropriate locations to improve opportunities for shopping, dining, arts and entertainment, lodging, business conventions, and cultural events.
- *Community Safety CS-1.12 – On-Site Security.* The City shall require conditions of approval related to the provision of on-site security and safety measures for bars, nightclubs, live entertainment businesses, and related uses. Conditions of approval shall promote a healthy balance of public safety and nightlife vibrancy, and may include surveillance cameras, crowd management practices, and on-site security staff.

Alcoholic Beverage Outlet Ordinance. In 2013, new Alcoholic Beverage Outlet regulations[10] were adopted into the City's Zoning Ordinance with the purpose of providing for the orderly integration of alcohol related uses in a manner that will protect public safety and encourage business growth. The Ordinance recognized that the "proliferation of establishments selling alcoholic beverages within the City of Hayward presents problems that affect residents, businesses, property owners, visitors, and workers in Hayward." However, the ordinance also understood that regulations that promote responsible alcohol consumption can contribute to economic vitality, particularly in the downtown area.

[9] Hayward Economic Development Specific Plan - https://www.hayward-ca.gov/your-government/documents/economic-development-strategic-plan
[10] City Alcoholic Beverage Outlet Ordinance - https://library.municode.com/ca/hayward/codes/municipal_code?nodeId=HAYWARD_MUNICIPAL_CODE_CH10PLZOSU_ART1ZOOR_S10-1.2750ALBEOU

The Conditional Use Permit process is used as the means to review the impacts of alcoholic beverage outlets on neighboring properties and land uses on a case-by-case basis to prevent overconcentration and the undesirable impacts on the community. To prevent an overconcentration, the Hayward Municipal Code mandates that within the Downtown Entertainment Area – no more than two (2) on-sale alcohol-related establishments shall be permitted per block side or face between two immediate cross streets. Therefore, the proposed bar and lounge would not exceed the maximum limit on their block face between Mission Boulevard and Main Street. If approved, the establishment would be required to comply with the performance standards listed within the ordinance that include, but are not limited to, providing adequate exterior lighting, discouraging loitering, verifying legal age of patrons, and maintaining their liquor license in good standing with ABC, in addition to the other recommended Conditions of Approval (Attachment II).

Cabaret License. In 2013, the Cabaret and Dance regulations[11] were concurrently updated and established the requirements for a cabaret license, including the application procedures, criteria for the suspension and revocation of licenses, operating standards, and mandatory security conditions. The business owners of the proposed cocktail bar and lounge will be required to obtain a cabaret license prior to offering any entertainment component such as dancing, live and/or amplified music, DJ sets, karaoke, etc. from the Hayward Police Department. Additionally, the Police Department and Development Services Department reserve the right to modify, suspend, or revoke the cabaret license for any dancing, amplified or live music, etc. if it has been determined that the use is disturbing the peace of persons within the vicinity or it is deleterious to the public peace, morals, health, safety, and general welfare.

Downtown Hayward Design Plan and Core Area Plan. The Downtown Hayward Design Plan and Core Area Plan were adopted in 1992 and set forth strategies, policies, and actions to revitalize the economic vitality and livelihood of the downtown core area. Analyses within the document discuss opportunities for better business practices, cultural activities, façade improvements, and public/private partnerships for a dynamic and diverse core neighborhood. Like the Alcoholic Beverage Outlet Ordinance, the Core Area Plan acknowledges that the management of alcohol related establishments in a positive and responsible manner enhances the economic and social character of the downtown stating that "[t]he successful revitalization of downtown will likely include new restaurants and entertainment facilities, many of which will sell alcoholic beverages and will hopefully become an asset to downtown." The proposed cocktail bar and lounge with cabaret entertainment would be consistent with the goals of the adopted plan to introduce entertainment uses into underutilized and vacant buildings that will promote economic activity and pedestrian traffic.

Staff Analysis: Staff has reviewed the revised project application and believes that the amendments to the business plan address the concerns stated at the previous City Council hearing and that the Council can now make the required Findings to approve the updated

[11] City's Cabarets and Dances Ordinances - https://library.municode.com/ca/hayward/codes/municipal_code?nodeId=HAYWARD_MUNICIPAL_CODE_CH6BUPRTR_ART2MIBU_CADA

Conditional Use Permit application to allow for the establishment of a cocktail bar and lounge with food service and cabaret entertainment at the subject property. The proposed redevelopment of the building with an entertainment land use, coupled with the proposed interior and exterior remodel, will further assist in enhancing the downtown area with a high-end, upscale entertainment venue to catalyze further investment in the area and increase pedestrian presence, which supports the existing restaurants and retail businesses downtown. As mentioned previously, the proposed establishment is located within the Hayward Downtown Core Area, which calls for a diverse mix of entrainment, dining, retail land uses to support cultural, social, and recreational experiences consistent with the goals and policies of the City's General Plan.

Although the downtown area census tract currently contains other Type 48 establishments (full bars) including The Stein Lounge, Funky Monkey, and The World-Famous Turf Club, the proposed establishment will provide an additional entertainment option for consumers and visitors in the Downtown area. The proposed establishment will also distinguish itself further from the other existing Type 48 establishments as it will have food options available (appetizers, meals, and bar snacks) to the public for purchase, mitigating potential overdrinking and intoxication of patrons as well as meeting the need for a diverse mix of entertainment and dining options. Also, as previously noted, the HMC allows for a maximum of two on-sale establishments per block face, which would not be exceeded if this application were approved. In addition, the proximity to public transit stops combined with current ride-sharing technology (i.e. Lyft, Uber) would provide patrons of this establishment with safe transportation alternatives to driving that minimize potential drinking and driving.

Lastly, the Hayward Police Department – Vice Unit has reviewed the project proposal with Planning Division staff to collaboratively develop appropriate Conditions of Approval to ensure that patrons will be provided a safe experience and provide assurances that the proposed cocktail bar and lounge will not place an additional burden on Police Department resources. Conditions of Approval have been included that require that responsible business practices are incorporated into land use to ensure compliance with the Hayward Municipal Code. Noncompliance with any of the Conditions of Approval may lead to penalties, fines, and possible revocation of this CUP.

Environmental Review. The proposed project is exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15301, Class 1 for existing facilities in that the project involves the leasing 2,363 square-feet of existing tenant space that will create a negligible impact on the environment. Therefore, no environmental review is necessary.

STRATEGIC INITIATIVES

This project supports the Complete Communities Strategic Initiative. The purpose of this strategic initiative is to create and support structures, services, and amenities to provide inclusive and equitable access with the goal of becoming a thriving and promising place to live, work and play for all consistent with the objectives of the *Hayward 2040 General Plan*. Further, the item supports the following goal and objectives:

Goal 1: Improve quality of life for residents, business owners, and community members in all Hayward neighborhoods.

Objective 2: Foster a sense of place and support neighborhood pride.

Objective 3: Increase collaboration with businesses, non-profits and neighborhood groups on placemaking projects.

ECONOMIC IMPACT

The establishment of a new, upscale cocktail bar and lounge with food-service available within the core of the City will assist in further stimulating the economic and pedestrian vitality of Downtown Hayward by transforming an existing vacant, underutilized tenant space into a vibrant social and entertainment destination. Based on the scope of work, the valuation (fair market value of materials and labor) of the commercial remodel is estimated at more than $400,000, which will be invested into the interior and exterior of the building. The proposed improvements will visually enhance a prominent corner of Downtown Hayward.

Cocktail bars and lounges provide a unique social destination of nightlife and activity that can promote the attraction of existing residents and businesses, but also new residents, employees, young professionals, a competitive workforce, students, etc. Nightlife entertainment such as restaurants, bars, and nightclubs provide an opportunity for more employment, economic activity, and tax revenue.

FISCAL IMPACT

According to a Sales Tax Capture & Gap Analysis Report provided by MuniServices, Inc. (now known as Avenu Insights & Analytics), the City of Hayward is currently losing potential sales tax revenues to neighboring communities and jurisdictions in the category of "Club Food/Bar Sales." The Sales Tax Leakage Report indicates that the City is only generating 23% of the potential sales tax that a city Hayward's size could support based on our jurisdiction's population and median income. As such, the establishment of a new cocktail bar and lounge with food sales and cabaret entertainment in a designated key retail and service area as well as a PDA will assist in increasing the potential sales tax revenues to the City. At this time, an estimation of annual sales tax revenue that the proposed applicant could generate has not been made. Given the regional access provided by the Hayward BART station to the Downtown core area, the new cocktail bar and lounge provides the opportunity to attract individuals from other communities such as San Francisco, Oakland, Berkeley, Fremont, etc. to spend locally within the City of Hayward.

SUSTAINABILITY FEATURES

The interior and exterior tenant improvement associated with the proposed cocktail bar and lounge would be reviewed by the Building Division for conformance with State and local requirements related to sustainability (i.e. California Building Code) which require a minimal level of energy efficiency, resource conservation, material recycling, etc.

PUBLIC OUTREACH

Following receipt of the application, staff conducted the following public outreach:

- On May 9, 2018, an initial Notice of Application Receipt for the project application was sent to 217 addresses including property owners, residents, and businesses within a 300-foot radius of the project site. Public comments were received by owners of businesses and properties in the Downtown. Comments suggest a potential postponement of a decision on the application until completion of the Downtown Specific Plan, concerns on the proposed land use and the project impact on the Downtown. A list of the public comments received to date has been included as Attachment IV.
- On June 1, 2018, the applicant and Planning Division staff attended a Government Relations Council (GRC) meeting of the Hayward Chamber of Commerce. At the meeting. the applicant provided a presentation to the GRC on their application and addressed questions and comments on their proposed land use from the members of the Chamber. City staff was present for technical questions on the process of the application.
- On July 13, 2018, a Notice of this Public Hearing for the Planning Commission meeting was sent to property owners, residents, and businesses within 300-feet of the project site as well as published in The Daily Review newspaper.
- On July 26, 2018, the Planning Commission held a public hearing and voted 4:0 (two Commissioners absent) to approve the Conditional Use Permit application.
- On September 7, 2018, a Notice of Public Hearing for the City Council call-up was published in the Daily Review newspaper and sent to all property owners, business owners and interested stakeholders within 300 feet of the subject property.
- On December 21, 2018, a Notice of Public Hearing for the City Council call-up was published in the Daily Review newspaper and sent to all property owners, business owners and interested stakeholders within 500 feet of the subject property.

NEXT STEPS

If the City Council approves or denies the revised project, the decision will be deemed final and effective immediately. If approved, the applicant may then proceed with obtaining the necessary permits through the Building Division, Police Department, and associated outside agencies. Alternatively, if City Council denies the application, staff would return to City Council with a resolution for findings for denial, or the Council could modify the draft Conditions of Approval for the project.

At the request of the City Council, a work session agenda item has been scheduled for the January 29th City Council meeting to discuss a potential moratorium regarding cocktail bars, lounges, and similar alcohol serving establishments in Downtown Hayward. Neither the future work session nor the prospective moratorium will impact a decision on this application.

Prepared by: Marcus Martinez, Assistant Planner

Recommended by: Laura Simpson, AICP, Director of Development Services

Approved by:

_____

Kelly McAdoo, City Manager

HAYWARD CITY COUNCIL

RESOLUTION NO. 19-

Introduced by Councilmember _____

RESOLUTION APPROVING CONDITIONAL USE PERMIT APPLICATION NO. 201802339 TO ESTABLISH A COCKTAIL BAR AND LOUNGE WITH CABARET ENTERTAINMENT AT 990 "B" STREET IN DOWNTOWN HAYWARD

WHEREAS, VGJB, Inc. (Applicant) submitted Conditional Use Permit Application No. 201802339, requesting approval to operate a cocktail bar and lounge and cabaret entertainment in a vacant tenant space located in Downtown Hayward at 990 "B" Street, Assessor Parcel No. 428-0056-057-00; and

WHEREAS, The Planning Commission considered the Project at a public hearing held on July 26, 2018, and voted 4:0 (two Commissioners absent) approve the Conditional Use Permit based on the required Findings and associated Conditions of Approval application; and

WHEREAS, On July 29, 2018, the Project was called up by the City Council for review in accordance with Section 10-1.2845 (Appeal and Review Process) of the Hayward Municipal Code; and

WHEREAS, On September 18, 2018, the City Council reviewed the project and voted 6:0:1 (Council Member Marquez recused) to deny the application without prejudice to allow the applicant to modify their application and return directly to the City Council; and

WHEREAS, On November 2, 2018, the applicant submitted a revised business plan and project plans with modifications to the floor plan to add a small kitchen area to incorporate food service into the business; and

WHEREAS, Notice of the hearing was published in the manner required by law and the hearing was duly held by the City Council on January 8, 2019.

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby finds and determines as follows:

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The proposed project is exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15301, Class 1 for existing facilities in that the project involves the leasing 2,363 square-feet of existing tenant space that will create a negligible impact on the environment. Therefore, no environmental review is necessary.

CONDITIONAL USE PERMIT

A. The proposed use is desirable for the public convenience or welfare;

The proposed use is desirable for the public convenience and welfare in that the establishment will introduce a high-end cocktail bar and lounge with food service cabaret entertainment (dancing, music, etc.) into the core of Downtown Hayward in close proximity to residential, retail and restaurant uses. The proposed cocktail bar and lounge will provide additional entertainment and dining options for consumers and community members of legal age for social, recreational, and cultural interactions and experiences. The *Hayward 2040 General Plan* calls for land uses that will attract creative-class professionals and businesses, provide for arts and entertainment in the Downtown, and to activate underutilized buildings to create a vibrant, transit-oriented, and mixed-use city center. This establishment at the project site will reduce the percentage of vacant storefronts within the downtown area and allow the ability for private investment to significantly improve and remodel the interior and exterior of the building which support making Downtown Hayward a destination for all. In addition, the cocktail bar and lounge are conveniently accessed by walking, numerous bus lines along Mission Boulevard, Main Street and B Street, and the Hayward Bay Area Rapid Transit (BART) Station which are all within a half-mile of the subject site to minimize individuals from drinking and driving.

B. The proposed use will not impair the character and integrity of the zoning district and surrounding area;

The proposed project will not impair the character and integrity of the zoning district and surrounding area in that the project site is located within the Central City-Commercial (CC-C) and Central City-Plaza (CC-P) zoning districts that encourage the establishment of a diverse mix of businesses and other activities which will enhance the economic activity of the downtown core area. Currently, three cocktail bars (type 48 liquor licenses) are located within the Downtown core area and the proposed establishment would activate a previously underutilized and vacant space at the corner of B and Main Street that will be compatible and may support the neighboring businesses in the revitalization of the Downtown. The proposed cocktail bar and lounge will further distinguish itself from the other existing Type 48 establishments as the new cocktail bar and lounge will include food service and sales available to patrons to mitigate the impacts of alcohol and assist in preventing overdrinking.

C. The proposed use is in harmony with applicable City policies and the intent and purpose of the zoning district involved.

The proposed use is in harmony with the applicable City policies and the intent and purpose of the zoning district involved in that the subject site is located within the CC-C and CC-P zoning districts and is designated as Central-City Retail and Office Commercial (CC-ROC) in the *Hayward 2040 General Plan*. The CC-ROC land use

designation is focused on the core of the Downtown Hayward and envisions building improvements including the rehabilitation and redevelopment of underutilized properties that will assist in transforming the downtown core area into a vibrant, transit-oriented, and mixed-use city center. Allowed uses for the CC-ROC land use designation include retail, restaurant and service uses as well as entertainment venues. As amended, the proposed establishment will add new entertainment and dining options within Downtown Hayward.

The project is located within one of the City's Priority Development Areas (PDAs) which promotes and encourages private-sector investment into Downtown Hayward to create a compact, mixed-use and walkable neighborhood with venues for entertainment experiences as well as recreational and cultural activities. The Economic Development Strategic Plan (EDSP) states that the downtown area is a key retail area, and Goal SR2 (Service and Retail Industry) calls to secure new businesses in priority locations that are a good fit for the City of Hayward. Overall, the project will support the following goals and policies of the *Hayward 2040 General Plan:*

- Land Use Policy LU-2.1 – Downtown Arts and Entertainment. The City shall encourage private-sector investment in Downtown to transform it into a safe, vibrant, and prosperous arts and entertainment district that offers enhanced shopping, dining, recreational, and cultural experiences and events for residents, families, college students, and visitors.
- Land Use Policy LU-2.2 – Downtown Activities and Functions. The City shall maintain the Downtown as a center for shopping and commerce, social and cultural activities, and political and civic functions.
- Land Use Policy LU-2.4 – Downtown Retail Frontages. The City shall require retail frontages and storefront entrances on new and renovated buildings within the "retail core" of Downtown Hayward.
- Land Use Policy LU-2.16 – Uses to Attract the Creative Class. The City shall encourage the development of uses and amenities to attract creative-class professionals and businesses to Hayward's s, including: restaurants and cafes; art studios and galleries; and entertainment and cultural venues.
- Land Use Policy LU-5.1 – Mix of Uses and Activities. The City shall encourage a mix of retail, service, dining, recreation, entertainment, and cultural uses and activities in regional and community centers to meet a range of neighborhood and citywide needs
- Economic Development Policy ED-1.14 – Hospitality and Entertainment Business Clusters. The City shall encourage the development of a hospitality and entertainment business cluster within Downtown Hayward and other appropriate locations to improve opportunities for shopping, dining, arts and entertainment, lodging, business conventions, and cultural events.

- Community Safety CS-1.12 – On-Site Security. The City shall require conditions of approval related to the provision of on-site security and safety measures for bars, nightclubs, live entertainment businesses, and related uses. Conditions of approval shall promote a healthy balance of public safety and nightlife vibrancy, and may include surveillance cameras, crowd management practices, and on-site security staff.

Additionally, the project is consistent with the Downtown Hayward Design Plan and Core Area Plan, which was adopted in 1992 and set forth strategies, policies, and actions to revitalize the economic vitality and livelihood of the downtown core area. Analyses within the document discuss opportunities for better business practices, cultural activities, façade improvements, and public/private partnerships for a dynamic and diverse core neighborhood. Like the Alcoholic Beverage Outlet Ordinance, the Core Area Plan acknowledges that the management of alcohol related establishments in a positive and responsible manner enhances the economic and social character of the downtown stating that "[t]he successful revitalization of downtown will likely include new restaurants and entertainment facilities, many of which will sell alcoholic beverages and will hopefully become an asset to downtown". The proposed cocktail bar and lounge with food service and cabaret entertainment would be consistent with the goals of the adopted plan to introduce entertainment uses into underutilized and vacant buildings which will promote economic activity and pedestrian traffic.

D. The development will be operated in a manner determined to be acceptable and compatible with surrounding development.

The proposed project, as conditioned, will not be detrimental to the public health, safety, or general welfare in that establishment shall be subject to the regulations established in the City's Alcoholic Beverage Outlet Ordinance, Cabarets and Dances Ordinance, the Department of Alcoholic Beverage Control (ABC), and other building and public safety codes, as applicable. The referenced ordinances and regulations contain operating and performance standards for establishments that include the sale of alcoholic beverages or cabaret entertainment to minimize nuisances on neighboring properties. In addition, the applicant has submitted a thorough business plan with a supplemental security plan that includes, but is not limited to, staffing to be present during business hours (including security guards), security infrastructure to be installed (cameras, exterior lighting, motion sensors, etc.), procedures for verifying the legal age of patrons, and protocols in the event of an incident. The applicant shall be required to retain their own security firm that will be vetted by the City's Police Department to ensure that all guards maintain proper certifications and training. Violations of any condition of approval or any of the ordinances and regulations listed above may result in administrative citations to the business owner, Code Enforcement action, or the revocation of licenses and permits, including this Conditional Use Permit at the expense of the business owner.

Furthermore, the project proposes to upgrade the interior spaces of the existing building to meet current ADA standards, which will improve the public health, safety and general welfare for all patrons visiting the proposed cocktail bar and lounge. Additionally, the incorporation of new exterior lighting and video surveillance around the building perimeter will also improve public health, safety and general welfare and discourage loitering and illicit activity.

NOW THEREFORE, BE IT RESOLVED that the City Council of the City of Hayward, based on the foregoing Findings for Approval, hereby acknowledges review of the proposed project and approves the Conditional Use Permit No. 201802339, subject to the attached Conditions of Approval.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2019

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

CITY OF HAYWARD PLANNING DIVISION
CONDITIONAL USE PERMIT APPLICATION NO. 201802339
CONDITIONS OF APPROVAL
990 "B" STREET

DRAFT CONDITIONS OF APPROVAL

1. The approval of Conditional Use Permit No. 201802339 shall allow the operation of a cocktail bar and lounge (Type 48 liquor license) with food service and cabaret entertainment within an existing 2,363 square-foot tenant space located at 990 "B" Street, Assessor Parcel No. 428-0056-057-00.
2. The permittee shall assume the defense of and shall pay on behalf of and hold harmless the City, its officers, employees, volunteers and agents from and against any or all loss, liability, expense, claim costs, suits and damages of every kind, nature and description directly or indirectly arising from the performance and action of this permit.
3. All outstanding fees owed to the City, including staff time spent processing this application, shall be paid in full prior to issuance of a building permit
4. The proposed cocktail bar and lounge with cabaret entertainment shall conform to these conditions of approval and the proposed business narrative/plans on file with the Planning Division dated November 2, 2018 and stamped "Exhibit A".
5. Any proposal for alterations to the proposed site plan and/or design, which does not require a variance to any zoning code, must be approved by the Planning Director prior to implementation.
6. A copy of these conditions of approval shall be scanned and included on a separate full-sized sheet(s) within the building permit plan set.
7. A copy of the conditions of approval for the use permit must be kept on the premises of the establishment and posted in a place where it may readily be viewed by the public.
8. Prior to final inspection of all pertinent conditions of approval and all improvements (interior and exterior) shall be completed to the satisfaction of the Planning Director, Building Official, Police Chief, and Fire Chief.
9. This approval shall be void three years after the effective date of approval unless a building permit application with plans matching the approved plans have been submitted and accepted for processing by the Building Official.
10. The applicant shall be required to obtain and maintain a current valid business license in the City of Hayward at all times of operation.
11. If determined to be necessary for the protection of the public peace, safety and general welfare, the City of Hayward may impose additional conditions or restrictions on this permit. Violations of any approved land use conditions or requirements will result in further enforcement action by the Code Enforcement Division. Enforcement includes, but is not limited to, fines, fees/penalties, special assessment, liens, or any other legal remedy required to achieve compliance including the City of Hayward instituting a revocation hearing before the Planning

Commission. Violation of any of the conditions of approval of this conditional use permit may constitute grounds for revocation pursuant to the Zoning Ordinance.

PLANNING

12. All administrative and conditionally permitted uses that cease operation for a period of more than six (6) consecutive months shall be deemed to be discontinued, and the use permit establishing said use shall become null and void. Reestablishment of said use shall only be permitted upon obtaining a new use permit to be approved before the Planning Commission.

13. The hours of the operation for the establishment shall be limited to 11 a.m. to 1:30 a.m., seven days a week. Cabaret entertainment such as dancing, live and/or amplified music shall be limited from 9 p.m. to the closure of the establishment on Thursdays, Fridays, Saturdays, and Sundays.

14. Food service shall remain available for purchase from patrons at a minimum of seven days a week from business opening until 11 p.m.

15. The permittee shall obtain all necessary permits from the County of Alameda Environmental Health Department for the storage, preparation, and sale of food prior to the commencement of the operation. The permittee shall maintain all permits and/or licenses in good standards with the County Environmental Health Department.

16. The establishment shall maintain suitable kitchen and food preparation facilities, as indicated on the project plans, and must make actual sales of meals, appetizers, and snacks for consumption on premises. The exclusive sales of bar snacks such as popcorn, chips, candies, etc. shall not be considered adequate sales nor suitable kitchen facilities.

17. Patrons and/or visitors shall not be permitted entry into the mezzanine area. Mezzanine area shall be limited to authorized establishment staff only.

18. The final color, design and materials for exterior of the façade (including exterior lighting fixtures) shall be included in the building permit plan check set and reviewed and approved by the Planning Director for compliance.

19. The establishment shall be limited to patrons 21 years of age and over. No individuals under the age of 21 shall be allowed enter the premises or loiter adjacent to the facility entrance. Establishment and security staff shall be responsible to verify legal age of patrons.

20. Prior to the issuance of a building permit, the permittee shall be required to enter into an agreement and receive final design approval by the Development Services Director for an artistic installation on the façade of the building. The art installation may include, but not be limited to a mural, decorative metal, and/or lighting feature to the satisfaction of the Development Services Director. The art installation shall be completed prior to the issuance of a Certificate of Occupancy of final building permit sign-off, whichever comes first.

21. All promotional and/or permanent signage for the establishment shall be required to obtain a sign permit by Planning and Building Divisions. The

proposed signs shall comply with Chapter 10, Article 7 (Sign Ordinance) of the Hayward Municipal Code.

22. The permittee shall ensure compliance with all local, County, State, and Federal laws for the cocktail bar and lounge with food service and cabaret entertainment. The permitted shall maintain compliance with the City's Zoning Ordinance, Alcoholic Beverage Outlet Ordinance, Cabaret and Dances Ordinances, and the Hayward Municipal Code, as applicable.

23. All trash, recyclables, and compostable items shall be maintained and disposed of in proper enclosures and/or container facilities on private property and shall not obstruct nor impede on any ingress/egress along the rear alley of the establishment. Facilities shall be lockable and secured. Enclosures shall be constructed per Public Works Department - Utilities and Environmental Services standards, if needed.

POLICE DEPARTMENT

General Operations

24. The permittee shall be required to maintain a valid license for the sale of alcoholic beverages from the California Department of Alcoholic Beverage Control (ABC). Failure to maintain a valid license in good standing shall be grounds for the revocation of this use permit.

25. The exterior of the premises, including adjacent public sidewalks and the rear of the building shall be illuminated during all hours of darkness during, which the premises are open for business in a manner so persons standing in those areas are identifiable by law enforcement personnel to the satisfaction of the Police Chief.

26. The premises shall be kept in a clean, well-maintained condition. Paint and windows shall be kept clean and cracked or broken glass shall be replaced promptly. The licensee(s) shall be responsible for removing graffiti from the premises under the control of the licensee(s) within 48 hours. Public sidewalks adjacent to the establishment shall be cleaned daily. The management shall ensure that no trash or litter originating from the establishment is deposited on neighboring properties or the street.

27. One information sign with a maximum area of six square feet providing hours of operation, emergency contact information, etc. may be placed on the exterior and interior of the establishment. The storefront glass shall not be tinted or clouded to reduce transparency into the establishment.

28. The total occupancy for the establishment shall be limited 89 persons (including staff, patrons, and entertainment), or the maximum occupancy of the main level as established by the architect and approved by the City Building Official per the California Building Code. The occupancy shall be clearly posted and enforced by the establishment staff to not exceed the limit.

Police Department and Safety

29. The occurrence of more than two critical incidents during business hours of the establishment within a one-year period may constitute grounds for revocation of this permit.

a. “Critical Incident” is defined as any event in the sole discretion of the Police Chief that results in a crime of violence or large unruly gathering necessitating a police response of five or more police officers. Crimes of violence may include but are not limited to discharge of firearms, robbery, physical assault or assault with a deadly weapon.

b. “Premises or its adjoining grounds” will include within the structure of 990 B Street, the sidewalk where queuing for admission occurs, the area to the rear of the building, including any parking lots within 50 feet of the building.

Nothing in this condition restricts the authority of the City to seek revocation of this permit for a single incident of extreme severity.

30. If an undue demand is put on police resources, as determined by the Chief of Police, then such determination would be grounds for revocation of the Conditional Use Permit.

31. Commission of a criminal offense by the permittee or any employee of the permittee of which the permitted establishment was the location where the offense was committed or where there is a direct correlation between the permittee's establishment and the criminal offense; and such criminal offense is found to be detrimental to public health, safety, or general welfare shall be independent grounds for revocation of this permit.

32. The business operator shall be responsible to reimburse the City Police Department for calls for service in response to events that are determined to be a demand on police resources as determined by the Chief of Police. Failure to pay costs within 30 days of billing for the Hayward Police Department response to the incident may constitute grounds for revocation of this use permit.

33. All employees and the permittee of the establishment shall work collaboratively with the Hayward Police Department, with the goal of maintaining a safe, secure facility. The permittee and employees will call the Hayward Police Department as needed to work with intoxicated, uncooperative, or disruptive patrons. The Facility Security Plan shall be implemented in response to disruptive incidents and patrons. If the permittee or employee of the facility, including security officers, are not able to resolve issues involving disruptive patrons they shall call the Hayward Police Department and request assistance. Failure to work collaboratively with the Hayward Police Department or to reasonably call for assistance, as needed, may result in revocation of this permit.

34. The permittee and the security staff shall be responsible for implementation of the security plan approved by the Hayward Police Chief and for the maintenance of the peace to ensure order on the property. The permittee shall take all necessary steps to ensure that permittee's patrons and visitors refrain from incidents of violence, intoxication, and/or loud or obnoxious behavior that adversely impact the safety and welfare of patrons in the facility and citizens in the surrounding area and the community.

35. The licensee/permittee shall maintain a fully operational digitally recorded CCTV Security system that covers all points of entry/exit, sales of food/beverages (cash registers), locations of cash/monies storage

(Safes/Manager's Office), and overall locations of where alcoholic beverages may be consumed within the property. This system must have remote access (via internet or wireless system) that has real-time viewing capabilities by the permittee/licensee and accessible to the Hayward Police Department. The recording capabilities must be that of a system that can maintain storage of recordings for a minimum of thirty (30) days and be provided to the any peace officer upon request. The applicant shall check the digital video surveillance system daily and keep a daily log to ensure that the digital video surveillance system and remote access is operable.

36. Every Thursday, Friday, Saturday, and Sundays from 8 p.m. until a half hour after closing, the permittee/licensee shall provide four (4) contract security guard. Uniformed contract security guard shall be licensed by the State of California and shall be employees of and acting under the direction of a Private Patrol operator duly licensed as such by the State of California. The hours and/or the required number of licensed uniformed security guards may be adjusted at the discretion of the Chief of Police. Said personnel shall carry his/her Guard Card on their person at all times and present it to any Peace Officer upon demand. Said personnel shall be clothed in such a manner as to be readily identifiable as security. No security guards shall be permitted to be armed with live firearms.

37. Interior illumination shall allow the unaided inspection of personal identification by members of the Hayward Police Department while inside premises.

38. No outside and/or promoter sponsored events are allowed on the premise.

39. The owner, manager, and employees shall make appropriate efforts to discourage loitering from the premises including calling the police to ask that they move loiters who refuse to leave. Persons hanging around the exterior of the establishment with no apparent business for more than ten minutes shall be asked to leave. Signage at the entrances and visible from the outside shall be posted that state "No Loitering." These signs shall be no less than 18" x24" and have 2-inch block lettering.

40. The exterior of the premises, including adjacent public sidewalks and all parking lots under the control of the licensee, shall be illuminated during all hours of darkness during, which the premises are open for business in a manner so persons standing in those areas are identifiable by law enforcement personnel. However, the position of such lighting shall not disturb the normal privacy and use of neighboring residences and are subject to approval by the City of Hayward.

41. Queuing for admission to the facility shall be formed along the Main Street side. Stanchions and rope shall be used to delineate the queue, if needed, and placement shall allow a four-foot sidewalk right-of-way clearance. No congregation of patrons shall be permitted at the rear of the building. Queues are to be limited to areas that do not impede the entrances to adjacent businesses.

Alcohol Sales Procedures

42. No minimum drink purchase or similar charge or minimum purchase shall be imposed on or required of customers entering the establishment.

43. No sales of pitchers or buckets of beer or alcoholic beverages shall be permitted. Bottle service shall be prohibited.

44. Snacks and light refreshments shall be available for purchase by patrons at all times. Examples may include, but not be limited to, water, pre-packaged goods including chips, popcorn, crackers, fruit, etc.

45. The sale and service of alcoholic beverage to patrons shall be discontinued no later than 15-minutes prior to the closure of the establishment.

46. The permittee and all employees engaged in the dispensing of alcoholic beverages shall attend the Department of Alcoholic Beverage Control's LEAD Training prior to opening of the bar. Any employee hired after this permit is approved shall attend such training within ninety (90) days of his/her date of hire. As proof of attending the Training, the Department of Alcoholic Beverage Control certificate of completion shall be submitted by the permittee for each employee upon completion of such training to the Hayward Police Department. The applicant may contact Detective Gabrielle Wright at the Hayward Police Department – Vice Unit at 510-293-7013 for further information. No employee or agent shall solicit or accept any alcoholic or non-alcoholic beverage from any customer while in the premises.

47. No employee, security staff, or agent shall solicit or accept any alcoholic beverage or non-alcoholic beverage from ay customer while in the premises.

48. Self-service of alcohol shall be prohibited, included refrigerated coolers or buckets of alcoholic beverages available, prior to the order from a customer.

49. The sale of alcoholic beverages for consumption OFF the premises shall be strictly prohibited. No alcoholic beverages shall be permitted to leave the premises.

Sounds and Entertainment

50. The permittee shall be required to obtain a valid cabaret license from the Hayward Police Department in accordance with Chapter 6, Article 2 of the Hayward Municipal Code. The license shall be obtained prior to any entertainment component such as dancing, live and/or amplified music, karaoke, etc. A security and safety plan shall be submitted for review and approval by the Police Department to ensure maintenance of peace and safety on the subject property and surrounding area. The revocation of the cabaret license may also be grounds for the revocation of this use permit.

51. If the event the business transfers ownership, the new owner shall be required to obtain a separate cabaret license with their supplemental security and safety plan from the Police Department with all submittal requirements listed in the Chapter 6, Article 2 of the Hayward Municipal Code.

52. The front doors(s)or any operable windows shall be kept closed at all times during times when amplified music or entertainment is occurring, except in

the cases of typical ingress and egress, or emergency situations. Deliveries during such times shall be prohibited. Front door(s) may not include a screen or ventilated security door.

53. Background music shall be permitted anytime. Background music may be live or recorded and shall not utilize a stage nor involve dancing, unless otherwise specified and permitted by the Police Department on the cabaret license.

54. At the applicant's expense, the permittee shall be required to soundproof the establishment with proper window treatment to comply with the City's Noise Ordinance. Noise generated by the establishment or its patrons shall not exceed ambient noise levels beyond the area under the control of the licensee.

55. Earplugs shall be made available to all employees.

56. There shall be no adult entertainment as defined by Section 10- 1.2735 of the Zoning Ordinance. Fashion or lingerie shows shall be prohibited.

57. Pursuant to Section 4-16-.20, it is unlawful for any person to manage, supervise, maintain, provide, produce, possess or use one (1) or multiple simulated gambling devices. Each individual act to manage, supervise, maintain, provide, produce, possess or use a simulated gambling device constitutes a separate violation of this section. Simulated gambling devices shall be prohibited.

58. No billiard tables are permitted with this use permit.

Pre-Operations

59. Not more than 25 percent of the store front windows shall be obstructed to allow a clear view into the establishment.

60. The rear entrance is not permitted to be used as an entrance or exit, except as an emergency exit only. An audible alarm shall be installed on the rear door and shall be armed during times when the rear door is an emergency exit. Also, a security staff member shall be stationed at such exit during cabaret or cabaret-related activities are occurring to ensure patrons do not use such rear entrance.

61. No mechanical equipment, solar collectors, television or satellite reception antennas may be placed on the roof unless it is adequately screened from view by the proposed roof structure. Prior to construction, documentation shall be provided that the roof mounted mechanical equipment is adequately screened.

62. Any work done in the right-of-way (sidewalk, street, partial street closure) requires an encroachment permit from the City.

BUILDING DIVISION

63. Applicant shall apply for all necessary building permits and/or all other related permits from the Building Division. All structures shall be constructed and installed in accordance with the California Building Code, Uniform Mechanical and Plumbing Code, National Electrical Code, and the California Fire Code as adopted by the City of Hayward.

64. Per the California Building Code and Fire Code, occupant load signage shall be installed conspicuously within of the establishment.

FIRE DEPARMENT

65. Duct smoke detectors that are installed within the HVAC system (AHU's and Smoke Dampers) shall meet the California Mechanical Code for installation and the California Fire Code. Such detectors shall be interconnected to the buildings' main fire alarm control panel and zoned separately (if applicable).

66. Commercial cooking equipment and ventilation hood and duct systems shall have fire protection systems installed per NFPA 96 Standards and other applicable NFPA Standards relative to the fire extinguishing system type. As per the California Fire Code – all new dry-chemical and wet-chemical extinguishing systems shall comply with UL300. Installation shall also conform to UL 300 requirements. Existing dry-chemical and wet-chemical extinguishing systems shall comply with UL300, no later than the second required servicing following the effective date of this section. Such protection shall be tied into the buildings' central station monitoring. (If applicable)

67. In conjunction with the automatic fire extinguishing system, the restaurant tenant space shall have an audible and visual horn/strobe device installed in a central location as approved by the Fire Department. The audible/visual alarm device shall be interconnected to the cooking equipment's fire extinguishing system and shall alert the occupants within the restaurant space upon any activation of the fire extinguishing system. System design and installation shall meet the California Fire Code (CFC) and NFPA 72 Standard in addition to meeting ADA installation requirements.

68. 2A:10BC type fire extinguishers are required throughout the building for every 75' of travel or every 3,000 square feet of space including dining and service areas. The kitchen area where the cooking equipment is located shall have a minimum 40BC type fire extinguisher or a Class K type fire extinguisher installed within 30' of the cooking equipment.

69. The building shall have an address installed on the front of the building having a minimum 6-inch number height on a contrasting background. The address numbers shall be clearly visible from the street.

70. The project will be classified as an 'A' occupancy (50 occupants or more and less than 300 occupants). The following requirements shall be applicable:

    a. As reflected on the approved plans, exit doors leading to the exterior shall have panic hardware installed.

b. Exit illumination signs shall be installed as per the California Building Code, including low-level exit signage.

c. As per the approved plans, aisle widths are in compliance with the California Building and Fire Codes for fixed seating and non-fixed seating.

d. Decorative materials shall be flame treated and a "Certificate of Flame Treatment" shall be presented to the fire department prior to certificate of occupancy.

e. Occupant load signs shall be installed in all dining areas with fixed and non-fixed seating, reflecting the seating capacity for each dining area. In addition, a total capacity shall be posted at the front door stating the maximum seated and standing occupant loads. The maximum capacity for this establishment shall not exceed be 89 persons.

f. An evacuation plan shall be posted in approved areas within the restaurant. Locations to be approved by the Fire Department.

g. The restaurant will be required to have an Annual Permit for Place of Assembly (2018). Permit shall be obtained prior to certificate of occupancy.

h. Fire and evacuation drill shall be conducted QUARTERLY by employees.

71. CO_2 Tank Permit – If a CO_2 tank is proposed for sodas/beers, the owner/vender is required to obtain a Hayward Fire Dept. permit to install liquid carbon dioxide (CO_2) tank. All liquid carbon dioxide tanks shall comply with NFPA 55 standards including, seismic restraints, pressure gauges, vent and pressure relief devices, and signage. For indoor CO_2 tank locations, a CO_2 detection system is required. This CO_2 detection system must can detect and notifying the building occupants of a gas release of CO_2 vapors in excess of 5,000 ppm. The CO_2 detection system must be installed, inspected, and approved by the Fire Department to receive a "Certificate of Occupancy".

72. Compressed gas cylinders (nitrogen) – must be chained and secured. When stored must have cylinder valve caps.

73. Obtain an annual Consolidated Permit from the Hayward Fire Department's Hazardous Materials office for compressed gas volumes greater than 200 cubic feet.

UTILITIES

74. Domestic: During the building permit submittal, indicate on the floor plans and/or plumbing fixture table the type of water fixtures being proposed (e.g., utility sinks, 3-compartment sinks, dishwashers, toilets, etc.).

If the existing water services will both be used, clearly indicate which areas of the building would be served by which water meter.

If one of the existing water services cannot be reused, it must be abandoned by the City's Water Distribution Personnel at the applicant's/owner's expense. Abandonments are billed based on actual costs with a time-and-materials deposit due prior to the start of work. The final cost of the work will be actual

costs of work performed and equipment/materials used. If actual costs are less than the deposit amount, the owner/applicant will receive a refund in the amount of the unused deposit. If actual costs exceed the deposit amount, the owner/applicant will receive an invoice in the amount of the overage. The time-and-materials deposit due for the abandonment of the existing service would be $4,500

75. The applicant/developer shall install a Reduced Pressure Backflow Prevention Assembly on each domestic and irrigation water meter, per City Standard SD-202.

76. Water meters and services are to be located a minimum of two feet from top of driveway flare as per SD-213 thru SD-218.

77. Water mains and services, including the meters, must be located at least 10 feet horizontally from and one-foot vertically above any parallel pipeline conveying untreated sewage (including sanitary sewer laterals), and at least four feet from and on foot vertically above any parallel pipeline conveying storm drainage, per the current California Waterworks Standards, Title 22, Chapter 16, Section 64572. The minimum horizontal separation distances can be reduced by using higher grade (i.e., pressure) piping materials.

78. The property has two existing commercial sewer services, with a "grandfathered" capacity of 420 gallons per day of domestic strength wastewater discharge. Additional sewer system capacity may need to be purchased, at the rates in effect at the time of purchase and prior to discharge, to accommodate the volume and waste strength of wastewater discharge from the new bar/lounge. Sewer connection fees for non-residential connections are calculated based on the volume and strength of the wastewater discharge.

79. Additional information is needed to determine if the estimated discharge from the proposed business will be under the "grandfathered" capacity. Complete the Sewer Service Connection Fee application and include it in the building permit submittal. Include the number of employees and estimated number of customers to be served in a day.

80. The applicant/owner shall install a grease control device to control fat, oil, and grease discharge from all three-compartment sinks, food prep sinks, mop sinks, floor sinks, fryers, etc. At a minimum, grease control devices shall have a flow rate of 20 gallons per minute and/or a grease retention capacity 40 pounds.

81. All sewer mains and appurtenances shall be constructed in accordance to the City's "Specifications for the Construction of Sewer Mains and Appurtenances (12" Diameter or Less)," latest revision at the time of permit approval.

82. Each sanitary sewer lateral shall have at least one cleanout and be constructed per SD-312.

SOLID WASTE & RECYCLING

83. Submit the Construction and Demolition Debris Recycling Statement at the time of your building permit. The applicant shall will only need to submit the top "applicant" half of the form during the building permit. The bottom half of the form should be completed upon completion of the project to receive final

building inspection approval. The form can be located online at http://www.hayward-ca.gov/services/city-services/construction-and-demolition-debris-disposal.

84. Per City Ordinance, all businesses are required to arrange for separate collection of recyclables. In addition, food related businesses are required to separately collect organics (compostable materials). For more information, please visit http://www.recyclingrulesac.org/city/city-of-hayward/. Please see Section 2 of attached for capacity needs.

990 Lounge Additions and edits

Page 5 - Licenses - Cabaret license days and times

Page 5 - Licenses - Addition of Health Dept. Foodservice
Page 5 - Amenities - Addition of food program
Page 7–9 - Menu edits

Page 27 - floor plan edit (addition of kitchen)

Page 39 - Kitchen equipment specs

Business Plan

990 B. Street Hayward, CA 94541

990LOUNGE

990LOUNGE

CONTENTS

To: City of Hayward
Planning Department
Marcus Martinez, Assistant Planner

From: Vic Gill & Jay Baltazar
VGJB Inc.

RE: Proposed Business for 990 B Street, Hayward, CA

VGJB Inc. proposes to establish a new business in the City of Hayward, California that specializes in hosting curated events in an upscale ultra-lounge setting. We are aiming to transform the corner suite of 990 B Street into a luxurious bar and lounge containing live music, various beverages & cocktails, and communal space for networking and socializing.

This application seeks approval for a Conditional Use Permit to allow the sale of beer, wine, and distilled spirits for on-site consumption. The following information outlines a description of the business, including operations, logistics, and proposed floor plan.

Thank you in advance for considering our proposal, and we hope to contribute to the network of small businesses that exist in Hayward. We'll be happy to provide further information on request.

Sincerely,

Vic Gill & Jay Baltazar
VGJB Inc.

The 990 Lounge
990 B Street, Hayward, CA

EXECUTIVE SUMMARY

Opportunity

There are a lack of options for people in the City of Hayward to engage in nightlife and entertainment when compared to cities such as Oakland, San Francisco, and San Jose. This results in residents and visitors traveling out of Hayward, which leads to a lost in revenue for the City. The area containing B Street in Hayward offers many opportunities to create a vibrant destination for dining, retail, and entertainment, but due to the amount of vacant spaces it falls short.

Solution

VGJB Networks is proposing to open a high-end bar and lounge in the city of Hayward to fill the need for upscale entertainment, to provide more options for consumers, and to add to the cultural vibrancy of the City.

Operations & Logistics

The 990 Lounge is committed to complying with local authorities and law enforcement to make sure we are operating a safe and legal establishment. Along with a great experience, the safety and security of our guests is our top priority. Since this would be a bar and lounge, proper guidelines will be in place to ensure that our guests are of legal age before entering.

No persons under the age of 21 will be allowed to enter the premises. Security and staff will check legal identification cards/licenses before serving alcohol. From 9pm–1:30am security will mark guests hands with a wristband or stamp to signify that guests are of legal age for alcohol consumption.

Amplified music will be played through an in-house sound system for guests to enjoy. Acoustic treatments to the space will be used to make sure that the sound does not disrupt, bother, or interfere neighboring businesses or residential areas.

The following bullet points outline additional information about operations and logistics.

Licenses Needed for Operation

- Hayward Business License
- State Board of Equalization Seller's Permit
- Conditional Use Permit
- Health Department Foodservice License
- Alcoholic Beverage Control (ABC) License
- Cabaret License for DJ and Live Music (Thurs.–Sun. from 9pm-1:30am)
- Anticipated "Open for Business" Date: February 1, 2019

990 Lounge Staffing

- General Manager
- Security Manager
- 2-4 Bartenders*
- 2-4 Bar Backs/Bussers*
- 4-6 Licensed Security Guards*
- 2-4 Waiter/Waitress*
- Contracted DJ/Musician
- *Dependent on low or high volume of customers

Tenant Space

- Address: 990 B Street, Hayward, CA 94541
- Size: Approximately 2,363 square feet
- Seating: 50-75 People depending on configuration
- Max Occupancy: 89 People

Amenities

- Full Service Bar
- Serving cocktails, beer on tap, bottled beer, wine, distilled spirits
- Kitchen
- The 990 Lounge will offer a food menu for lunch and happy hour. Food will be served from the hours of Open–11pm, Mon.–Sun.

View Page 39 for kitchen equipment.

- 2 Bathrooms in compliance with ADA code
- Seating areas and walkways compliant with ADA code
- Dance Floor
- Designated VIP seating
- DJ/Live Band
- No entrance/cover fees
- Parking Lot located behind the building


990 LOUNGE
COCKTAILS
HAYWARD MULE - HANGAR 1 VODKA, GINGER BEER, FRESH LIME JUICE
OLD FASHION - WHISKEY, BITTERS, ORANGE
SAZERAC - BRANDY, FRESH LEMON JUICE
THE LAST WORD - GIN, FRESH LIME JUICE, MARASCHINO LIQUEUR AND GREEN CHARTREUSE
NEGRONI - GIN, CAMPARI, VERMOUTH
PEAR MOJITO - RUM, FRESH LIME JUICE, PEAR PUREE, MINT LEAVES, CLUB SODA
THE SIDECAR - HENNESSY, COINTREAU, FRESH LIME JUICE
MARGARITA - TEQUILA, COINTREAU, FRESH LIME JUICE
THE LOVE POTION - PROSECO, FRESH BERRIES
GIMLET - GIN, FRESH LIME JUICE
BEERS ON TAP
21ST AMENDMENT HELL OR HIGH WATERMELON
ALAMEDA'S IPA
LAUGHING MONK 3RD ST. PALE ALE
GREAT WHITE ALE
ASSORTED CRAFT BOTTLED BEERS
KOMBUCHA BEER
HOUSE MADE SANGRIA'S
BLOODY MARY BAR
MIMOSA'S
FOUNTAIN DRINKS
COKE, COKE ZERO, SPRITE

MENU SAMPLE


990LOUNGE
990LOUNGE
BITES
990 APPETIZER TOWER
PINCHITOS
GARLIC PARMESAN FRIES
MAPLE CANDIED BACON
MEDITERRANEAN CHARCUTERIE PLATE
FRESH SEASONAL FRUIT
SLICED CUCUMBER
SALAMI
PITA BREAD
HUMMUS
ASSORTED CHEESE
FLAT BREAD PIZZA
MARGHERITA
CHICKEN PESTO
GARLIC CHEESE PULL BREAD
SLIDERS
CHICKEN PESTO
BOURBON BACON
SNACKS
POPCORN, BAR MIX, KALE CHIPS, EDEMAME

MENU SAMPLE

990LOUNGE

BITES

990 APPETIZER TOWER

PINCHITOS

GARLIC PARMESAN FRIES

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Menu

990LOUNGE

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HOUSE MADE SANGRIA'S

BLOODY MARY BAR

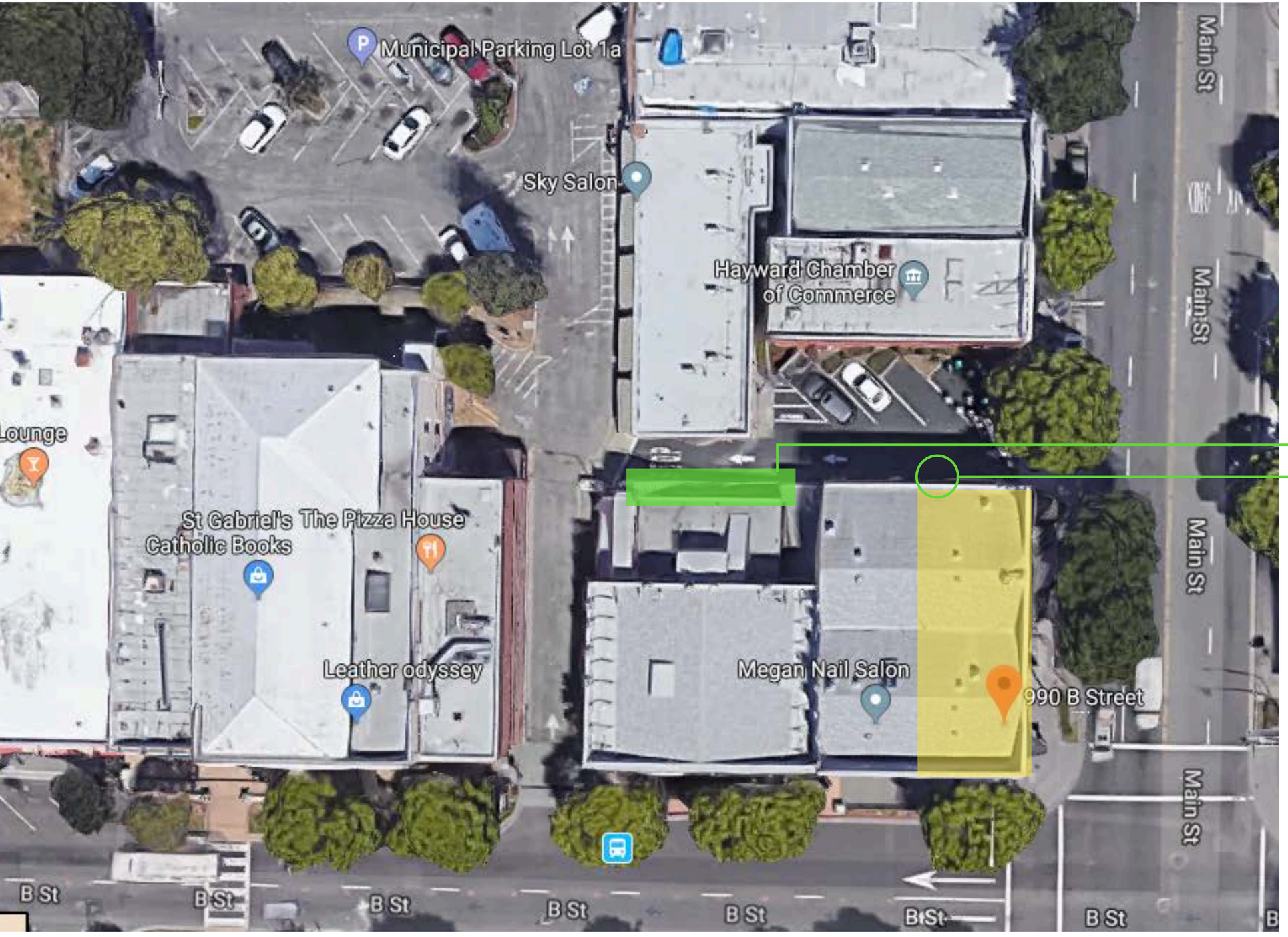
MIMOSA'S

FOUNTAIN DRINKS

COKE, COKE ZERO, SPRITE

Table tent

GARBAGE LOCATION



3 yard front loading dumpster

990 Lounge rear exit door

SECURITY PLAN

The Kingdom Group

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PPO#17083

PI Lic#27419

Introduction

The goal of The Kingdom Group, Inc. is to create security plans that not just meet the basic requirements, but that exceeds City/County/State requirements. We believe that our security plans will ensure that our client will be above the curve when it comes to security, public safety, and decreasing the risk of theft or diversion from their facility. It is of utmost importance to The Kingdom Group, Inc. that our client is operating their facility legally, safely and without disruption to their neighboring businesses and the community they operate in. We encourage our client to get involved as a business and with their employees participating in Community events and projects. We stress the importance of developing a great working relationship with their local Law Enforcement and Community Leaders.

Hours of Operation

The Proposed hours of operation are in full compliance with the initial request submitted to the city for approval of business hours being conducted.

Hours of operation

- Monday 12pm–1:30am
- Tuesday 12pm–1:30am
- Wednesday 12pm–1:30am
- Thursday 12pm–1:30am
- Friday 12pm–1:30am
- Saturday 12pm–1:30am
- Sunday 12pm–1:30am
- Happy Hour would run between the hours of 3pm–6pm

Outdoor Lighting:

1. Exterior lighting shall be white light using LED lamps with full cutoff fixtures to limit glare and light trespass. Color temperature shall be between 2700K and 4100K with a color rendering index of 75 or better and a light loss factor of .95 or better.

2. Broken or damaged exterior lighting shall be repaired or replaced within 48 hours of being noted.

Security Guards/Agents & Security Manager:

Kingdom Group Protective Services will be providing management oversight and licensed security personnel to ensure the security and safety of both the bar venue and its patrons. TKG is a professional and experienced security firm fully licensed and insured PPO, which allows them to hire both unarmed and armed agents in the State of California, they are also a licensed Private Investigative Company, which allows them to conduct all investigations in the State of California

Design Aspects to Reduce Security Risks:

Every business has security threats. Considering crime prevention practices, both in and around our business, ensures staff and public security. As laid out in this plan, All Lounge 990 employees will receive training to help deter and prevent security threats. The following design aspects within the lounge will aid in identifying, preventing and dealing with security and possible diversion risks:

- Assure visibility without too many obstructions.
- Have a secured safe with a Conex box storage with DVR & Bolt down safe to store cash and high value assets.
- Have a secure refuge area for employees in the case of a violent incident.
- Visible interior and exterior security cameras to deter individuals, while recording suspicious activity and/or incidents.
- Panic buttons that management and employees can easily access to use in the case of an incident and/or emergency.
- Alarms on all entry and exit points, and the secure storage room for excess alcohol not being used behind the bar.
- Medical emergency equipment easily accessible and visibly marked.

Section 2: Electronic Security Systems:

Overview:
Security is the highest priority as we develop and operate 990 Lounge, all electronic systems will be developed, and built upon, with input from various professionals as the process moves forward. The proposed elements will not only deter any internal or external theft and/or diversion, but also expediently advise our security of any potential burglary and/or robbery attempts. They will also work to ensure any potential suspects can be brought to justice following any such attempts and/or incidents.

Lounge 990 has consulted with a third-party firm for the basic development of the various aspects of this system. This security plan includes a complete package of CCTV video surveillance, motion sensitive burglar alarms, door and window contact alarms, monitored entry, interior, and exterior activity, and fire alarm. All systems will incorporate redundancy in the case of power outages, cord cutting, or any other potential external influence which would normally cause such systems inoperable. These include battery backups for internet servers and security systems, and multiple data storage routes. Lounge 990 will also utilize a secure cloud based back up system. Cloud based servers will be used to back up data in the instance the DVR is damaged and allow for remote viewing by security personnel, law enforcement and management.

Third Party Monitoring:
This system will be monitored 24 hours a day, seven days a week, by a third-party alarm-monitoring firm. This firm will monitor alarm activations for fire, robbery and burglar-attempted entry. The third-party monitoring will also have an additional backup of all data pertaining to the security system.

Access Controls:
990 Lounge will use best business practices as it relates to installing proper locks and breakaway bars for emergencies and to secure the lounge during off hours.

Video Surveillance:
Cameras will be directed to:

- Collect visual records of entry and exit of employees and patrons and cash transaction areas in front and behind the serving area.
- Identify any suspicious activity both in and outside the facility.
- Assure proper cash and product handling, as well has record keeping practices.
- Ensure a strong deterrent factor.

The surveillance system will additionally be able to identify after-the-fact. Many video surveillance systems cannot truly identify individuals after an attempted or successful burglary, robbery, or suspicious person incident, due to low quality resolution or ineffective density. Using high density combined with high definition resolution the video surveillance system will be able to make positive identification in such situations.

Surveillance will cover all critical areas of the lounge, as it directly relates to the operations of the lounge and activities. Lounge 990 will assure all surveillance data is secure. The power to the surveillance cameras and DVR(s) will have a battery and/or generator backup able to provide 72 hours of additional power in the case of an accidental or intentional power failure. All surveillance records will be maintained for at least 30 days. Cloud based servers will be used to back up data in the instance the DVR is damaged and allow for remote viewing by security personnel and management. The DVR and backup unit will be in the Secure Storage Room, in a two-hour rated locking fire safe container, preventing both theft and accidental destruction in the case of fire or another emergency.

Motion Sensors:
Electronic alarm system will include the installation of motion sensors per the awarded contractor and monitoring company. These sensors will detect any movement in specific areas of the facility, which from closing to opening the next day. These devices ensure that if an intruder manages to get into the lounge through a breached entry, such as a hole cut through a wall, the intruder will still be immediately detected.

Motion sensors will be wired to the remote backup systems. If power is turned off to main facility, motion sensors will continue to operate and sound the alarm in the instance of an intrusion.

Window and Door Monitoring Devices:
All operable windows and doors shall be protected by magnetic contacts and vibration sensing devices. Magnetic contacts trigger the alarm whenever the sensor detects a window or door has been opened. Vibration sensors trigger the alarm system in the event the sensor detects a significant vibration, such as the action of attempting to break and/or open a window or kick a door. These alarms are especially effective, as they can identify attempted intrusion before the facility has been compromised.

Security Maintenance, Audit, and Tests:
A complete security audit shall be carried out on a quarterly basis. The security audits will chick all the policies and procedures and check to make sure all protocol is being followed by all staff.

Included in the quarterly security audit will be a complete test of security systems. The security system test will include the following actions:

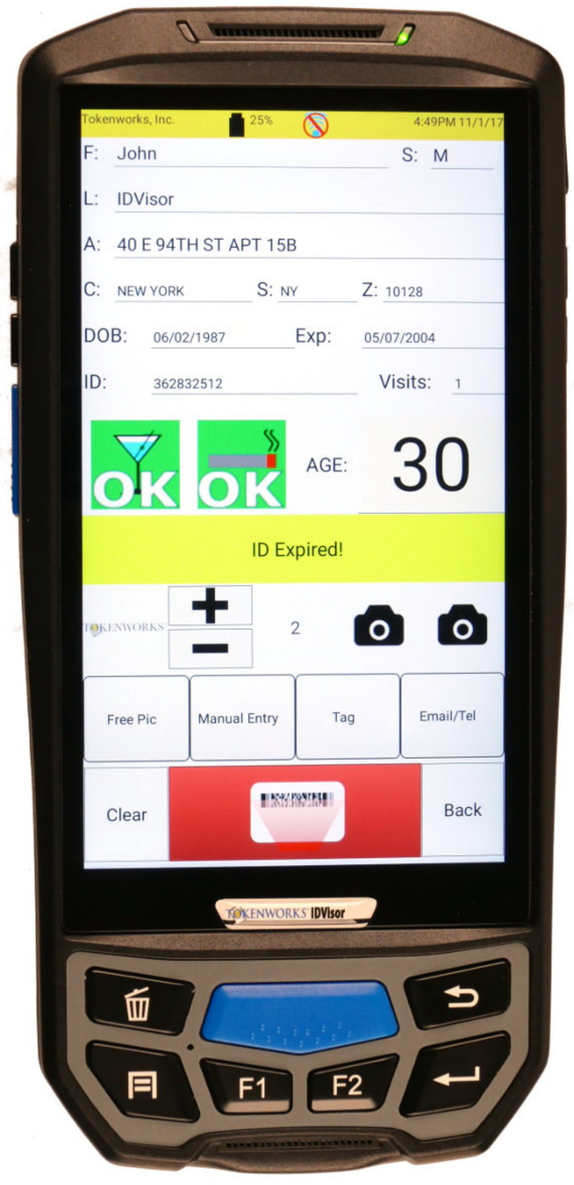
- Testing overall system integrity
- Ensuring system is communicating correctly with monitoring station.
- Checking integrity of back up systems to ensure sufficient charge rate in case of power failure.
- Checking to ensure all sirens, cameras and motion sensors are working correctly.
- Evaluate placement of cameras and motion sensors.
- Ensure panic buttons and internal communications work properly.

As part of the quarterly security audit, the audit will gather information relevant to our security program, including:

- Review of any incidents at facility.
- Evaluation of policies and procedures.
- Evaluation of employee's adhesion to protocol.
- Safety and security feedback filled out by all employees.
- Group discussions to expand on raised issues.

The information gained during the audits will be used to put together a comprehensive report on the effectiveness of our security program. That report shall also contain a plan on how overall security can be improved.

Section 3: State Legal Compliance:
Most importantly, no persons shall be allowed in the lounge unless they show proper and valid identification for proof of age to be at least 21 years or older. To enhance and enforce the accuracy of age verification will be a two-part process. When security agents are on site for special events and selected operating business hours we will be using the IDvisor Smart Plus. This device is 100% accurate and will determine if the ID is valid and presents the user with immediate verification of the persons age. When security is not present this device will be assigned to the bar keep who will validate all persons requesting alcoholic beverages.



Secure Storage Room:
All alcohol that is not for use immediately behind the designated pouring areas will be kept in a secured storage Room. All large amounts of cash will also be secured in a safe in the secure storage room. The only employees with access to the Secure Storage Room shall be the Manager and/or Assistant Manager. No other employee or persons shall have access to the Secure Storage Room, without management authorization and admittance, to limit the possibility of internal theft or diversion.

The Secure Storage Room shall be secured by video surveillance camera's covering every possible angle of the Secure Storage Room. Additionally, adequate motion sensitive burglar alarms shall be placed in the room to assure any movement within the room triggers the alarm once it has been activated during the nightly security closing procedures. The alarm and video surveillance can be monitored remotely, and a signal alarm will alert management and security if the alarm is activated.

Security will stay until the last employee in building is ready to leave. Security personnel will be responsible for assuring the facility is secure for the night.

Security staff will perform the following security checks:

- Walk perimeter to check lighting and cameras for obstruction and operation.
- Double-check all locking doors, cabinets, Secure Storage Room, and safe to ensure they are secure.
- Turn off appropriate interior lighting.
- Check camera lines of sight for obstruction and operation.
- Inspect facility for possible security risks.
- Perform security bag/coat/container/etc. checks.
- Supervise any required maintenance/cleaning staff.
- Activate burglar alarm.
- Double check doors from outside.

Money Handling and Limited Cash Operation:
To reduce the risks of theft or robbery, associated with the cash operation, Lounge 990 will train their staff in the following policies and procedures:

- Cash is to be kept out of view of general staff and public as much as possible.
- The handling of cash will be limited to designated areas of the lounge area.
- All such areas will be under obvious video surveillance.
- The manager will ensure that all money will be placed in the safe as soon as reasonably possible.
- Training will directly address each activity in the operation of the facility that deals with the handling of cash (ex: removing and/or accepting cash for business transactions, taking or removing cash from the safe by managers, etc.)
- Identifying counterfeit currency and the proper reporting of such transactions.
- Specific training for employees to maintain theft and robbery protocol with ongoing supervision by manager.
- Include consequential oversight for failure to comply with security protocols.
- Require employee feedback and input of suspicious activity in or around the facility.

Theft:

Prevention:

Prevention of theft is the most cost effective and safest way to deal with threats of theft. All employees will be trained to carry out the following policies and procedures to:

Identify and report suspicious activity by staff, patrons or vendors, or persons outside the facility.

- Nervousness
- Wandering
- Attempting to stay in part of the lounge that is difficult to see or provides an opportunity for theft (ex.: such as the restroom, areas of the furthest angle from video surveillance, etc.)
- Darting eyes, looking around frequently.
- Avoiding eye contact

Be Proactive by:

- Greeting and acknowledging persons you come in contact with.
- Being friendly and polite to staff, security, clients, visitors.
- Asking if someone needs help if acting suspiciously
- Keeping the lounge clean
- Incorporating third party violence prevention training for all staff and security.

If a person is suspected of Theft

- Do not do anything that a suspect could consider "threatening." Safety to staff and the public is more important than loss.
- Do not physically try to stop the suspect.
- Do not lock in a suspect or prevent them from leaving.
- Approach a suspect in a calm manner and ask if they need your help with something.
- Stay out of reach of a suspect.
- If staff member feels frightened or uneasy, report any and all-suspicious activity to security.
- Call Law Enforcement and report activity to security if illegal activity or threat of violence is obvious or imminent.

If Theft Has Occurred

Intervention or other attempts to stop a theft can escalate a situation from being one of property loss to a more dangerous physical altercation. The following polices must be followed to keep employees safe while letting Law Enforcement pursue the suspect.

- Do not pursue the suspect.
- Call security immediately.
- Security can notify Law Enforcement and prepare surveillance video, if theft occurred inside or directly around the facility.
- Don't make accusations.
- Do not trap a suspect, feeling trapped causes panic and erratic behavior.
- Keep your distance from a suspect.
- Make mental notes of hair and eye color, clothes, distinguishable markings such as scars, marks, tattoos, piercings, vehicle make, model, and license plate number, etc.
- Give suspect a chance to reconsider the theft and its consequences. Do not accuse but do confront the suspect and give them the benefit of the doubt. Ask questions like, "would you like to return the property, etc."

Once Suspect Has Left:

Once there is no fear of harm from exciting a suspect and escalating the situation, take the following actions:

- Immediately write down any information regarding appearance, including, height, weight, hair style and color, skin color/nationality, notable features, such as scars, marks, tattoos, mannerisms, clothing and footwear while it is still fresh in your memory.
- Use video surveillance or eyewitnesses to identify make and model of any possible suspect vehicles.
- Have security call Law Enforcement immediately.
- If suspect is known, have all documents and/or information prepared for Law Enforcement.
- Fill out an incident report and prepare a copy for Law Enforcement.

Robbery:

Robberies present the greatest threat to the safety and security of employees making the lounge a difficult target will protect our employees, security, and patrons from possible violent situations and provide a safe work environment for our employees.

Employees will be trained in the following policies and procedures to help assure robberies do not happen, and if they do, our employees will be prepared to deal with the situation in the best way possible. Their directive is to comply with all demands and continue to stay calm.

Prevention:

Robbers thrive in chaos and disorder. A dress code for staff and security will be enforced. This will make employees and visitors feel more comfortable and potential robbers feel uncomfortable.

- Be friendly – Employees will be trained to make eye contact and give each other, security and visitors a friendly greeting.
- Stay Alert – Watch for people showing the same behavior as potential theft suspects.
- Engage Suspicious Persons - If someone is acting suspicious, ask the person if they need any help, making that person uncomfortable if they have bad intentions. Talking with them will also gain any info on accents, speech issues, etc.
- Act on Suspicious behavior – If someone continues to stand out after passive intervention, security will be notified and management will discuss whether Law Enforcement intervention is appropriate.
- Make Friends with Law Enforcement – Keep positive relations with Law Enforcement and encourage them to come by occasionally. When they do come by, be polite; offer a tour and coffee, etc.
- Cash Handling – Cash will be handled discreetly and large amounts of cash kept out of sight of general staff and the public. If asked about amounts of cash kept at facility by general staff, visitor, or member of the public, explain we do not keep large amounts of cash on hand.

During a Robbery Attempt:

- Play it Safe – Do not try to be a hero. Cooperate. Give up money and inventory. Do not resist. Safety of employees and the public is more important than loss of cash or inventory.
- Avoid Weapons – Even if you cannot see a weapon, assume there is one.
- Stay Calm - Observe as much as possible about the robber, but do not stare or try to aggravate.
- Do not Trap Robber – A person who feels trapped is more likely to panic and become violent and behave erratically.
- Ask Questions - If you do not understand what the robber is telling you to do, ask for clarification.
- Avoid Surprises – Keep hands in sight and don't make sudden moves.
- Inform Robber - If you have to reach for something, there is another employee around, or there is something that may make noise or otherwise startle the robber, let them know so they are not surprised.
- Keep it Brief – Give the robber what he/she wants as fast as possible so that the incident ends quickly.
- Keep it Smooth – Handle the situation as if it is a normal transaction.
- Wait to Activate Alarm – Do not chance activating silent alarm if robber might notice. Chances are another employee who is not in direct danger will activate the alarm. Activate alarm only when robber is gone and is no longer a threat.

When the Robber Has Left:

- Do not chase or follow – Safety is more important than loss of property or catching a criminal.
- Lock the facility – Operations must cease after an incident, inventory locked down, and employees and security will need time to calm down and speak with Law Enforcement.
- Notify security or Law Enforcement immediately – Law Enforcement will find and deal with criminals
- Ask Witnesses to Stay - Make them as comfortable as possible. If they do not, try to get contact information.
- Protect Crime Scene – Lock down facility. Do not allow anyone to touch anything where robber has been. Do not resume business until Law Enforcement are finished with investigation and give permission to resume business.
- Do Not Discuss – Do not talk about details of the robbery until Law Enforcement has taken statements.
- Fill out Incident report - Prepare copy for Law Enforcement.
- Fully cooperate with Law Enforcement from start to finish of their investigation.

Abusive Persons:
At times, individuals may act in obviously inappropriate ways. This can include anything from being demeaning, intimidating, or mildly offensive to physical and sexual harassment. If abusive conduct is experienced or noticed by an employee, it is important that the behavior is addressed immediately to prevent anyone from being offended by such behavior or the behavior escalating into violent behavior or becoming a systemic problem.

How to deal with abusive people:

- Tell the Person to Stop - The person may not realize their behavior is abusive, and not addressing the behavior may cause it to become a pattern.
- Tell the Person Why the Behavior is Unacceptable - The person may not understand until you explain to them how it makes you feel. If the person does not stop, then they are intentionally engaging in a behavior they know makes you feel uncomfortable or threatened.
- Obtain Security Staff - Security staff will ask the person to leave the area if they continue to act abusively.
- Report the Incident - Tell the manager or security so that those people who engage in abusive behavior can be put on a list of persons of concern, to keep a record should there be future incidents.
- Call for Law Enforcement - If you are threatened directly with harm, or abuse occurs, notify security or call police immediately.
- Call for Help - Do not be afraid to yell for help, if you feel you might be harmed.

Un-Welcome Persons:
Like any retail business, the lounge may face unwanted or unwelcome persons, such as loiterers or panhandlers, campers, etc. Due to having on-site security, these issues will be more directly and immediately addressed compared to other retail type establishments.

The following policies and procedures will be in place to expedite the removal of those persons and help assure unwanted persons are not attracted to the facility in an effort to ensure the safety of our neighboring businesses, public, employees, and security agents.

- Security and or management will ask loiterers, panhandlers, campers, etc. to leave.
- Signs will be posted both inside and outside the lounge prohibiting loitering.

Suspicious Persons:
Occasionally a person will come to and/or around the lounge that seems out of place. It may be a person's appearance, body language, behavior, or mannerisms that indicate a possible issue. The feelings may be sub-conscious, and make you feel uncomfortable. These persons could be in the area to case and obtain facility routine information, possibly to set up a robbery or other negative activity to the lounge or its employees. Employees are guided to listen to their instincts when identifying these people. If something doesn't feel right, it probably isn't.

When a suspicious person enters or is hanging around the lounge, management or security will assess the situation carefully.

The following policies and procedures in the instance of a suspicious person:

- Listen to your instincts - Remember that your safety is more important than the cash or inventory in the lounge.
- Contact Security, Management and or Law Enforcement - Describe the situation, the suspicious person, and how long they have been at or around the facility
- Make Verbal Contact - If someone has been at or around the lounge for a long time and they seem to be looking for something, if it can be done safely, ask whether they need help.
- Keep your Distance - stay at least an arm's length away.
- Keep Records - When the suspicious person has left, write a description in a log, so that other employees can watch out for this person. This will also help you recognize the person and/or vehicle if he/she returns.

Incident Management and Emergency Response:
However prepared, violent incidents and natural disasters may still occur. If these events happen, it is important to act quickly to minimize effects on the employees, public, the lounge, and to protect inventory from theft and/or diversion.

Management will provide support to employee victims of any violent incident or natural disaster, as well as report and investigate any such incidents, and revise prevention and security plans, policies, and procedures to prevent future incidents and improve preparedness.

Immediate Injuries:

- Serious Injuries - Call 911 immediately and notify of situation, apply appropriate first aid as feasible.
- Less Serious Injuries - Provide appropriate first aid and refer to doctor, consider 911.
- Contact with Blood or Bodily fluids – Make sure names of those people who have made contact with another person's blood are written down and have person's blood or fluids tested for communicable diseases.
- If any discrepancies, check video of incident time frame to discover where losses could have occurred.
- Check facility for any additional information, evidence, damage, etc., if appropriate.
- Resume normal operations only after discrepancies have been resolved and/or additional incidental theft has been reported if appropriate.
- Report any losses or theft in incident report and file incident report with Law Enforcement.

Critical Incident Intervention:

Critical Incidents are those incidents, which may have traumatic or long-term impact on an employee, be it physical, emotional, or psychological. In the event of such an incident, such as a robbery, natural disaster, or worse, Management will arrange for a Critical Incident Intervention as soon as possible. This intervention will help determine whether an employee needs trauma counseling, alleviate stress, and otherwise address the well-being of employees by a trained professional. The intervention will also encourage employees to talk about their responses and feelings concerning the incident and let them know there is someone to listen. When employees internalize, bury, or "wall-off" their reactions to such an event, it can be extremely harmful long term. Additionally, employees will be trained to watch other employees for symptoms of psychological and emotional trauma, such as employees:

- Acting or feeling anxious, moody, irritable, numb, or dazed
- Having trouble concentrating or making decisions
- Being afraid to go back to work or be near incident took place
- Not wanting to be alone
- Not wanting to be near other people
- Having flashbacks, nightmares, or disturbing memories
- Vomit more than a couple hours after the incident
- Experience uncontrolled, spontaneous crying or weeping
- Experience changes in appetite and sleeping patterns

Management and its employees will be extremely sensitive to these warning signs and symptoms. Violent incidents can seriously affect the well-being of employees and may put people at a greater risk of workplace accidents later. If any signs or symptoms get worse, Management will make sure their employees have professional help.

Reporting and Investigating the Incident:

All incidents will be reported to any agencies, which require such information be reported. All incidents will be reported to Law Enforcement immediately but will also be reported as a matter of practice to any other agencies, which might have interest in the incident, such as Worker's Compensation, Employee Development, etc., as necessary.

Management and its Security staff will also conduct an internal investigation of any significant incident to help identify:

- Who was involved
- Where and when the incident happened
- What happened, action by action and/or word by word, including as much detail as possible
- Cause of the incident
- Why did the incident happen
- Any conditions, acts, or procedures that contributed to the incident
- Ways which policies and procedures could be changed or expanded to prevent similar incidents
- How will future incidents be dealt with if they do occur
- Level of employee adhesion to protocol

During the course of the investigation, all employees involved will be interviewed. All, with the exception of victim employees, involved will document the incident from their perspective. Victim employee's statements of the event will be captured in the investigative report.

Once the investigation is complete, we will keep all documents and reports related to the incident and use any information to improve security planning and prevent incidents from happening. All internal documents will be made available to Law Enforcement, upon request.

To additionally aid in the prevention of any incidents from happening, the following procedures will be implemented post incident:

- Appoint Security Personnel to write a detailed summary report
- Gather suggestions from employees both involved and non-involved with the incident
- Determine if there are any other changes we can make to protect employees and prevent incident recurrence
- Update security and non-diversion protocol and implement changes. (For example, is there additional training necessary to help prevent the incident, deal with the incident as it happens, or handle post incident?)
- Assign Security personnel to implement changes and make sure new protocol is carried out by all employees
- All information will be offered to Law Enforcement to aid in any investigation and to gather feedback and suggestions regarding protocol changes

The Kingdom Group will be utilizing non-lethal weapons while operating inside of the client's facility. All weapons are approved by BSIS and the State of California. All security agents are trained and certificates of training and all other certified credentials would be kept on file on location.

SECURITY ADDENDUM

A. The establishment will purchase the world proven technology of the hand-held wands called “Garett Super Wand”. As this portable device is used by law enforcement agencies and has a well proven detection rate of up to 92%. Each security member to include all management, will be trained in the proper use of this detection device. Also, Security will pat down male patrons. Check the purses of female purses.

Any backpacks/ bags will not be permitted. This will be implemented during nightclub hours Thur- Sat 9pm-1am. Creating a safe & comfortable environment for our patrons is our highest priority, so in addition to any special venues which we will make it mandatory to utilize the Garett, each night at 9pm until close the security scanning will be implemented.
***Pease note that the security manager or owners may implement this protocol based on their discretion at any time of the day during normal business operating hours.

B. It will be both the job of the security door person and or management to have a door clicker that will be used each time a patron arrives and leaves the establishment during peak hours starting at 9pm.

- Security will have two hand counters. One to count patrons going in and one to count patrons going out. Take the difference from the two to get the capacity. Also we will periodically count the patrons inside to ensure accuracy.

C. All of the staff will be educated in both workplace violence and sexual harassment and will each receive a certificate of course completion. In addition, any patrons that become hostile towards themselves or others, we will immediately call 911 and request the appropriate response for the situation. Our security staff is highly trained and can provide a layer of risk mitigation should they need to put hands on to quickly deescalate a situation. All security staff are licensed with BSIS and will utilize the use of non-lethal weapons such as “Taser” all security staff are certified on the proper use of this non-lethal device.For overly intoxicated patrons

1. Stop serving the individual
2. Offer the customer water and some food.
3. Call a cab or another ride for the customer to get home.

D. To manage the number of patrons there will be no less than one security door person and no less that one responsible manager who will work together to monitor all patrons during business hours. During peak hours there will be a minimum of two security agents to ensure that all codes and conduct is being adhered too. Should an emergency occur where all patrons and staff must be evacuated it will be both the responsibility of the club staff in conjunction with the on-site security to provide good instruction as to where all patrons should be moved too.
To close down the club each night the security and management will work together during the last call announcement to politely notify patrons that they will need to leave and give them a 30min and 15min notification that the establishment will be closing for the night.

- Last call will be announced at 1:15 a.m. In house lights will go on at 1:30pm. Security will work their way from the rear of the bar and ask customers to move towards the front and exit the bar. Once outside security will ask customers to proceed to their vehicles.

E. Staff, security and general patrons will use the main doors adjacent to B St. for entry. The door adjacent to Main St will be used as the emergency exit.

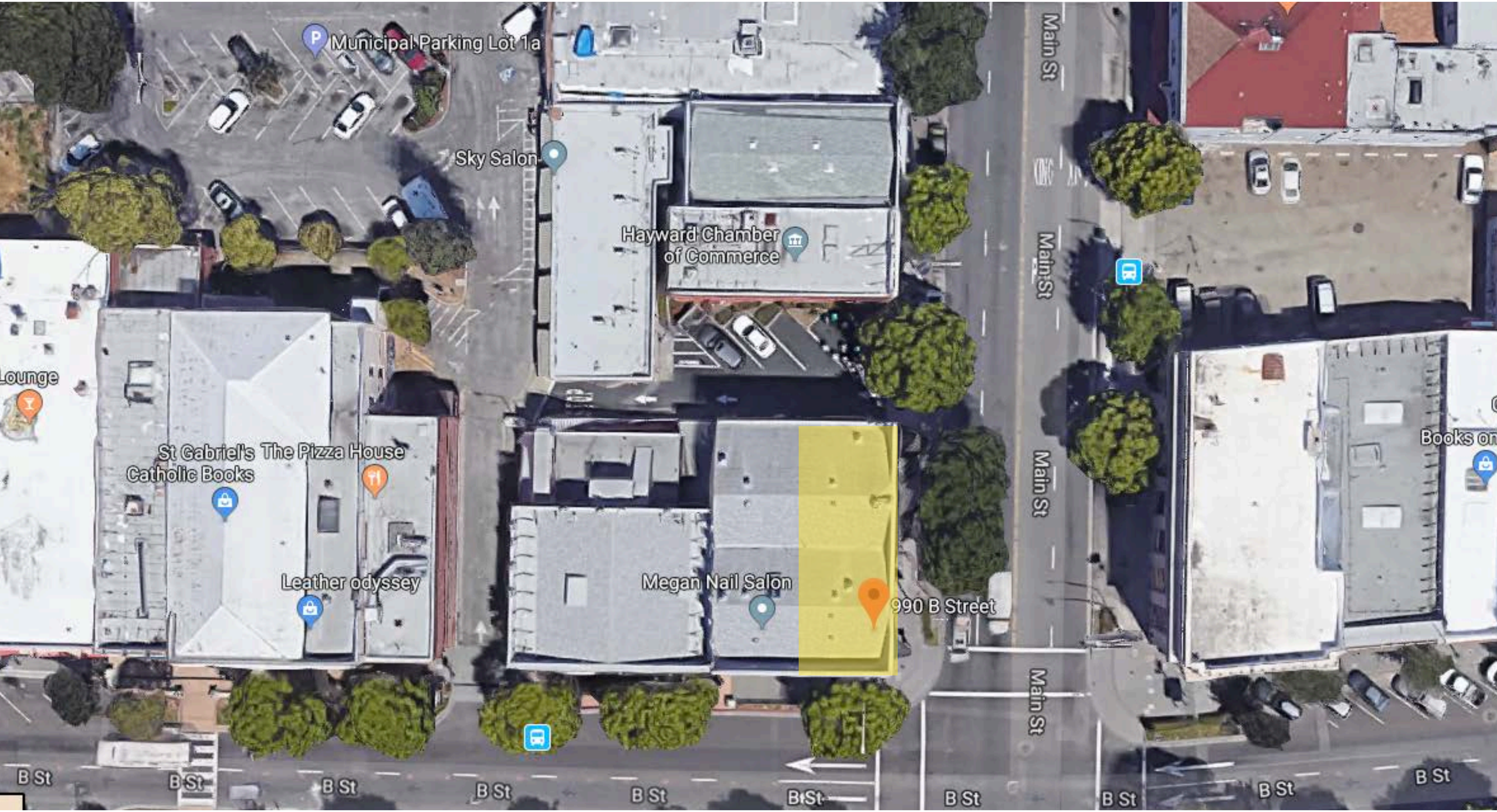
F.During the peak business hours starting around 9pm and every hour until close the security and or management will continue to provide foot patrols of above stated areas and will
report all concerns and emergencies to the Hayward Police Department.

- Security personnel will monitor the perimeter of the building throughout the night. They Walk the parking lot and alley at the end of the night to the customers have left.

F. During the peak business hours starting around 9pm and every hour until close the security and or management will continue to provide foot patrols of above stated areas and will report all concerns and emergencies to the Hayward Police Department.

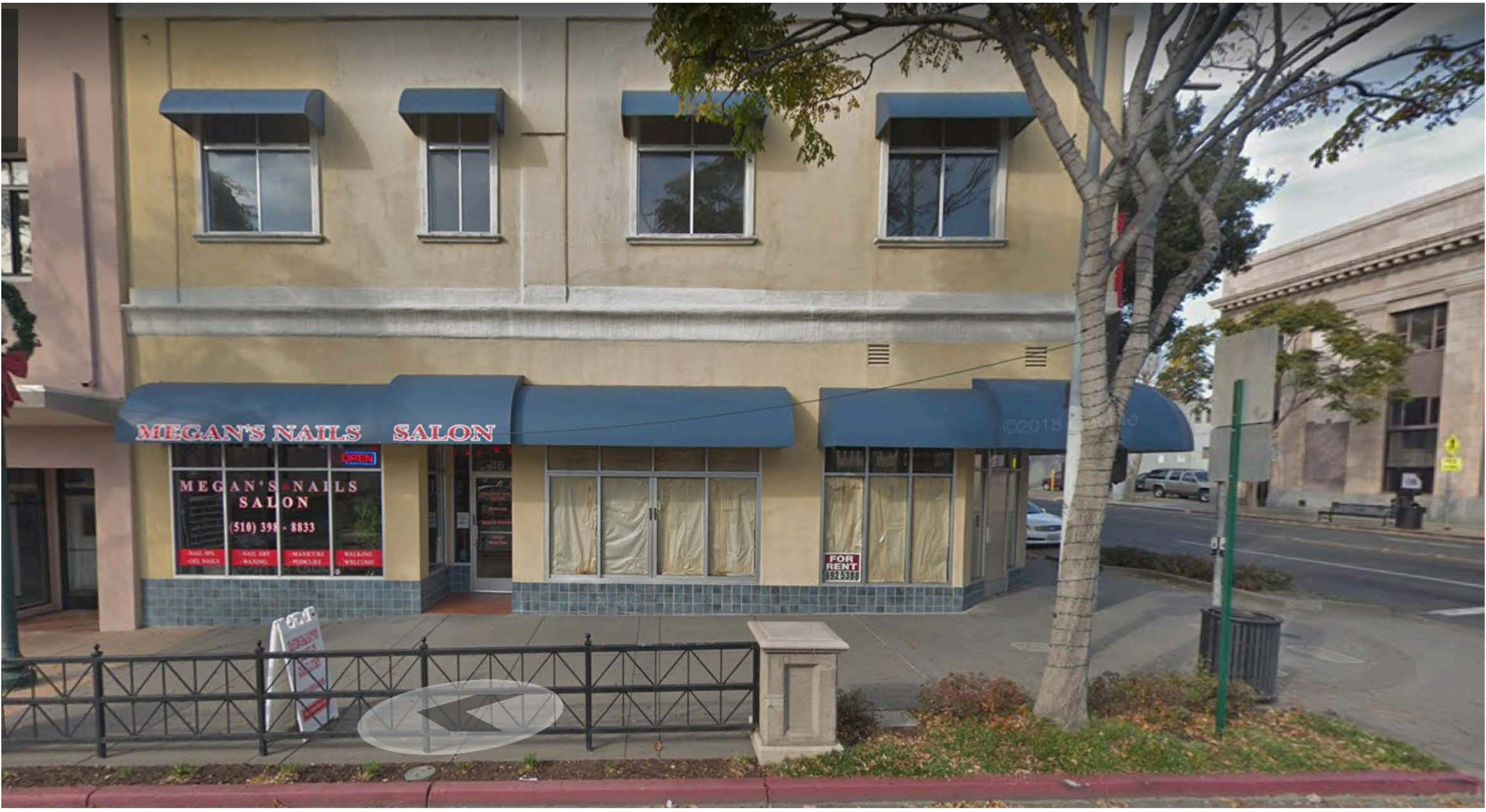
- Security personnel will monitor the perimeter of the building throughout the night. They walk the parking lot and alley at the end of the night to the customers have left.

AERIAL VIEW

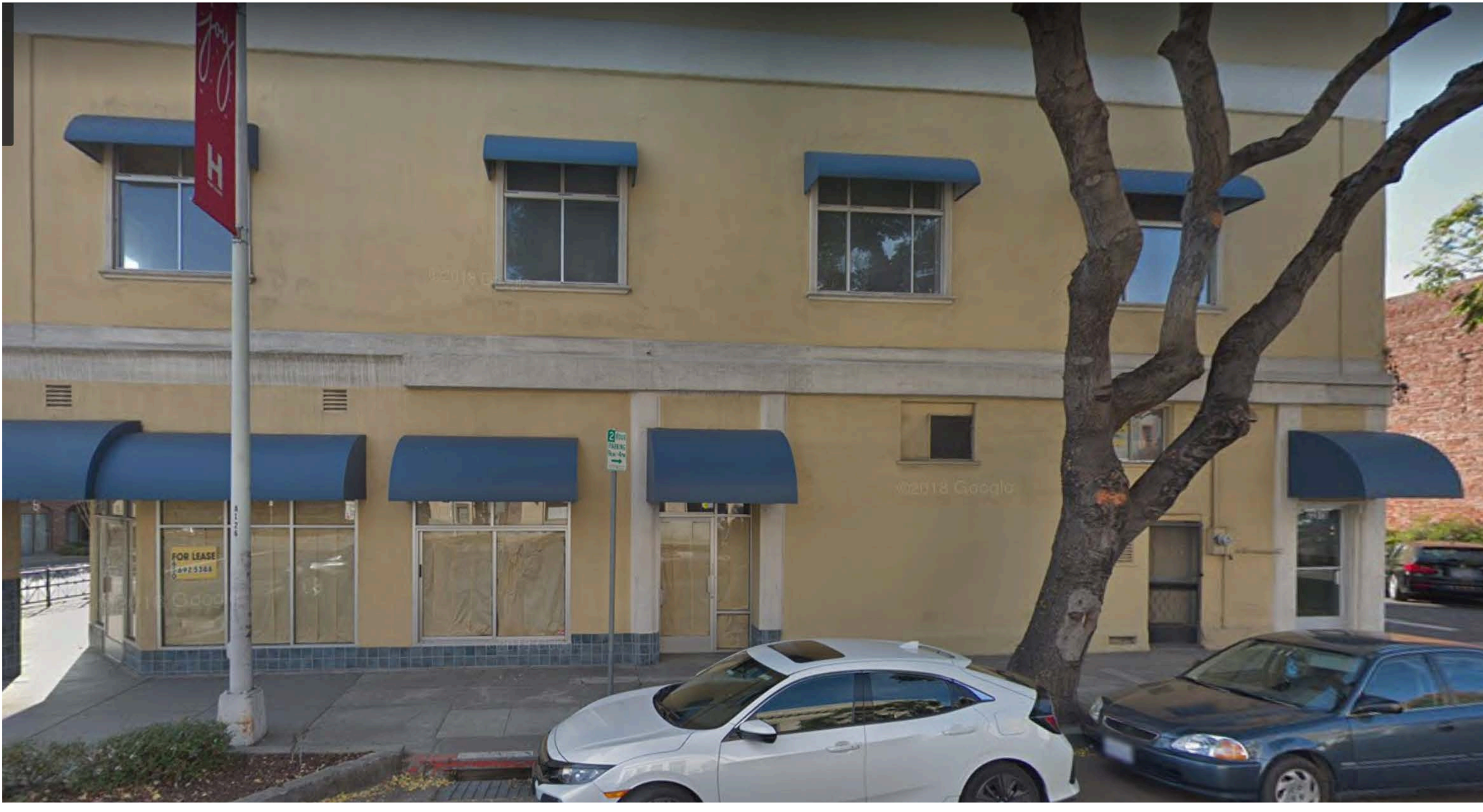

Municipal Parking Lot 1a
Sky Salon
Hayward Chamber of Commerce
Main St
Main St
Lounge
St Gabriel's Catholic Books
The Pizza House
Leather odyssey
Megan Nail Salon
990 B Street
Main St
Main St
Books on
B St
B St
B St
B St
B St
B St
B St
B St
B St

CORNER - B. STREET AND MAIN STREET INTERSECTION

B. STREET CURRENT FACADE

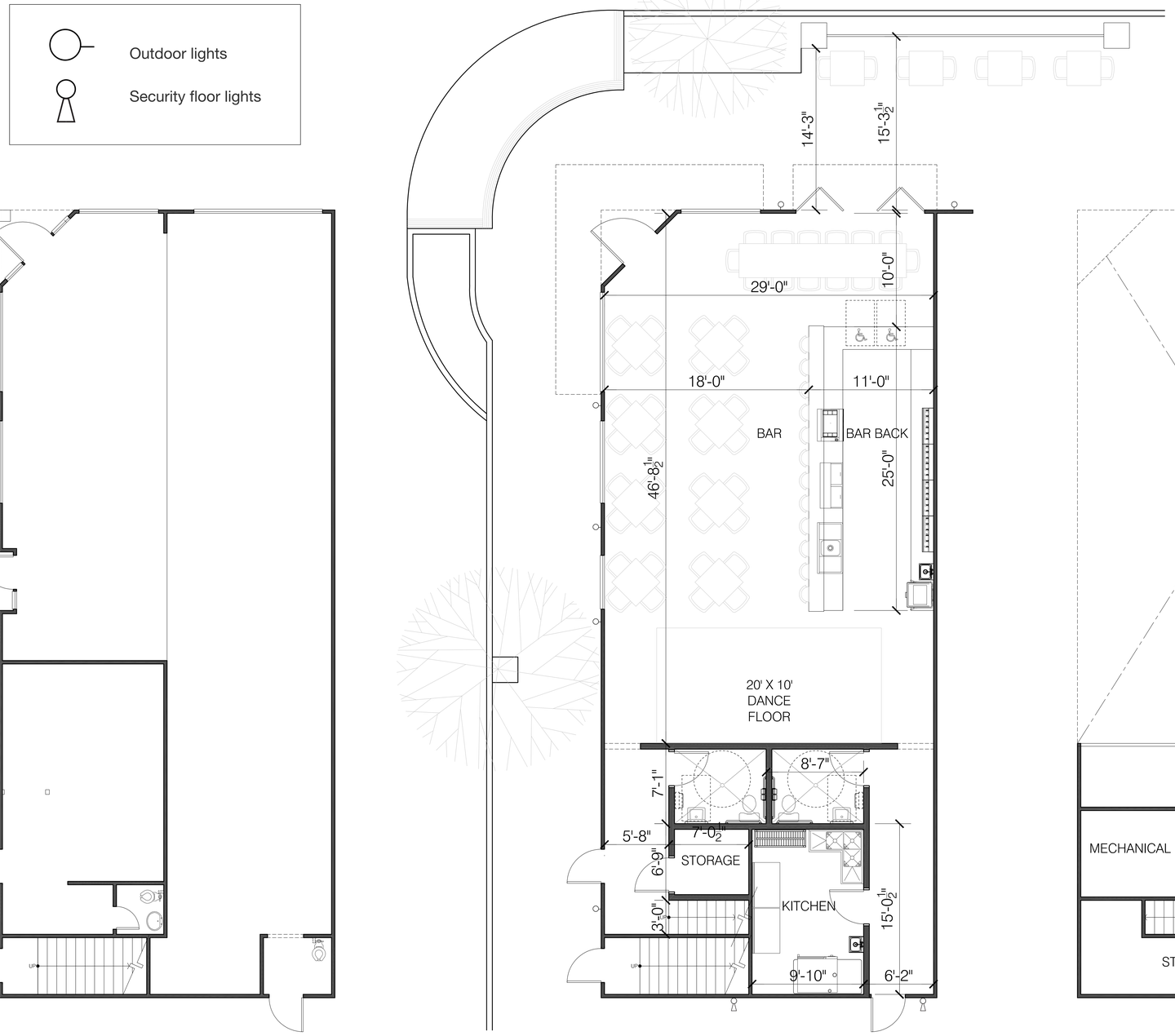


MAIN STREET CURRENT FACADE



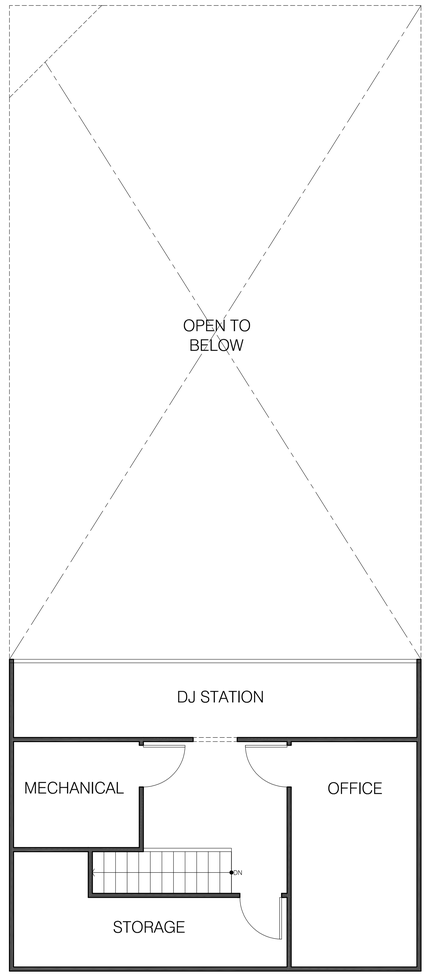
MAIN FLOOR PLAN

EXISTING



MAIN FLOOR PLAN

PROPOSED



LOFT FLOOR PLAN

PROPOSED

TOLBERT DESIGN
ARCHITECTS

297 COMMERCIAL STREET
SAN JOSE, CA 95112
PH: (650) 200-0663
JEREMIAH@TOLBERTDESIGNSARCHITECTS.COM

990 LOUNGE

990 B ST.
HAYWARD, CA 94541
APN: 428-0056-057-00

Revisions:

No.	Date	Revision

Sheet Description:

EXISTING & PROPOSED
FLOOR PLAN

Scale	3/16"=1'-0"
Drawn	JT
Checked	JT
Date	10-11-18
Project#	4020

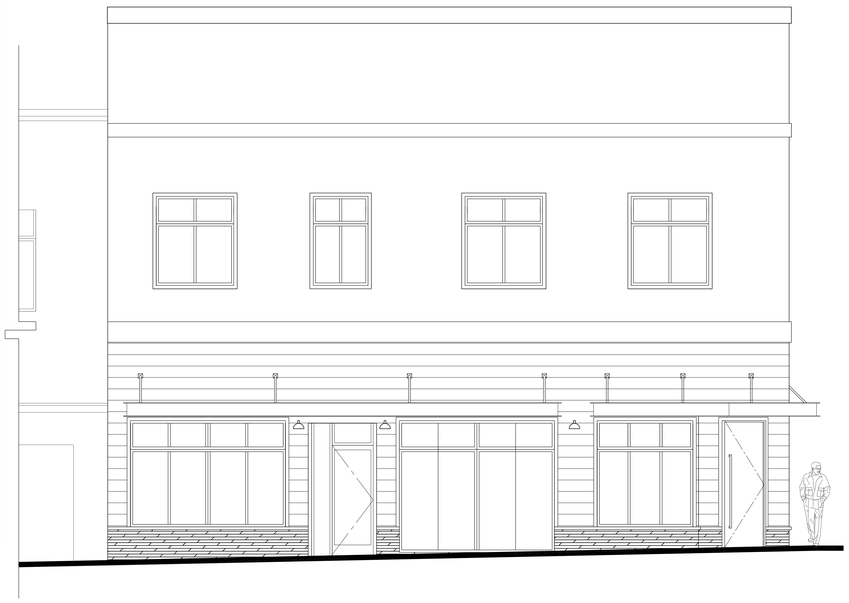
A.1

'B' STREET

EXISTING

MAIN STREET

EXISTING



'B' STREET

PROPOSED

MAIN STREET

PROPOSED

TOLBERT DESIGN
ARCHITECTS

297 COMMERCIAL STREET
SAN JOSE, CA 95112
PH: (650) 200-0663
JEREMIAH@TOLBERTDESIGNSARCHITECTS.COM

990 LOUNGE

990 B ST.
HAYWARD, CA 94541
APN: 428-0056-057-00

Revisions:

No.	Date	Revision

Sheet Description:

EXISTING & PROPOSED ELEVATIONS PLAN

Scale	1/4"=1'-0"
Drawn	JT
Checked	JT
Date	04-26-18
Project#	4020

A. 2

NOTES:

990 Lounge to coordinate with Hayward City Mural program for possible mural on building exterior.

All existing windows to be replaced.

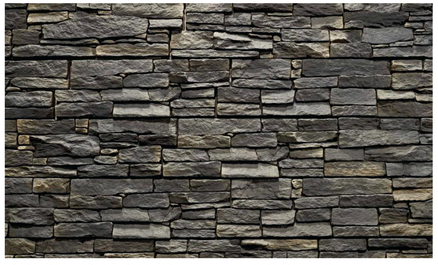
New windows are able to be opened and closed.

TWILIGHT GREY

BLACK EXTERIOR PAINT

BLACK METAL AWNING

IPE SIDING w/ANTI-GRAFFITI COATING



DRY STACKED STONE WAINSCOTING

'B' STREET

PROPOSED

NOTES:

990 Lounge to coordinate with Hayward City Mural program for possible mural on building exterior.
All existing windows to be replaced.
New windows are able to be opened and closed.

TWILIGHT GREY

BLACK EXTERIOR PAINT

BLACK METAL AWNING

IPE SIDING w/ANTI-GRAFFITI COATING

DRY STACKED STONE WAINSCOTING

MAIN STREET

PROPOSED


990LOUNGE

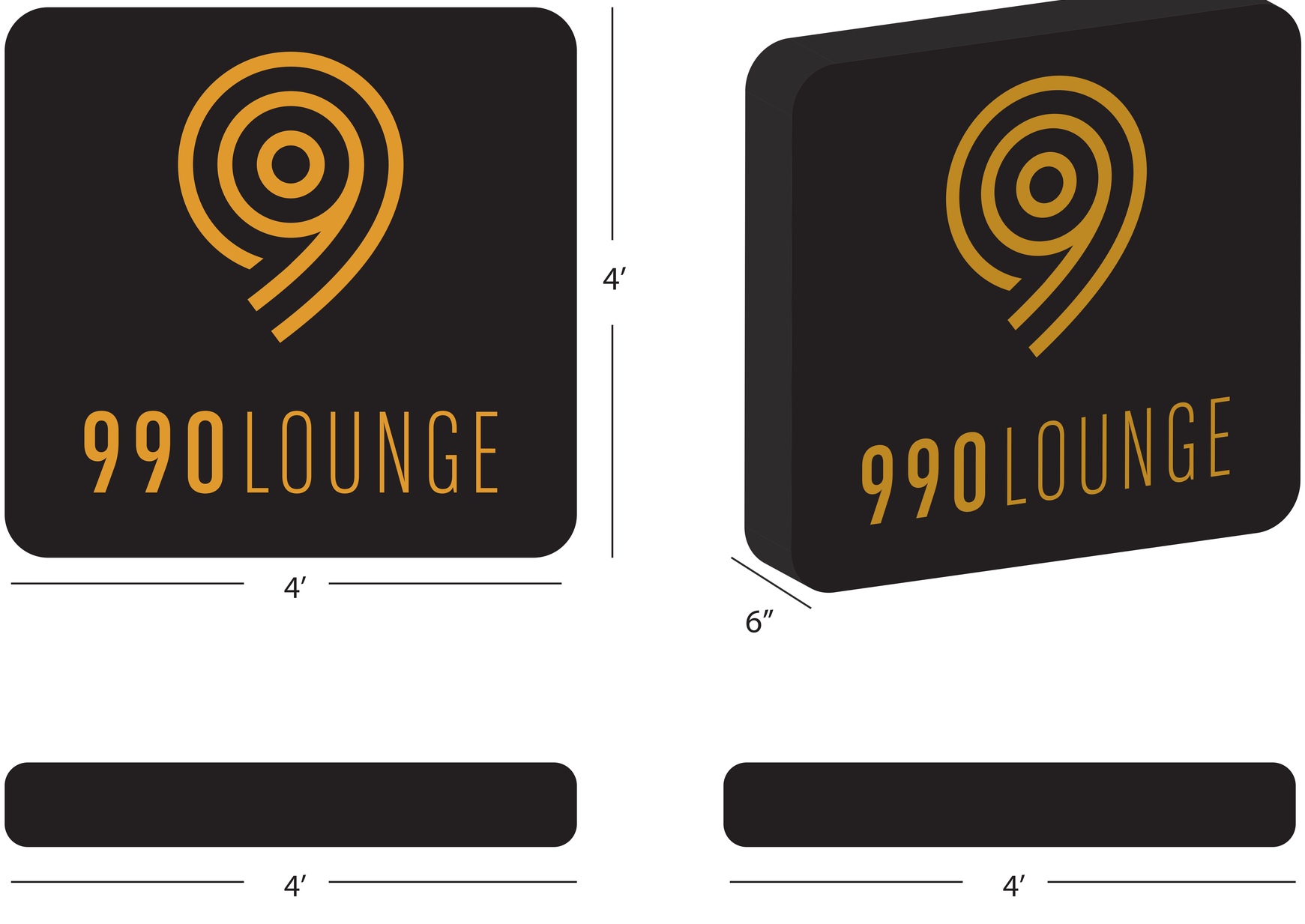
990LOUNGE

EXTERIOR/OUTDOOR SIGNAGE

Double-sided lit

Material: Metal frame, acrylic faces, interior lighting

Mount: above main entrance



EXTERIOR FINISHES

Lighting

Exterior security flood lights

Progress Lighting P5203-31
Placement - building rear, rear exits
150 watts/bulb

Exterior facade lights

Millenium R-Series RAS10-RGN15
Placement - building facade, main traffic areas

- Height: 9"
- Width: 10"
- Number of Lamps: 1
- Lamp Type: A Lamps
- Don't Exceed Per Lamp: 200W
- Listings: UL ,UL Wet

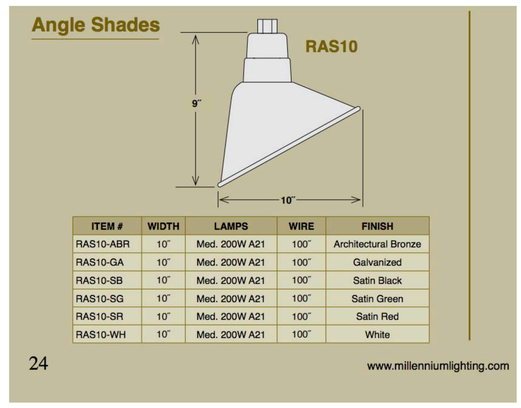
Par Lampholders

PROGRESS LIGHTING

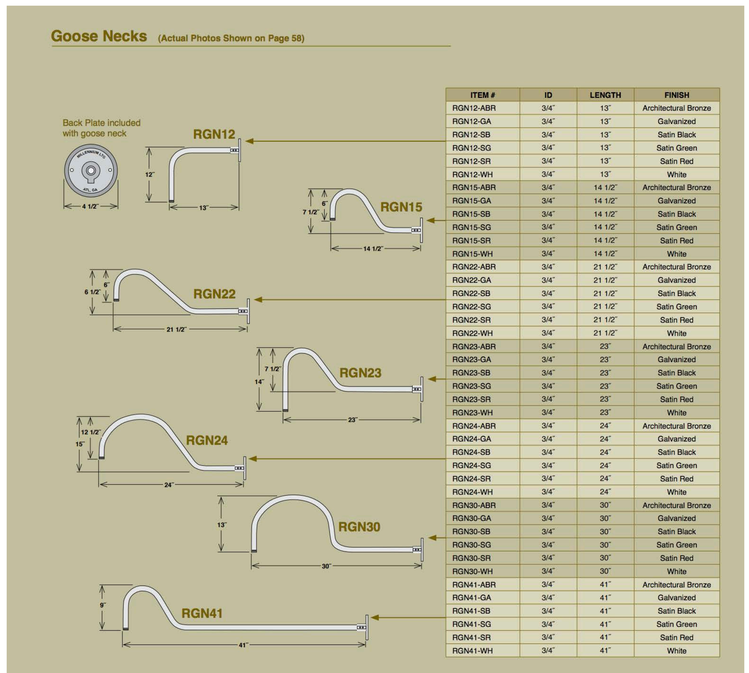
P5202-20 Bronze
P5202-31 Black
Single painted adjustable swivel floodlight. Aluminum construction. Locking adjustment.
Size: 5-7/8" dia., 9" height
Lamp: One PAR38, 150w max.

P5203-20 Bronze
P5203-30 White
P5203-31 Black
Two painted adjustable swivel floodlights with lamp shroud. Aluminum construction.
Size: 6-1/4" dia., 9" ht.
Lamps: Two PAR38, each 150w max.

P5207-30 White
Two painted adjustable swivel floodlights. Aluminum construction. Locking adjustment.
Size: 4-7/8" dia., 6-3/4" ht.
Lamps: Two PAR20, PAR30 or PAR38, each 150w max.



ITEM #	WIDTH	LAMPS	WIRE	FINISH
RAS10-ABR	10˝	Med. 200W A21	100˝	Architectural Bronze
RAS10-GA	10˝	Med. 200W A21	100˝	Galvanized
RAS10-SB	10˝	Med. 200W A21	100˝	Satin Black
RAS10-SG	10˝	Med. 200W A21	100˝	Satin Green
RAS10-SR	10˝	Med. 200W A21	100˝	Satin Red
RAS10-WH	10˝	Med. 200W A21	100˝	White



ITEM #	ID	LENGTH	FINISH
RGN12-ABR	3/4˝	13˝	Architectural Bronze
RGN12-GA	3/4˝	13˝	Galvanized
RGN12-SB	3/4˝	13˝	Satin Black
RGN12-SG	3/4˝	13˝	Satin Green
RGN12-SR	3/4˝	13˝	Satin Red
RGN12-WH	3/4˝	13˝	White
RGN15-ABR	3/4˝	14 1/2˝	Architectural Bronze
RGN15-GA	3/4˝	14 1/2˝	Galvanized
RGN15-SB	3/4˝	14 1/2˝	Satin Black
RGN15-SG	3/4˝	14 1/2˝	Satin Green
RGN15-SR	3/4˝	14 1/2˝	Satin Red
RGN15-WH	3/4˝	14 1/2˝	White
RGN22-ABR	3/4˝	21 1/2˝	Architectural Bronze
RGN22-GA	3/4˝	21 1/2˝	Galvanized
RGN22-SB	3/4˝	21 1/2˝	Satin Black
RGN22-SG	3/4˝	21 1/2˝	Satin Green
RGN22-SR	3/4˝	21 1/2˝	Satin Red
RGN22-WH	3/4˝	21 1/2˝	White
RGN23-ABR	3/4˝	23˝	Architectural Bronze
RGN23-GA	3/4˝	23˝	Galvanized
RGN23-SB	3/4˝	23˝	Satin Black
RGN23-SG	3/4˝	23˝	Satin Green
RGN23-SR	3/4˝	23˝	Satin Red
RGN23-WH	3/4˝	23˝	White
RGN24-ABR	3/4˝	24˝	Architectural Bronze
RGN24-GA	3/4˝	24˝	Galvanized
RGN24-SB	3/4˝	24˝	Satin Black
RGN24-SG	3/4˝	24˝	Satin Green
RGN24-SR	3/4˝	24˝	Satin Red
RGN24-WH	3/4˝	24˝	White
RGN30-ABR	3/4˝	30˝	Architectural Bronze
RGN30-GA	3/4˝	30˝	Galvanized
RGN30-SB	3/4˝	30˝	Satin Black
RGN30-SG	3/4˝	30˝	Satin Green
RGN30-SR	3/4˝	30˝	Satin Red
RGN30-WH	3/4˝	30˝	White
RGN41-ABR	3/4˝	41˝	Architectural Bronze
RGN41-GA	3/4˝	41˝	Galvanized
RGN41-SB	3/4˝	41˝	Satin Black
RGN41-SG	3/4˝	41˝	Satin Green
RGN41-SR	3/4˝	41˝	Satin Red
RGN41-WH	3/4˝	41˝	White

EXTERIOR FINISHES

Paint

SW 0054
Twilight Gray
Interior / Exterior

COORDINATING COLORS | SIMILAR COLORS | DETAILS

View All Historic Color Paint Colors →

R: 200 **G:** 191 **B:** 181 **Hex Value:** #c8bfb5 **LRV:** 53

Color Collections: Historic Interior Color Wall

Accent

SW 6991
Black Magic
Interior / Exterior
Locator Number: 251-C3

251

COORDINATING COLORS | SIMILAR COLORS | DETAILS

View All Neutral Paint Colors →

R: 50 **G:** 49 **B:** 50 **Hex Value:** #323132 **LRV:** 3

Color Collections: 2015 Unrestrained, Pottery Barn - Spring/Summer 2018, Softer Side, High Voltage

Metal Louvered Sunshade
Aluminum
Black

Vendor:
Acme Sunshades

IPE Siding
Shiplap siding 1x6

Face view

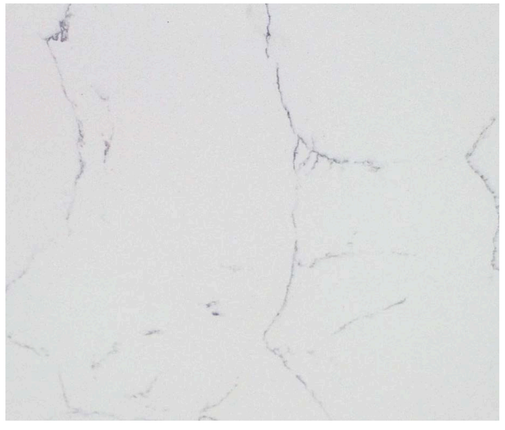
End Grain view

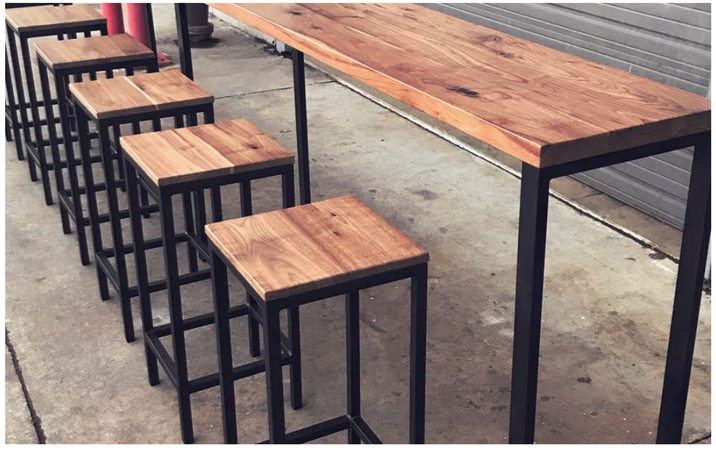
Waterwall Line Stone
Black Slate
6x24"
Thickness: 1/2 - 1"

INTERIOR FURNITURE AND FIXTURES
Main Floor

Ambient and accent lighting fixtures

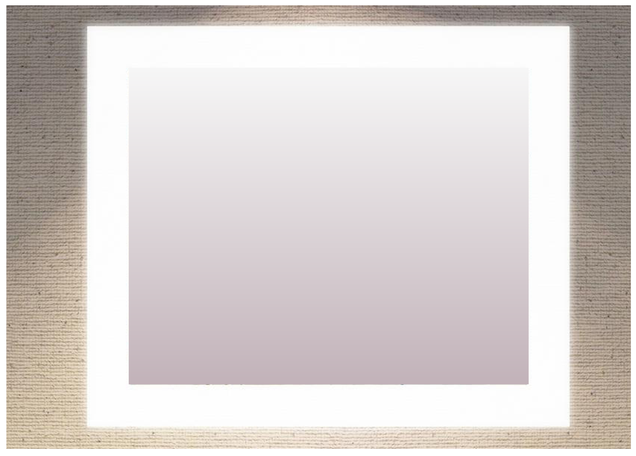
Furniture and fixtures





INTERIOR FURNITURE AND FIXTURES
Restroom

Ambient and accent lighting fixtures



Flooring and walls

Project:	Quantity:	Item No:	FCSI Section:	Approval:	Date:

RATIONAL

Specification

Thu Oct 13 18:45:59 CEST 2016

SelfCookingCenter® 62 E (6 x 18 x 26 inch/12 x 12 x 20 inch)

2 years RATIONAL warranty
5 years warranty on steam generator
ENERGY STAR

Capacity
- Six (6) full-size sheet pans (18"x26") or Twelve (12) Steam table pans (12"x20"x2.5") GN1/1
- Removable, swivelling hinging rack
- Vertical distance between rails 2 5/8" (68 mm)

Standard Features
- Electrically heated table device for automatic cooking of meat, poultry, fish, side dishes, vegetables, egg dishes, desserts, bakery products and for automatic rethermalization
- Mixed loads with individual supervision of each rack, depending on type, load amount, and the number of door openings
- Optical rack signaling function
- LED cooking cabinet and rack lighting - energy-saving, durable and low-maintenance
- Rear-ventilated triple-pane cooking cabinet door, two hinged inside panes (for easy cleaning) with a special heat-reflecting coating
- Combi-steamer according to DIN 18866, DIN 10535 for selective use of steam and hot air, separately, sequentially, or combined
- Integrated Ethernet and USB port
- No water softening system or additional descaling is necessary
- 2-Year parts and labor warranty
- 5-Year steam generator warranty
- No-charge 4-hour RATIONAL certified chef assistance program
- Core temperature probe with 6 measuring points, including positioning aid - automatic error correction in case of incorrect positioning
- 1% - accurate regulation of moisture, adjustable, and retrievable via the control panel
- Combi-steamer mode °F/(°C): steam: 85 to 265/(30 to 130), hot air: 85 to 575/(30 to 300), combination: 85 to 575/(30 to 300)
- Individual programming of at least 1,200 cooking programs with up to 12 steps transferable via USB
- Hand shower with automatic retracting system
- Moisturising in 3 steps of °F/(°C) 85 to 500/(30 to 260)
- High-performance fresh steam generator, pressureless, with automatic filling and automatic decalcification
- Dynamic air circulation in cooking cabinet with reversing wheel fan with 5 fan speeds, programmable
- Integral, maintenance-free grease extraction system
- Single water connection as shipped, can be split connection for treated and untreated water
- Turbo fan cool down function
- Automatic adaptation to the installation location (elevation)
- Height adjustable feet +- 3/8" (10 mm)
- 304 (DIN 1.4301) stainless steel material inside and out
- Seamless interior and with rounded corners
- Demand-related energy supply
- 5 programmable proofing stages
- Automatic, pre-selected starting time with adjustable date/time
- Delta-T cooking

Operation
- Digital, graphically supported overview of the current cooking chamber climate, review and forecast as well as repeat and change options at the end of the cooking process
- Remote control function for appliance using software and mobile app
- Control second unit from the main unit (units must be connected via ethernet or network)
- Real-time information about automatic adjustments on current cooking process
- Self-learning operation, automatically adapts to actual usage
- Intelligent energy-management system controls the energy and airflow, fully automated
- Record mode – determination of the ideal cooking process for calibrated products using the core temperature probe for subsequent use without a core temperature probe, with automatic consideration of the load quantity
- Self-configurable, user-specific operating display 8.5" TFT color monitor and touch screen with self-explanatory symbols for ease of operation
- Application and user manuals can be viewed on the unit display for the current actions

Safety features
- Detergent and Care Tabs (solid detergents) for optimum working safety
- HACCP data output and software update via the integrated Ethernet and USB port
- Safety temperature limiter for steam generator and hot-air heating
- VDE approved for unsupervised operation (e.g. overnight cooking or cleaning)
- Maximum rack height 5 ¼ ft./1.60 m when original stand is used
- Integral fan impeller brake
- Door handle with right/left and slam function

Cleaning and Care
- Self-cleaning and care system for cooking cabinet and steam generator, regardless of the water pressure supplied
- 7 cleaning stages for unsupervised cleaning and care - even overnight
- Automatic cleaning and descaling of the steam generator
- Automatic cleaning prompts indicating the cleaning stage and volume of chemicals in relation to the level of soiling
- Soiling and care status are displayed on the monitor
- Diagnostic system with automatic service notices displayed
- Self-test function for actively checking unit's functions
- 100% biodegradable Cleaner and Care tabs

Approval/Labels

cULus NSF NSF/ANSI 4

STAINLESS STEEL 3-COMPARTMENT CORNER SINK WITH (2) DRAINBOARDS

REGENCY
Tables And Sinks

FEATURES

- Made of high-quality 16 gauge, type 304 stainless steel
- 18 gauge stainless steel legs with sockets; adjustable bullet feet for added stability
- Corner design makes the most of underutilized space
- Two sets of faucet holes pre-punched on 8" centers (faucet sold separately)
- 3½" IPS drain connection
- Rolled edge contains splashes and overflow
- Includes (2) 18" drainboards

NSF

SPECIFICATIONS

ITEM	LENGTH (Exterior)	WIDTH (Exterior)	LENGTH (Interior)	WIDTH (Interior)	HEIGHT (Total)	HEIGHT (Work)	BOWL LENGTH	BOWL WIDTH	BOWL DEPTH
600S3181818C	57"	57"	33"	33"	44¾"	34¾"	18"	18"	14"

REGENCYTABLESANDSINKS.COM

True

TRUE MANUFACTURING CO., INC.
U.S.A. FOODSERVICE DIVISION
2001 East Terra Lane • O'Fallon, Missouri 63366-4434 • (636)240-2400
Fax (636)272-2408 • Toll Free (800)325-6152 • Intl Fax# (001)636-272-7546
Parts Dept. (800)424-TRUE • Parts Dept. Fax# (636)272-9471 • www.truemfg.com

Project Name: _____ *AIA #*
Location: _____
Item #: _____ *Qty:* _____ *SIS #*
Model #: _____

Model: **TWT-48F-HC~SPEC1**

Worktop: *Solid Door Freezer with Hydrocarbon Refrigerant & Spec Package 1*

TWT-48F-HC~SPEC1

- True's worktop units are designed with enduring quality that protects your long term investment.
- Designed using the highest quality materials and components to provide the user with colder product temperatures, lower utility costs, exceptional food safety and the best value in today's food service marketplace.
- Factory engineered, self-contained, capillary tube system using environmentally friendly R290 hydro carbon refrigerant that has zero (0) ozone depletion potential (ODP), & three (3) global warming potential (GWP).
- High capacity, factory balanced refrigeration system that maintains -10°F (-23.3°C) temperatures. Ideal for both frozen foods and ice cream.
- Stainless steel front, countertop, sides, and back. Top and backsplash are one piece formed construction. Bacteria and food particles cannot be trapped underneath as with other two-piece worktop units.
- Interior - Stainless steel liner. Stainless steel floor with coved corners.
- Heavy duty 16 gauge top and 20 gauge doors.
- Lifetime guaranteed heavy duty all metal working spec door handle.
- Counter-Top front is flush with front of doors.
- Electronic temperature control with digital display.
- Foamed-in-place using a high density, polyurethane insulation that has zero ozone depletion potential (ODP) and zero global warming potential (GWP).
- Spec Series® logo.

ROUGH-IN DATA

Specifications subject to change without notice.
Chart dimensions rounded up to the nearest ⅛" (millimeters rounded up to next whole number).

Model	Doors	Shelves	Cabinet Dimensions (inches) (mm) W	D†	H*	HP	Voltage	Amps	NEMA Config.	Cord Length (total ft.) (total m)	Crated Weight (lbs.) (kg)
TWT-48F-HC~SPEC1	2	4	48⅜ 1229	29⅛ 740	33¼ 845	½ N/A	115/60/1	3.2 N/A	5-15P	7 2.13	285 130

† Depth does not include 1½" (39 mm) for door handles.
† Depth does not include 1" (26 mm) for rear bumpers.
* Height does not include 6¼" (159 mm) for castors or 6" (153 mm) for optional legs.

INNOVATION

APPROVALS:

AVAILABLE AT:

6/18-A Printed in U.S.A.

THANK YOU

990LOUNGE

File #: LB 19-001

DATE: January 8, 2019

TO: Mayor and City Council

FROM: City Manager

SUBJECT:

Introduction of an Ordinance of the City of Hayward, Amending Chapter 7 of the Hayward Municipal Code by Amending Sections 7-2.00, 7-2.10 and 7-2.15 and Adding Sections 7-2.46 and 7-2.47 to Establish a "Dig-Once" Policy of Installing Underground Conduits and Adoption of a Resolution Amending the Master Fee Schedule for Related Program Fees.

RECOMMENDATION

That the City Council review, comment on, and adopt the proposed Dig-Once Ordinance and associated policy and Master Fee Schedule Amendment resolution.

SUMMARY

The City Council adopted a Fiber Master Plan in July 2017. This plan directs the City to adopt a Dig Once Policy. Dig Once policies generally require the coordination of excavation projects between a municipality and a telecommunication or utility provider and mandate the installation of City owned telecommunication infrastructure such as conduit and fiber for broadband internet.

This item provides a Dig Once Ordinance (Attachment II) and Dig Once Policy (Attachment III) for adoption by the Council, in accordance with the City's Fiber Master Plan. This item also includes a Resolution amending the Master Fee Schedule for related program fees.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	Ordinance
Attachment III	Dig Once Policy
Attachment IV	Resolution
Attachment V	Fiber Master Plan

DATE: January 8, 2019

TO: Mayor and City Council

FROM: City Manager

SUBJECT: Introduction of an Ordinance of the City of Hayward, Amending Chapter 7 of the Hayward Municipal Code by Amending Sections 7-2.00, 7-2.10 and 7-2.15 and Adding Sections 7-2.46 and 7-2.47 to Establish a "Dig-Once" Policy of Installing Underground Conduits and Adoption of a Resolution Amending the Master Fee Schedule for Related Program Fees.

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BACKGROUND

In July 2017, the City Council adopted a Fiber Master Plan (Attachment V) to set the overarching goals and objectives for deploying a fiber-optic network throughout the Industrial Corridor. Specifically, this plan recommends that the City take the following actions:

- Consider a dark fiber business model
- *Adopt a dig-once policy*
- Audit its infrastructure and records
- Implement a records management system
- Construct a fiber segment to connect an internet pop
- Expand FTTP to select Industrial Corridor areas

- Signal to the private sector through a procurement process
- Lease dark fiber strands to select industrial corridor customers.

In June 2018, the City entered into an agreement with Magellan Advisors following a competitive request for proposals process, to develop and update the City's wireless telecommunications regulations, right of way ordinance, and master license agreements with telecommunication companies, including developing a "dig once" policy and ordinance.

The Council Technology Application Committee (CTAC) reviewed and commented on the proposed "dig once" ordinance and policy at its September 14, 2018 meeting. Comments from the CTAC meeting are outlined in the Discussion section below.

Representatives from Magellan Advisors will be present at this meeting to answer any questions the Council may have.

DISCUSSION

Dig-Once Policies are a current best practice for municipalities entering the fiber infrastructure space. These policies encourage cooperation and coordination between cities and a variety of utility providers and telecommunication companies. Their implicit goals are to:

- Protect newly and recently paved roads and sidewalks;
- Ensure efficient, non-duplicative placement of infrastructure in the Public Right of Way (PROW);
- Minimize the impact of construction on residential and commercial communities;
- Reduce overall costs of all underground work in the PROW by capitalizing on significant economies of scale;
- Enhance the uniformity of construction; and
- Leverage construction for the deployment of a public communications network.

These policies leverage public and private projects to expand the City's conduit and fiber network in an efficient manner.

The technology surrounding the internet and its physical plant is changing rapidly. It is for this consideration that the proposed dig-once ordinance is broken into two components. The individual ordinance mandates higher-level dig-once requirements and references a "Dig-Once Policy" that provides more technical, minimum standards at an administrative level. This structure will afford the Public Works Department the ability to adjust regulations as this technology changes.

Ordinance Overview

This ordinance applies to any applicant who applies for an excavation permit within the PROW.

Noticing Requirements

The City will be responsible for or may require an applicant to notify all telecommunications service providers of an impending excavation and afford those entities the opportunity to utilize the excavation to install, upgrade, co-locate, repair, or improve their telecommunications facilities during the excavation project. This notice must be provided at least thirty (30) days prior to the start of the excavation. Permits will be issued following this period. Those entities participating in the joint trench are responsible for their proportionate share of costs including but not limited to the costs of permitting.

Moratorium

Excavations under this ordinance shall not take place more than once on a particular City street segment within a five-year period. The Public Works Director may waive this moratorium for a fee of $5,000 as described in Attachment IV at his/her discretion, as requested by the CTAC. The applicant in these scenarios will be responsible for repairing the roadway to its original, pre-excavation standard or better.

Project Applicability

All construction, reconstruction, and repaving of PROW shall include a provision for the installation of a public utility infrastructure, such as conduit, tube, duct, or other device designed for enclosing telecommunications wires, fibers, or cables, wherever practical and feasible. Such infrastructure shall be installed in accordance with City regulations, requirements and specifications, including but not limited to the Hayward Municipal Code, as directed by the Director of Public Works or his/her designee. Such excavation shall not take place more than once on a particular City street segment within a five-year period.

Policy Maintenance and Exemptions

The Department of Public Works will be responsible for the enforcement and maintenance of this policy. Furthermore, the Director of Public Works or his/her designee may exempt a project from the requirements of this ordinance in cases where it is not practical or feasible. Cost cannot be a determining factor for project feasibility or practicality. These determinations may be appealed to the City Manager.

Incremental Costs

The Department of Public Works shall be responsible for determining the incremental costs of installing City communications infrastructure. These incremental costs are the costs associated with adding City communications infrastructure to any excavation project, including the cost of the materials needed by the City and any additional labor costs.

Micro-Trench

Per CTAC feedback, given its detrimental effects on pavement, micro-trenching is clearly defined in the ordinance and will not be permitted without the prior express written permission from the Public Works Director.

Policy Overview

De-Minimis Excavation Standard

Under the current draft, the Dig Once Policy requirements are applicable to all excavation projects that have a minimum length of 300 feet. For reference, C Street between Watkins Street and Mission Blvd. is approximately 355 linear feet.

All excavations that meet this standard will be required to include the installation of two 3-inch diameter conduits that meet the material and design specifics as determined by the Dig Once Policy. As requested by the CTAC, the Public Works Director will have the authority to apply these standards to projects less than 300 feet where it may be strategic to install conduits. Likewise, the Public Works Director may exempt projects from these requirements if they determine it is not practical, feasible, or for any other consideration.

Design Standards

The Dig Once Policy provides design standards for the installation of conduit and fiber. Conduits referenced above must be:

- Made of PVC Schedule 40 material
- Laid to a depth of not less than 18 inches below grade in concrete sidewalk areas, and not less than 24 inches below finished grade in all other areas when feasible, or the maximum feasible depth otherwise
- Install a minimum of 3-foot radius sweeps and bends,
- Contain tracer wire and external warning ribbon tape a minimum of 3-inches above the conduit.

Ownership and Documentation of Infrastructure

All conduits installed under this policy will be owned by the City. All conduits installed will be documented in the City's Geographic Information System (GIS) whenever feasible.

Interagency Cooperation

The PROW permittee should make a documented effort to work with other utility agencies to co-locate infrastructure in the same trench whenever feasible. Additionally, each agency/utility shall participate in periodic coordination meetings as requested by the City for

the purpose of coordinating activity between public works projects and utility projects in the PROW.

The full draft dig-once ordinance and policy can be found in Attachments II and III respectively.

ECONOMIC IMPACT

Improved broadband connectivity within the City will help to support business attraction efforts. While the existence of fiber is only one of many site selection factors (such as lease rents, building configuration, traffic patterns, etc.), being able to market Hayward's broadband connectivity to the business community at-large not only helps satisfy a site selection criterion, it will also strengthen the City's reputation as a center for innovation and growth.

FISCAL IMPACT

There is no immediate fiscal impact associated with implementing this policy. However, given its requirements, it may increase the cost of certain roadway improvement projects marginally due to the added required installation of conduit and fiber. These increases may be reduced through the sharing of associated costs with other telecommunication providers who utilize the same trench. Additionally, this increase in costs may be offset through revenue associated with the wireless telecommunication facility ordinance update.

Attachment IV is a resolution amending the Master Fee Schedule for this program's fees. The Engineering Plan Review required for the Excavation Permit is based on the existing rate, billed on a time and material basis, and requires a deposit of $2,500. The Moratorium Override Request is billed at the same time and materials rate as the Engineering Plan Review but requires a $5,000 deposit due to the more involved review.

STRATEGIC INITIATIVES

This agenda item supports the Complete Communities Strategic Initiative. The purpose of the Complete Communities Strategic Initiative is to create and support structures, services, and amenities to provide inclusive and equitable access with the goal of becoming a thriving and promising place to live, work, and play for all.

Goal 1: Improve quality of life for residents, business owners, and community members in all Hayward neighborhoods.

Objective 4: Create resilient and sustainable neighborhoods.

Goal 3: Develop a regulatory toolkit for policy makers

Objective 1: Update, streamline, and modernize zoning & codes.

NEXT STEPS

The second reading of this item is scheduled for the January 15, 2019 City Council meeting. Should the Council adopt the ordinance and resolution, staff will begin to establish the Dig-Once policies and procedures for future excavation projects in the public right of way.

Prepared by: John Stefanski, Management Analyst II
Allen Baquilar, Senior Civil Engineer

Recommended by: Jennifer Ott, Deputy City Manager
Adam Kostrzak, Director of Information Technology
Kathy Garcia, Deputy Director of Public Works

Approved by:

Kelly McAdoo, City Manager

ORDINANCE NO. 19-_

AN ORDINANCE OF THE CITY OF HAYWARD, CALIFORNIA, AMENDING CHAPTER 7, ARTICLE 2 OF THE HAYWARD MUNICIPAL CODE BY AMENDING SECTIONS 7-2.00, 7-2.10, AND 7-2.15 AND ADDING SECTIONS 7-2.46 AND 7-2.47 TO ESTABLISH A "DIG ONCE" POLICY FOR INSTALLING UNDERGROUND CONDUITS

WHEREAS, To further the strategic and operational goals outlined in the City of Hayward Fiber Optic Master Plan, the City is designing and constructing City-owned communications infrastructure consisting of an underground fiber-optic network to provide broadband internet service; and

WHEREAS, The City of Hayward desires to develop a public communications network consisting of a lateral distribution network to directly connect City facilities and provide fiber-to-the-premises throughout the City; and

WHEREAS, The City of Hayward desires to comply with all mandates regarding public utilities as imposed upon it by state and federal law; and it is determined that there is a need for wireless telecommunication facilities in the City of Hayward; and the City of Hayward finds that it is a necessary and proper exercise of its police power and land use planning authority to regulate such facilities; and

WHEREAS, The proposed requirements for permits and entitlements relative to projects involving the installation of underground conduit respond to recent changes in laws concerning regulation of wireless telecommunication facilities and provide mechanisms for the City to maintain an aesthetically pleasing community environment, protect the safety and welfare of Hayward's residents, minimize degradation of the residential character of neighborhoods, streets, and roadways, and require the best available design to eliminate visual impacts while ensuring that adequate public services and facilities are constructed to accommodate the needs of Hayward's residents; and

WHEREAS, Pursuant to the California Environmental Quality Act ("CEQA"), the proposed requirements for wireless telecommunication facilities in the public right-of-way are exempt per section 15061 (b)(3), as there is no potential to cause a significant effect on the environment; and

WHEREAS, Excavations in paved, public rights-of-way degrade and shorten the life of street surfaces which increases the frequency and cost of necessary resurfacing, maintenance, and repair; and

WHEREAS, The federal Broadband Opportunity Council has recommended, and the California State Legislature is now considering, the adoption of "Dig Once" policies to encourage broadband deployment, minimize excavations, and save costs by coordinating infrastructure projects in the public rights-of-way; and

WHEREAS, The City desires to strike a balance between the public need for efficient and safe transportation routes and the use of rights-of-way for the underground location of facilities by the City and private entities; and

WHEREAS, The City desires to protect and preserve the physical integrity of streets and sidewalks; minimize excavations, traffic and other disruptions related to excavations of public rights-of-way caused by the construction of City-owned communications infrastructure; protect public safety and welfare; and lower its own costs and the costs to applicants seeking to deploy conduit in the City's public rights-of-way by coordinating construction of City-owned communications infrastructure with the deployments of underground conduit by such applicants.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF HAYWARD DOES ORDAIN AS FOLLOWS:

SECTION 1. Chapter 7, Disturbance of Streets, of the Hayward Municipal Code, which establishes standards, procedures, and regulations for the use of the City's Right of Way, is hereby amended to add certain text and provisions (as indicated by underline) and repeal certain text (as indicated by strikethrough) as shown in the attached Exhibit "A", in order to establish a Dig Once policy.

SECTION 2. Severance. Should any part of this ordinance be declared by a final decision of a court or tribunal of competent jurisdiction to be unconstitutional, invalid, or beyond the authority of the City, such decision shall not affect the validity of the remainder of this ordinance, which shall continue in full force and effect, provided that the remainder of the ordinance, absent the unexcised portion, can be reasonably interpreted to give effect to the intentions of the City Council.

SECTION 3. Effective Date. This Ordinance shall become effective thirty (30) days following its adoption.

INTRODUCED at a regular meeting of the City Council of the City of Hayward, held the __th day of January 2019, by Council Member_____.

ADOPTED at a regular meeting of the City Council of the City of Hayward, held the __th day of _____, 2019, by the following votes of members of said City Council:

AYES:	COUNCIL MEMBERS: MAYOR:
NOES:	COUNCIL MEMBERS:
ABSTAIN:	COUNCIL MEMBERS:
ABSENT:	COUNCIL MEMBERS:

APPROVED: _____
Mayor of the City of Hayward

DATE:_____

ATTEST:_____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

Exhibit A

CHAPTER 7- PUBLIC WORKS

ARTICLE 2- STREETS

DISTURBANCE OF STREETS

SEC. 7-2.00 - DEFINITIONS.

For the purposes of this Article, certain words and phrases are defined and certain provisions are to be construed as herein set out, unless it shall be apparent from the context that a different meaning is intended.

CITY COMMUNICATIONS INFRASTRUCTURE. City communications infrastructure shall mean conduits, pull boxes, and other related facilities that are deployed by the City in furtherance of the strategic and operational goals outlined in the City of Hayward Fiber Optic Master Plan.

CONDUIT. Conduit shall mean a pipe or tube through which water, waste water or gas is conveyed, or which is used to protect electrical or communications cables.

EMERGENCY STREET CUT. Emergency street cut shall mean any street cut which must be made to repair a defective or broken underground facility, the condition of which facility constitutes an evident and immediate hazard to life, health, or property, and it is impractical to secure a permit before work is commenced.

EXCAVATION COSTS. Excavation costs shall mean all construction costs relating to the excavation, backfill, paving, marking, and other costs associated with restoring a City street to its pre-excavation state. This will include all associated labor and permitting costs.

INCREMENTAL COST. Incremental cost shall mean the cost associated with adding City communications infrastructure to an excavation project, including the cost of the materials needed by the City and any additional labor costs.

MAJOR PROJECT. Major project shall mean the installation or replacement of any underground facility other than a service from an existing main to a single user.

MICRO-TRENCH. Micro-Trench shall mean the fiber optic construction technique that involves cutting a narrow trench or groove of one to two inches wide and up to two feet deep, to hold conduits for fiber or direct buried fiber.

CITY COMMUNICATION INFRASTRUCTURE REQUIREMENTS. City Communication Infrastructure Requirements shall mean the Public Works Department's adopted standards for implementing the Public Works Department's participation in excavation projects involving the installation of City Communications Infrastructure. The City Communication Infrastructure Requirements are kept on file in the City Clerk's Office and available for public review on request.

STANDARD CITY COMMUNICATION INFRASTRUCTURE SPECIFICATIONS. Standard City Communications Infrastructure Specifications shall mean the type, size, and quantity of conduits, cross section, the size and frequency of pull boxes, and any other facilities that the Public Works Department determines are necessary to serve the City's Communications needs. The Standard City Communication Infrastructure Specifications are kept on file in the City Clerk's Office and available for public review on request.

STREET CUT. Street cut shall mean the action of or the result of opening, tearing up, excavating, repairing, installing, adding to, removing, or otherwise altering any portion of any public roadway, street, thoroughfare, sidewalk, curb, gutter, or driveway, or any other such facility existing within a public right-of-way area for any purpose whatsoever.

TRENCH. Trench shall mean a form of excavation to install underground infrastructure or utilities such as fiber optic cables, gas or water mains or electric lines. Such excavation is different from micro-trenching in that different equipment is used, the resulting opening in the ground is wider and deeper, and greater site preparation, clean-up and restoration activities are required. Any excavation that is not a micro-trench as defined in this Article is a Trench.

UNDERGROUND FACILITY. Underground facility shall mean any pipe, conduit, tile, or other material installed within and below the surface of any public roadway, street, sidewalk, thoroughfare, or other place.

SEC. 7-2.10 - STREET CUTS. PERMIT REQUIRED.

It shall be unlawful for any person other than officers, agents, contractors or employees of the City to make or cause to be made any street cut in the City of Hayward without having first obtained a permit therefor as herein provided. Any permit issued hereunder shall not be assignable to any other person. Excavation permitted under this Article shall not take place more than once on any particular section of City street within a 5-year period unless determined otherwise by the Director of Public Works pursuant to Sec. 7-2.46(d).

Applicants for a permit required by this section that intend to place underground conduit in, along, across, or through any street shall comply with the requirements of Section 7-2.46.

Micro-trenching is not permitted without the prior express written permission from the Public Works Director which shall be reflected in any permit issued under this section.

SEC. 7-2.15 - DENIAL OF PERMIT.

~~The Director of Public Works shall have the right to refuse a permit to any person who is in violation of or who has failed to comply with any provisions hereof in connection with the permit being applied for or any permit previously issued, except as provided otherwise herein.~~

The Director of Public Works shall have the right to refuse a permit to any applicant under either of the following conditions:

(a) When the applicant is in violation of or has failed to comply with any provisions herein in connection with the permit being applied for or any permit previously issued, except as provided otherwise herein; or

(b) When he or she finds that it will be detrimental to the public health, safety, or welfare.

The Director of Public Works shall deny a permit when he or she finds that the applicant has failed to comply with Section 7-2.46 of this Code.

SEC. 7-2.46 - INSTALLATION OF INFRASTRUCTURE IN JOINT TRENCH.

(a) Notice Required to Non-Applicant Utilities.

(1) To the extent feasible, the Director of Public Works, or his/her designee shall notify (or require an applicant for such work to notify) all known utility and telecommunications service providers of an impending excavation and afford all such service providers the opportunity to utilize the excavation to install, upgrade, co-locate, repair, or improve their telecommunication facilities or other utilities during such an excavation project. Any such notice shall be provided at least thirty (30) days prior to the commencement of excavation and shall specify the response date required under Sec. 7-2.46(a)(2).

(2) All service providers utilizing the same excavation shall be responsible for their proportionate share of the Excavation Costs, including but not limited to the costs of permitting. All service providers must provide the City and applicant notice of their desire to utilize the excavation within twenty (20) days of the date of service of the notice required under Sec. 7-2.46(a)(1).

(3) Notice under Sec. 7-2.46(a)(1) is only required when the proposed underground conduit installation will be at least 300 linear feet, or such longer distance as may be established in the City Communication Infrastructure Requirements.

(b) Assessment of City Communications Infrastructure. Upon receipt of an application for a permit under this Article, the Director of Public Works or

his/her Designee shall determine whether adding City communications infrastructure to the proposed excavation project would be both financially feasible and consistent with the City's goals. The City shall promptly notify the applicant upon its determination. For any permitted project in which the City participates, the following shall apply:

(1) All construction, reconstruction, and repaving within a City right-of-way shall be installed in accordance with City regulations, requirements and specifications, including but not limited to the Hayward Municipal Code. If directed by the Director of Public Works or his/her designee, all excavations shall include the installation of a public utility infrastructure, such as conduit, tube, duct, or other device designed for enclosing telecommunications wires, fibers, or cables, as specified by the Director of Public Works; and

(2) Applicant's Incremental Costs. The City shall be responsible for the applicant's Incremental Costs when the City participates in an excavation project by installing City communications infrastructure. The City will promptly provide the applicant with its determination of Incremental Costs; and

(3) Appeal of City's Calculation of Incremental Costs. Any applicant may appeal the City's Calculation of the amount of Incremental Costs to the City Manager or his/her designee within fourteen (14) calendar days after a determination has been made on the amount of the incremental costs. The appeal must be submitted in writing on an approved City form, along with any required fee, to the City Clerk within 14 days after service of the determination and shall state the specific reason(s) for the appeal along with any supporting evidence. In the event that a decision is appealed, the City Clerk shall schedule the appeal for a public hearing, unless waived by the applicant. The decision of the City Manager or his/her designee on such appeals shall be final and not subject to further appeal.

(c) Cost of Permit. A permit for excavation will be charged based on staff time spent at the rate in effect as established by the duly adopted Master Fee Schedule for engineering plan review.

(d) Project Exemption. The Director of Public Works or his/her designee may exempt projects from the requirements under this section where it is determined that it is not practical, feasible, or for any other consideration. Requests for an exemption must be made in writing with an explanation as to why the project is not feasible. Cost shall not be the determining factor whether a project is feasible or practical. A determination from the Director of Public Works is the final administrative determination of the matter and is not appealable. Any exception granted under this section may be conditioned to

ensure that the street is restored and not adversely impacted by the excavation.

(e) Enforcement. The Director of Public Works or his/her designee shall have primary responsibility for enforcement of this Ordinance. Pursuant to the Hayward Municipal Code, excavations not in accordance with this Ordinance shall be considered noncompliant encroachments which have been declared a public nuisance and which are subject to abatement, removal, and injunction by the City of Hayward, as well as by any other remedies provided by law.

(f) Approval of Application. The City may approve an application and issue a permit if the City finds that an applicant has complied with this chapter and all applicable provisions in the City Communication Infrastructure Requirements. The City may not issue a permit prior to the expiration of the 30-day period specified in Sec. 7-2.46(a)(1).

SEC. 7-2.47 - City Communication Infrastructure Requirements.

(a) Adoption of Requirements. The Public Works Department shall develop and implement the City Communication Infrastructure Requirements.

(b) Purpose of City Communication Infrastructure Requirements. The City Communication Infrastructure Requirements shall specify the manner in which the City will participate in excavation projects by installing City Communications Infrastructure that meets the City's needs at a reasonable cost.

(c) Minimum Requirements. At a minimum, the City Communication Infrastructure Requirements shall contain the following procedural and substantive requirements for the installation of City Communications Infrastructure in excavation projects:

(1) The process for the Public Works Department to review planned excavation projects in a timely manner to determine if City participation is feasible and to verify its participation;

(2) The criteria to be used by the Public Works Department to decide whether to decline to participate in excavation projects;

(3) The standard technical specifications for City Communications Infrastructure;

(4) The standard methodology for determining the Incremental Costs associated with installing City communications infrastructure in

excavation projects;

(5) The requirements and process for excavators to seek exemptions from using the City's standard methodology for determining Incremental Costs when installing standard City communications infrastructure in excavation projects; and,

(6) Alternative methodologies for determining the City's Incremental Costs when exemptions are granted.

DEPARTMENT OF PUBLIC WORKS
ENGINEERING AND TRANSPORTATION DIVISION

DIG ONCE POLICY
Pursuant to Sections 7-2.00, 7-2.10, 7-2.15, 7-2.46, 7-2.47
of the Hayward Municipal Code

PURPOSE:

The purposes of implementing a Dig Once policy include:

- Protecting newly and recently paved roads and sidewalks;
- Ensuring efficient, non-duplicative placement of infrastructure in the Public Rights-of-Way (PROW);
- Minimizing the impact of construction on residential and commercial communities;
- Reducing the overall costs of all underground work in the PROW by capitalizing on significant economies of scale;
- Enhancing the uniformity of construction; and
- Leveraging construction for the deployment fiber within the City's Industrial Corridor and deployment of a public communications network.

BACKGROUND:

Coordinating the underground installation and co-location of infrastructure within the PROW benefits communities, businesses, and the City. The excavation of roads and cutting of sidewalks substantially reduces the service life, quality, and performance of those surfaces. Furthermore, each underground installation reduces the space available for future infrastructure. While aerial installation methods requiring attachments to utility poles are usually less expensive than underground installation, aerial installations have significant drawbacks. Those drawbacks include negatively impacting the aesthetics within the PROW, limited space on existing utility poles in more crowded areas, dealing with a lack of ownership of overhead infrastructure, and reliability issues as a result of exposure to outside conditions. Underground installation using protective conduit generally provides scalable, flexible, and durable long-term infrastructure.

POLICY DIRECTIVE:

1. Unless waived by the Public Works Director because of undue burden, an unfavorable cost- benefit analysis, or the consideration of other relevant factors, the PROW Excavator/Permittee shall install two 3-inch diameter conduits for the following types of projects that have a trench length of 300 feet or less if determined by the Public Works Director:

a. Excavations for the purpose of installing utilities, including but not limited to communications, electrical, gas, water, wastewater, or storm drainage; and
b. Other excavations, or work on public property or in the public right-of-way that provide a similar opportunity to install conduit for future use.

2. Unless the Public Works Director determines otherwise, the typical standard installation requirements are listed below:
   a. 3-inch nominal diameter conduit.
   b. Made of high-density polyethylene (HDPE) with a standard dimension ratio (SDR) of 11.
   c. Conduit will be laid to a depth of not less than 18 inches below grade in concrete sidewalk areas, and not less than 24 inches below finished grade in all other areas when feasible, or the maximum feasible depth otherwise.
   d. When feasible and needed, install minimum 3-foot radius sweeps and bends.
   e. Composite anti-theft vaults having dimensions of 30" x 48" x 36" (W x L x D), placed in the sidewalk or available green space within the city or municipality ROW, as close to the curb or gutter as possible and spaced at 600-foot intervals or less typically at street intersections.
   f. Pull-rope shall be installed within each conduit or inner duct if required by the Public Works Director.
   g. When practicable, furnish with 10 AWG insulated tracer wire inside at least one pipe and an external "warning" ribbon tape a minimum of 3-inches above the conduit.
   h. All conduit couplers and fittings shall be installed to be watertight. Conduits shall be sealed with endcaps upon installation.
3. Conduits installed will be owned by the City.
4. A record of all City-owned conduits will be documented and transferred to the City for geographic information system (GIS) entry.
5. The PROW Excavator/Permittee should make a documented effort to work with other utility agencies to co-locate infrastructure in the same trench whenever feasible to minimize construction costs, minimize future public disruptions, and encourage efficient use of the PROW.
6. Each utility shall participate in periodic coordination meetings as requested by the City with other utilities and affected public agencies. The purpose of these meetings shall be to coordinate activity between public works projects and utility projects in the PROW.

Effective Date: January 8, 2019

HAYWARD CITY COUNCIL

RESOLUTION NO. 19-

Introduced by Council Member _____

RESOLUTION AMENDING THE CITY OF HAYWARD FISCAL YEAR 2019 MASTER FEE SCHEDULE ASSOCIATED WITH AMENDMENTS TO THE CITY OF HAYWARD MUNICIPAL CODE ESTABLISHING THE "DIG-ONCE" POLICY FOR INSTALLING UNDERGROUND CONDUITS

WHEREAS, Section 15273 of the California Environmental Quality Act (CEQA) Guidelines states that CEQA does not apply to the establishment, modification, structuring, restructuring, or approval of rates, tolls, fares, and other charges by public agencies which the public agency finds are for the purposes of:

1. Meeting operating expenses, including employee wage rates and fringe benefits;
2. Purchasing or leasing supplies, equipment, or materials;
3. Meeting financial reserve needs and requirements;
4. Obtaining funds necessary for capital projects necessary to maintain service within existing services areas; or
5. Obtaining funds necessary to maintain intra-city transfers as are authorized by city Charter; and

WHEREAS, The City Council finds and determines that this action is exempt from CEQA based on the foregoing provisions; and

WHEREAS, In November 2010, California voters approved Proposition 26, which amended Article XIII C of the State constitution regarding the adoption of fees and taxes. Proposition 26 seeks to assure that taxes, which much be approved by the voters, are not disguised as fees, which can be approved by legislative bodies, such as a city council. The proposed amendment to the Master Fee Schedule (MFS) is compliant.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hayward hereby adopts certain changes in the Master Fee Schedule relating to fees and charges for the Public Works: Engineering and Transportation Department, as reflected in Exhibit A.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2018

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

Exhibit A

Engineering and Transportation

D. Dig-Once Policy

1. Engineering Plan Review	$2,500 (Deposit—T&M)
2. Moratorium Override Request Fee	$5,000 (Deposit—T&M)

ATTACHMENT V

ctc technology & energy

engineering & business consulting

Fiber Optic Master Plan

Prepared for the City of Hayward, California
February 2017

Contents

Figures

Tables

1 Executive Summary

There is a growing desire for robust, fiber-based broadband throughout the U.S., particularly among businesses of all sizes as their needs evolve, and connectivity becomes increasingly integral to business operations. Given this, localities are eager to find ways to fill gaps in available service to help their communities attract and retain businesses. Cities that want to advance economic development and attract a talented workforce are seeking ways to deploy fiber-to-the-premises (FTTP) in their communities, or to partner with private providers that are willing and able to help meet connectivity needs.

The City of Hayward is committed to enabling greater fiber-based connectivity for its numerous businesses, and to eventually expanding services to its residential neighborhoods. The City is focused on a phased municipal broadband deployment, and exploring a potential public–private partnership to achieve these goals.

1.1 Project Background and Objectives

The City intends to leverage any available conduit and fiber infrastructure to support a municipal FTTP deployment to advance the availability, affordability, and reliability of connectivity services for its business sector, which hosts thousands of businesses in a broad range of industries. To this end, the City has received funding from the U.S. Department of Commerce to install a preliminary fiber optic and conduit network. CTC's engineers developed a proposed fiber design (see Section 5) based on the assumption that this infrastructure would be foundational to any future City efforts to deploy an FTTP network.

To supplement the City's direct efforts to deploy FTTP and to potentially support its long-term vision, the City also seeks to understand emerging public–private partnerships in the broadband industry, how to balance risk and reward, and whether a partnership makes sense in Hayward. In short, the City aims to take any steps it can to enable greater connectivity in the community, while not taking on undue risk.

The Fiber Optic Master Plan's primary objective is to analyze and outline the best potential path and business model to deploy a fiber optic network that can meet the community's needs, with an initial emphasis on serving businesses located in Hayward's Industrial Corridor.

1.1.1 Fiber Optic Master Plan Objectives

To achieve the City's vision as outlined in its General Plan 2020,[1] the Industrial Technology and Innovation Corridor (Industrial Corridor)—an approximately nine-square-mile section of industrial-zoned land with more than 5,100 businesses—needs infrastructure to attract investment and support business growth. Today, fiber infrastructure that supports access to broadband Internet service is as vital as streets, water, and sewer infrastructure. Broadband connectivity enhances a community's economic development potential by attracting new advanced businesses and providing existing businesses the tools they need to expand. Accordingly, the City engaged CTC Technology & Energy (CTC) to prepare a Fiber Optic Master Plan to assist in the planning, budgeting, and implementation of a landmark fiber optic network infrastructure project.

The Fiber Optic Master Plan's primary objective is to analyze and outline the best potential path and business model to deploy a fiber optic network that can meet the community's needs, with an initial emphasis on serving businesses located in Hayward's Industrial Corridor. Additional information on this targeted area and the types of business activities within it can be found in the Industrial Technology and Innovation Corridor Baseline Profile,[2] published by the City's Economic Development Division in March 2015.

Specifically, this plan outlines strategies for improved consumer choice for data connection services (including Internet), and economic development and job creation within the community. This plan:

- Provides the City with information and data to set its goals and objectives to facilitate the design and deployment of a fiber optic network in Hayward;
- Presents and evaluates the current supply of broadband communications assets, products, and services in the City;
- Provides an inventory and assessment of existing City-owned assets and infrastructure required to support deployment of a fiber optic network;
- Defines and evaluates potential fiber optic network routes and requirements;
- Identifies potential impacts of a fiber optic network, including impacts on City right-of-way (ROW), City-owned conduit, streetlight poles, traffic lights, existing fiber systems, and other real property;
- Defines services and technologies to be offered on the fiber optic network;
- Presents an engineering study, network design, and deployment cost model;

[1] The General Plan 2040 is available on the City's website at http://cityofhayward-ca.gov/GENERALPLAN/
[2] The Industrial Technology and Innovation Corridor Baseline Profile is available on the City's website at http://cityofhayward-ca.gov/CITY-GOVERNMENT/BOARDS-COMMISSIONS-COMMITTEES/PLANNING-COMMISSION/pc/2015/pca040915-P01.pdf

- Outlines a potential phased approach to deliver the network; and
- Evaluates potential business models to build, operate, and make "last-mile" connections to a fiber optic network.

1.2 Methodology

This report was researched and prepared in the summer and autumn of 2016 by CTC, with ongoing input from City staff. In addition to drawing on our extensive industry experience, our analysis is guided by our conversations and interviews with City staff about the City's objectives and desired outcomes.

Over the course of the engagement, CTC performed the following general tasks:

1. Reviewed the City's key physical infrastructure;
2. Developed and administered an online survey of Hayward businesses;
3. Conducted follow-up interviews with a select group of Hayward businesses to further gauge interest in City FTTP efforts;
4. Researched the region's available broadband services and costs;
5. Conducted onsite and desk surveys of City infrastructure;
6. Evaluated potential public–private partnership business models based on current developments in the broadband industry; and
7. Developed pro forma financial statements for the City, including a governance model for a fiber enterprise.

In addition to those tasks, CTC prepared a proposed fiber design (Section 5), which provides data relevant to assessing the financial viability of network deployment, and offers guidance to develop business models for a potential City construction effort (including the full range of models for public–private partnerships). This estimate also provides key inputs to financial modeling (see Section 7) to determine the approximate revenue levels necessary for the City to service any debt incurred in building the network.

1.3 The City of Hayward's Industrial Corridor Is Unique

Hayward is an economically and ethnically diverse city of approximately 150,000 residents within 45.32 square miles on the eastern edge of the San Francisco Bay. As a regional center of retail, industrial, and public activities, Hayward combines a hometown atmosphere, ideal climate, cultural attractions, parks, and recreational facilities with easy access to suppliers and customers throughout the Bay Area and beyond.

The City is known as the "Heart of the Bay" because of its central location in Alameda County—25 miles southeast of San Francisco, 14 miles south of Oakland, 26 miles north of San Jose, and 10 miles west of Pleasanton and surrounding valley communities. Hayward has two Bay Area Rapid Transit (BART) stations, an Amtrak station, its own executive airport, and an extensive network of freeways and bus lines that provide easy access to the San Francisco, Oakland, and San Jose international airports. The City also boasts easy access to the Port of Oakland, the fourth-busiest container port in the U.S.

The City leveraged its strategic location and natural assets to become a regional hub for commerce and trade. Today, Hayward is home to more than 7,000 businesses, ranging from family-owned retail shops and restaurants, to globally recognized manufacturers, distributors, and retailers. The City's key industries include:

- Advanced and specialized manufacturing;
- Clean and green technology;
- Food and beverage manufacturing;
- Life science and biotechnology; and
- Transportation and logistics.

The City's Industrial Corridor is a large crescent-shaped area of industrial-zoned land located along the City's western and southwestern boundaries. This roughly nine square miles of land is home to more than 5,100 businesses that employ nearly 47,500 workers. Per the City's General Plan, this corridor is expected to grow as an economic and employment center and evolve to achieve a healthy balance of traditional manufacturing and information- and technology-based uses.

Given the importance of the Industrial Corridor, we recommend focusing on providing service to businesses there as part of a phased implementation approach to deploying FTTP in Hayward. Rather than a pilot project, we believe that finding a way to serve the Industrial Corridor—or a subset of businesses there—and maintain service long term will serve the City's interests. This may be possible through a public–private partnership under one of the business plans outlined in Section 1.5. Specifically, the City can target infrastructure deployment to lower barriers for one or more private providers that aim to serve these locations, and it can enable a mid-range FTTP-based retail product.

1.4 The City's U.S. Economic Development Administration Grant Decreases FTTP Construction Costs

The U.S. Department of Commerce's Economic Development Administration (EDA) announced in 2016 that it had awarded just over $2.74 million in grant funds to the City to support fiber

optic infrastructure development.[3] This grant funding will enable the City to install conduit and fiber optic cables, which will support an FTTP deployment in the Industrial Corridor.

The cost estimates in Section 6 anticipate an additional approximately $5.4 million to deploy the proposed fiber design in Section 5.[4] The design and associated costs take the EDA grant into consideration and anticipate that any infrastructure the City develops with the $2.74 million grant will become part of a broader FTTP deployment. The fiber optic infrastructure that the City deploys with grant funds will serve as a backbone for a middle-mile and FTTP deployment.

Our analysis assumes that the grant funds will be used to install both conduit and fiber, and that the conduit will be fully deployed with City fiber infrastructure. Given this, it is unlikely that the City will have excess conduit to make available for other entities to use. In our experience, unless an entity already has excessive unused conduit or has a need to install innerduct,[5] leasing conduit can hamper expansion of fiber as the entity's needs evolve. Further, there is not significant revenue to be realized from leasing empty conduit. Instead, if the City seeks to monetize its infrastructure, it can offer excess fiber strands for dark fiber licensing.

The City's approximately $2.74 million in Economic Development Administration (EDA) grant funds serve as the basis for CTC's engineering design and cost estimates, and enable cost savings for the City's FTTP deployment. The projected cost to deploy the proposed fiber design in Section 5 is approximately $5.4 million, ***in addition to*** *the $2.74 million grant.*

One key network infrastructure component is known as a "hub site," which is a location in the community, typically in the City's ROW, where network backbone fiber terminates in a shelter or enclosure. From this point, middle-mile network fiber is distributed deeper into the community to support eventual FTTP connections to customers. [6] Another important part of network deployment is to connect the network to an Internet point of presence (POP) where the City can access services offered at the POP. Services could include hosting servers and network electronics in a datacenter environment and "peering," which involves direct access to application

[3] "U.S. Department of Commerce Invests Nearly $4 Million in Northern California to Help Build Infrastructure and Support Job Creation," *U.S. Economic Development Administration*, last modified September 9, 2016, https://www.eda.gov/news/press-releases/2016/09/14/northern-ca.htm.

[4] Note that this cost is associated with a "dark FTTP model," in which the City would directly deploy an FTTP network and provide a private partner with a license to use the City-owned fiber. This estimate is for outside plant (OSP) infrastructure only and does not include the cost for network electronics, fiber drop cables, or customer premises equipment. See Section 1.5.1.

[5] Innerduct is smaller conduit (or tube) used to subdivide a larger conduit or duct for the placement of optical fiber cables.

[6] This is also commonly referred to as "distribution fiber," given its purpose.

providers[7] that reside at the POP. In addition to serving as a backbone, the City's grant-funded infrastructure will help connect the network hub to the POP, which can help the City gain access to Internet service providers (ISPs) that may be interested in procuring dark fiber from the City to serve businesses in the Industrial Corridor or along the fiber routes.

Perhaps the simplest benefit the EDA grant offers is approximately $2.74 million in avoided costs to the City. While this does not cover the entire cost to serve the City's target area, it gives the City a notable head start toward achieving its connectivity goals.

1.5 The City Can Consider Three Potential Business Models with Varying Degrees of Risk

*We recommend considering a **dark fiber-to-the-premises (FTTP) model** in which the City deploys, owns, and operates an FTTP network and seeks a private partner to invest in electronics to "light" the network, and offers services to end users.*

We evaluated three core business models for the City to consider, two of which assume the City will seek a private partner. Each model assumes the City will invest in FTTP and take some financial and operating risk, even if the City pursues a public–private partnership based on one of these models. While a private company could come into the City and invest directly without requiring the City to take financial risk of its own, this private investment approach is not a true partnership, and the private sector has not signaled to the City a willingness to take this approach.

In a **dark FTTP model**, the City directly deploys an FTTP network, and provides a private partner with a license to use the City-owned fiber; the partner "lights" the fiber, and offers services to end users. In this model, the partner would pay a per-passing cost to the City to help offset the public-sector costs for fiber deployment. In this model, the City is responsible for all construction and maintenance of the fiber, but does not manage network electronics, customer premises equipment (CPEs), or any customer contracts.

In a **wholesale service model**, the City deploys an FTTP network and "lights" the fiber, and then offers lit services to one or more private providers to offer service to end users. The City is responsible for fiber construction and maintenance as well as all network electronics, including replenishments and vendor contracts.

In a **retail service model**, the City deploys an FTTP network, "lights" the network, and directly offers services to end users. In this model, the City will construct and maintain an FTTP

[7] Examples include Netflix, Vonage, Yahoo, Dropbox, etc.

network, "light" the fiber and maintain all network electronics, and market and sell services to retail customers. The City is responsible for customer service at every level in this model, and enters the local market as a direct competitor to existing providers.

Table 12 describes the City's and a partner's responsibilities in each of the models. It is important to note that certain aspects of a partnership may be negotiable, but that we recommend a division of responsibilities as outlined below. A partnership should help manage the City's risk, and substantially modifying this division of responsibilities could place undue risk on the City. For example, we would view with skepticism a dark FTTP partnership that required the City to invest in both the fiber network and network electronics because it shifts much of the risk onto the City.

The three models we evaluated can be categorized from lowest to highest risk to the City: a dark FTTP model entails the least risk, a wholesale service model is riskier than the dark FTTP model, and a retail service model involves a great deal of risk to the City.

Table 1 shows a visual representation of the responsibilities that would fall to the City under each of the potential business models, and thus the potential degree of risk.

Table 1: Three Potential Business Models

City Responsibility	Model		
	Dark FTTP	Wholesale Service	Retail Service
Invest in and own outside plant (OSP)	X	X	X
Fund and perform fiber maintenance	X	X	X
Invest in own network electronics		X	X
Replenish network electronics		X	X
Manage electronics vendor contracts		X	X
Purchase and maintain CPEs			X
Marketing and customer acquisition			X
Conduct customer service			X

1.5.1 A Dark FTTP Model Will Enable the City to Partner with the Private Sector and Balance Risk

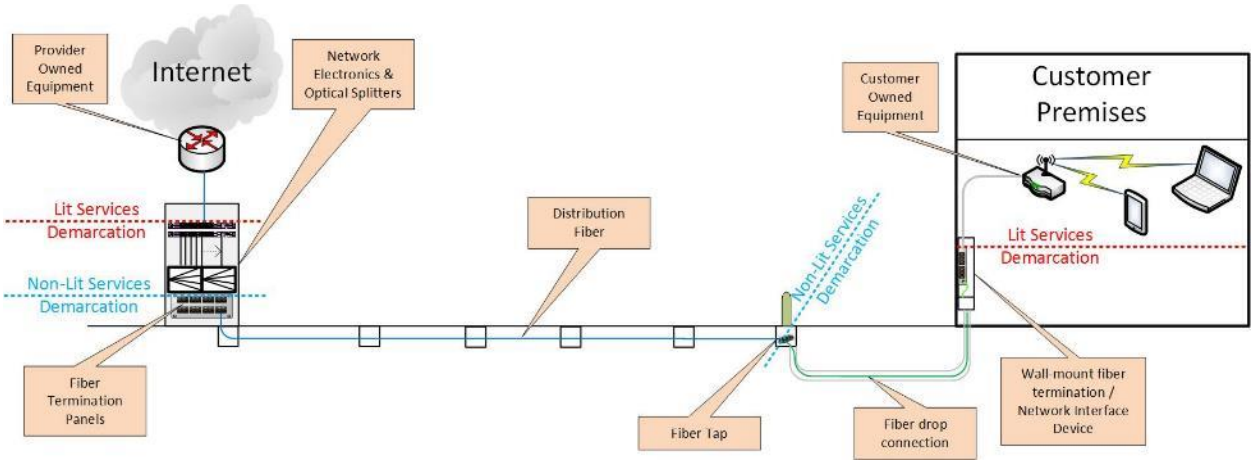
We believe the dark FTTP model represents the best balance of shared risk and reward between the City and a potential partner. In this model, the City is responsible for a substantial capital investment to deploy fiber to the Industrial Corridor (and, perhaps, eventually the entire community), but its risk is offset in part by retaining ownership of an asset. Further, this model assumes the private partner will make a substantial investment of its own in network electronics, and the marketing, advertising, and support responsibilities associated with providing service to end users.

The City is already versed in making infrastructure investments on various public works projects, and will not have to employ a broad range of new staff to learn unfamiliar skill sets such as providing technical support over the phone to customers who call for help with issues related to the equipment in their businesses or homes. Some of the responsibilities for maintaining the dark FTTP network will require additional staff, but we anticipate less than four full-time positions will be necessary to support the City's dark FTTP deployment (see Section 7).

Further, as we noted, the City's approximately $2.74 in grant funding to support conduit and fiber installation is a meaningful step toward infrastructure investment, which will help lower the City's risk even further. Unlike other communities that may not have access to grant funding, the City already has a head start on making an investment in fiber and conduit. If the City can supplement this investment to strategically deploy a dark FTTP network to its preferred target area in the Industrial Corridor, it may become an attractive partner for the private sector.

An example of the demarcation points between the City dark FTTP and the partners' electronics is shown in Figure 1. The Figure also shows the potential demarcation points for lit services (wholesale model).

Figure 1: Demarcation Between City and Partner Network Elements[8]



1.5.2 A Wholesale Service Model Can Enable Multiple ISPs to Serve Customers

A wholesale service model is a lower-risk option than the City choosing to directly provide retail service, but it still represents a significant financial and operational risk for the City. Because the financial and operational risk for the fiber *and* the network electronics falls to the City, any private partner(s) with which the City contracts will automatically shoulder less of the

[8] The analysis in this report assumes that the private partner will install fiber drop cables, and will cover the cost of these installations. A potential variation on this arrangement is for the City to pay for the drop cables. The demarcation is one variable that will be negotiated during a procurement process.

partnership's risk. That is, there will be an imbalance in the shared risk and reward between the parties, which puts the City at a disadvantage from the outset.

This model may still be attractive, however, if the City wishes to retain control of the fiber and the network electronics while shifting responsibilities such as operations, customer support, and marketing to the private sector. If the City is willing and able to take on additional financial and operational risk associated with network electronics—for example, maintaining vendor licenses, upgrading firmware, and periodically replacing network electronics—a wholesale service approach may be a viable option. This model can enable multiple ISPs to use the City's network to offer services by lowering costly barriers to entry.

1.5.3 A Retail Service Model Is High Risk

The only model that does not anticipate some level of partnership is the retail service model, where the City would construct, own, and operate a fiber network over which it would directly provide services to end users. While this model gives the City complete control, it also represents the greatest possible risk to the City. In this model, the City would be responsible for all aspects of network construction and administration, as well as marketing and advertising services to potential customers, providing services, and offering customer support. This is a high-risk model, because all financial and operational responsibility for every aspect of the network and service falls to the City; the City must compete with existing providers that have an established presence in the market and can make use of economies of scale; and the City would be entering the market as a new provider.

*Our analysis indicates that it would cost approximately **$5.4 million** for the City to deploy a dark fiber network to the Industrial Corridor. This cost is in addition to the $2.74 million the U.S. Economic Development Administration awarded the City in 2016.*

There are numerous steps the City must take to implement a retail service model that provides service to end users. Even then, there is no guarantee that the City can successfully manage an inherently unpredictable for-choice business that requires an ability to compete in the marketplace against established providers. If the City opts to pursue this model, it will likely need to create new positions for additional staff; determine whether the fiber optic enterprise will be housed in an existing City department or will be a separate entity; develop a range of policies related to use, including compliance with digital millennium copyright act (DMCA) requirements and other state and federal regulations; and launch a marketing campaign. These are merely the steps necessary to get started. While these considerations are substantial, the complexities associated with ongoing operations are especially significant.

1.6 Estimated Fiber Costs and Phased Deployment

To ensure our design cost estimates reflected City goals and the reality of the infrastructure and market in Hayward, our engineers conducted extensive desk surveys and an onsite field survey, and engaged City staff in discussions throughout the course of this project. Our analysis examined potential costs associated with bringing FTTP to the Industrial Corridor, and a possible phased deployment.

1.6.1 Industrial Technology and Innovation Corridor

Based on a conceptual, high-level design prepared by our engineers, we developed cost examples for the City to consider. While we believe that a dark FTTP model will best meet the City's needs, we conducted analysis for a retail service model as well (see Section 6). This helps illustrate the difference in costs that the City might incur if it opts to pursue a retail service model—if, for example, the City is unable to find a partner to lease dark fiber and still wishes to ensure service to select portions of the community.

Here, we look at the cost to deploy *only* the FTTP outside plant (OSP)[9] infrastructure. This is the total capital cost for the City to build a dark FTTP network for lease to a private partner, which will then provide retail service over the FTTP infrastructure. In other words, this portion of our analysis is consistent with the dark FTTP business model we outlined in Section 1.5.1.

We estimate that a dark FTTP model, in which the City deploys a dark FTTP network to the Industrial Corridor, will cost approximately $5.4 million. As we noted, such a model does not include costs for network electronics, subscriber equipment, or fiber drop cables.

In this model, the partner would take on the costs for the network electronics, which represents approximately a $3 million upfront investment, based on our analysis. Further, the partner would also be responsible for network electronic replenishments and annual fees associated with network electronics, such as vendor licenses.

Table 2, below, outlines the projected costs for this model, and Section 6 provides additional details about this approach.

[9] OSP, known as "layer 1" or the "physical layer" of the network, is both the most expensive part of the network and the longest lasting.

Table 2: Breakdown of Estimated Dark FTTP Cost

Cost Component	Total Estimated Cost
OSP Engineering	$0.5 million
Quality Control/Quality Assurance	0.2 million
General OSP Construction Cost	3.2 million
Special Crossings	0.7 million
Backbone and Distribution Plant Splicing	0.1 million
Backbone Hub, Termination, and Testing	0.5 million
FTTP Lateral Installations	0.2 million
Total Estimated Cost:	$5.4 million

1.7 Recommendations and Next Steps

Section 2.1 indicates that the City is served similarly to comparable markets. While there are some gaps in available service, many of the City's businesses currently have access to fiber-based connectivity or alternative technologies that offer sufficient speeds for their business needs. We note that, based on our experience and analysis, Hayward is ahead of similar cities—even by simply commissioning this Master Plan, the City has set itself apart from many of its peers. Although there is not great urgency for the City to fill gaps, this section describes potential steps the City can take increase broadband availability—especially to businesses—and thereby potentially advance its standing in a global economy.

We recommend that the City:

- *Consider a dark FTTP model*
- *Adopt a dig-once policy*
- *Audit its infrastructure and records*
- *Implement a records management system*
- *Construct a fiber segment to connect an Internet POP*
- *Expand FTTP to select Industrial Corridor areas*
- *Signal to the private sector through a procurement process*
- *Lease dark fiber strands to select Industrial Corridor customers*

One of the most important decisions the City must make, which will inform next steps, is which business model to pursue. **We believe the City will achieve the most favorable outcome by pursuing a dark FTTP model, in which it expands its existing dark fiber and conduit, and grants access to its network to private entities that will offer services.** We believe this approach represents shared investment and risk for the public and private sector, and may help offset the City's financial obligations.

In this approach, the City constructs and owns the fiber network and the private partner "lights" the fiber with electronics and directly serves end users. This model is currently

underway on a large scale in the City of Westminster, Maryland, with its private partner Ting Internet,[10] and in the City of Huntsville, Alabama, with its private partner, Google Fiber.[11]

Retaining ownership of the fiber OSP assets is important to mitigate risk; owning assets is a way for the City to retain some control of the network, and to have some say in when, where, and how it is built. This approach includes a scenario in which a community pursues a partnership with a private provider; a good way to balance risk and reward is for the City to maintain ownership and control of the assets while it assigns operational responsibilities, including the capital investment for network and consumer electronics, to a private partner. This enables both parties to perform functions that highlight their strengths while not having to expend resources and energy attempting to carry out tasks for which they are ill-equipped.

There is risk to the City in this model because it requires a substantial capital investment to build (or expand) and maintain the fiber network, but it also gives the City a degree of control because the City owns the network. In the event the partnership fails for any reason the City owns its assets and can take over control of the network directly or engage a different partner. This partnership model where the City retains ownership of the fiber assets will likely enable the City to make use of its existing fiber assets, and retain more control than simply relying on the private sector, while tempering risk in a way that a retail model cannot.

We note that recent developments with Google Fiber—particularly its apparent scaling back of infrastructure deployment—do not change any of CTC's recommendations in this report.[12] The City is focused on finding ways to serve business customers, while Google Fiber has historically focused on providing residential service.

1.7.1 Initiate a Procurement Process to Deploy Dark FTTP Network

To initiate the proposed lease of the dark FTTP network, we recommend considering two steps. First, issue a request for information (RFI) or request for proposal (RFP). Second, initiate the process to conduct the detailed design and the installation of the dark FTTP network.

1.7.1.1 Initiate a Procurement Process to Communicate the City's Plans to the Private Sector

If the City pursues a dark FTTP or a wholesale service model, it may be prudent to issue a request for information (RFI) or request for proposal (RFP) to signal to the private sector that

[10] Wiley Hayes, "Westminster, Md. Partners with Private Sector to Broaden Fiber-Optic Network," *GovTech*, last modified October 26, 2015, http://www.govtech.com/dc/articles/Westminster-Md-Partners-with-Private-Sector-to-Broaden-Fiber-Optic-Network.html.

[11] Frederic Lardinois, "Google Fiber Is Coming To Huntsville, Alabama," *Tech Crunch*, last modified February 22, 2016, http://techcrunch.com/2016/02/22/google-fiber-is-coming-to-huntsville-alabama/.

[12] Jon Brodkin, "Google fiber division cuts staff by 9%, "pauses" fiber plans in 11 cities," *ArsTechnica*, last modified October 25, 2016, http://arstechnica.com/information-technology/2016/10/google-fiber-laying-off-9-of-staff-will-pause-plans-for-10-cities/.

the City is willing to invest in infrastructure and is seeking a partner. The process can also provide feedback on price point a potential partner might consider (see Section 7.4).

An RFI process allows the City to cast a wide net and ask the private sector for input on potential business models and partnership configurations. An RFP is not as broad as an RFI, but allows the City to set the parameters of the business model it hopes to pursue in a partnership, and define specific requirements it will have of its partner(s). If the City can identify its preferred business model and can develop a framework of what it hopes to accomplish through a partnership, the terms defined in an RFP and a potential partner's response can serve as the foundation for an eventual partnership contract.

If the City opts to pursue a dark FTTP model, the procurement process can describe the type of investment the City is seeking from a private provider, the exact service area the City's dark FTTP deployment will target, and thoroughly describe the City's vision. This can lay out very clearly the City's expectations of a partner, and enable potential partners to evaluate the feasibility of partnering with the City.

For a wholesale service model approach, the City may want to start with a brief questionnaire aimed at known ISPs in the region before it moves forward with a full procurement process. This may identify providers that would be willing to purchase wholesale service from the City, and give the City a sense of what type of potential revenue it may be able to expect from a partnership.

1.7.1.2 Initiate a Procurement Process for the Detailed Design and Construction of the Dark FTTP

Below is the high-level outline of the tasks the City needs to undertake to move from the approval stage to completion of the fiber network.

- Draft, release, and administer an RFP for detailed engineering design based on the design presented in the feasibility study
- Perform oversight of the detailed engineering vendor to obtain engineering deliverables required for construction
- Draft, release, and administer an RFP for fiber construction
- Perform oversight of the fiber construction vendor as it builds the network
- Collect acceptance testing and as-built documentation from fiber construction vendor
- Perform quality assurance (QA)/quality control (QC) of the fiber construction vendor's work

Just to provide some additional context of what the detailed engineering vendor and fiber construction vendor typically provide, we have provided a high-level outline of their tasks below.

The detailed engineering vendor's responsibilities include:

- Field verification of the proposed fiber routes;
- Develop computer-aided design (CAD) drawings for detailed fiber routes;
- Identification and preparation of all permits required for the construction (ROW, environmental, bridge crossing, railroad crossing, etc.); and
- Final engineering deliverables including CAD drawings, Bills of Material, permit packages, splicing details.

The fiber construction vendor's responsibilities include:

- Construction of the fiber infrastructure;
- Delivery and storage of construction materials;
- Provide the City with as-built documentation and acceptance testing of their work; and
- Correct any deficiencies in the fiber infrastructure identified in the QA/QC process.

1.7.2 The City Can Take Small Steps with Potentially Big Rewards Toward Achieving Its Goals

There are opportunities for the City to improve telecommunications services in the community with minimal capital investment. A phased fiber construction approach would allow the City to invest in infrastructure over time that facilitates the goal of eventually providing FTTP to all residents and businesses in the City.

At a high level, we believe the City can take on the following projects to help advance toward its goals without requiring a multi-million-dollar investment in the near term:

- We recommend that, in the coming months, the City consider modifying its ROW ordinance to provide the City with the option of obtaining conduit on routes where utilities are performing excavation. This type of "Dig Once" policy would require any excavation plans fitting specified criteria to include municipal use conduit or fiber, unless the City opts out of the excavation project.
- Conduct an in-depth audit of existing fiber infrastructure and corresponding records, and implement a thorough records management program. This will support the City's current efforts, and will enable a stronger enterprise going forward.
- Spend approximately $60,000 to construct a roughly 0.3-mile segment of fiber to the Internet POP[13] at 25070 O'Neil Avenue. If the City expands fiber and conduit through the Industrial Corridor as planned, and begins offering dark fiber services to high-end customers, this will add value to that offering.

[13] An alternative is to extend fiber to connect to the POP at the BART station. The estimated fiber cost to complete this extension is also approximately $60,000. The City could choose to connect to either location, or to both POPs. To facilitate initial dark fiber leases, just one POP is required.

- Begin expanding FTTP to select portions of the Industrial Corridor, and signal to the private sector through a procurement process that the City seeks one or more partners to offer services over a City-owned fiber network.
- Offer dark fiber services to some locations to support key customers in the Industrial Corridor.

1.7.2.1 Consider Modifying the City's ROW Ordinance to Include a Dig-Once Policy

Future public works projects should also be leveraged to expand the City's conduit and fiber network. Projects such as utility replacements, road widenings, and other major capital improvement efforts may provide the opportunity to install conduit and fiber optics without the need for surface restoration. A coordinated Dig Once ordinance, which typically requires the installation of City-owned communications infrastructure in excavation projects where the City has determined that it is both financially feasible and consistent with the City's long-term goals, is recommended to leverage these types of public and private excavation projects. Section 4.3 further discusses our Dig Once recommendations.

Like Dig Once is a concept called "One-Touch Make-Ready," which applies to infrastructure that will be placed on electric or communication poles. Enacting a One-Touch Make-Ready ordinance is similar to implementing a Dig Once policy in that both aim to simplify the process of deploying infrastructure through coordinated efforts among entities and agencies. The goal is to streamline the process of deploying future-generation communications infrastructure throughout as much of a locality as possible, while minimizing cost and disruption to the ROW.

This analysis does not include a recommendation that the City enact a One-Touch Make-Ready ordinance at this time because our design anticipates a fully underground network. If the City expects to deploy additional infrastructure on poles in the future, or partner with a private entity that may deploy an aerial network, it may be prudent to explore a One-Touch Make-Ready policy.

It is important to note that Dig Once policies typically govern ROW spaces that a locality owns and over which it has control, whereas a One-Touch Make-Ready ordinance generally applies to poles that the locality may not own, or to which it may not have rights. While these poles are often located in the locality's public ROW, it is unclear to what degree a locality can direct pole owners to provide access to their poles. While CTC cannot provide legal guidance, we note that

Louisville Metro Government in Kentucky[14] and Metro Government of Nashville and Davidson County in Tennessee[15] are currently involved in litigation over One-Touch Make-Ready policies.

In conjunction with the dig-once policy, the City can review its permitting process to determine whether there are areas where these processes can become more streamlined. However, we offer caution to ensure that any streamlining does not compromise coordination and long-term ROW management.

1.7.2.2 Conduct Asset Audit and Carefully Manage any Existing and Expanded Fiber and Conduit Assets

One of the most important steps the City can take is to ensure that it is carefully managing its assets, including conduit and fiber. Whether the City opts to expand its assets or maintain the status quo, fiber strand management on the front end can have enormous benefits over the life of the fiber network, and can save potential confusion and cost in the long run.

One initial step toward this end is to conduct a thorough evaluation of all fiber management documentation the City currently has in place. There may exist documentation in the form of spreadsheets, correspondence, or simple text documents. A full fiber management system may be a necessary long-term investment, but the City cannot evaluate its needs until it understands what it already has available. An audit of existing documentation will enable to City to identify gaps in its fiber strand management—and if any documentation already exists, this can be used to develop an initial fiber map, which can then be built onto as the City expands its network.

We encourage the City to maintain detailed records of all its fiber strands and their locations. The importance of keeping meticulous records does not cease once the network is fully constructed. On the contrary, it is critically important for all ongoing and additional connections made on the network to be documented. Updates should be made to "as-built" and strand management documentation in real time to avoid making mistakes later, misremembering strand allocations, or simply forgetting important items altogether.

Documenting the network's fibers and strand usage is crucial, and making sure that City staff has unrestricted access to its strand management tools is equally important. Even if the City works with an outside firm to manage this process, we believe that it is a worthwhile investment to appoint a staff person who will become knowledgeable about and maintain

[14] Brodkin, Jon, "Charter, like AT&T, sues Louisville to stall Google Fiber," *ArsTechnica*, last modified October 5, 2016, accessed January 5, 2017, http://arstechnica.com/tech-policy/2016/10/charter-like-att-sues-louisville-to-stall-google-fiber/.

[15] Fingas, Jon, "Comcast sues Nashville over law that helps Google Fiber," *Engadget*, last modified October 26, 2016, accessed January 5, 2017, https://www.engadget.com/2016/10/26/comcast-sues-nashville-over-google-fiber-law/.

documentation regarding the location of strands on the City's network. Further, using an intuitive and straightforward system and/or software is also key; this will help guard against such critical knowledge being inaccessible to future iterations of City staff and leadership.

Another key aspect of taking care of its infrastructure is to ensure that the City has access to an on-call fiber maintenance contractor that can perform network repairs on an emergency basis. This contractor should be empowered and required to access the City's fiber management system—even if it is simply a shared spreadsheet—to record any network changes as close to real time as possible. The City will benefit tremendously from taking an inventory of its records and ensuring that anyone involved with the network going forward is accountable for this as well.

As we note in Section 7.4.3, the City can choose to hire new staff, engage existing staff, or contract out for various responsibilities related to managing the network. Generally, the degree to which a locality elects to maintain certain responsibilities internally or contract them out is specific to the unique needs of the locality. That is, each locality has its own structure, hierarchy, and collection of staff with various skill sets, and only the locality can determine which functions it can manage internally versus which responsibilities are best delegated to highly skilled contracted vendors. However, although the City may end up contracting out most responsibilities, we encourage keeping documentation creation and management as an internal function for either existing or new City staff. While there are many competent firms that can perform GIS and other network documentation functions for the City, we believe that because the City has a vested interest in the documentation's integrity, fiber documentation and records management is best performed internally.

1.7.2.3 Construct 0.3 Miles of Fiber to Connect to Internet Point of Presence

We recommend the City construct fiber to the Internet POP at 25070 O'Neil Avenue. This requires approximately 0.3 miles of fiber construction at a cost of approximately $60,000. Establishing a presence at the Internet POP allows dark fiber customers to access the services offered at the POP. Services could include hosting servers and network electronics in a datacenter environment, accessing multiple ISPs at rates lower than can be achieved at the customer's premises, and direct access to applications providers that may reside at the POP (such as voice over Internet protocol, or VoIP, services providers).

With the connection to the Internet POP, ISPs may be interested in procuring dark fiber from the City to serve businesses in the Industrial Corridor or along the fiber routes. The dark fiber services may also be used by wireless ISPs to provide connectivity to telecommunications towers and distributed antenna systems to provide backhaul for wireless service. Expanded wireless service may be a way to meet some of the network services needs for businesses in the Industrial Corridor.

1.7.2.4 Deploy FTTP In a Concentrated Area in the Industrial Corridor

The City may want to deploy dark FTTP to select areas of the Industrial Corridor. The City should select a targeted area for deployment where it can reach the maximum number of customers with the least amount of fiber construction. The City should take into consideration the following factors when choosing such an area:

- Density of businesses along specific routes;
- Types of businesses within the area (i.e. technology firms typically require more network services than manufacturers);
- Feedback from businesses in the area on their existing needs;
- Presence of multi-tenant office buildings; and
- Feasibility of fiber construction (i.e. minimal railway and interstate crossings, minimal environmental impact, and presence of existing conduit and fiber).

Once the City has selected a target area, the FTTP network should be constructed to support a full FTTP deployment in the future, which may require additional conduit and larger handholes than currently necessary. To complete an FTTP network that will serve approximately 15 percent of businesses, we estimate a cost of approximately $2.3 million.

*Our analysis indicates that it would cost approximately **$2.3 million** to serve approximately 15 percent of businesses in the Industrial Corridor.*

Note that because our projection in Section 1.6.1 shows that it would cost approximately $5.4 million to deploy FTTP to the entire Industrial Corridor, the projected cost to serve only 15 percent of businesses may seem high. However, whether the City deploys FTTP to 15 percent or 100 percent of businesses in the Industrial Corridor, the backbone must be built out and fiber routed to an aggregation point to support network core development.

It is also important to note that this targeted FTTP network will require the City to establish many of the policies and procedures required to support a larger scale FTTP deployment. This approach can help the City capture the cost to build and operate the network, and helps project the potential cost to expand the network to the full Industrial Corridor and other areas.

1.7.2.5 Offer Dark Fiber Strands for Lease to Select High-End Customers

One of our key recommendations is that the City continue to expand its fiber and conduit network as planned, specifically through the Industrial Corridor. The expanded fiber and conduit system will allow the City to begin offering dark fiber services to high-end customers. As customers purchase dark fiber services, the City will construct additional fiber and conduit to the customers—thus expanding the footprint of the existing network.

Dark fiber services include the City offering fiber optic strands between locations without active electronics. The customer would be responsible for the electronics to activate, or "light," the fiber. In this scenario, the City would only be responsible for maintaining and repairing the fiber. This approach minimizes the City staffing required, as the City would be responsible *only* for the network electronics for the City network. Fiber maintenance and repair can be contracted to a third party, and most of the costs associated with maintaining and repairing the fiber would already be required to run the City's network.

1.8 Expanding FTTP to Residential Customers Adds Considerable Cost

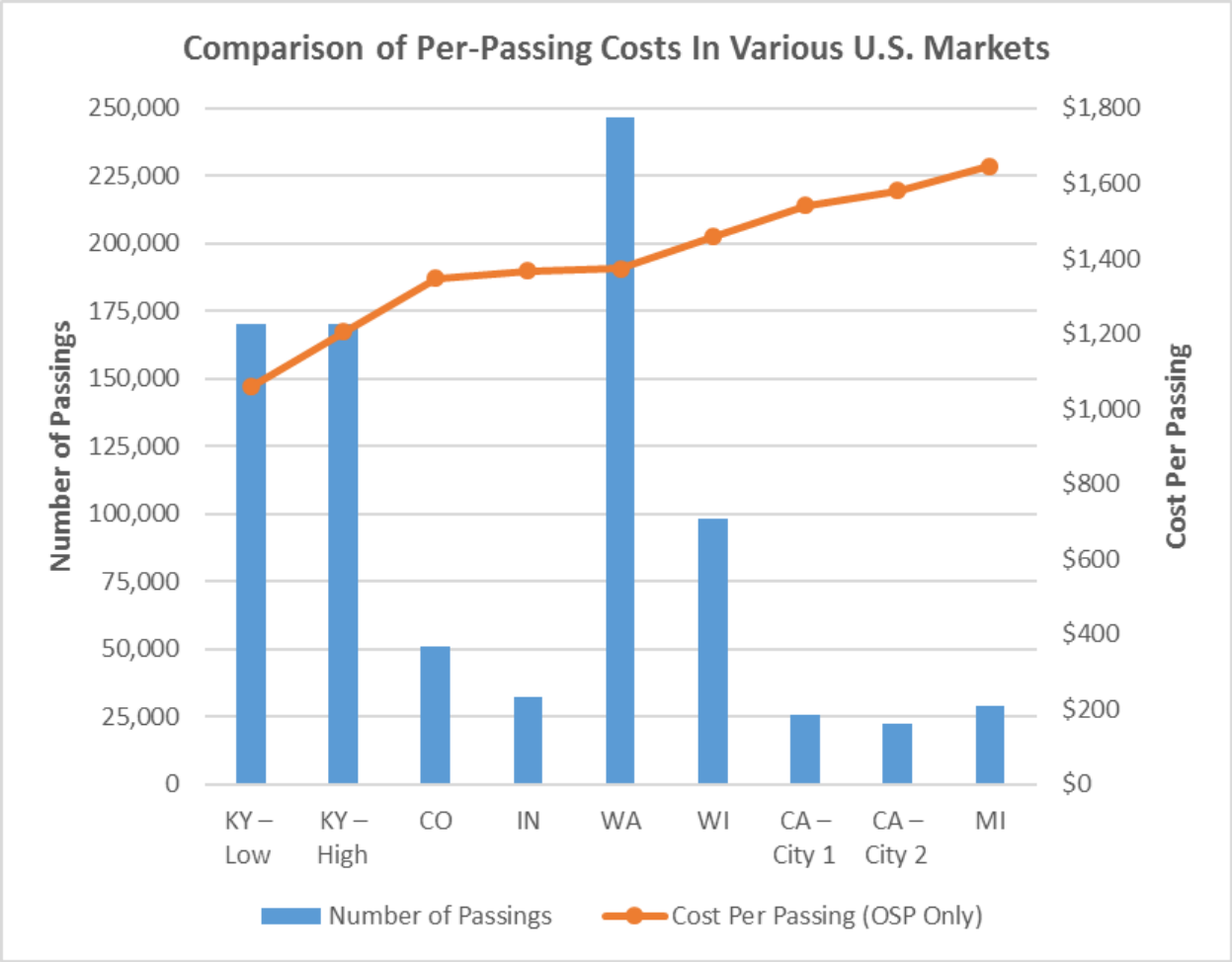
The City aims to eventually consider deploying residential FTTP in addition to serving the Industrial Corridor, and potentially other business customer locations in Hayward. Considering this desire to serve residential users, it is important to understand the potential costs associated with FTTP deployment, and particularly with providing retail service to residential users.

We conducted a high-level analysis of the cost per passing in various states in the U.S., including California, Colorado, Indiana, Kentucky, Michigan, Washington, and Wisconsin. The "per passing cost" is the approximate cost to pass a premises with fiber optics. This cost does not include the cost of the drop cable or the CPEs; it is simply the cost to run fiber in front of a location. Our analysis showed an average per-passing cost of just under $1,400, based on the per-passing costs in the several communities we evaluated.

It is important to note the per-passing costs ranged from $1,100 to over $1,600; as such, we encourage localities to use caution when examining costs estimates from other communities. It is important to note the per-passing costs ranged from $1,100 to over $1,600; as such, we encourage localities to use caution when examining cost estimates from other communities. Using this cost range and assuming there are 46,000 residential passings in Hayward results in a fiber per-passing cost estimate of $50.6 million to $73.6 million. Actual costs will depend on housing densities, construction types, traffic control requirements, make-ready, and other factors.

Still, even with this caveat, the City can begin to understand through other communities' experience the kinds of costs it may incur in an FTTP deployment that includes residential customers. Figure 2, below, shows the range of costs that we considered from various markets throughout the U.S. Note that these examples point to a scenario that considers *only* the FTTP outside plant (OSP), or the fiber and conduit associated with the network. These costs do not consider the cost of network electronics necessary to "light" the network. Additionally, these do not include the cost for installing the customer drop cable, which is the fiber extension that connects a customer's premises to the fiber network.

Figure 2: Comparison of Per-Passing Costs in Various U.S. Markets



2 Broadband Needs and Trends

The need for high-speed broadband is increasingly evident as consumers become more educated on the merits of ultra-fast connectivity. Businesses of all sizes in every industry are finding that their ability to compete successfully depends more than ever on their access to a broadband connection. From manufacturing organizations that rely on high-speed connectivity for automation,[16] to small business owners that need broadband to complete customer transactions and provide WiFi to patrons, businesses' demand is steadily growing.

Further, the workforce is becoming increasingly mobile, and businesses that wish to effectively compete must be aware and accommodating of this reality. Cloud computing and reliable wireless broadband services are two potential areas of significant need for business customers, and examples of accommodating a mobile workforce. Having employees who are mobile and can work from anywhere potentially reduces overhead costs and enables companies to be nimble. As reliable wireless service becomes an integral component of effectively doing business, companies find this is an area where they need significant improvement in dependable connectivity.

Cloud computing—which refers to information technology services, such as software, virtualized computing environments, and storage, available "in the cloud" over a user's Internet connection—is also changing the way businesses operate. The business drivers behind cloud computing are ease of use and, in theory, lower operating costs. For example, business owners understand that adding a new employee to their growing business requires ample resources. This includes purchasing a computer, installing necessary software, and ongoing software license management. Also, local server and application administration requires either dedicated staff or contracted support.

As an alternative, cloud services eliminate the need to maintain local server infrastructure and software, and instead allow the user to log into a subscription-based cloud service through a web-browser or software client. The cloud is essentially a shift of workload from local computers in the network to servers managed by a provider that make up the cloud. This, in turn, decreases the end user's administrative burden for information technology (IT) services.

Even where businesses' needs may be mostly met, many communities have areas that lack reasonably priced, high-speed options for residential customers. Because of this, a pervasive challenge that impacts local businesses is the area's ability to attract and recruit top professional talent. The availability of broadband service varies widely throughout the U.S., and

[16] Chopra, Aneesh, "Insourcing American Jobs: The Importance of "Smart" Manufacturing, Broadband, and IT," *The White House*, last modified January 14, 2012, accessed September 15, 2016, https://www.whitehouse.gov/blog/2012/01/14/insourcing-american-jobs-importance-smart-manufacturing-broadband-and-it.

the small- to medium-size business market tends to lack a range of options to meet these users' needs. Cable and digital subscriber line (DSL) service is typically available to businesses, and options for higher-end services like Metro Ethernet are often available in urban areas. But many communities lack a mid-level service that offers more capacity and reliability than residential-grade cable or DSL, but is less costly than Metro Ethernet and similar dedicated services targeted at large organizations.

This gap represents a market niche that we believe the City may be able to fill by deploying FTTP that can support fiber-based business connectivity. Even if the City does not directly offer services, it can fill broadband availability gaps by enabling one or more private providers to offer services over a robust fiber optic network.

2.1 The City Is Served Similarly to Other Markets, but There Are Still Gaps in Service

Many of the City's services—especially the lowest-priced offerings—provide download speeds far below the Federal Communications Commission (FCC)'s updated definition of broadband of at least 25 Mbps download speed.[17] Further, these tiers may even be "up to," services, which means that the actual speed a customer experiences is less than the advertised amount. For example, if a customer subscribes to an "up to" 5 Mbps service, they may experience speeds as low as 1 Mbps or even less. Given the FCC's updated definition, these services cannot technically be classified as broadband.

In some cases, the available service tiers that would meet the minimum definition of broadband are priced much higher than many of the City's consumers may be able to afford. Unfortunately, this is not unique to the City. On the contrary, our analysis shows that the available speed tiers and price points in the City are comparable to other markets throughout the U.S. In fact, some of the City's existing available service offerings are priced lower for higher service tiers than in other markets. Further, some businesses in the Industrial Corridor are limited to only DSL service.

As the City considers how to pursue a fiber deployment, it may want to focus on gaps in affordable mid-range service offerings. Some subscribers may opt to purchase low-tier service because it meets their needs, but the current market does not adequately meet the needs of subscribers that desire affordable mid-range service. This often applies to small- and medium-sized businesses that have limited funds to allocate to telecommunications spending, but that require fast, reliable service to conduct their day-to-day business.

[17] "2015 Broadband Progress Report," *Federal Communications Commission*, last modified February 4, 2015, accessed September 1, 2016, https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2015-broadband-progress-report.

These users, and potentially others, likely desire more robust and affordable service, as well as better upload speeds. The upload speeds available in the City today are either minimal (as low as 1.5 Mbps in some cases), or are priced very high ($249.95 per month for 20 Mbps upload for Comcast's small business service). Though upload speeds may not be as important in some markets, the need for improved upload speeds in a city like Hayward is especially prominent, given its location and large business sector.

If the City can directly or in a partnership focus on filling the gap for mid-range services, it may find that this eases the process of introducing a new broadband offering into the market. Competing directly with existing providers to offer roughly the same service that is available today will not set the City or its partner(s) apart in any way. Our analysis shows that the City and the other markets we evaluated seem "well-served," in that there are several providers offering service in the existing market. However, a new offering that is sensitive to availability and supply challenges can address service gaps.

3 Needs Assessment

The City has a range of broadband user groups and stakeholders, and is especially interested in understanding local businesses' connectivity needs. An important part of understanding the potential success of a municipal FTTP deployment is to determine the perceived need for better connectivity options within the community, and willingness to switch to a different service.

To assist in understanding the demand for fiber connectivity and related services, CTC conducted an online survey of Hayward businesses on behalf of the City. Additionally, we compared available services in Hayward to those in select communities, particularly those that identify as "Gigabit Cities." The analysis in this section helps illustrate with broad strokes the potential desire for fiber-based connectivity in the City.

3.1 Business Survey Results

The business survey was designed to collect a range of data to understand current use of Internet and data services, satisfaction with current service providers, and interest in higher-speed Internet and data service offerings. While the survey should not be considered a truly representative sample of all Hayward businesses, it offers some insight into a potential customer base and market in the City, and provides the City with a starting point to understand the service attributes where it may need to focus its efforts.

In general, the survey shows that:

- Most of the respondents represent small- to medium-size businesses;
- Most respondents are not significantly unhappy with most attributes of their current service;
- More than 40 percent of respondents believe the City should have some role in enhancing broadband connectivity options for businesses in Hayward; and
- Approximately 75 percent of respondents would be very or somewhat willing to switch to a 1 Gbps service for $75 per month, and the willingness steadily drops as the service prices increases.

The full survey results are described in Appendix G: Online Business Survey Results, attached to this Report.

3.2 Comparison of Services in Hayward to Gigabit Communities

As is typical of most cities of similar size in the U.S., the City of Hayward has more than a dozen carriers offering residential, small business, enterprise-grade, and carrier services.

We identified 13 service providers in the Hayward area that offer fiber-based enterprise services, from dark fiber connectivity to data transport services, with speeds that range from 1

Megabits per second (Mbps) to 100 Gigabits per second (Gbps). The carriers that provide enterprise-grade lit services in the Hayward area are:

- Access One
- AT&T
- Comcast
- EarthLink
- Integra
- Level 3
- Line Systems
- MegaPath
- Sonic
- TelePacific
- Windstream
- XO Communications
- Zayo

Four service providers in the City have dark fiber availability:

- Integra
- Level 3
- Line Systems
- Zayo

With respect to the availability and pricing of enterprise-grade services, we have seen that the offerings in Hayward are on par with services in regions of similar size and urbanity. The City has a good mix of facilities-based and non-facilities-based providers, with all the major carriers having an established presence in the City. Prices for services are dependent on bandwidth, location, and network configuration; whether the service is protected or unprotected; whether the service is managed; and whether the customer has a service-level agreement (SLA).[18] The pricing for enterprise grade services have continued to drop over the last several years across the country and we expect that trend to continue in Hayward.

Residential and small business customers in the Hayward area have access to a range of services, though individual service options are dependent on location. The main ISPs in Hayward are AT&T, Comcast, and Sonic. Of these providers, Comcast offers fiber-based internet services up to 2 Gbps. There are also wireless ISPs (WISPs), such as Etheric Networks and Cruzio, and satellite-based services available in the City.

[18] An agreement between a provider and a customer that outlines certain parameters about the service an end user can expect; for example, an SLA may indicate that, in the event of an outage, the provider has a limited amount of time to restore service.

The key difference that we see between the residential and small business services in the City in comparison to other communities that have municipal broadband or fiber-to-the-home (FTTH) by a provider like Google Fiber is the ubiquity of service. Though Comcast offers gigabit services in Hayward, the availability of the service would vary based on location and most likely only if there was a strong business case to warrant an expansion of service to a particular location.

With regard to pricing, we have seen communities with a municipality backed service offering price gigabit services from $50 (in Longmont, Colorado), to $100 (in Westminster, Maryland) per month, with low installation costs.[19] Google Fiber offers its residential 1 Gbps services at $70 per month with waived installation costs with a 1-year contract (typically $100).[20] In comparison, the service provided by Comcast in Hayward is for the 2 Gbps speed at $299.95 per month and requires a two-year contract, plus $1,000 in upfront installation and activation fees.

We have provided an assessment of the broadband service available in the City in Appendix B.

[19] In such cases, the municipality has made a substantial capital and/or operating investment in the network, which potentially enables lower service prices than scenarios of purely private investment.
[20] https://fiber.google.com/cities/kansascity/plans/, accessed June 2016

4 Operational and Business Model Options

There are several business models that the City can consider for its fiber deployment. Overall, we believe that the City's key focus should be to deploy fiber in at least select areas of the community, such as the Industrial Corridor. We believe that the City is most likely to be successful if it focuses on infrastructure, and works to lower barriers to market entry for the private sector. By doing this, the City can encourage competition and increase the range of service options available to consumers, but it does not have to take the enormous risk of becoming a service provider and competing with established providers.

The dark FTTP model will have the least risk for the City because it does not entail operational unknowns like a retail service model. Managing agreements with and providing service to end users is generally expensive and unpredictable, and—unlike the dark FTTP model—is not an approach for which the City is already at least partially equipped. Even a wholesale service model carries more risk than a dark FTTP model because there are additional costs and uncertainties associated with maintaining network electronics.

A dark FTTP model is essentially a public works model, in that fiber is simply infrastructure, which the City is already accustomed to managing. This approach allows the City to play to its strengths, and carefully navigate around its potential vulnerabilities (e.g., not having the expertise to successfully market retail service).

If the City determines that a dark FTTP model does not appropriately achieve its goals in the short term, it can opt to pursue a retail service model, where the City becomes the provider and offers services directly to end users. This model carries greater risk for the City because of the marketing, advertising, competition, and customer service components. While it is challenging for a municipality to become a retail service provider, it is not impossible, and the City can choose this path. We recommend this model only if the City finds that it is for some reason unable to pursue a dark FTTP model, or if it is unable to attract a partner to offer services over a City-owned network.

A wholesale service offering is a "middle ground" between a dark FTTP approach and the City becoming a retail service provider. In a wholesale service offering, the City would deploy the FTTP network, and would add network electronics to "light" the fiber. It would then offer "lit services" over the network to one or more ISPs. This model is attractive in that it potentially enables numerous ISPs to offer services. In a dark FTTP model, on the other hand, one provider may control the strands to a location and may or may not offer lit services to a competing provider. The wholesale service offering could potentially help the City achieve open access goals it may have.

4.1.1 Staffing Considerations for Various Business Models

Each of the potential business models we outlined in Section 1.5 requires some additional staffing. Consistent with our assertion that the dark FTTP model entails the least risk for the City, this model requires the lowest investment in additional staff. Similarly, the retail service model requires the greatest investment in additional staff, while the wholesale service model is between these.

For a dark FTTP model, we anticipate that the City will likely need to add 1.5 full time employees (FTEs) in year one, and 2.75 FTEs in year two and beyond. This model requires primarily fiber infrastructure and management staff, with some minimal sales requirements. The "marketing" necessary for this model is restricted to working directly with providers to encourage them to lease access to the City's dark FTTP network.

Table 3: Staffing for Dark FTTP Business Model

New Employees	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5+**
Business Manager	0.50	0.50	0.50	0.50	0.50
GIS	0.50	1.00	1.00	1.00	1.00
Communications - Sales	0.25	0.25	0.25	0.25	0.25
Customer Service Representative	-	-	-	-	-
Service Technicians/Installers & IT Support	-	-	-	-	-
Fiber Plant O&M Technicians	0.25	1.00	1.00	1.00	1.00
Total New Staff	1.5	2.75	2.75	2.75	2.75

Projections for necessary staff increase slightly for a wholesale service model. We anticipate that the City will need to increase staffing by approximately 2.5 FTEs for this model in year one; 4.25 FTEs in years two and three; and 5.25 FTEs in year four and beyond. Because this model requires the City to "light" the fiber by adding network electronics, IT support staff and additional GIS support is added in this model. The sales requirements for this model will be similar to a dark FTTP model: convince private providers to purchase services on the City's network, though in this case providers will purchase "lit" services from the City.

Table 4: Staffing for Wholesale Service Model

New Employees	Year 1	Year 2	Year 3	Year 4	Year 5+
Business Manager	0.50	1.00	1.00	1.00	1.00
GIS	0.50	1.00	1.00	1.00	1.00
Communications - Sales	0.25	0.25	0.25	0.25	0.25
Customer Service Representative	-	-	-	-	-
Service Technicians/Installers & IT Support	1.00	1.00	1.00	2.00	2.00
Fiber Plant O&M Technicians	0.25	1.00	1.00	1.00	1.00
Total New Staff	2.5	4.25	4.25	5.25	5.25

For the retail service model, these numbers increase again because of the addition of a customer service representative. This function is necessary in a retail model, whereas in other models the City will not directly manage or interact with end users. The retail model anticipates a total of 4.75 FTEs in year one, 8 FTEs in years two and three, and 9 FTEs in year four and beyond.

Table 5: Staffing for Retail Service Model

New Employees	Year 1	Year 2	Year 3	Year 4	Year 5+
Business Manager	0.50	1.00	1.00	1.00	1.00
GIS	0.50	1.00	1.00	1.00	1.00
Communications - Sales	0.50	2.00	2.00	2.00	2.00
Customer Service Representative	2.00	2.00	2.00	2.00	2.00
Service Technicians/Installers & IT Support	1.00	1.00	1.00	2.00	2.00
Fiber Plant O&M Technicians	0.25	1.00	1.00	1.00	1.00
Total New Staff	4.75	8	8	9	9

4.2 Fiber Management Requirements

One of the most important steps the City can take is to ensure that it is carefully managing its assets, including conduit and fiber. Whether the City opts to become a retail service provider or simply provide access to its dark FTTP network, fiber strand management on the front end can have enormous benefits over the life of the fiber network, and can save potential confusion and cost in the long run.

Even—or, perhaps, *especially*—if the City contracts out the construction of fiber network, we encourage the City to maintain detailed records of all its fiber strands and their locations. This process is extremely important during the construction phase of the network, and is easiest to carry out during this phase. As construction is underway to build or expand fiber, the City can allocate a staff member or work with a firm to keep track of its fiber usage, which will lay the foundation for ensuring the network's long-term usability and growth.

However, the importance of keeping meticulous records does not cease once the network is fully constructed. On the contrary, it is critically important for all ongoing and additional connections made on the network to be documented. Updates should be made to "as-built" and strand management documentation in real time to avoid making mistakes later, misremembering strand allocations, or simply forgetting important items altogether.

Documenting the network's fibers and strand usage is crucial, and making sure that City staff has unrestricted access to its strand management tools is equally important. Even if the City works with an outside firm to manage this process, we believe that it is a worthwhile investment to appoint at least one staff person who will become knowledgeable about the location of strands on the City's network. Further, using an intuitive and straightforward system and/or software is also key; this will help guard against such critical knowledge being inaccessible to future iterations of City staff and leadership.

4.3 Dig Once Considerations

We recommend that in the coming months, the City consider modifying its ROW ordinance to provide the City with the option of obtaining conduit on routes where utilities are performing excavation. This type of "Dig Once" policy would require any excavation plans fitting specified criteria to include municipal use conduit or fiber, unless the City opts out of the excavation project. This would require the installation of City communications infrastructure in excavation projects where the City determines that it is both financially feasible and consistent with the municipality's long-term goals to develop the communications infrastructure.

Such a policy can reduce the cost of the conduit to the City by 25 percent to 75 percent relative to the cost of a standalone construction project if it installs or has conduit installed in coordination with other excavation. A Dig Once approach can also reduce the impact on ROW and inconvenience to the public.

4.3.1 The Case for Dig Once Policies

The construction of fiber optic communications cables is a costly, complex, and time-consuming process. The high cost of construction is a barrier to entry for potential broadband communications providers. In addition, available space is diminishing in the public ROW. Moreover, cutting roads and sidewalks substantially reduces the lifetime and performance of those surfaces.

Accordingly, encouraging or requiring simultaneous construction and co-location of facilities in the public ROW will reduce the long-term cost of building communications facilities. This is because there are significant economies of scale through:

1. Coordination of construction with road construction and other disruptive activities in the public ROW.
2. Construction of spare conduit capacity where multiple service providers or entities may require infrastructure.

The reason that these economies are available is primarily because fiber optic cables and installation materials alone are relatively inexpensive, often contributing to less than one-quarter of the total cost of new construction. While material costs typically fall well below $40,000 per mile (even for large cables containing hundreds of fiber strands), labor, permitting, and engineering costs commonly drive the total price toward $200,000 per mile if conducted as a stand-alone project.

Moreover, as the ROW becomes more crowded with communications infrastructure and other utilities, the cost of new construction can grow rapidly. In general, however, it is in the best interests of both public and private entities for the public sector to identify construction collaboration opportunities that share the burden of expensive and duplicative labor-related costs and efficiently use physical space in the ROW.

If fiber construction is coordinated with a major road or utility project that is already disrupting the ROW in a rural area, the cost of constructing the fiber, communications conduit, and other materials can range from $10,000 per mile up. However, if fiber construction is completed as part of a separate stand-alone project, the cost of constructing fiber and communications conduit can range from $95,000 to $200,000 per mile and even higher in complex urban environments.

There are numerous methods for constructing fiber optic infrastructure. Underground construction using protective conduits generally provides the most scalable, flexible, and durable method for developing long-term communications infrastructure, but is also typically more expensive than aerial construction methods requiring attachments to utility poles. Underground construction can be preferable despite the cost because of the limit in the quantity of cables and attachments that can be placed on existing utility poles in more crowded areas, and because aerial construction is more exposed and vulnerable to outside conditions.

Banks of conduits constructed simultaneously or large conduits segmented with innerduct, provide multiple pathways for the installation of multiple fiber optic cables located in close

proximity, with the ability to remove, add, or replace fiber optic cables without disturbing neighboring cables.

Conversely, multiple conduits installed at different times must be physically spaced, often by several feet, to prevent damage to one while installing the next. Once the ROW becomes crowded, often the choices of construction methods are reduced, leaving only less desirable methods and more costly locations for construction of additional infrastructure.

Some of the key savings achieved through coordinated construction efforts include:

- Incremental labor and material costs, through reduced crew mobilization expenses and larger bulk material purchases
- Trenching or boring costs, particularly when coordination enables lower-cost methods (e.g., trenching as opposed to boring) or allows multiple entities to share a common trench or bore for their independent purposes
- Traffic control and safety personnel costs, particularly when constructing along roadways requiring lane closures
- Engineering and survey costs associated with locating existing utilities and specifying the placement of new facilities
- Engineering and survey costs associated with environmental impact studies and approvals
- Lease fees for access to private easements, such as those owned by electric utilities
- Railroad crossing permit fees and engineering
- Restoration to the ROW or roadway, particularly in conjunction with roadway improvements
- Bridge crossing permit fees and engineering

4.3.2 Coordinating Conduit Construction with Other Utility Projects Reduces Costs

Where other types of construction are occurring within or along the ROW, such as road construction or resurfacing, roadway widening, sidewalk repairs, bridge construction, and water or gas main installation, there is an opportunity to place telecommunications infrastructure at an overall reduced cost and with reduced disruption to public ROW.

4.3.3 Standard Specification

The challenge in developing a standard specification for a Dig Once project is to incorporate the requirements of known and unknown users, and to provide sufficient capacity and capability without excessive costs.

We considered the following factors in developing a conduit specification:

1. Capacity—sufficient conduit needs to be installed, and that conduit needs to have sufficient internal diameter, to accommodate future users' cables and to be segmented to enable conduit to be shared or cables added at a future date
2. Segmentation—users need to have the appropriate level of separation from each other for commercial, security, or operational reasons
3. Access—vaults and handholes need to be placed to provide access to conduit and the ability to pull fiber. Vaults need to be spaced to minimize the cost of extending conduit to buildings and other facilities that may be served by fiber
4. Costs—materials beyond those that are likely to be needed will add cost, as will the incremental labor to construct them. Beyond a certain point, trenches need to be widened or deepened to accommodate conduit
5. Robustness—the materials, construction standards, and placement need to reasonably protect the users' fiber, and not unduly complicate maintenance and repairs
6. Architecture—sweeps, bend radius, and vault sizes need to be appropriate for all potential sizes of fiber

We recommend further discussions with private carriers to better develop a specification. It may be appropriate to have a different specification for different projects. Based on our knowledge of similar efforts in other cities, and our analysis, we believe the following standardized approach is suitable for major corridors and can be modified as discussions continue with excavators in the rights-of-way:

- Four two-inch conduit, minimum SDR 11 High-density polyethylene (HDPE), each of a separate color or unique striping to simplify identification of conduits within vaults and between vaults, in the event conduit must be accessed or repaired at intermediate points. Conduit count can be reduced if the Industrial Corridor is assessed not to justify the capacity.
- Composite anti-theft vaults having dimensions of 30" x 48" x 36" (W x L x D), placed in the sidewalk or available green space within the city or municipality ROW, as close to the curb or gutter as possible.
- Vaults spaced at intervals of 600 feet or less, typically at the intersection of a city or municipality block.
- Sweeping conduit bends with a minimum radius of 36 inches to allow cable to be pulled without exceeding pull-tension thresholds when placing high-count fiber cables (e.g., 864-count).
- Conduit placed in the same trench directly above the excavator's infrastructure or, where this is not possible, placed with minimum horizontal offset, to minimize cost.

It is important to note that the proposed approach is designed to create consistency and predictability in costs and deployment and is a necessary compromise among the potential users. If an excavation project has a long-time horizon and sufficient budget, it is possible to customize the Dig Once build, potentially adding conduit or adding vaults at particular locations. This plan provides a baseline approach.

The approach is a compromise among different types of users of conduit constructed under *dig once*. Some users might prefer larger conduit for consistency with earlier builds. Others sought a larger count of smaller conduit, to provide more flexibility and the capability for more providers to participate with smaller cable counts.

Two-inch conduit has become a standard size for a wide range of construction projects, and can support the widest range of use cases. A single two-inch conduit can accommodate a range of multi-cable configurations, while retaining recommended fill ratios, allowing a single user to serve its backbone and "lateral"/access cable requirements with a single, dedicated conduit. A few example cable configurations supported by a single two-inch conduit, which are not supported by smaller conduit, include:

- Two medium backbone cables (e.g., 144-strand to 288-strand cables) and one smaller "feeder" cable (e.g., 24-strand cable);
- Large backbone cable (e.g., 864-strand) and two or more smaller feeder cables; or
- Three medium backbone cables.

Compared to placing fewer, larger conduits segmented with innerduct, this approach provides greater opportunity for individual conduit to be intercepted and routed for future vault installation by a particular user. Additionally, two-inch conduit is substantially cheaper to install and physically more flexible than larger varieties, offering more options to route around existing utilities and other obstructions. Placing four conduit will provide a standard allotment of one or two conduit for State or municipality use and provide capacity for other use and for spares.

We recommend SDR 11 HDPE in all cases except where conduit is exposed to the elements (for example, as a riser to building entry), or under extreme levels of pressure (such as under a train or trolley track). SDR 11 HDPE designs will generally support standard highway and railway loads with less than 1 percent deflection when buried with two feet of cover.

5 Proposed Fiber Design

5.1 Construction Methodology

Our analysis assumes underground construction will consist primarily of horizontal, directional drilling to minimize ROW impact and to provide greater flexibility to navigate around other utilities. There are a variety of methods for underground construction, including plowing, trenching, directional boring, and microtrenching.

Plowing is generally the cheapest construction method, and is performed in unpaved areas where little subsurface rock is present, and the fiber route maintains a straight path (e.g., along a highway). The plowing machine pushes away dirt, inserts conduit and covers the conduit with the backfill.

Trenching is similar to plowing in that a narrow hole is dug and conduit is laid and the bottom of the trench, and is then covered with backfill. Unlike plowing, trenching can be performed in most situations but may not be cost-effective when expensive restoration is required to return the streets or rights-of-way to their original (i.e., pre-installation) condition.

Directional Boring is a process in which conduit is placed by drilling horizontally underground without disturbing the surface. The boring machine pushes a long drill that displaces the dirt underground so that a conduit can be installed. The direction and depth of the directional bore can be altered to navigate around other existing utilities. Directional boring is ideal in situations where trenching is not feasible, such as stream and railroad crossings.

Microtrenching uses a specialized saw blade to cut a small trench about a foot deep into the road or sidewalk subsurface. Very tiny conduit is inserted and covered with backfill, and the cut or “microtrench” is then sealed. Specialized fiber is then blown through the conduit system. Microtrenching is best suited for areas where the cost to perform surface restoration is high and roadway construction is not anticipated.

Underground construction costs are subject to uncertainty related to utilities congestion in the public rights-of-way, and the prevalence of subsurface hard rock—neither of which can be fully mitigated without physical excavation and/or testing. Surface restoration requirements can also greatly impact the cost of underground construction. For, example unpaved land is far less expensive to restore than cobblestone streets.

This analysis estimated costs for underground infrastructure placement using available unit-cost data for materials and estimates on the labor costs for placing, pulling, and boring fiber based on construction in comparable markets.

5.2 Overview of Existing Assets

We compiled an inventory of Hayward's current and planned broadband assets, data, and related information. During the process, the City provided documentation of its fiber and conduit. At the City's request, we focused on how the City's assets could be leveraged for future plans, relying on existing documentation rather than performing new surveys and condition assessments. To complete our assessment, we requested several pieces of GIS data from the City, including:

1. Political boundaries
2. Hydro layers (rivers, wetlands, etc.)
3. Rights-of-way/property Lines
4. Street centerlines
5. Street polygons
6. Sidewalk/parking lot polygons
7. Address points
8. Building polygons
9. City facilities
10. Parks and green spaces
11. Existing conduit and fiber
12. Existing assets
13. Huts
14. Water towers
15. Special development areas
16. Any other utility information

We discussed with the City any known plans for constructing fiber and conduit in the future, including:

1. Planned public works projects
2. Current and planned construction by private contractors, utilities, and others

We note that this type of investigation aligns with our longstanding guidance to municipal clients to take advantage of public or private sector construction that creates an opportunity to install City-owned conduit or fiber.

5.2.1 City Conduit and Fiber

Based on the City's GIS data, the City constructed and operates 14.1 miles of fiber and 13.6 miles of conduit. Approximately nine miles of the infrastructure is a U-shaped core fiber path made up of 60-strand cables, which run along Hesperian Boulevard, Mission Boulevard, and Winton Avenue. In addition, a 48-count cable extends north of Winton Avenue on Hesperian

Boulevard, and 24-strand cables extend along Harder Road from Mission Boulevard to Tarman. 24-strand cables extend the Winton Avenue fiber west of Hesperian Boulevard and down Clawiter Road. There is fiber on Enterprise Avenue from Clawiter Road to a water treatment plant. The City also expects to install fiber as part of a project related to California State Route 238, south of Industrial and north of A Street, along Mission Boulevard.

The City's conduit follows much of the same path, including lateral extensions into City Hall, Fire Stations 1 and 4, Hayward Executive Airport, and the Water Pollution Control Facility. Based on conversations with City engineers, most of the existing conduit is 2 inches in diameter with notable exceptions of the conduit along Hesperian Boulevard between Panama Street and Industrial Boulevard, which is 1.5 inches in diameter, and the newer conduit along Mission Boulevard, which is 2.5 inches in diameter.

Vaults, or pull boxes, are generally located every 500 to 600 feet along the fiber path. City engineers indicated that, with some exceptions, pull boxes along Hesperian Boulevard, Harder Road, Clawiter Road, and Mission Boulevard are generally in good condition. Pull boxes along Winton Avenue require some repair work, and fiber along Hesperian Boulevard from Fire Station 4 to Winton Avenue should be further evaluated. Most of the conduit only contains one cable, which means there is room for future additions. City staff reports that the fiber is primarily used for traffic and fire station communications.

Based on our discussions with the City, there is not innerduct or pull cables in this conduit. Standards for fiber and conduit construction have largely been determined by individual contractors hired by the City. It is our understanding that the City is developing a construction standard for future projects.

An additional 27 miles of planned fiber and conduit construction will expand the City's fiber backbone and allow for future expansion in new areas, including multiple paths through the City's Industrial Corridor. In addition to expanding the reach of the City's core loop, the additional fiber will create several loop structures that will allow for redundant connections over diverse physical paths. The proposed fiber also includes connections to Fire Station 3, Weekes Branch Library, and the Hayward Area Recreation & Park District office as well as a loop through the California State University (CSU) East Bay campus. The new fiber would also pass several other community institutions, including schools, parks, and hospitals. The existing conduit and fiber routes are shown alongside proposed future routes in Figure 3 and Figure 4.

Figure 3: Existing and Proposed City-Constructed Infrastructure

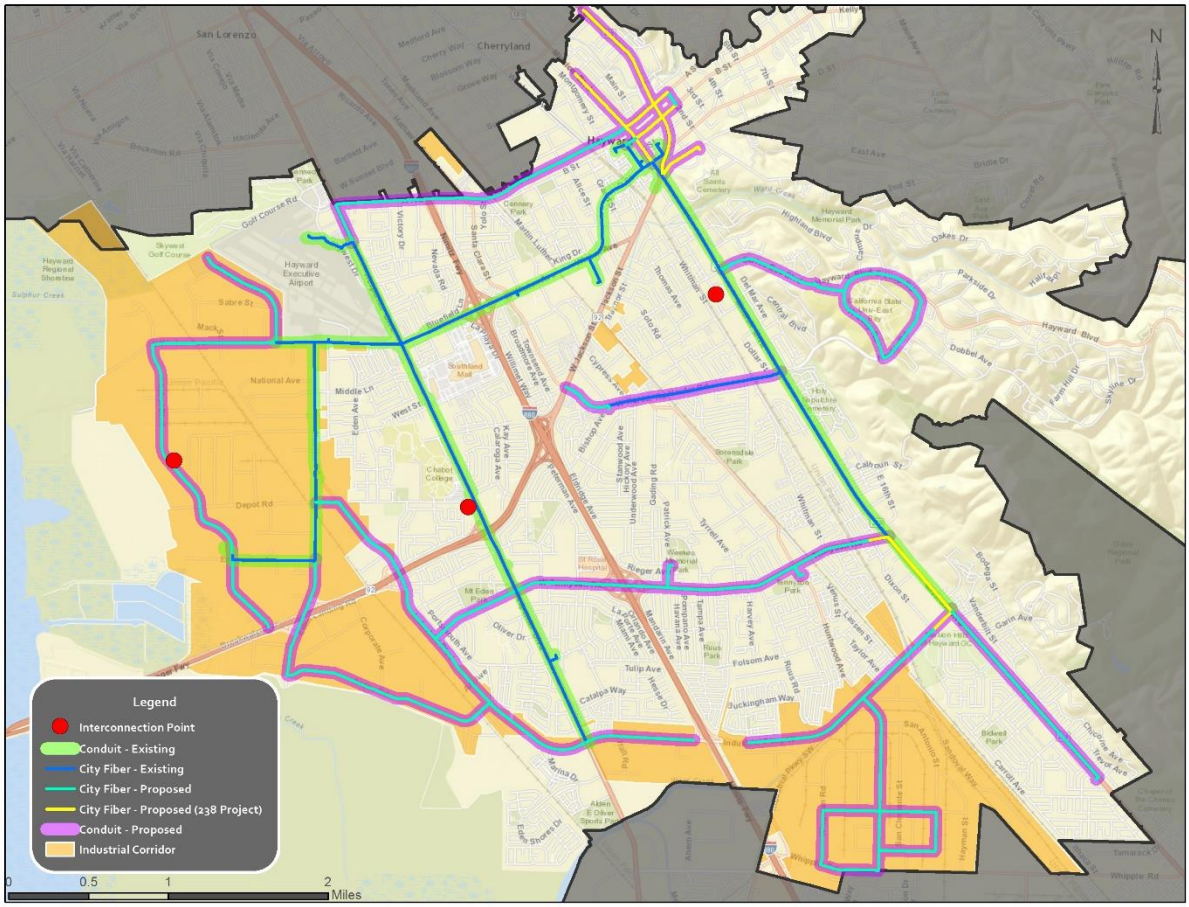
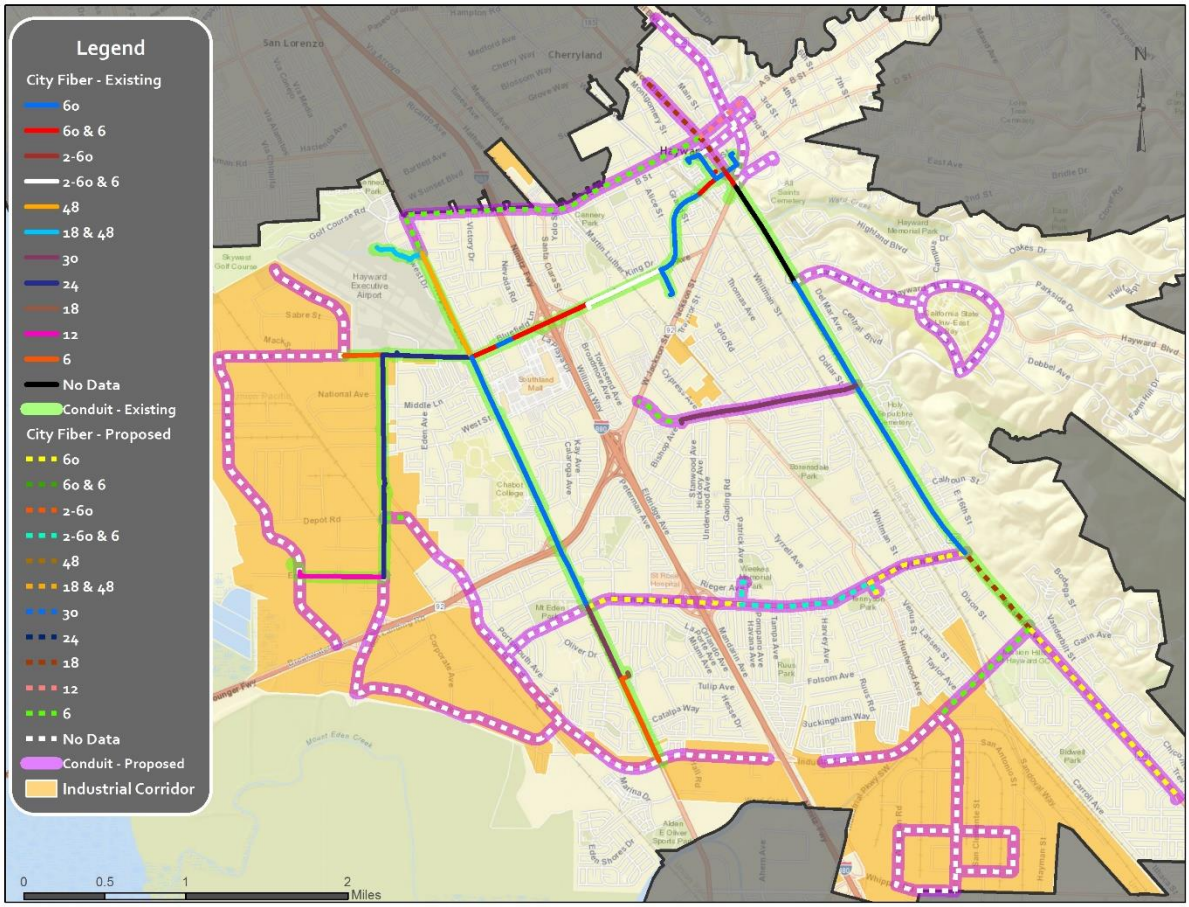


Figure 4: Existing and Proposed City-Constructed Fiber by Strand Count



During our review of the City's records, City staff reported that the City does not currently maintain records of fiber assignment, fiber use, and splice matrices, and that available GIS data does not necessarily include all the City's assets. We recommend that, going forward, the City include fiber assignment and splice matrices in its documentation efforts as this will aid in troubleshooting, future construction, and allocation of fiber strands.

5.3 Leverage Existing Assets

The existing conduit and fiber assets provide a starting point from which the City can expand. The proposed fiber builds will increase the resiliency of the network and allow the City to reach new key areas and institutions such as the Industrial Corridor. The existing strand counts, however, may not be sufficient for future needs.

If the City desires to significantly expand its fiber service, it should examine its current and future fiber needs and use strand counts that accommodate those needs plus those of potential external fiber users in new construction. Where higher strand counts are not available, new

cables can be pulled into the existing conduit if sufficient space is available. Where space is not available, new cables can replace the smaller cable to provide enhanced fiber counts along routes.

Future public works projects should also be leveraged to expand the City's conduit and fiber network. Projects such as utility replacements, road widenings, and other major capital improvements may provide the opportunity to install conduit and fiber optics without the need for surface restoration. A coordinated Dig Once ordinance, which typically requires the installation of City-owned communications infrastructure in excavation projects where the City has determined that it is both financially feasible and consistent with the City's long-term goals, is recommended to leverage these types of public and private excavation projects.

There may also be opportunities for the City to engage further with private partners to serve the Industrial Corridor. The City could, for example, provide transport for service providers that need to reach existing and potential customers as well as strategic peering points such as Internet POPs or data centers in another part of the City. The City may offer conduit to reduce construction costs to the Industrial Corridor—however, as we noted above, we do not recommend this approach.

We have identified three potential connection points within the City:

1. 25070 O'Neil Avenue
2. 21350 Cabot Boulevard[21]
3. 1880 Depot Road

The O'Neil Avenue location is an Internet POP where the City may be able to interconnect with other national and regional networks including Zayo. This POP is close to Route 238 where the City is planning to construct new fiber. The City may be able to arrange for connectivity at this site and include it in the Route 238 project construction so that it may offer transport or use the connectivity for its own purposes.

The Cabot Boulevard location is a Verizon data center approximately 1 mile west of the City's conduit along Clawiter Road.

The Depot Road location is an incumbent local exchange carrier (ILEC) central office, located next to the City's fiber and conduit along Hesperian Boulevard. If it is determined that interconnection services are available at this location, the City may want to take advantage of its proximity to existing fiber.

[21] https://fiberlocator.com, accessed June 2016.

5.4 Conceptual Design and Specifications – Industrial Technology & Innovation Corridor

OSP (layer 1, also referred to as the physical layer) is both the most expensive part of the network and the longest lasting. The architecture of the physical plant determines the network's scalability for future uses and how the plant will need to be operated and maintained; the architecture is also the main determinant of the total cost of the deployment.

Figure 5 (below) shows a logical representation of the high-level FTTP network architecture we recommend for deployment to the Industrial Corridor. This design is open to a variety of architecture options. The figure illustrates the primary functional components in the FTTP network, their relative position to one another, and the flexibility of the architecture to support multiple subscriber models and classes of service.

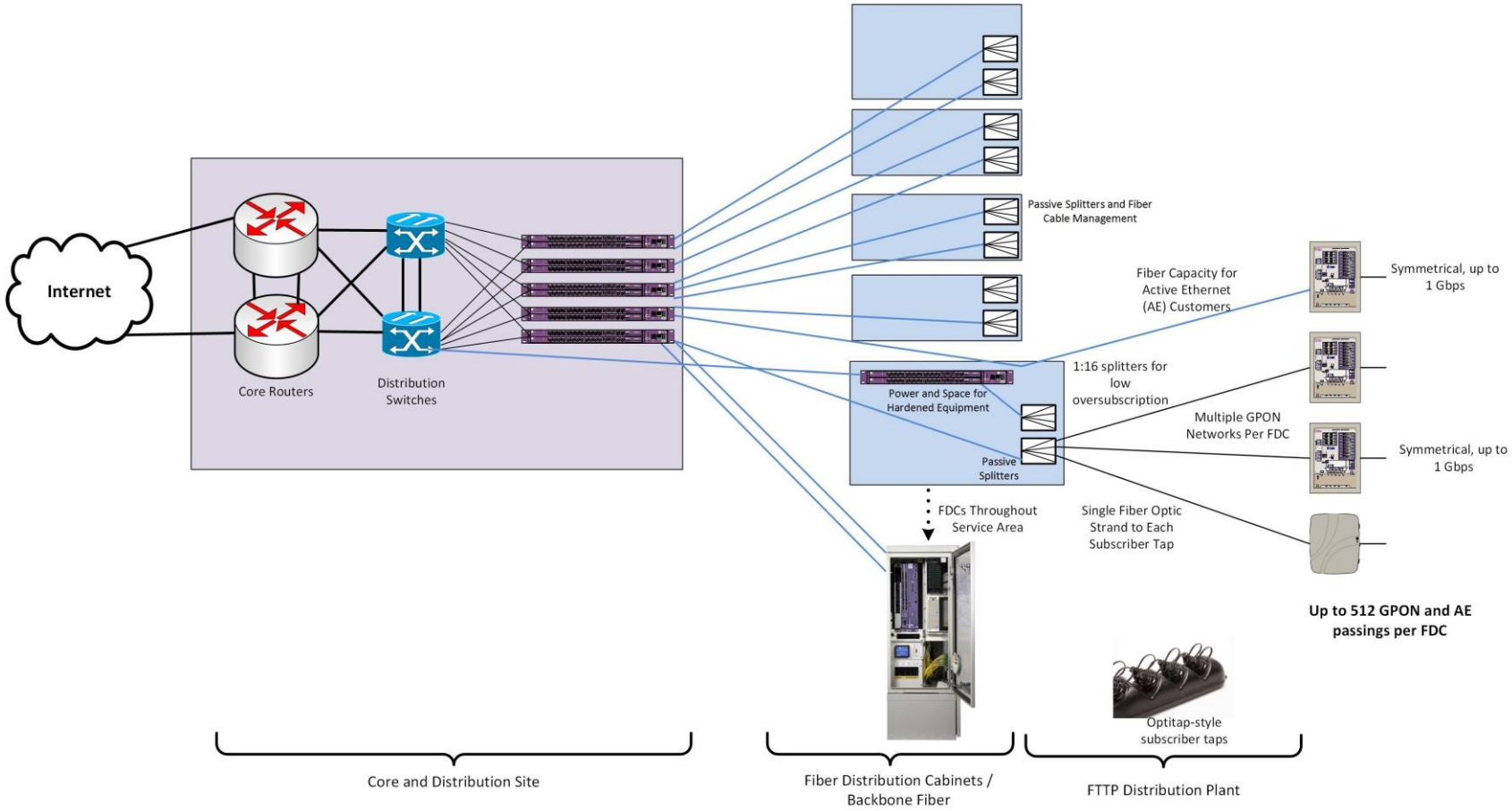
The recommended architecture is a hierarchical data network that provides critical scalability and flexibility, both in terms of initial network deployment and its ability to accommodate the increased demands of future applications and technologies. The characteristics of this hierarchical FTTP data network are:

- Capacity – ability to provide efficient transport for subscriber data, even at peak levels
- Availability – high levels of redundancy, reliability, and resiliency; ability to quickly detect faults and re-route traffic
- Diversity – physical path diversity to minimize operational impact resulting from fiber or equipment failure
- Efficiency – no traffic bottlenecks; efficient use of resources
- Scalability – ability to grow in terms of physical service area and increased data capacity, and to integrate newer technologies
- Manageability – simplified provisioning and management of subscribers and services
- Flexibility – ability to provide different levels and classes of service to different customer environments; can support an open access network or a single-provider network; can provide separation between service providers on the physical layer (separate fibers) or logical layer (separate virtual local area network (VLAN or VPN)
- Security – controlled physical access to all equipment and facilities, plus network access control to devices

This architecture offers scalability to meet long-term needs. It is consistent with best practices for an open access network model that might potentially be required to support multiple network operators, or at least multiple retail service providers requiring dedicated connections to certain customers. This design would support a combination of Gigabit passive optical network (GPON) and direct Active Ethernet (AE) services (with the addition of electronics at the Fiber Distribution Cabinets (FDCs)), which would enable the network to scale by migrating to direct connections to each customer, or reducing splitter ratios, on an as-needed basis.

The design assumes placement of manufacturer-terminated fiber tap enclosures within the ROW or easements, providing water-tight fiber connectors for customer service drop cables and eliminating the need for service installers to perform splices in the field. This is an industry-standard approach to reducing both customer activation times and the potential for damage to distribution cables and splices. The model also assumes the termination of standard lateral fiber connections within larger multi-tenant business locations.

Figure 5: High-Level FTTP Architecture



5.4.1 Network Design

The network design and cost estimates assume the City will:

- Use existing fiber and conduit to connect to an Internet POP in the City;
- Procure space at the POP to host network electronics and provide backhaul to the Internet;
- Use existing City land or ROW space in the Industrial Corridor to locate the core and distribution hub facility with adequate environmental and backup power systems to house network electronics;
- Construct fiber to connect the hub to the FDCs;
- Construct fiber optics from the FDCs to each business (i.e., from termination panels in the FDC to tap locations in the ROW or on City easements); and
- Construct fiber laterals into large, multi-tenant business facilities.

Leveraging the City's existing conduit and fiber resources could decrease the costs associated with both constructing a backbone and identifying locations to house electronics that are near the City's existing resources.

The FTTP network and service areas were defined based on the following criteria:

- Targeting 512 passings per FDC;
- FDCs suitable to support hardened network electronics, providing backup power and an active heat exchange;[22] and
- Avoiding the need for distribution plant to cross major roadways and railways.

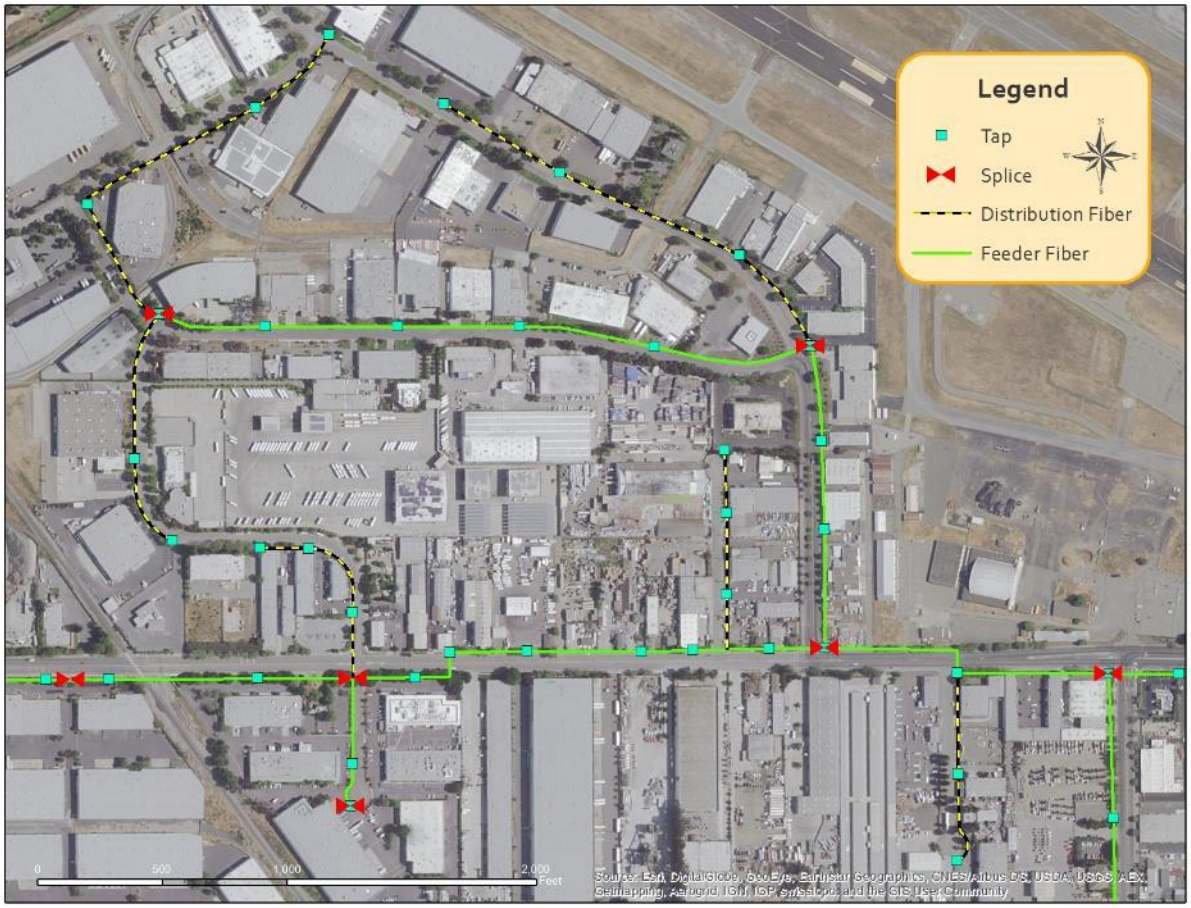
Coupled with an appropriate network electronics configuration, this fiber design serves to greatly increase the reliability of services provided to customers as compared to that of more traditional cable and telephone networks.

The access layer of the network, which encompasses the fiber plant from the FDCs to the customers, dedicates a single fiber strand from the FDC to each passing (i.e., potential customer

[22] These hardened FDCs reflect an assumption that the City's operational and business model will require the installation of provider electronics in the FDCs that can support open access among multiple providers. We note that the overall FTTP cost estimate would decrease if the hardened FDCs were replaced with passive FDCs (which would house only optical splitters) and the providers' electronics were housed only at hub locations.

address). This traditional FTTP design allows either network electronics or optical splitters in the FDCs. See Figure 6 below for a sample design.

Figure 6: Detail Showing FTTP Access Layer Design



This architecture offers scalability to meet long-term needs. It is consistent with best practices for an open access network model that might potentially be required to support multiple network operators, or at least multiple retail service providers requiring dedicated connections to certain customers.

5.4.2 Network Core and Hub Site

The core site is the bridge that links the FTTP network to the public Internet and deliver all services to end users. The proposed network design includes a single core location given the size of the network. However, if consumer demand dictates it, a second Internet POP could be added to increase redundancy to the network.

For the cost estimate, we assumed that the core site electronics would be collocated with the distribution electronics in the Industrial Corridor hub with connectivity to the Internet POP at 25070 O'Neil Avenue.

The core will also house the providers' Operational Support Systems (OSS) such as provisioning platforms, fault and performance management systems, remote access, and other operational support systems for FTTP operations. The core location is also where any business partner or content / service providers will gain access to the subscriber network with their own POP. This may be via remote connection, but collocation is recommended.

The core network electronics run in a High Availability (HA) configuration, with fully meshed and redundant uplinks to the public Internet and/or all other content and service providers. It is imperative that core network locations are physically secure and allow unencumbered access 24x7x365 to authorized engineering and operational staff.

The operational environment of the network core and hub locations is similar to that of a data center. This includes clean power sources, UPS batteries, and diesel power generation for survival through sustained commercial outages. The facility must provide strong physical security, limited/controlled access, and environmental controls for humidity and temperature. Fire suppression is highly recommended.

Equipment is to be mounted securely in racks and cabinets, in compliance with national, state, and local codes. Equipment power requirements and specification may include -48-volt DC and/or 120/240 volts AC. All equipment is to be connected to conditioned / protected clean power with uninterrupted cutover to battery and generation.

For the cost estimate, we assumed that the core and distribution hub will be located on existing City land within the Industrial Corridor.

5.4.3 Distribution and Access Network Design

The distribution network is the layer between the hub and the FDCs, which provide the access links to the taps. The distribution network aggregates traffic from the FDCs to the core. Fiber cuts and equipment failures have progressively greater operational impact as they happen closer to the network core, so it is critical to build in redundancies and physical path diversities in the distribution network, and to seamlessly re-route traffic when necessary.

The distribution and access network design proposed in this report is flexible and scalable enough to support two different architectures:

1. Housing both the distribution and access network electronics at the hub, and using only passive devices (optical splitters and patches) at the FDCs; or

2. Housing the distribution network electronics at the hub and pushing the access network electronics further into the network by housing them at the FDCs.

By housing all electronics at the hub, the network will not require power at the FDCs. Choosing a network design that only supports this architecture may reduce costs by allowing smaller, passive FDCs in the field. However, this architecture will limit the redundancy capability from the FDCs to the hub.

By pushing the network electronics further into the field, the network gains added redundancy by allowing the access electronics to connect to two distribution switches. In the event one distribution switch has an outage the subscribers connected to the FDC would still have network access via the other distribution switch. Choosing a network design that only supports this architecture may reduce costs by reducing the size of the hub.

Selecting a design that supports both models would allow the City to accommodate many different service operators and their network designs. This design would also allow service providers to start with a small deployment (i.e., placing electronics only at the hub site) and grow by pushing electronics closer to their subscribers.

5.4.3.1 Access Network Technologies

FDCs can sit on a curb, be mounted on a pole, or reside in a building. Our model recommends installing sufficient FDCs to support higher than anticipated levels of subscriber penetration. This approach will accommodate future subscriber growth with minimal re-engineering. Passive optical splitters are modular and can be added to an existing FDC as required to support subscriber growth, or to accommodate unanticipated changes to the fiber distribution network with potential future technologies.

Our FTTP design also includes the placement of indoor FDCs and splitters to support large-tenant businesses. This would require obtaining the right to access the equipment for repairs and installation in whatever timeframe is required by the service agreements with the customers. Lack of access would potentially limit the ability to perform repairs after normal business hours, which could be problematic for commercial services.

In this model, we assume the use of GPON electronics for most subscribers and Active Ethernet for a small percentage of subscribers (typically large business customers) that request a

premium service or require greater bandwidth. GPON is the most commonly provisioned FTTP service—used, for example, by Verizon (in its FiOS systems), Google Fiber, and Chattanooga EPB.

Furthermore, providers of gigabit services typically provide these services on GPON platforms. Even though the GPON platform is limited to 1.2 Gbps upstream and 2.4 Gbps downstream for the subscribers connected to a single PON, operators have found that the variations in actual subscriber usage generally means that all subscribers can obtain 1 Gbps on demand (without provisioned rate-limiting), even if the capacity is aggregated at the PON. Furthermore, many GPON manufacturers have a development roadmap to 10 Gbps and faster speeds as user demand increases.

GPON supports high-speed broadband data, and is easily leveraged by triple-play carriers for voice, video, and data services. The GPON OLT uses single-fiber (bi-directional) SFP modules to support multiple (most commonly less than 32) subscribers.

GPON uses passive optical splitting, which is performed inside FDC, to connect fiber from the OLTs to the customer premises. The FDCs house multiple optical splitters, each of which splits the fiber link to the OLT between 16 to 32 customers (in the case of GPON service).

AE provides a symmetrical (up/down) service that is commonly referred to as Symmetrical Gigabit Ethernet. AE can be provisioned to run at sub-gigabit speeds, and like GPON easily supports legacy voice, voice over IP, and video. AE is typically deployed for customers who require specific service level agreements that are easier to manage and maintain on a dedicated service.

For subscribers receiving Active Ethernet service, a single dedicated fiber goes directly to the subscriber premises with no splitting. Because AE requires dedicated fiber (home run) from the OLT to the CPE, and because each subscriber uses a dedicated SFP on the OLT, there is significant cost differential in provisioning an AE subscriber versus a GPON subscriber.

Our fiber plant is designed to provide Active Ethernet service or PON service to all passings. The network operator selects electronics based on the mix of services it plans to offer and can modify or upgrade electronics to change the mix of services.

5.4.3.2 Expanding the Access Network Bandwidth

GPON is currently the most commonly provisioned FTTP technology, due to inherent economies when compared with technologies delivered over home-run fiber[23] such as Active Ethernet. The cost differential between constructing an entire network using GPON and Active Ethernet is 40

[23] Home run fiber is a fiber optic architecture where individual fiber strands are extended from the distribution sites to the premises. Home run fiber does not use any intermediary aggregation points in the field.

percent to 50 percent.[24] GPON is used to provide services up to 1 Gbps per subscriber and is part of an evolution path to higher-speed technologies that use higher-speed optics and wave-division multiplexing.

This model provides many options for scaling capacity, which can be done separately or in parallel:

1. Reducing the number of premises in a PON segment by modifying the splitter assignment and adding optics. For example, by reducing the split from 16:1 to 4:1, the per-user capacity in the access portion of the network is quadrupled.

2. Adding higher speed PON protocols can be accomplished by adding electronics at the FDC or hub locations. Since these use different frequencies than the GPON electronics, none of the other CPE would need to be replaced.

3. Adding WDM-PON electronics as they become widely available. This will enable each user to have the same capacity as an entire PON. Again, these use different frequencies than GPON and are not expected to require replacement of legacy CPE equipment.

4. Option 1 could be taken to the maximum, and PON replaced by a 1:1 connection to electronics—an Active Ethernet configuration.

These upgrades would all require complementary upgrades in the backbone and distribution Ethernet electronics, as well as in the upstream Internet connections and peering—but they would not require increased fiber construction.

5.4.3.3 Customer Premises Equipment (CPE) and Subscriber Services

In the final segment of the FTTP network, fiber runs from the FDC to customers' buildings, where it terminates at the subscriber tap—a fiber optic housing located in the ROW closest to the premises. The service installer uses a pre-connectorized drop cable to connect the tap to the subscriber premises without the need for fiber optic splicing.

The drop cable extends from the subscriber tap (in a handhole underground) to the building, enters the building, and connects to CPEs.

[24] "Enhanced Communications in San Francisco: Phase II Feasibility Study," CTC report, October 2009, at p. 205.

6 Cost Estimate – Industrial Technology & Innovation Corridor

The City recognizes the importance of deploying a robust, scalable FTTP network infrastructure that can support a wide range of applications and services. At the City's request, CTC prepared a high-level network design and cost estimate for deploying a gigabit FTTP network in the City's Industrial Corridor. The FTTP network will promote economic development in the Industrial Corridor where businesses traditionally have limited options for telecommunication services.

The CTC cost estimate provides data relevant to assessing the financial viability of network deployment, and to developing a business model for a potential City construction effort (including the full range of models for public–private partnerships). This estimate will also enable financial modeling to determine the approximate revenue levels necessary for the City to service any debt incurred in building the network.

The CTC design and cost estimate are underpinned by data and insight gathered by CTC engineers through several related steps, including discussions with City stakeholders and an extensive field and desk survey of candidate fiber routes.

The descriptions in this document are highly technical and make use of acronyms. We have included a glossary as Appendix A.

6.1 FTTP Cost Estimate Summary

Based on these inputs and other guidance from the City, we developed a conceptual, high-level FTTP design that reflects the City's goals and is open to a variety of architecture options. From this design, we present two cost examples.

The first is the cost to deploy FTTP infrastructure, all electronics, service drops to the consumer, and CPEs. This estimate shows the total capital costs—which would be incurred by the City, or the City and its partner(s)—to build an FTTP network to support a ubiquitous 1 Gbps data-only service. This is the capital cost the City would occur if it pursued a wholesale or retail model.

The second cost estimate example is the cost to deploy *only* the FTTP OSP infrastructure—consistent with the dark FTTP model, as described in Section 1.5.1. This is the total capital cost for the City to build a dark FTTP network for lease to a private partner.

6.1.1 FTTP Cost Estimate (Fiber and Electronics) – Wholesale and Retail Models

This Industrial Corridor FTTP network deployment will cost approximately $8.5 million, inclusive of OSP construction labor, materials, engineering, permitting, network electronics, drop installation, CPEs, and testing.[25]

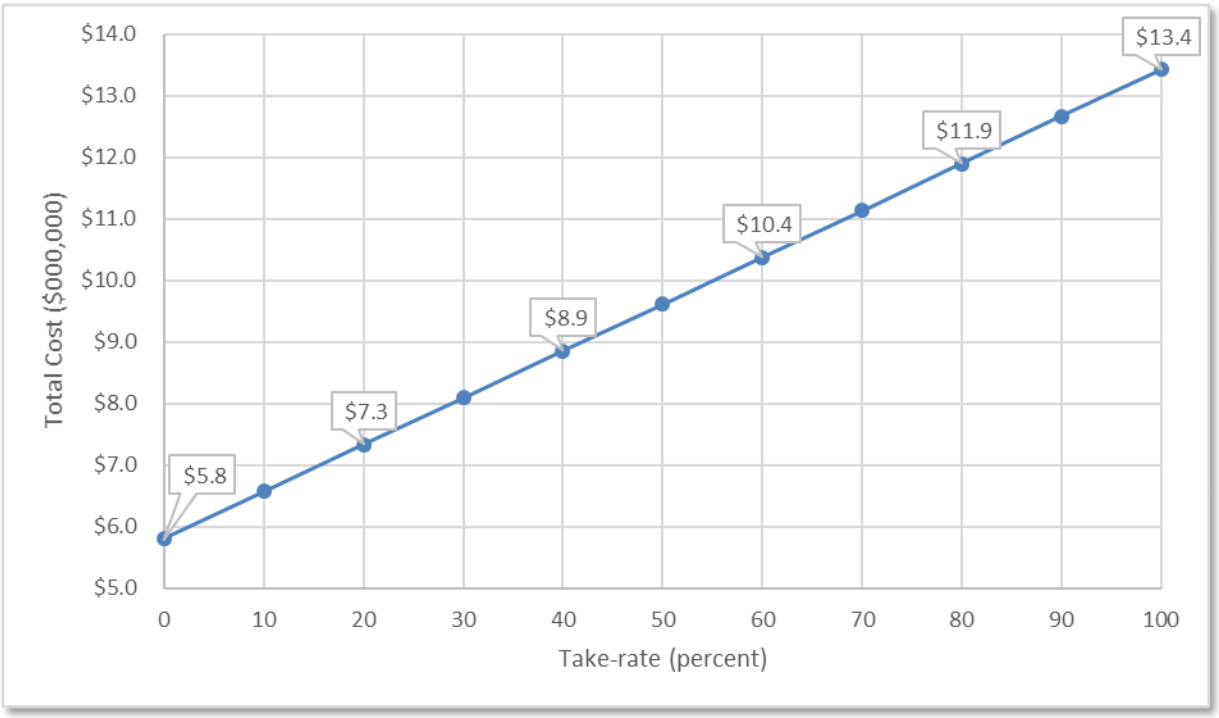
[25] The estimated total cost breakdown assumes a percentage of businesses that subscribe to the service, otherwise known as the penetration rate or the "take rate," of 35 percent.

Table 6: Breakdown of Estimated Total Cost

Cost Component	Total Estimated Cost
OSP	$5.2 million
Central Network Electronics	0.6 million
FTTP Service Drop and Lateral Installations	2.1 million
CPE	0.6 million
Total Estimated Cost:	$8.5 million

Figure 7 shows the change in total estimated cost by varying the expected take rate.

Figure 7: Total Estimated Cost versus Take Rate



The cost is roughly linear by take rate as the per-subscriber cost of adding additional subscribers is constant.

Actual costs may vary due to unknown factors, including: 1) costs of private easements, 2) congestion in the public ROW, 3) variations in labor and material costs, 4) subsurface hard rock, and 5) the City's operational and business model (including the percentage of businesses who subscribe to the service, otherwise known as the penetration rate or the "take rate"). We have incorporated suitable assumptions to address these items based on our experiences in similar markets.

The total estimated technical operating costs for this model are outlined in Section 6.5 (not including non-technical operating costs such as marketing, legal services, and financing costs). The total cost of operations will vary with the business model chosen and the level of existing resources that can be leveraged by the City and any potential business partners.

6.1.2 FTTP Only Cost Estimate (No Electronics, Drops, or CPEs) – Dark FTTP Model

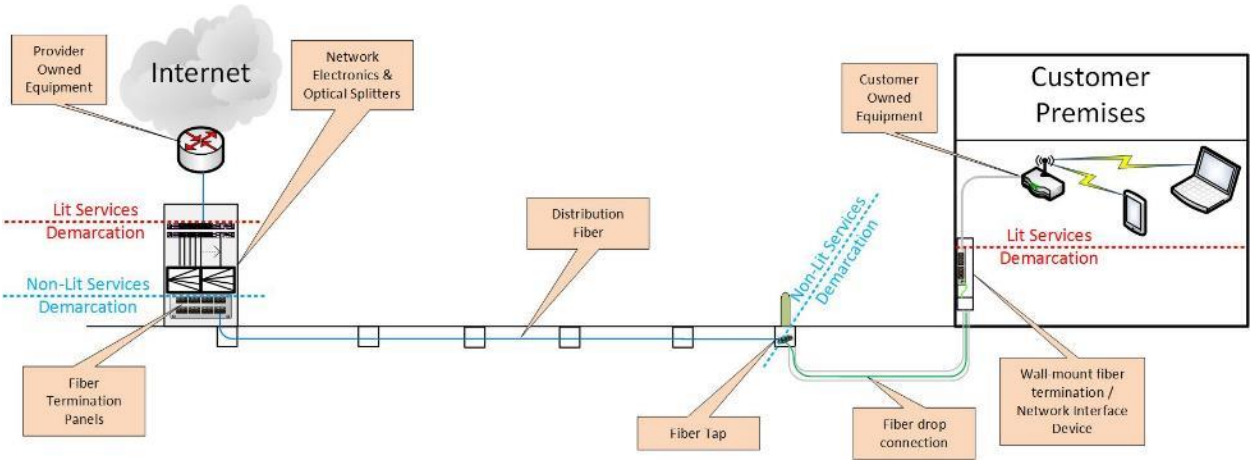
This Industrial Corridor dark FTTP network deployment will cost more than $5.4 million, inclusive of OSP construction labor, materials, engineering, and permitting. This estimate does not include any electronics, subscriber equipment, or drops.

Table 7: Breakdown of Estimated Dark FTTP Model Cost

Cost Component	Total Estimated Cost
OSP Engineering	$0.5 million
Quality Control/Quality Assurance	0.2 million
General OSP Construction Cost	3.2 million
Special Crossings	0.7 million
Backbone and Distribution Plant Splicing	0.1 million
Backbone Hub, Termination, and Testing	0.5 million
FTTP Lateral Installations	0.2 million
Total Estimated Cost:	$5.4 million

This estimate assumes that the City constructs and owns the FTTP infrastructure up to a demarcation point at the optical tap near each business, and leases the dark fiber backbone and distribution fiber to a private partner. The private partner would be responsible for all network electronics, fiber drops to subscribers, and CPEs—as well as network sales, marketing, and operations.

Figure 8: Demarcation Between City and Partner Network Elements



6.2 Cost Estimate Breakdown

The cost components for OSP construction include the following tasks:

- ***Engineering*** – includes system level architecture planning, preliminary designs and field walk-outs to determine candidate fiber routing; development of detailed engineering prints and preparation of permit applications; and post-construction "as-built" revisions to engineering design materials.

- ***Quality Control / Quality Assurance*** – includes expert quality assurance field review of final construction for acceptance.

- ***General Outside Plant Construction*** – consists of all labor and materials related to "typical" underground outside plant construction, including conduit placement, fiber installation, and surface restoration; includes all work area protection and traffic control measures inherent to all roadway construction activities.

- ***Special Crossings*** – consists of specialized engineering, permitting, and incremental construction (material and labor) costs associated with crossings of railroads, bridges, and interstate / controlled access highways.

- ***Backbone and Distribution Plant Splicing*** – includes all labor related to fiber splicing of outdoor fiber optic cables.

- ***Backbone Hub, Termination, and Testing*** – consists of the material and labor costs of placing hub shelters and enclosures, terminating backbone fiber cables within the hubs, and testing backbone cables.

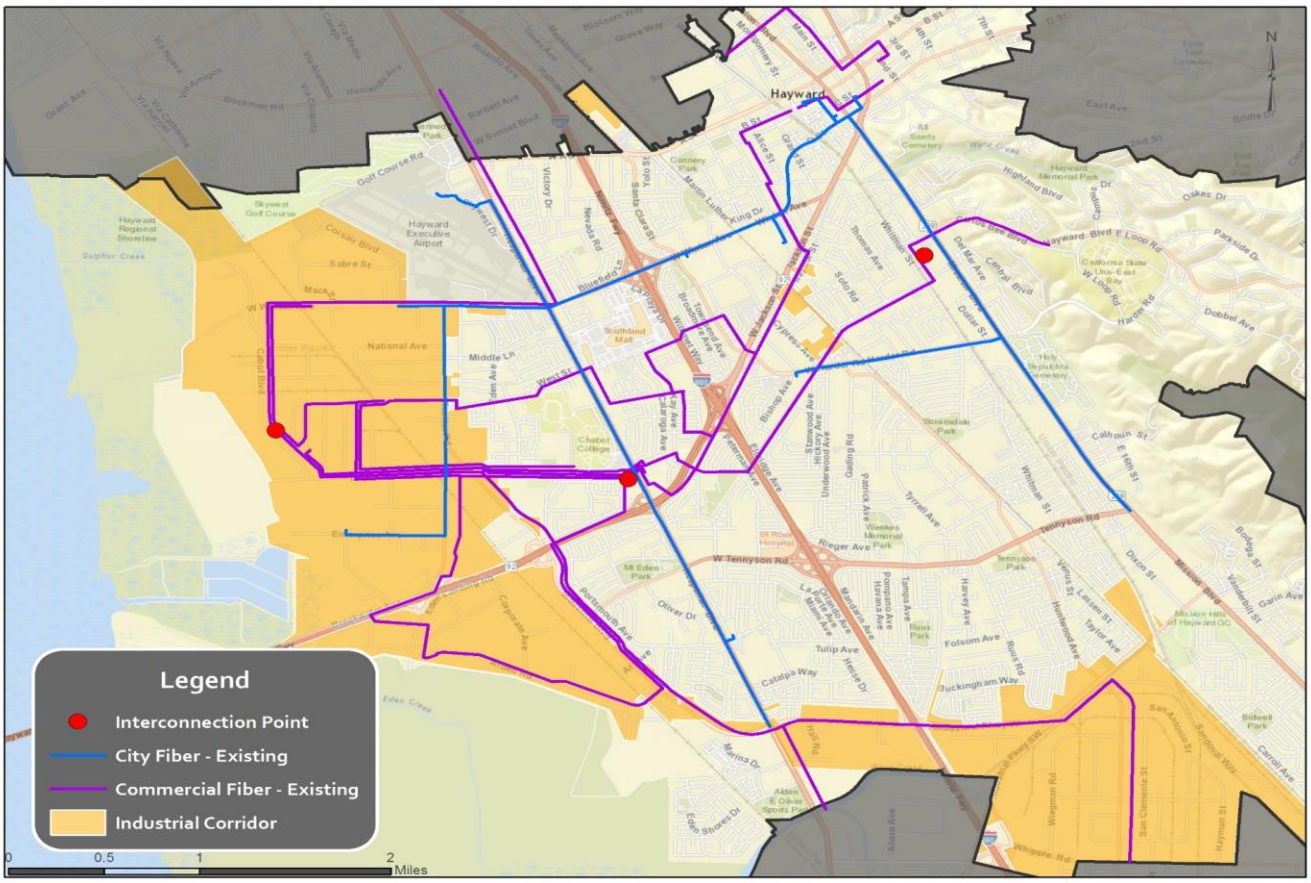
- ***FTTP Service Drop and Lateral Installations –*** consists of all costs related to fiber service drop installation, including outside plant construction on private property, building penetration, and inside plant construction to a typical backbone network service "demarcation" point; this also includes all materials and labor related to the termination of fiber cables at the demarcation point. A take-rate of 35 percent was assumed for standard fiber service drops.

6.2.1 Existing City Network Infrastructure Decreases FTTP Construction Costs

The cost estimate assumes the use of the City's conduit and fiber optic network to provide fiber optic connectivity along most the route between the Industrial Corridor and Internet POPs for network connectivity.

The use of the City's conduit and fiber optic resources as a backbone could reduce the cost and complexity of deploying an FTTP network because the network can reduce the amount of construction needed to provide backbone connectivity in the City (Figure 9).

Figure 9: Map Showing Existing Conduit and Fiber Resources



A detailed engineering design will determine the exact level of savings that the conduit and fiber resources can provide to the Industrial Corridor FTTP network, but we estimate the savings to be between $500,000 and $1 million.

6.3 Field Survey Methodology for Network Design and Cost Estimate

A CTC OSP engineer performed a preliminary survey of the Industrial Corridor via Google Earth Street View to develop estimates of per-mile cost for underground construction in the existing ROW. A CTC engineer then conducted a brief onsite field study of the City's existing conduit and the Industrial Corridor to determine the costs with underground construction in the area. The engineer reviewed available green space, ROW widths, building setbacks, and existing underground utility placements—all of which have been factored in to our design and cost estimate.

The ROW in the Industrial Corridor tends to be wide and many of the areas have additional ROW under sidewalks where existing utilities are not located. Some areas are served by aerial utilities while most the service drops and other areas of the Industrial Corridor have all

underground utilities. Given the width of the ROW we do not anticipate any issues with constructing City fiber optics in the ROW.

One obstacle for construction is the rail lines that crisscross the Industrial Corridor. Railroad crossings require permitting and special construction, which can increase the costs and time required to construct fiber optics. The owner of the rail bed must provide a permit or easement to cross the tracks, which is typically a straightforward process with the larger railroads such as Union Pacific. Crossings may be more difficult if someone else owns the rail bed, and/or it is abandoned.

The review of the existing conduit showed that the conduit and fiber optic system appeared to be in good shape. The older of the existing conduit system was designed to support traffic systems using either twisted copper pair or small count fiber optic cables. Traffic conduit tends to have closer handholes (every 250 feet) than fiber optic telecommunications conduit (every 500+ feet). We also noted that the handholes in the older conduit are smaller than what would be recommended today for a fiber optic network. Higher-count fiber optic cables require larger handholes to properly store slack cable and house the fiber optic splice enclosures. If higher fiber optic cable counts were needed in the future, approximately every other handhole would need to be replaced to accommodate the cable. It is important to note that even with potentially having to replace handholes, the fiber optic and conduit system provide tremendous value to the City.

6.4 FTTP Cost Estimate

This section provides a summary of cost estimates for construction of the FTTP network to all businesses in the Industrial Corridor. With the wholesale and retail models, assuming a 35 percent take rate, this deployment will cost approximately $8.5 million—inclusive of OSP construction labor, materials, engineering, permitting, network electronics, drop installation, CPEs, and testing. Table 8 shows the breakdown of estimated total costs for each network component.

Table 8: Breakdown of Estimated Total Capital Cost – Retail and Wholesale Model

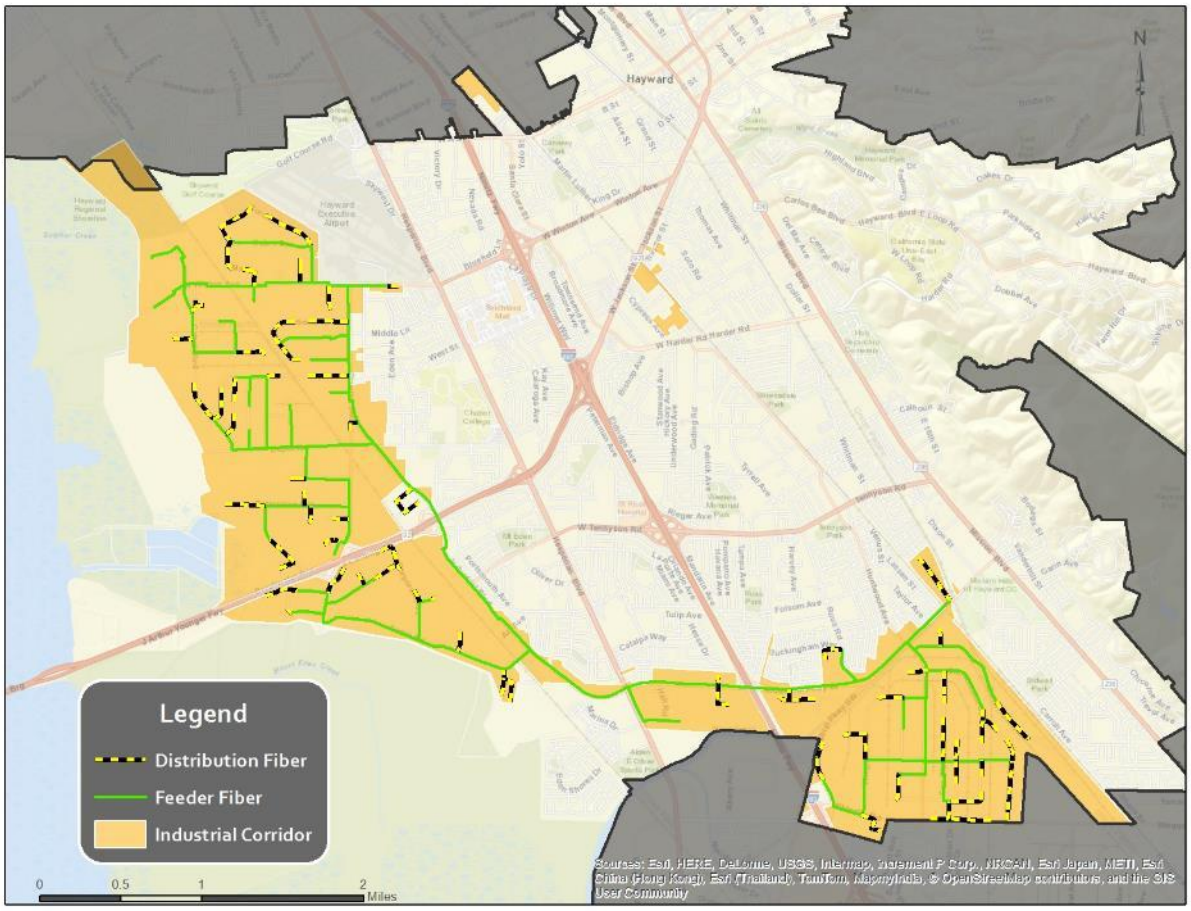
Cost Component	Total Estimated Cost
OSP	$5.2 million
Central Network Electronics	0.6 million
FTTP Service Drop and Lateral Installations	2.1 million
CPE	0.6 million
Total Estimated Cost:	$8.5 million

6.4.1 OSP Cost Estimation Methodology

As with any utility, the design and associated costs for construction vary with the unique physical layout of the service area—no two streets are likely to have the exact same configuration of fiber optic cables, communications conduit, and underground vaults. Costs are further varied by soil conditions, such as the prevalence of subsurface hard rock; location and number of existing utilities; and crossings of bridges, railways, and highways.

To estimate costs for the Industrial Corridor network, we developed a high level FTTP sample design based on street mileage and passings. Since much of the Industrial Corridor has underground utilities, we assumed that the entire FTTP network would be constructed underground.

Figure 10: High-Level FTTP Sample Design Overview



The assumptions, sample design, and cost estimates were used to estimate a cost per passing for the OSP. This number was then multiplied by the number of businesses based on the City's GIS data. The actual cost to construct FTTP to every premises in the Industrial Corridor could

differ from the estimate due to changes in the assumptions underlying the model. Further and more extensive analysis would be required to develop a more accurate cost estimate.

6.4.2 OSP

6.4.2.1 Cost to Construct the Network

In terms of OSP, the estimated cost to construct the proposed FTTP network is approximately $5.2 million, or $2,030 per passing.[26] As we discussed above, our model assumes all underground fiber construction. Table 9 provides a breakdown of the estimated OSP costs. (Note, the costs have been rounded.)

Table 9: Estimated OSP Costs for FTTP

Area	Distribution Plant Mileage	Total Cost	Passings	Cost per Passing	Cost Per Plant Mile
Corridor	33.9	$5,200,000	2,560	$2,030	$150,000

We estimated costs for underground placement using available unit cost data for materials and estimates on the labor costs for placing, pulling, and boring fiber based on construction in comparable markets.

Material costs were generally known, aside from unknown economies of scale and inflation rates, and barring any sort of phenomenon restricting material availability and costs. The labor costs associated with the placement of fiber were estimated based on similar construction projects.

While generally allowing for greater control over timelines and more predictable costs, underground construction is subject to uncertainty related to congestion of utilities in the public rights-of-way and the prevalence of subsurface hard rock—neither of which can be fully mitigated without physical excavation and/or testing. While anomalies and unique challenges will arise regardless of the design or construction methodology, the relatively large scale of this project is likely to provide ample opportunity for variations in construction difficulty to yield relatively predictable results on average.

We assume underground construction will consist primarily of horizontal, directional drilling to minimize ROW impact and to provide greater flexibility to navigate around other utilities. The design model assumes a single two-inch, High-Density Polyethylene (HDPE) flexible conduit

[26] The passing count includes individual single-unit buildings and units in small multi-business buildings as single passings. It treats larger multi-tenant businesses as single passings.

over underground distribution paths, and dual two-inch conduits over underground backbone paths to provide scalability for future network growth.

6.4.3 Central Network Electronics

Central network electronics will cost an estimated $580,000, or $225 per passing, based on an assumed take rate of 35 percent.[27] (These costs may increase or decrease depending on take rate, and the costs may be phased in as subscribers are added to the network.) The central network electronics consists of the electronics to connect subscribers to the FTTP network at the core, hub, and cabinets. Table 10 below lists the estimated costs for each segment.

Table 10: Estimated Central Network Electronics Costs

Network Segment	Subtotal	Passings	Cost per Passing
Core and Distribution Electronics	$360,000	2,560	$140
FTTP Access Electronics	220,000	2,560	85
Central Network Electronics Total	**$580,000**	**2,560**	**$225**

6.4.3.1 Core Electronics

The core electronics connect the FTTP network to the Internet. The core electronics consist of high performance routers, which handle all the routing on both the FTTP network and to the Internet. The core routers should have modular chassis to provide high availability in terms of redundant components and "hot swappable"[28] modular line cards in the event of an outage. Modular routers also provide the ability to expand the routers as demand for additional bandwidth increases.

The cost estimate design envisions redundant rings between the core sites running networking protocols such as hot standby routing protocol (HSRP) to ensure redundancy in the event of a core failure. Additional rings can be added as bandwidth on the network increases. The core sites would also tie to the distribution electronics 10 Gbps links. The links to the hubs can also be increased with additional 10 Gbps and 40 Gbps line cards and optics as demand grows on the network. The core routers will also have 10 Gbps links to ISPs that connect the FTTP network to the Internet.

The cost of the core routing equipment is $260,000. These costs do not include the service provider's OSS—such as provisioning platforms, fault and performance management systems,

[27] The take rate affects the electronics and drop costs, but also may affect other parts of the network, as the city may make different design choices based on the expected take rate. A 35 percent take rate is typical of environments where a new provider joins the telephone and cable provider in a city.

[28] Hot swappable means that the line cards or modular can be removed and reinserted without the entire device being powered down or rebooted. The control cards in the router should maintain all configurations and push them to a replaced line card without the need for reconfirmation.

remote access, and other OSS for FTTP operations. The service providers and/or their content providers may already have these systems in place.

6.4.3.2 Distribution Electronics

The distribution network electronics aggregate the traffic from the FDCs and send it to the core to access the Internet. The distribution electronics consist of high performance aggregation switches, which consolidate the traffic from the many access electronics and send it to the core for route processing. The distribution switches typically are modular switch chassis that can accommodate many line cards for aggregation. The switches should also be modular to provide redundancy in the same manner as the core switches.

The cost estimate assumes that the aggregation switches connect to the access network electronics with 10 Gbps links to each distribution switch. The aggregation switches would then connect to the core switches over single or multiple 10 Gbps links as needed to meet the demand of the FTTP users in each service area.

The cost of the distribution switching equipment is $100,000. These costs do not include any of the service provider's OSS or other management equipment.

6.4.3.3 Access Electronics

The access network electronics at the FDCs connect the subscribers' CPEs to the FTTP network. We recommend deploying access network electronics that can support both GPON and Active Ethernet subscribers to provide flexibility within the FDC service area. We also recommend deploying modular access network electronics for reliability and the ability at add line cards as more subscribers join in the service area. Modularity also helps reduce initial capital costs while the network is under construction or during the roll out of the network.

The cost of the access network electronics for the network is $220,000. These costs are based on a take rate of 35 percent and include optical splitters at the FDCs for that take rate.

6.4.4 Customer Premises Equipment (CPE) and Service Drop Installation (Per-subscriber Costs)

CPEs are the subscriber's interface to the FTTP network. For this cost estimate, we selected CPEs that provide only Ethernet data services (however, there are a wide variety of CPEs offering other data, voice, and video services). Using the estimated take rate of 35 percent, we estimated the CPE for business customers will be $630,000.

Each activated subscriber would also require a fiber drop installation, and related electronics, which would cost roughly $2,860 per subscriber, or $2.7 million total (assuming a 35 percent take rate).

The drop installation cost is the biggest variable in the total cost of adding a subscriber. A short aerial drop can cost as little as $250 to install, whereas a long underground drop installation can cost upward of $3,000. (We estimate an average of $2,160 per drop installation within the Industrial Corridor.)

The other per-subscriber expenses include the cost of the optical network terminal (ONT) at the premises, a portion of the optical line termination (OLT) costs at the hub, the labor to install and configure the electronics, and the incidental materials needed to perform the installation. The numbers provided in the table below are averages and will vary depending on the type of premises and the internal wiring available at each premises.

Table 11: Per-subscriber Cost Estimates

Construction and Electronics Required to Activate a Subscriber	Estimated Average Cost
Drop Installation and Materials	$2,160
Subscriber Electronics (ONT and OLT)	400
Electronics Installation	200
Installation Materials	100
Total	**$2,860**

6.5 Operating Cost Considerations

This section outlines some of the key technical operating expenditures the Industrial Corridor FTTP network would incur. Costs for FTTP network technical operations include staffing (technicians, program manager), OSP maintenance, electronics maintenance, and customer support.

The costs discussed in this section are not meant to be inclusive of all operating costs such as marketing, legal, and financial costs. Further, the magnitude of total cost of operations will vary with the business model chosen, balance of added new staff versus using contractors, the level of existing resources that can be leveraged by the City, and any potential business partners. Staffing requirements and operation costs will vary based on the selected business model. We provide additional staffing and operational cost details in Section 7.

6.5.1 Technical Operational Expenditures

If the City chooses to offer a retail data service, we estimate that the City would likely initially purchase 2 Gbps of Internet capacity. This is an estimated number for the beginning of the

network deployment and can be expected to grow as video streaming and other cloud applications grow in importance. Depending upon the contract terms Internet bandwidth we would estimate costs in the $0.75 per Mbps per month to $1.50 per Mbps per month range in Hayward. We recommend that the Internet access be purchased from multiple Internet providers and be load balanced to ensure continuity during an outage.

The operating costs also include maintenance contracts on the core network electronics. These contracts ensure that the City has access to software support and replacement of critical network electronics that would be cost-prohibitive to store as spares. Where cost effective such as the distribution aggregation switches and the FTTP electronics, we recommend storing spares to reduce the total costs of maintenance contracts. We estimate hardware maintenance contracts and sparing at 15 percent of the total electronics cost.

In addition, we recommend planning for an annual payment into a depreciation operating reserve account based on the equipment replacement cost to help limit risk. This reserve fund should never go negative; the balance that accrues in this account will fund the capital needs for ongoing capital replenishments.

6.5.1.1 Fiber Maintenance Costs

The City would need to augment its current fiber staff or contractors with the necessary expertise and equipment available to maintain the fiber optic cable in an Industrial Corridor FTTP network. Typical maintenance costs can exceed 1 percent of the total fiber OSP construction cost per year and includes a mix of contracted services.

Fiber optic cable is resilient compared to copper telephone lines and cable TV coaxial cable. The fiber itself does not corrode, and fiber cable installed over 20 years ago is still in good condition. However, fiber can be vulnerable to accidental cuts by other construction, traffic accidents, and severe weather. In other networks of this size, we have seen approximately 80 outages per 1,000 miles of plant per year.

The fiber optic redundancy from the hubs to the FDCs in the backbone network will facilitate restoring network outages while repair of the fiber optic plant is taking place.

Depending on the operational and business models established between the City and service providers, the City may be responsible for adds, moves, and changes associated with the network as well as standard plant maintenance. These items may include:

- Adding and/or changing patching and optical splitter configurations at FDCs and hubs;
- Extending optical taps and laterals to new buildings or developments;
- Extending access to the FTTP network to other service providers; and

- Relocating fiber paths due to changes such as the widening of roadways.

The City would need to obtain contracts with fiber optic contractors that have the necessary expertise and equipment available to maintain an Industrial Corridor FTTP network. These contracts should specify the service level agreements the City needs from the fiber optic contractors to ensure that the City can meet the service level agreements it has with the network service providers. The City should also ensure that it has access to multiple fiber optic contractors if one contractor is unable to meet the City's needs. The fiber optic contractors should be available 24x7 and have a process in place for activating emergency service requests.

6.5.1.2 Fiber Locating

The City will be responsible for locating and marking all underground conduit for excavation projects per California's DigAlert System statutes. Locating involves receiving and reviewing excavation tickets to determine whether the area of excavation may impact the City's underground FTTP infrastructure. If the system is impacted, the City must mark its utilities in the manner and within the allotted timeframe provided by the statute.

Locating is either done in-house or by contractors who specialize in utility locating. The City may be able to leverage its existing utility locating personnel, processes, or contractors to reduce the cost of utility locating for the FTTP network.

6.5.2 Technical Staffing Requirements

Additional staffing will be required to perform the maintenance and operation responsibilities of an Industrial Corridor FTTP network. The staffing levels and the responsibility for that staffing will vary greatly with the various potential business models. The following sections outline the technical groups that will be required to maintain and operate the network.

6.5.2.1 Outside Plant

The OSP group will be responsible for the maintenance, operations, and expansion of the City's telecommunications infrastructure including conduit, fiber, and splice enclosures. During construction, the OSP group will be responsible for tracking and overseeing the construction of new infrastructure. Once the network is constructed, the OSP group will oversee any future adds, moves, or changes to the network.

The OSP group may use contractors to perform activities such as construction, repair, and locating. Management of contractors will be a responsibility of an OSP manager with OSP technicians assisting with project oversight and quality assurance and quality control. The OSP manager will also assist with engineering and design of any adds, moves, and changes that occur on the network.

The OSP group will have responsibility for general field operations. This group will include OSP technicians to perform locates, and contracted support to provide repair services. Tasks will include management of the One Call process, fiber locates, response and troubleshooting of Layer 1 troubleshooting, and fleet management. Additionally, it is critical that while many of OSP jobs may be outsourced, that the OSP group be equipped with the proper locate and testing equipment.

6.5.2.2 Network Engineering

The network engineering group develops and maintains the network architecture, responds to high-level troubleshooting requests, manages network electronics and makes sure the network delivers to the end user a reliable service.

The network engineering group is responsible for making architecture decisions that will determine how the network can deliver services to users. The network engineering group will also be responsible for change management and architectural review to ensure that network continuity is ensured after changes.

The network engineering group will also be responsible for vendor selections when new hardware, technologies, or contractor support is needed to support the network. The network engineering team will perform regular maintenance of the network as well as provision, deploy, test, and accept any electronics to support new sites or services.

Network technicians will be responsible for troubleshooting issues with network electronics and responding to customer complaints.

To operate network electronics (if required by the business model) we estimate a staffing requirement of one network manager, up to one network engineer, and up to two network technicians that could be a combination of personnel as well as contracted support. Network staffing levels may vary depending on the take rate of the FTTP network.

6.5.2.3 Network Operations Center and Customer Service

The network will require individuals to perform monitoring and oversight of the network electronics. The group will be responsible for handling technical calls from users, actively monitoring the health of the network, and escalating issues to the proper operations groups. The group is also required to develop and monitor network performance parameters to ensure that the network is meeting its obligations to its users as defined in the network service level agreements (SLAs).

Often network operations require a 24x7 customer service helpdesk and tools for network monitoring, alerting, and provisioning.

7 Business and Financial Model

This section presents a financial analysis based on the candidate business models we outline in Section 1.5, above. Our modeling is based on an FTTP deployment to the Industrial Corridor, and assumes that the City will take some financial risk by investing at least in dark FTTP infrastructure. The models are briefly summarized again in Table 12, with an emphasis on the division of responsibilities between the City and a partner.

Table 12: Responsibility Matrix for Potential Business Models

Activity	Model		
	Dark FTTP	**Wholesale Service**	**Retail Service**
Who invests in and owns the outside plant (OSP), like fiber?	City	City	City
Who invests in and owns the network electronics?	Partner(s)	City	City
Who is responsible for customer service to end users?	Partner(s)	Partner(s)	City

7.1 Overview

Potential business models for an FTTP deployment range from:

- A **retail service model** in which the City directly provides fiber service;
- To a **wholesale service model** in which the City builds an open access network and invites private partners to deliver services over the network;
- To a **dark FTTP model** in which the City builds the fiber and enters a partnership with an anchor service provider, similar to the business model the City of Westminster, Maryland adopted when it partnered with Ting Fiber.[29]

As we noted in Section 1.5, we believe a dark F model will best fit the City's needs, because it leverages the City's abilities and offsets some of the risk associated with implementing a new broadband enterprise, as the City would be required to do in a retail service model.

We conducted financial modeling based on the three potential business models to illustrate the kind of costs and revenues the City might see under each model. This section presents an overview of the FTTP financial model, based on the cost estimates in Section 6. We have provided the City with a complete financial model in Excel format; because the Excel

[29] "Westminster Fiber Network," *City of Westminster,* accessed November 8, 2016, http://www.westminstermd.gov/419/Westminster-Fiber-Network.

spreadsheet can be modified to show the impact of changing assumptions, it will be an important tool for the City to use if it negotiates with a private partner.

These financial projections do not include any economic development or other indirect benefits, which are often not easily quantifiable. The projections also do not include potential revenues from small cell or distributed antenna system (DAS) providers, which may represent a modest revenue source the City can tap into if it can find interested providers.

7.2 Retail Model Financial Projections

The financial analysis in this section assumes the City of Hayward owns and operates the FTTP infrastructure and provides retail service to businesses in the identified service area. As we described above, the City will be the service provider in a retail service model and will be responsible for all aspects of network deployment and maintenance, network and customer electronics, service delivery, and customer service and support. This financial analysis is based on several assumptions, outlined below.

In the analysis, we assume the City offers four base services, at prices that compare favorably to similar services in other cities:

- A 250 Mbps commercial service at $100 per month,
- A 1 Gbps small commercial service at $200 per month,
- A 1 Gbps medium commercial service at $400 per month (including service-level agreement), and
- A 1 Gbps Metro Ethernet transport service at $1,000 per month (including service-level agreement).

We assumed that 68 percent of subscribers will purchase the 250 Mbps service; 15 percent will purchase the 1 Gbps small commercial service; 15 percent will purchase the 1 Gbps medium commercial service; and 2 percent will purchase the 1 Gbps Metro Ethernet service.

Given the assumptions outlined in this section, a 60 percent take rate (the percentage of customers that subscribe to the service) is required to maintain a positive cash flow. Note that this analysis does not indicate or review whether obtaining this required take rate is realistic; rather, it reflects the take rate necessary to maintain a positive cash flow, considering all other assumptions in the model. The complete model is provided in Appendix C.

Please note that, based on other competitive overbuilds, obtaining a 60 percent take rate is considered aggressive, and will likely be difficult to obtain and maintain. Realistically, we would expect a 35 percent to 45 percent take rate.

The financial analysis for this base case scenario is as follows:

Table 13: Base Case Retail Model Financial Analysis with 60 Percent Take Rate

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$341,000	$3,280,000	$3,280,000	$3,280,000	$3,280,000
Total Cash Expenses	(911,000)	(1,419,000)	(1,419,000)	(1,419,000)	(1,419,000)
Depreciation	(234,000)	(1,254,000)	(625,000)	(617,000)	(617,000)
Interest Expense	(185,000)	(617,000)	(485,000)	(321,000)	(111,000)
Taxes	-	-	-	-	-
Net Income	$(989,000)	$(10,000)	$751,000	$923,000	$1,133,000

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$(50,000)	$491,000	$2,770,000	$5,548,000	$8,319,000
Depreciation Reserve	-	1,132,000	1,150,000	354,000	(138,000)
Interest Reserve	185,000	-	-	-	-
Debt Service Reserve	185,000	660,000	660,000	660,000	660,000
Total Cash Balance	$320,000	$2,283,000	$4,580,000	$6,562,000	$8,841,000

The income statement demonstrates an overall health of the enterprise on a year-by-year basis. The above cash flow statement shows the cumulative cash balance of the enterprise. It shows unrestricted and restricted (depreciation, interest, and debt service reserves) cumulative cash balances. The cash flow statement is the most important measure for a public entity. It is important for the enterprise to maintain a positive unrestricted cash balance at the end of each year.

Please note that we used a "flat model" in the analysis. With a "flat model," inflation and salary cost increases are not used in the analysis because it is assumed that operating cost increases will be offset and passed on to subscribers in the form of increased prices. Models that add an inflation factor to both revenues and expenses can greatly overstate net revenues in the out-years since net revenues would then also increase by the same inflation factor.

7.2.1 Financing Costs and Operating Expenses

This financial analysis assumes a combination of bonds and loans will be necessary to deploy the FTTP network. We expect that the City will seek 20-year bonds with principal repayments starting the year after the bond issuance.

We project that the bond issuance costs will be equal to 1.0 percent of the principal borrowed. For the bond, a debt service reserve account is maintained at 5.0 percent of the total issuance amount. An interest reserve account equal to years one and two interest expense is maintained for the first two years.

Our analysis estimates total bonding requirements to be $13.2 million, and we assume that bonds are issued at a 5 percent interest rate.

The model assumes a straight-line depreciation of assets, and that the OSP and materials will have a 20-year life span while network equipment will need to be replaced after 10 years. Last mile fiber and CPEs, as well as other miscellaneous implementation costs, will need to be accounted for after five years. Network equipment will be replaced or upgraded at 80 percent of its original cost, miscellaneous implementation costs will be at 100 percent, and last mile and CPEs will be at 100 percent. The model plans for a depreciation reserve account starting in year three—these monies are set aside to fund future electronics replacements and upgrades.

Table 14 shows operating expenses for years one, five, 10, 15, and 20. As the table indicates, some expenses will remain constant while others will increase as the network matures and the customer base increases.

Table 14: Operating Expenses in Years 1, 5, 10, 15, and 20 – Retail Model

Operating Expenses	Year 1	Year 5	Year 10	Year 15	Year 20
Support Services	$52,000	$28,000	$28,000	$28,000	$28,000
Insurance	25,000	50,000	50,000	50,000	50,000
Utilities	-	-	-	-	-
Office Expenses	6,000	6,000	6,000	6,000	6,000
Facility Lease	-	-	-	-	-
Locates & Ticket Processing	8,000	31,000	31,000	31,000	31,000
Peering	-	-	-	-	-
Contingency	10,000	25,000	25,000	25,000	25,000
Billing Maintenance Contract	10,000	20,000	20,000	20,000	20,000
Fiber & Network Maintenance	16,000	55,000	55,000	55,000	55,000
Vendor Maintenance Contracts	-	83,000	83,000	83,000	83,000
Legal and Lobby Fees	50,000	10,000	10,000	10,000	10,000
Planning	-	-	-	-	-
Consulting	50,000	10,000	10,000	10,000	10,000
Marketing	100,000	50,000	50,000	50,000	50,000
Education and Training	11,000	19,000	19,000	19,000	19,000
Customer Handholding	-	-	-	-	-
Customer Billing (Unit)	-	5,000	5,000	5,000	5,000
Allowance for Bad Debts	3,000	33,000	33,000	33,000	33,000
Churn (acquisition costs)	1,000	15,000	15,000	15,000	15,000
Pole Attachment Expense	-	-	-	-	-
Internet	30,000	41,000	41,000	41,000	41,000
Sub-Total	$372,000	$481,000	$481,000	$481,000	$481,000
Labor Expenses	$539,000	$938,000	$938,000	$938,000	$938,000
Sub-Total	$539,000	$938,000	$938,000	$938,000	$938,000
Total Expenses	$911,000	$1,419,000	$1,419,000	$1,419,000	$1,419,000

Table 15 shows the income statement for years one, five, 10, 15, and 20.

Table 15: Income Statement – Retail Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
a. Revenues					
Internet - Business	$277,000	$3,280,000	$3,280,000	$3,280,000	$3,280,000
Connection Fee (net)	64,000	-	-	-	-
Per Passing	-	-	-	-	-
Per Customer	-	-	-	-	-
Provider Fee	-	-	-	-	-
Assessments	-	-	-	-	-
Ancillary Revenues	-	-	-	-	-
Total	$341,000	$3,280,000	$3,280,000	$3,280,000	$3,280,000
b. Content Fees					
Internet	$30,000	$41,000	$41,000	$41,000	$41,000
Total	$30,000	$41,000	$41,000	$41,000	$41,000
c. Operating Costs					
Operation Costs	$342,000	$440,000	$440,000	$440,000	$440,000
Labor Costs	539,000	938,000	938,000	938,000	938,000
Total	$881,000	$1,378,000	$1,378,000	$1,378,000	$1,378,000
d. EBITDA	$(570,000)	$1,861,000	$1,861,000	$1,861,000	$1,861,000
e. Depreciation	234,000	1,254,000	625,000	617,000	617,000
f. Operating Income (EBITDA less Depreciation)	$(804,000)	$607,000	$1,236,000	$1,244,000	$1,244,000
g. Non-Operating Income					
Interest Income	$ -	$4,000	$5,000	$3,000	$1,000
Interest Expense (10 Year Bond)	-	-	-	-	-
Interest Expense (20 Year Bond)	(185,000)	(621,000)	(490,000)	(324,000)	(112,000)
Interest Expense (Loan)	-	-	-	-	-
Total	$(185,000)	$(485,000)	$(485,000)	$(321,000)	$(111,000)
h. Net Income (before taxes)	$(989,000)	$(10,000)	$751,000	$923,000	$1,133,000
i. Facility Taxes	$ -	$ -	$ -	$ -	$ -
j. Net Income	$(989,000)	$(10,000)	$751,000	$923,000	$1,133,000

Table 16: Cash Flow Statement – Retail Model

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
a. Net Income	$(989,000)	$(10,000)	$751,000	$923,000	$ 1,133,000
b. Cash Outflows					
Debt Service Reserve	$(185,000)	$ -	$ -	$ -	$ -
Interest Reserve	(370,000)	-	-	-	-
Depreciation Reserve	-	(439,000)	(219,000)	(216,000)	(216,000)
Financing	(37,000)	-	-	-	-
Capital Expenditures	(2,588,000)	-	-	-	-
Total	$ (3,180,000)	$ (439,000)	$ (219,000)	$ (216,000)	$ (216,000)
c. Cash Inflows					
Interest Reserve	$ 185,000	$ 95,000	$ -	$ -	$ -
Depreciation Reserve	-	-	-	-	-
Investment Capital	-	-	-	-	-
Start Up Funds	-	-	-	-	-
Grants (infrastructure)	-	-	-	-	-
Grants (customer premises)	-	-	-	-	-
10-Year Bond/Loan Proceeds	-	-	-	-	-
20-Year Bond Proceeds	3,700,000	-	-	-	-
Loan Proceeds	-	-	-	-	-
Total	$ 3,885,000	$ 95,000	$ -	$ -	$ -
d. Total Cash Outflows and Inflows	$ 705,000	$ (344,000)	$ (219,000)	$ (216,000)	$ (216,000)
e. Non-Cash Expenses - Depreciation	$ 234,000	$ 1,254,000	$ 625,000	$ 617,000	$ 617,000
f. Adjustments					
Proceeds from Additional Cash Flows (10 Year Bond)	$ -	$ -	$ -	$ -	$ -
Proceeds from Additional Cash Flows (20 Year Bond)	$ (3,700,000)	$ -	$ -	$ -	$ -
Proceeds from Additional Cash Flows (Loan)	$ -	$ -	$ -	$ -	$ -
g. Adjusted Available Net Revenue	$ (3,750,000)	$ 900,000	$ 1,157,000	$ 1,324,000	$ 1,534,000
h. Principal Payments on Debt					
10 Year Bond Principal	$ -	$ -	$ -	$ -	$ -
20 Year Bond Principal	-	472,000	602,000	768,000	981,000
Loan Principal	-	-	-	-	-
Total	$ -	$ 472,000	$ 602,000	$ 768,000	$ 981,000

Significant network expenses—known as "capital additions"—are incurred in the first few years during the construction phase of the network. These represent the equipment and labor expenses associated with building, implementing, and lighting a fiber network. Table 17 shows the capital additions costs in years one, two, and three, and the total for years one through three.

This analysis projects that the capital additions in year one will total approximately $2.6 million. These costs will total approximately $3.5 million in year two, $1.8 million in year three, and $2.6 million in year four. This totals just over $10.5 million for total capital additions costs for years one through four.

Table 17: Capital Additions – Retail Model

Capital Additions		Year 1	Year 2	Year 3	Year 4
Network Equipment					
Core Network Equipment		$380,000	$ -	$ -	$ -
TBD		-	-	-	-
Additional Annual Capital		-	-	-	-
	Total	$ 380,000	$ -	$ -	$ -
Outside Plant and Facilities					
Total Backbone and FTTP		$1,635,000	$2,726,000	$1,090,000	$ -
Additional Annual Capital		-	-	-	-
	Total	$1,635,000	$2,726,000	$1,090,000	$ -
Last Mile and Customer Premises Equipment					
CPE (residential and small commercial)		$91,000	$182,000	$182,000	$638,000
CPE (medium commercial)		18,000	36,000	35,000	124,000
CPE (enterprise)		6,000	10,000	10,000	36,000
Average Drop Cost		263,000	525,000	523,000	1,836,000
Additional Annual Replacement Capital		-	-	-	-
	Total	$378,000	$753,000	$750,000	$2,634,000
Miscellaneous Implementation Costs					
Splicing		$ -	$ -	$ -	$ -
Vehicles		50,000	-	-	-
Emergency Restoration Kit		50,000	-	-	-
Work Station, Computers, and Software		10,000	7,000	-	2,000
Fiber OTDR and Other Tools		85,000	-	-	-
Generators & UPS		-	-	-	-
OSS		-	-	-	-
Additional Annual Capital		-	-	-	-
	Total	$195,000	$7,000	$ -	$2,000
Replacement Costs for Depreciation					
Network Equipment		$ -	$ -	$ -	$ -
Customer Premises Equipment		-	-	-	-
Miscellaneous Implementation Costs		-	-	-	-
	Total	$ -	$ -	$ -	$ -
Total Capital Additions		$2,588,000	$3,486,000	$1,840,000	$2,636,000

7.2.2 Operating and Maintenance Expenses

The cost to deploy an FTTP network goes far beyond fiber implementation. Network deployment requires additional staffing for sales and marketing, network operations, and other functions. The addition of new staff and inventory requirements will require office and warehousing space:

- Expand office facilities for management, technical and clerical staff
- Expand retail "storefront" to facilitate customer contact and enhance their experience doing business with the FTTP enterprise
- Provide warehousing for receipt and storage of cable and hardware for the installation and on-going maintenance of the broadband infrastructure
- Establish location to house servers, switches, routers, and other core-network equipment

Training new and existing staff is important to fully realize the economies of starting the FTTP network. The training will be particularly important in the short-term as the new enterprise establishes itself as a unique entity providing services distinct from services provided by the City today.

The expanded business and increased responsibilities will require the addition of new staff. Marketing and sales are critical. It is important to be proactive in setting customer expectations, addressing security concerns, and educating the customers on how to initiate services.

The initial additional positions, staffing levels, and base salaries are shown in Table 18. Please note that the table only lists estimated salaries and in the analysis, we added a 40 percent overhead to these salaries.

Table 18: Labor Expenses – Retail Model

	Year 1	Year 2	Year 3	Year 4	Year 5+	Labor Cost
New Employees						
Business Manager	0.50	1.00	1.00	1.00	1.00	$130,000
GIS	0.50	1.00	1.00	1.00	1.00	$80,000
Communications - Sales	0.50	2.00	2.00	2.00	2.00	$75,000
Customer Service Representative	2.00	2.00	2.00	2.00	2.00	$65,000
Service Technicians/Installers & IT Support	1.00	1.00	1.00	2.00	2.00	$90,000
Fiber Plant O&M Technicians	0.25	1.00	1.00	1.00	1.00	$90,000
Total New Staff	4.75	8	8	9	9	

7.2.3 Summary of Operating and Maintenance Assumptions

Additional key operating and maintenance assumptions include:

- Salaries and benefits are based on estimated market wages. See Table 18 for a list of staffing requirements for the retail service model. Benefits are estimated at 40 percent of base salary.
- Use of a help desk service, which includes a $50,000 startup cost and $1.50 per month per customer service fee.
- Insurance is estimated to be $25,000 in year one and $50,000 from year two on.

- Office expense allocations are estimated to be $6,000 per year.
- Locates and ticket processing are estimated to start in year one at $8,000, increase to $15,000 in year two, and increase to $31,000 from year three on.
- Contingency is estimated to be $10,000 in year one and $25,000 from year two on.
- Billing and maintenance contract fees are estimated at $10,000 in year one, and $20,000 from year two on.
- Legal fees are estimated to be $50,000 in year one, and $10,000 from year two on.
- Consulting fees are estimated at $50,000 in year one, and $10,000 from year three on.
- Marketing and promotional expenses are estimated to be $100,000 in year one, and $50,000 from year two on.

Vendor maintenance contract fees are expected to start at $43,000 in year two, increase to $52,000 in year three, and increase again to $83,000 in year four; these fees are expected to remain steady at $83,000 per year beyond year four. Annual variable and operating expenses not including direct Internet access include:

- Education and training are calculated as 2 percent of direct payroll expense.
- Customer billing is estimated to be $0.25 per bill per month.
- Allowance for bad debts is computed as 1 percent of revenues.
- Churn is anticipated to be 5 percent annually.

Fiber network maintenance costs are calculated at 1 percent of the total construction cost, per year. This is estimated based on a typical rate of occurrence in an urban environment, and the cost of individual repairs. This is in addition to staffing costs to maintain fiber.

Internet and peering is estimated at $1.25 per Mbps per month for the first 2 Gbps, and $1.00 per Mbps per month thereafter.

7.2.4 Take-Rate Sensitivity

This section shows the large impact that fluctuations in take rate can have on financial modeling. In the following tables, we show the financial projections for take rates of 50 percent, 40 percent, and 30 percent.

Please note that, based on other competitive overbuilds, obtaining a 60 percent take rate is considered aggressive, and will likely be difficult to obtain and maintain. Realistically, we would expect a 35 percent to 45 percent take rate.

Note that the total unrestricted cash balance in year one with a 50 percent take rate is projected as a loss of $50,000, as shown in Table 19, below. This number is the same as the projections for a 60 percent take rate (see Table 13, above), but by the time we reach year five, the numbers diverge significantly.

The projected unrestricted cash balance with a 60 percent take rate is projected to be approximately $491,000 in year five. With a 50 percent take rate, the unrestricted cash balance in year five is projected as a loss of approximately $451,000.

This is nearly a $1 million difference in unrestricted cash balances based on the difference between a 60 percent and a 50 percent take rate. As the take rate declines, this gap widens, as the tables below show.

Table 19: Take Rate Reduced to 50 Percent – Retail Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$341,000	$2,738,000	$2,738,000	$2,738,000	$2,738,000
Total Cash Expenses	(911,000)	(1,390,000)	(1,390,000)	(1,390,000)	(1,390,000)
Depreciation	(234,000)	(1,104,000)	(579,000)	(572,000)	(572,000)
Interest Expense	(185,000)	(577,000)	(453,000)	(297,000)	(98,000)
Taxes	-	-	-	-	-
Net Income	$ (989,000)	$ (333,000)	$316,000	$479,000	$678,000

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$ (50,000)	$ (451,000)	$ (220,000)	$404,000	$1,023,000
Depreciation Reserve	-	1,026,000	1,082,000	434,000	90,000
Interest Reserve	185,000	-	-	-	-
Debt Service Reserve	185,000	620,000	620,000	620,000	620,000
Total Cash Balance	$320,000	$1,195,000	$1,482,000	$1,458,000	$1,733,000

As Table 20 shows, the total projected revenues in year five with a 40 percent take rate are approximately $2,176,000. The base case analysis with a 60 percent take rate projected year five revenues at approximately $3,280,000. This is greater than a $1.1 million difference in projected revenues based on take rate.

Similarly, the unrestricted cash balance in year five for the base case analysis—with a 60 percent take rate—is projected at approximately $491,000 per year in year five. With a 40 percent take rate (see Table 20, below), the unrestricted cash balance is projected as a loss of approximately $1.5 million per year in year five.

Table 20: Take Rate Reduced to 40 Percent – Retail Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$341,000	$2,176,000	$2,176,000	$2,176,000	$2,176,000
Total Cash Expenses	(911,000)	(1,362,000)	(1,362,000)	(1,362,000)	(1,362,000)
Depreciation	(234,000)	(953,000)	(533,000)	(526,000)	(526,000)
Interest Expense	(185,000)	(532,000)	(417,000)	(271,000)	(85,000)
Taxes	-	-	-	-	-
Net Income	$ (989,000)	$ (671,000)	$ (136,000)	$ 17,000	$203,000

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$ (50,000)	$(1,514,000)	$ (3,394,000)	$ (4,988,000)	$ (6,586,000)
Depreciation Reserve	-	922,000	1,018,000	520,000	326,000
Interest Reserve	185,000	-	-	-	-
Debt Service Reserve	185,000	575,000	575,000	575,000	575,000
Total Cash Balance	$320,000	$ (17,000)	$ (1,801,000)	$ (3,893,000)	$ (5,685,000)

Again, the unrestricted cash balance in the base case analysis (Table 13) for a retail model is projected as approximately $491,000 in year five. As Table 21 shows below, the projected unrestricted cash balance with a 30 percent take rate is a loss of approximately $2.5 million in year five.

Table 21: Take Rate Reduced to 30 Percent – Retail Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$341,000	$1,634,000	$1,634,000	$1,634,000	$ 1,634,000
Total Cash Expenses	(911,000)	(1,340,000)	(1,340,000)	(1,340,000)	(1,340,000)
Depreciation	(234,000)	(803,000)	(488,000)	(480,000)	(480,000)
Interest Expense	(185,000)	(493,000)	(384,000)	(247,000)	(72,000)
Taxes	-	-	-	-	-
Net Income	$ (989,000)	$ (1,002,000)	$ (578,000)	$ (433,000)	$ (258,000)

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$ (50,000)	$ (2,469,000)	$ (6,431,000)	$ (10,216,000)	$ (14,002,000)
Depreciation Reserve	-	816,000	950,000	600,000	554,000
Interest Reserve	185,000	-	-	-	-
Debt Service Reserve	185,000	535,000	535,000	535,000	535,000
Total Cash Balance	$ 320,000	$ (1,118,000)	$ (4,946,000)	$ (9,081,000)	$ (12,913,000)

7.3 Wholesale Model Financial Projections

The financial analysis in this section assumes the City of Hayward owns and operates the FTTP infrastructure and provides wholesale service to ISPs. The ISPs in turn offer retail service businesses in the identified service area. This financial analysis is based on several assumptions, outlined below.

In the analysis, we assume the City offers four wholesale base services, based on a 25 percent discount from the retail model.

- A 250 Mbps commercial service at $75 per month;
- A 1 Gbps small commercial service at $150 per month;
- A 1 Gbps medium commercial service at $300 per month (including service-level agreement); and
- A 1 Gbps Metro Ethernet transport service at $750 per month (including service-level agreement).

We assumed that 68 percent of subscribers will purchase the 250 Mbps service; 15 percent will purchase the 1 Gbps small commercial service; 15 percent will purchase the 1 Gbps medium commercial service; and 2 percent will purchase the 1 Gbps Metro Ethernet service.

As in the case of the retail model, a 60 percent take rate is required to maintain a positive cash flow.

The financial analysis for this base case scenario is as follows:

Table 22: Wholesale Model Financial Analysis with 60 Percent Take Rate (Base Case)

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$271,000	$2,460,000	$2,460,000	$2,460,000	$2,460,000
Total Cash Expenses	(572,750)	(934,250)	(934,250)	(934,250)	(934,250)
Depreciation	(233,000)	(1,253,000)	(623,000)	(616,000)	(616,000)
Interest Expense	(175,000)	(589,000)	(465,000)	(308,000)	(107,000)
Taxes	-	-	-	-	-
Net Income	$ (709,750)	$ (316,250)	$437,750	$601,750	$802,750

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$55,250	$57,250	$909,000	$2,257,750	$3,601,500
Depreciation Reserve	-	1,132,000	1,154,000	366,000	(118,000)
Interest Reserve	175,000	-	-	-	-
Debt Service Reserve	175,000	630,000	630,000	630,000	630,000
Total Cash Balance	$405,250	$1,819,250	$2,693,000	$3,253,750	$4,113,500

This analysis does not indicate or review whether obtaining this required take rate is realistic; rather, it reflects the take rate necessary to maintain a positive cash flow, considering all other assumptions in the model. The complete model is provided in Appendix D.

Please note that we used a "flat model" in the analysis. With a "flat model," inflation and salary cost increases are not used in the analysis because it is assumed that operating cost increases will be offset and passed on to subscribers in the form of increased prices. Models that add an inflation factor to both revenues and expenses can greatly overstate net revenues in the out-years since net revenues would then also increase by the same inflation factor.

7.3.1 Financing Costs and Operating Expenses

This financial analysis assumes a combination of bonds and loans will be necessary. We expect that the City will seek 20-year bonds with principal repayments starting the year after issuance.

We project that the bond issuance costs will be equal to 1.0 percent of the principal borrowed. For the bond, a debt service reserve account is maintained at 5.0 percent of the total issuance amount. An interest reserve account equal to years one and two interest expense is maintained for the first two years.

Our analysis estimates total bonding requirements to be $12.6 million and are issued at a 5 percent interest rate.

The model assumes a straight-line depreciation of assets, and that the OSP and materials will have a 20-year life span while network equipment will need to be replaced after 10 years. Last mile and CPEs as well as other miscellaneous implementation costs will need to be accounted for after five years. Network equipment will be replaced or upgraded at 80 percent of its original cost, miscellaneous implementation costs will be at 100 percent, and last mile and CPEs will be at 100 percent. The model plans for a depreciation reserve account starting in year three - this funds future electronics replacements and upgrades.

Table 23 shows operating expenses for years one, five, 10, 15, and 20. As seen, some expenses will remain constant while others will increase as the network matures and the customer base increases.

Table 23: Operating Expenses in Years 1, 5, 10, 15, and 20 – Wholesale Model

Operating Expenses	Year 1	Year 5	Year 10	Year 15	Year 20
Support Services	$ -	$ -	$ -	$ -	$ -
Insurance	25,000	50,000	50,000	50,000	50,000
Utilities	-	-	-	-	-
Office Expenses	6,000	6,000	6,000	6,000	6,000
Facility Lease	-	-	-	-	-
Locates & Ticket Processing	8,000	31,000	31,000	31,000	31,000
Peering	-	-	-	-	-
Contingency	10,000	25,000	25,000	25,000	25,000
Billing Maintenance Contract	10,000	20,000	20,000	20,000	20,000
Fiber & Network Maintenance	16,000	55,000	55,000	55,000	55,000
Vendor Maintenance Contracts	-	83,000	83,000	83,000	83,000
Legal and Lobby Fees	50,000	10,000	10,000	10,000	10,000
Planning	-	-	-	-	-
Consulting	50,000	10,000	10,000	10,000	10,000
Marketing	30,000	15,000	15,000	15,000	15,000
Education and Training	7,000	11,000	11,000	11,000	11,000
Customer Handholding	-	-	-	-	-
Customer Billing (Unit)	-	5,000	5,000	5,000	5,000
Allowance for Bad Debts	-	-	-	-	-
Churn (acquisition costs)	-	-	-	-	-
Pole Attachment Expense	-	-	-	-	-
Internet	30,000	41,000	41,000	41,000	41,000
Sub-Total	$242,000	$362,000	$362,000	$362,000	$362,000
Labor Expenses	$330,750	$572,250	$572,250	$572,250	$572,250
Sub-Total	$330,750	$572,250	$572,250	$572,250	$572,250
Total Expenses	$572,750	$934,250	$934,250	$934,250	$934,250

Table 24 shows the income statement for years one, five, 10, 15, and 20.

Table 24: Income Statement – Wholesale Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
a. Revenues					
Internet - Business	$207,000	$2,460,000	$2,460,000	$2,460,000	$2,460,000
Connection Fee (net)	64,000	-	-	-	-
Per Passing	-	-	-	-	-
Per Customer	-	-	-	-	-
Provider Fee	-	-	-	-	-
Assessments	-	-	-	-	-
Ancillary Revenues	-	-	-	-	-
Total	$271,000	$2,460,000	$2,460,000	$2,460,000	$2,460,000
b. Content Fees					
Internet	$30,000	$41,000	$41,000	$41,000	$41,000
Total	$30,000	$41,000	$41,000	$41,000	$41,000
c. Operating Costs					
Operation Costs	$212,000	$321,000	$321,000	$321,000	$321,000
Labor Costs	330,750	572,250	572,250	572,250	572,250
Total	$542,750	$893,250	$893,250	$893,250	$893,250
d. EBITDA	$(301,750)	$1,525,750	$1,525,750	$1,525,750	$1,525,750
e. Depreciation	233,000	1,253,000	623,000	616,000	616,000
f. Operating Income (EBITDA less Depreciation)	$(534,750)	$272,750	$902,750	$909,750	$909,750
g. Non-Operating Income					
Interest Income	$ -	$4,000	$4,000	$2,0000	$1,0000
Interest Expense (10 Year Bond)	-	-	-	-	-
Interest Expense (20 Year Bond)	(175,000)	(593,000)	(469,000)	(310,000)	(108,000)
Interest Expense (Loan)	-	-	-	-	-
Total	$ (175,000)	$ (465,000)	$ (465,000)	$ (308,000)	$ (107,000)
h. Net Income (before taxes)	$ (709,750)	$ (316,250)	$437,750	$601,750	$802,750
i. Facility Taxes	$ -	$ -	$ -	$ -	$ -
j. Net Income	$ (709,750)	$ (316,250)	$437,750	$601,750	$802,750

Table 25 shows the cash flow statement for years one, five, 10, 15, and 20.

Table 25: Cash Flow Statement – Wholesale Model

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
a. Net Income	$ (709,750)	$ (316,250)	$437,750	$601,750	$802,750
b. Cash Outflows					
Debt Service Reserve	$ (175,000)	$ -	$ -	$ -	$ -
Interest Reserve	(350,000)	-	-	-	-
Depreciation Reserve	-	(439,000)	(218,000)	(216,000)	(216,000)
Financing	(35,000)	-	-	-	-
Capital Expenditures	(2,583,000)	-	-	-	-
Total	$ (3,143,000)	$ (439,000)	$ (218,000)	$ (216,000)	$ (216,000)
c. Cash Inflows					
Interest Reserve	$175,000	$105,000	$ -	$ -	$ -
Depreciation Reserve	-	-	-	-	-
Investment Capital	-	-	-	-	-
Start Up Funds	-	-	-	-	-
Grants (infrastructure)	-	-	-	-	-
Grants (customer premises)	-	-	-	-	-
10-Year Bond/Loan Proceeds	-	-	-	-	-
20-Year Bond Proceeds	3,500,000	-	-	-	-
Loan Proceeds	-	-	-	-	-
Total	$3,675,000	$105,000	$ -	$ -	$ -
d. Total Cash Outflows and Inflows	$532,000	$ (334,000)	$ (218,000)	$ (216,000)	$ (216,000)
e. Non-Cash Expenses - Depreciation	$233,000	$1,253,000	$623,000	$616,000	$616,000
f. Adjustments					
Proceeds from Additional Cash Flows (10 Year Bond)	$ -	$ -	$ -	$ -	$ -
Proceeds from Additional Cash Flows (20 Year Bond)	$ (3,500,000)	$ -	$ -	$ -	$ -
Proceeds from Additional Cash Flows (Loan)	$ -	$ -	$ -	$ -	$ -
g. Adjusted Available Net Revenue	$ (3,444,750)	$602,750	$842,750	$1,001,750	$1,202,750
h. Principal Payments on Debt					
10 Year Bond Principal	$ -	$ -	$ -	$ -	$ -
20 Year Bond Principal	-	450,000	574,000	732,000	935,000
Loan Principal	-	-	-	-	-
Total	$ -	$450,000	$574,000	$732,000	$935,000
j. Cash Balance					
Unrestricted Cash Balance	$55,250	$57,250	$909,000	$2,257,750	$3,601,500
Depreciation Reserve	-	1,132,000	1,154,000	366,000	(118,000)
Interest Reserve	175,000	-	-	-	-
Debt Service Reserve	175,000	630,000	630,000	630,000	630,000
Total Cash Balance	$405,250	$1,819,250	$2,693,000	$3,253,750	$4,113,500

Significant network expenses—known as "capital additions"—are incurred in the first few years during the construction phase of the network. These represent the equipment and labor expenses associated with building, implementing, and lighting a fiber network. Table 26 shows the capital additions costs in years one, two, and three, and the total for years one through three.

This analysis projects that the capital additions in year one will total approximately $2.6 million. These costs will total approximately $3.5 million in year two, $1.8 million in year three, and $2.6 million in year four. This totals just over $10.5 million for total capital additions costs for years one through four.

Table 26: Capital Additions – Wholesale Model

Capital Additions		Year 1	Year 2	Year 3	Year 4
Network Equipment					
Core Network Equipment		$380,000	$ -	$ -	$ -
TBD		-	-	-	-
Additional Annual Capital		-	-	-	-
	Total	$380,000	$ -	$ -	$ -
Outside Plant and Facilities					
Total Backbone and FTTP		$1,635,000	$2,726,000	$1,090,000	$ -
Additional Annual Capital		-	-	-	-
	Total	$1,635,000	$2,726,000	$1,090,000	$ -
Last Mile and Customer Premises Equipment					
CPE (residential and small commercial)		$91,000	$182,000	$182,000	$638,000
CPE (medium commercial)		18,000	36,000	35,000	124,000
CPE (enterprise)		6,000	10,000	10,000	36,000
Average Drop Cost		263,000	525,000	523,000	1,836,000
Additional Annual Replacement Capital		-	-	-	-
	Total	$378,000	$753,000	$750,000	$2,634,000
Miscellaneous Implementation Costs					
Splicing		$ -	$ -	$ -	$ -
Vehicles		50,000	-	-	-
Emergency Restoration Kit		50,000	-	-	-
Work Station, Computers, and Software		5,000	4,000	-	2,000
Fiber OTDR and Other Tools		85,000	-	-	-
Generators & UPS		-	-	-	-
OSS		-	-	-	-
Additional Annual Capital		-	-	-	-
	Total	$190,000	$4,000	$ -	$2,000
Replacement Costs for Depreciation					
Network Equipment		$ -	$ -	$ -	$ -
Customer Premises Equipment		-	-	-	-
Miscellaneous Implementation Costs		-	-	-	-
	Total	$ -	$ -	$ -	$ -
Total Capital Additions		$2,583,000	$3,483,000	$1,840,000	$2,636,000

7.3.2 Operating and Maintenance Expenses

The cost to deploy an FTTP network goes far beyond fiber implementation. Network deployment requires additional staffing for sales and marketing, network operations, and other functions. The addition of new staff and inventory requirements will require office and warehousing space:

- Expand office facilities for management, technical and clerical staff
- Provide warehousing for receipt and storage of cable and hardware for the installation and on-going maintenance of the broadband infrastructure
- Establish location to house servers, switches, routers, and other core-network equipment

Training new and existing staff is important to fully realize the economies of starting the FTTP network. The training will be particularly important in the short-term as the new enterprise establishes itself as a unique entity providing services distinct from services provided by the City today.

The expanded business and increased responsibilities will require the addition of new staff. Even in the wholesale service model - marketing and sales are critical. It is important to be proactive in setting expectations, addressing security concerns, and educating the ISPs on how to initiate services.

The initial additional positions, staffing levels, and base salaries are shown in Table 27. Please note that, in the financial model, a 40 percent overhead is added to the salaries listed below.

Table 27: Labor Expenses – Wholesale Model

	Year 1	Year 2	Year 3	Year 4	Year 5+	Labor Cost
New Employees						
Business Manager	0.50	1.00	1.00	1.00	1.00	130,000
GIS	0.50	1.00	1.00	1.00	1.00	80,000
Communications - Sales	0.25	0.25	0.25	0.25	0.25	75,000
Customer Service Representative	-	-	-	-	-	65,000
Service Technicians/Installers & IT Support	1.00	1.00	1.00	2.00	2.00	90,000
Fiber Plant O&M Technicians	0.25	1.00	1.00	1.00	1.00	90,000
Total New Staff	2.5	4.25	4.25	5.25	5.25	

7.3.3 Summary of Operating and Maintenance Expenses

Additional key operating and maintenance assumptions include:

- Salaries and benefits are based on estimated market wages. See Table 27 for a list of staffing requirements. Benefits are estimated at 40 percent of base salary.
- Insurance is estimated to be $25,000 in year one and $50,000 from year two on.
- Office expense allocations are estimated to be $6,000 per year
- Locates and ticket processing are estimated to start in year one at $8,000, increase to $15,000 in year two, and increase to $31,000 from year three on.
- Contingency is estimated to be $10,000 in year one and $25,000 from year two on.

- Billing and maintenance contract fees are estimated at $10,000 in year one, and $20,000 from year two on.
- Legal fees are estimated to be $50,000 in year one, and $10,000 from year two on.
- Consulting fees are estimated at $50,000 in year one, and $10,000 from year three on.
- Marketing and promotional expenses are estimated to be $30,000 in year one, and $15,000 from year two on.

Vendor maintenance contract fees are expected to start at $43,000 in year two, $52,000 in year three, and $83,000 year four on. Annual variable and operating expenses not including direct Internet access include:

- Education and training are calculated as 2 percent of direct payroll expense.
- Customer billing is estimated to be $0.25 per bill per month.

Fiber network maintenance costs are calculated at 1 percent of the total construction cost, per year. This is estimated based on a typical rate of occurrence in an urban environment, and the cost of individual repairs. This is in addition to staffing costs to maintain fiber.

Internet and peering is estimated at $1.25 per Mbps per month for the first 2 Gbps and $1.00 per Mbps per month thereafter.

7.3.4 Take-Rate Sensitivity

This section shows the large impact that fluctuations in take rate can have on financial modeling. In the following tables, we show the financial projections for take rates of 50 percent, 40 percent, and 30 percent.

As discussed in the retail model, obtaining a 60 percent take rate is considered aggressive, and will likely be difficult to obtain and maintain. Realistically, we would expect a 35 percent to 45 percent take rate.

Table 28, below, shows financial projections for a 50 percent take rate. While projections for year one are identical to our base case scenario of 60 percent (seen in Table 22, above), the City's unrestricted cash balance shows a loss of approximately $641,000 by year five, and this continues to increase. By year 20, the unrestricted cash balance shows a loss of approximately $1.6 million. This is a $5.2 million difference between the base case scenario with a 60 percent take rate and a scenario with a 50 percent take rate.

Table 28: Take Rate Reduced to 50 Percent – Wholesale Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$271,000	$2,053,000	$2,053,000	$2,053,000	$2,053,000
Total Cash Expenses	(572,750)	(918,250)	(918,250)	(918,250)	(918,250)
Depreciation	(233,000)	(1,102,000)	(578,000)	(570,000)	(570,000)
Interest Expense	(175,000)	(549,000)	(432,000)	(284,000)	(94,000)
Taxes	-	-	-	-	-
Net Income	$ (709,750)	$ (516,250)	$124,750	$280,750	$470,750

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$55,250	$ (640,750)	$ (1,226,000)	$ (1,422,250)	$ (1,621,500)
Depreciation Reserve	-	1,026,000	1,087,000	447,000	111,000
Interest Reserve	175,000	-	-	-	-
Debt Service Reserve	175,000	590,000	590,000	590,000	590,000
Total Cash Balance	$405,250	$975,250	$451,000	$ (385,250)	$ (920,500)

As take rate continues to decrease, financial projections follow suit. As shown in Table 29, below, unrestricted cash balance for a take rate of 40 percent falls to a deficit of nearly $1.5 million by year five. This negative balance continues to grow to over $7 million by year 20. Further, with a take rate of 40 percent, the City would not generate a positive net income until year 20.

Compared to the base model, a 40 percent take rate will dramatically affect unrestricted cash balance, result in a nearly $1.5 million difference by year five, and an over $10.5 million difference by year 20.

Table 29: Take Rate Reduced to 40 Percent – Wholesale Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$271,000	$1,632,000	$1,632,000	$1,632,000	$1,632,000
Total Cash Expenses	(572,750)	(903,250)	(903,250)	(903,250)	(903,250)
Depreciation	(233,000)	(952,000)	(532,000)	(524,000)	(524,000)
Interest Expense	(175,000)	(504,000)	(395,000)	(257,000)	(81,000)
Taxes	-	-	-	-	-
Net Income	$ (709,750)	$ (727,250)	$ (198,250)	$ (52,250)	$ 123,750

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$55,250	$ (1,447,750)	$ (3,501,000)	$ (5,268,250)	$ (7,039,500)
Depreciation Reserve	-	920,000	1,020,000	525,000	334,000
Interest Reserve	175,000	-	-	-	-
Debt Service Reserve	175,000	545,000	545,000	545,000	545,000
Total Cash Balance	$405,250	$17,250	$ (1,936,000)	$ (4,198,250)	$ (6,160,500)

Table 30 shows our lowest projected take rate of 30 percent. In this model, the unrestricted cash balance is a deficit of over $2 million by year five, and the deficit continues to grow to over $12 million by year twenty. In this model, the City is unable to generate a positive net income over the course of 20 years.

In comparison to our base model of a 60 percent take rate, the difference in unrestricted cash balance by year five is over $2.2 million, and nearly $16 million by year 20.

Table 30: Take Rate Reduced to 30 Percent – Wholesale Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$271,000	$1,226,000	$1,226,000	$1,226,000	$1,226,000
Total Cash Expenses	(572,750)	(893,250)	(893,250)	(893,250)	(893,250)
Depreciation	(233,000)	(801,000)	(486,000)	(479,000)	(479,000)
Interest Expense	(175,000)	(465,000)	(362,000)	(234,000)	(68,000)
Taxes	-	-	-	-	-
Net Income	$ (709,750)	$ (933,250)	$ (515,250)	$ (380,250)	$ (214,250)

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$55,250	$ (2,155,750)	$ (5,671,000)	$ (9,014,250)	$ (12,358,500)
Depreciation Reserve	-	814,000	952,000	610,000	572,000
Interest Reserve	175,000	-	-	-	-
Debt Service Reserve	175,000	505,000	505,000	505,000	505,000
Total Cash Balance	$405,250	$ (836,750)	$ (4,214,000)	$ (7,899,250)	$ (11,281,500)

7.4 Dark FTTP Model Financial Analysis

The financial analysis for all scenarios presented here represents a minimum requirement for the City to break even each year, excluding any potential revenue from other dark fiber lease opportunities that may be available to the City.

The base case scenario assumes that the City's private partner will pay a fee of $40 per passing per month, with no upfront or balloon payments. Based on an assumption that the City will deploy an FTTP network in the identified business area, the financial model applies the fee to all business premises in the identified service area. The current model keeps constant the $40 per passing fee, though the City and its partner could negotiate periodic increases.

Please note there is no market data or examples of the dark FTTP model with a business focus. For example, in its agreement with Huntsville Utilities in Huntsville, Alabama, Google Fiber pays under $10 per month per passing, but this is for residences only—no businesses are included. The per-passing fee is the largest "risk" in the model and could be tested with the recommended RFI.

Further, the $40 fee is based on a full recovery of capital and expenses. The FTTP deployment is likely to have additional economic development and other benefits that are not easily measured. In recognition of these benefits, the City could choose to provide funding to the proposed enterprise that would lower the required per passing fee.

The financial analysis for the base case scenario is as follows:

Table 31: Base Case Financial Analysis – Dark FTTP Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$6,140	$1,226,880	$1,226,880	$1,226,880	$1,226,880
Total Cash Expenses	(373,750)	(549,250)	(549,250)	(549,250)	(549,250)
Depreciation	(119,000)	(311,000)	(311,000)	(311,000)	(311,000)
Interest Expense	(130,000)	(351,000)	(275,000)	(176,000)	(51,000)
Taxes	-	-	-	-	-
Net Income	$ (616,610)	$15,630	$91,630	$190,630	$315,630

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$ (6,610)	$10,340	$25,490	$40,640	$56,790
Depreciation Reserve	-	141,000	185,000	229,000	273,000
Interest Reserve	130,000	-	-	-	-
Debt Service Reserve	130,000	380,000	380,000	380,000	380,000
Total Cash Balance	$253,390	$531,340	$590,490	$649,640	$709,790

Please note that we used a "flat model" in the analysis, which means that inflation and operating cost increases (including salaries) are not used because it is assumed that operating cost increases will be offset by increases in operator lease payments over time (and likely passed on to subscribers in the form of increased prices). We anticipate that the City will apply an inflation factor, typically based on a Consumer Price Index (CPI), to the portion of the per-subscriber fee that covers projected operating expenses during negotiations with a private partner. Please note that it is not appropriate to apply a CPI to the entire passing fee because most of the fee is to support the principal and interest on the debt service.

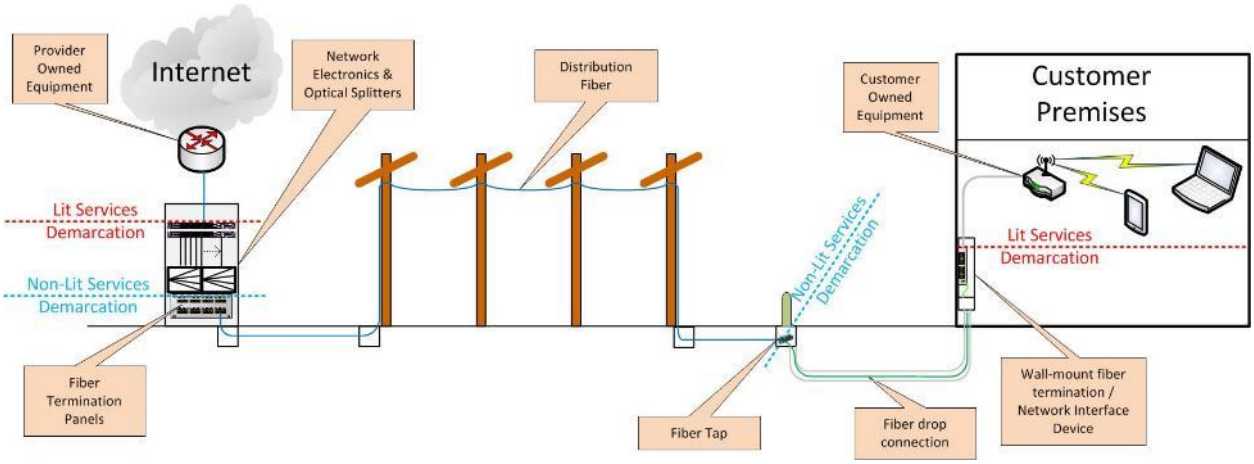
This document presents an overview of the financial model; we have provided the City with a complete financial model in Excel format. Because the Excel spreadsheets can be manipulated to show the impact of changing assumptions it will be an important tool for the City to use as it negotiates with a private partner.

This analysis does not contain any potential revenue from wireless ISPs that are looking for connectivity to wireless access points. A wireless ISP could leverage the FTTP infrastructure and avoid drop costs and investment in the electronics for the FTTP network. The use of the fiber is dependent upon the wireless technologies implemented by the wireless ISP.

7.4.1 Cost Implications of the Dark FTTP Model

The financial analysis in this section assumes that the City constructs and owns the FTTP infrastructure up to a demarcation point at the optical tap near each residence and business, and leases the dark fiber backbone and distribution fiber to a private partner. The private partner would be responsible for all network electronics, fiber drops to subscribers, and CPEs—as well as network sales, marketing, and operations.

Figure 11: Demarcation Between City and Partner Network Elements



Using 100 percent underground construction, the dark FTTP network deployment for the business park will cost approximately $5.5 million, including OSP construction labor, materials, engineering, permitting, and pole attachment licensing. This estimate does not include and electronics, subscriber equipment, or drops.

Table 32: Breakdown of Estimated Dark FTTP Model Cost (aerial and underground construction)

Cost Component	Total Estimated Cost
OSP Engineering	$519,000
Quality Control/Quality Assurance	192,000
General OSP Construction Cost	3,158,000
Special Crossings	703,000
Backbone and Distribution Plant Splicing	139,000
Backbone Hub, Termination, and Testing	475,000
FTTP Lateral Installations	265,000
Total Estimated Cost:	$5,451,000

The above estimates assume that the City constructs and owns the FTTP infrastructure up to a demarcation point at the optical tap near each business, and leases the dark fiber backbone and distribution fiber to a private partner. The private partner would be responsible for all network electronics, fiber drops to subscribers, and CPEs—as well as network sales, marketing, and operations.

The ownership of the drops is an assumption that could be changed through negotiation with a private partner—as, indeed, could many of the assumptions underpinning this analysis. We have chosen this key parameter for the base case scenario because we believe this approach presents a reasonable balance of costs, control, and risk for the City. (City ownership of the drops, for example, would increase the City's control, but also significantly increase the City's costs.)

In a related vein, we note that some network operators suggest that the network's optical splitters should be a part of the Layer 1 or dark fiber assets. We caution against this approach. The network operator (i.e., the City's partner) should maintain the splitters because, as operator of the electronics, it must determine and control the GPON network split ratio to meet the network's performance standards. This may involve moving power users to GPON ports with lower split ratios, or moving users to different splitters to manage the capacity of the GPON ports. The City should not be involved in this level of network management. Also, the City should not have to inventory various sized splitters or swap them as the network operator makes changes. Even if the City were to decide to purchase some of the optical splitters for the network, we believe it should be the network operator's responsibility to manage and maintain the splitters.

7.4.2 Financing Costs and Operating Expenses

For the base financial analysis, we used the OSP costs for a combination aerial and underground construction. In the scenarios, we show the impact of the increased costs for an all-underground deployment.

This financial analysis assumes that the City will cover all its capital requirements with general obligation (GO) bonds. We assumed that the City's bond rate would be 5 percent.

We expect that the City will take three 20-year bonds—one each in years one, two, and three—for a total of $7.6 million in financing. (The difference between the financed amount and the total capital costs represents the amount needed to maintain positive cash flow in the early years of network deployment.) The resulting principal and interest (P&I) payments will be the major factor in determining the City's long-term financial requirements; P&I accounts for about 53 percent of the City's annual costs in our base case model after the construction period.

We project that the bond issuance costs will be equal to 1.0 percent of the principal borrowed. For the bond, a debt service reserve account is maintained at 5.0 percent of the total issuance amount. An interest reserve account will be maintained for the first two years. Principal repayment on the bonds will start in year two.

The model assumes a straight-line depreciation of assets, and that the OSP and materials will have a 20-year life span. Because we assume the City's partner will be responsible for network electronics and CPE, we have not included depreciation or replacement costs for that equipment (although we note that, typically, network equipment would be replaced after 10 years, while CPE and last-mile infrastructure would be depreciated over five years). The model plans for a depreciation reserve account starting in year three to fund future replacements and upgrades.

Table 33 shows the income statement for years one, five, 10, 15, and 20.

Table 33: Income Statement – Dark FTTP Model

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
a. Revenues					
Internet - Business	$ -	$ -	$ -	$ -	$ -
Connection Fee (net)	-	-	-	-	-
Per Passing	6,140	1,226,880	1,226,880	1,226,880	1,226,880
Per Customer	-	-	-	-	-
Provider Fee	-	-	-	-	-
Assessments	-	-	-	-	-
Ancillary Revenues	-	-	-	-	-
Total	$ 6,140	$ 1,226,880	$ 1,226,880	$ 1,226,880	$ 1,226,880
b. Content Fees					
Internet	$ -	$ -	$ -	$ -	$ -
Total	$ -	$ -	$ -	$ -	$ -
c. Operating Costs					
Operation Costs	$169,000	$194,000	$194,000	$194,000	$194,000
Labor Costs	204,750	355,250	355,250	355,250	355,250
Total	$373,750	$549,250	$549,250	$549,250	$549,250
d. EBITDA	$ (367,610)	$ 677,630	$ 677,630	$ 677,630	$ 677,630
e. Depreciation	119,000	311,000	311,000	311,000	311,000
f. Operating Income (EBITDA less Depreciation)	$ (486,610)	$366,630	$366,630	$366,630	$366,630
g. Non-Operating Income					
Interest Income	$ -	$1,000	$1,000	$2,000	$2,000
Interest Expense (10 Year Bond)	-	-	-	-	-
Interest Expense (20 Year Bond)	(130,000)	(352,000)	(276,000)	(178,000)	(53,000)
Interest Expense (Loan)	-	-	-	-	-
Total	$ (130,000)	$ (275,000)	$ (275,000)	$ (176,000)	$ (51,000)
h. Net Income (before taxes)	$ (616,610)	$15,630	$91,630	$190,630	$315,630
i. Facility Taxes	$ -	$ -	$ -	$ -	$ -
j. Net Income	$ (616,610)	$15,630	$91,630	$190,630	$315,630

Table 34 shows the cash flow statement for years one, five, 10, 15, and 20.

Table 34: Cash Flow Statement – Dark FTTP Model

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
a. Net Income	$ (616,610)	$15,630	$91,630	$190,630	$315,630
b. Cash Outflows					
Debt Service Reserve	$ (130,000)	$ -	$ -	$ -	$ -
Interest Reserve	(260,000)	-	-	-	-
Depreciation Reserve	-	(47,000)	(47,000)	(47,000)	(47,000)
Financing	(26,000)	-	-	-	-
Capital Expenditures	(1,823,000)	-	-	-	-
Total	$ (2,239,000)	$ (47,000)	$ (47,000)	$ (47,000)	$ (47,000)
c. Cash Inflows					
Interest Reserve	$130,000	$ -	$ -	$ -	$ -
Depreciation Reserve	-	-	-	-	-
Investment Capital	-	-	-	-	-
Start Up Funds	-	-	-	-	-
Grants (infrastructure)	-	-	-	-	-
Grants (customer premises)	-	-	-	-	-
10-Year Bond/Loan Proceeds	-	-	-	-	-
20-Year Bond Proceeds	2,600,000	-	-	-	-
Loan Proceeds	-	-	-	-	-
Total	$ 2,730,000	$ -	$ -	$ -	$ -
d. Total Cash Outflows and Inflows	$491,000	$ (47,000)	$ (47,000)	$ (47,000)	$ (47,000)
e. Non-Cash Expenses - Depreciation	$119,000	$311,000	$311,000	$311,000	$311,000
f. Adjustments					
Proceeds from Additional Cash Flows (10 Year Bond)	$ -	$ -	$ -	$ -	$ -
Proceeds from Additional Cash Flows (20 Year Bond)	$ (2,600,000)	$ -	$ -	$ -	$ -
Proceeds from Additional Cash Flows (Loan)	$ -	$ -	$ -	$ -	$ -
g. Adjusted Available Net Revenue	$ (2,606,610)	$279,630	$355,630	$454,630	$579,630
h. Principal Payments on Debt					
10 Year Bond Principal	$ -	$ -	$ -	$ -	$ -
20 Year Bond Principal	-	277,000	353,000	451,000	576,000
Loan Principal	-	-	-	-	-
Total	$ -	$277,000	$353,000	$451,000	$576,000

j. Cash Balance					
Unrestricted Cash Balance	$ (6,610)	$10,340	$25,490	$40,640	$56,790
Depreciation Reserve	-	141,000	185,000	229,000	273,000
Interest Reserve	130,000	-	-	-	-
Debt Service Reserve	130,000	380,000	380,000	380,000	380,000
Total Cash Balance	$253,390	$531,340	$590,490	$649,640	$709,790

Significant network expenses—known as "capital additions"—are incurred in the first few years during the construction phase of the network. These represent the equipment and labor expenses associated with building a fiber network. (Again, because the City's responsibility will be limited to OSP, we have not included any costs for core network equipment, drops, or CPE.) This analysis projects that the capital additions (including vehicles and test equipment) in year one will total approximately $1.8 million. These costs will total approximately $2.7 million in year two, and $1.1 million in year three. This totals just over $5.6 million in capital additions for years one through three.

Table 35 – Capital Additions – Dark FTTP Model

Capital Additions		Year 1	Year 2	Year 3
Network Equipment				
Core Network Equipment		$ -	$ -	$ -
TBD		-	-	-
Additional Annual Capital		-	-	-
	Total	$ -	$ -	$ -
		$ -	$ -	$ -
Outside Plant and Facilities				
Total Backbone and FTTP		$1,635,000	$2,726,000	$1,090,000
Additional Annual Capital		-	-	-
	Total	$1,635,000	$2,726,000	$1,090,000
Last Mile and Customer Premises Equipment				
CPE (residential and small commercial)		$ -	$ -	$ -
CPE (medium commercial)		-	-	-
CPE (enterprise)		-	-	-
Average Drop Cost		-	-	-
Additional Annual Replacement Capital		-	-	-
	Total	$ -	$ -	$ -
Miscellaneous Implementation Costs				
Splicing		$ -	$ -	$ -
Vehicles		50,000	-	-
Emergency Restoration Kit		50,000	-	-
Work Station, Computers, and Software		3,000	3,000	-
Fiber OTDR and Other Tools		85,000	-	-
Generators & UPS		-	-	-
OSS		-	-	-
Additional Annual Capital		-	-	-
	Total	$188,000	$3,000	$ -
Replacement Costs for Depreciation				
Network Equipment		$ -	$ -	$ -
Customer Premises Equipment		-	-	-
Miscellaneous Implementation Costs		-	-	-
	Total	$ -	$ -	$ -
	Total Capital Additions	$1,823,000	$2,729,000	$1,090,000

7.4.3 Operating and Maintenance Expenses

The cost to deploy an FTTP network goes far beyond fiber implementation. Network deployment requires network maintenance and technical operations, and other functions. In this model, we assume that the City's partner will be responsible for lighting the fiber and selling services, so the City's financial requirements are limited to expenses related to OSP infrastructure and network administration.

These expanded responsibilities will require the addition of new staff. We assume the City will add a total of three and three-quarters full-time-equivalent (FTE) positions within the first three years, and will then maintain that level of staffing. Our assumptions include one-half FTE for management, one FTE for GIS, one-quarter FTE for communication support, and one FTE for fiber plant maintenance and operations. Salaries and benefits are based on estimated market wages, and benefits are estimated at 40 percent of base salary.

Some of these responsibilities can be contracted out, while some can be absorbed into existing positions within the City. Each City's circumstances are unique, and the skill sets that exist within an organization will inform to what degree responsibilities must be contracted out. We encourage the City to train internal staff for all record-keeping responsibilities—particularly network details such as fiber strand usage and locations. We cannot overstate the importance of keeping meticulous records on the fiber to maintain the long-term integrity of the network, and keeping this function in-house gives the City the greatest degree of control over these records' accuracy.

Locates and ticket processing will be significant ongoing operational expenses for the City. Based on our experience in other cities, we estimate that a contract for locates will cost $8,000 in year one, increase to $15,000 in year two, and increase to $31,000 from year three on. (If the City decides to perform this work in-house, the contract expense would be eliminated—but staffing expenses would increase.)

Additional key operating and maintenance assumptions include the following:

- Insurance is estimated to be $25,000 in year one and $50,000 from year two on.
- Office expenses are estimated to be $2,400 annually.
- Contingency expenses are estimated at $10,000 in year one and $25,000 in subsequent years.
- Legal fees are estimated to be $50,000 in year one and $10,000 from year two on.
- Consulting fees are estimated at $50,000 in year one and $10,000 from year two on.

Fiber network maintenance costs are calculated at one percent of the total construction cost, per year. This is estimated based on a typical rate of occurrence in an urban environment, and the cost of individual repairs. This is in addition to staffing costs to maintain the fiber.

Table 36 lists the City's projected operating expenses for years one, five, 10, 15, and 20.

Table 36: Operating Expenses Dark FTTP Model

Operating Expenses	Year 1	Year 5	Year 10	Year 15	Year 20
Support Services	$ -	$ -	$ -	$ -	$ -
Insurance	25,000	50,000	50,000	50,000	50,000
Utilities	-	-	-	-	-
Office Expenses	6,000	6,000	6,000	6,000	6,000
Facility Lease	-	-	-	-	-
Locates & Ticket Processing	8,000	31,000	31,000	31,000	31,000
Peering	-	-	-	-	-
Contingency	10,000	25,000	25,000	25,000	25,000
Billing Maintenance Contract	-	-	-	-	-
Fiber & Network Maintenance	16,000	55,000	55,000	55,000	55,000
Vendor Maintenance Contracts	-	-	-	-	-
Legal and Lobby Fees	50,000	10,000	10,000	10,000	10,000
Planning	-	-	-	-	-
Consulting	50,000	10,000	10,000	10,000	10,000
Marketing	-	-	-	-	-
Education and Training	4,000	7,000	7,000	7,000	7,000
Customer Handholding	-	-	-	-	-
Customer Billing (Unit)	-	-	-	-	-
Allowance for Bad Debts	-	-	-	-	-
Churn (acquisition costs)	-	-	-	-	-
Pole Attachment Expense	-	-	-	-	-
Internet	-	-	-	-	-
Sub-Total	$169,000	$194,000	$194,000	$194,000	$194,000
Labor Expenses	$204,750	$355,250	$355,250	$355,250	$355,250
Sub-Total	$204,750	$355,250	$355,250	$355,250	$355,250
Total Expenses	$373,750	$549,250	$549,250	$549,250	$549,250

7.4.4 Revenue

The base case scenario assumes that the City's private partner will pay a fee of $40 per passing per month, with no upfront or balloon payments. Based on an assumption that the City will deploy a ubiquitous FTTP network in the business park. The financial model applies the fee to all business premises in the business park. The current model keeps that $40 per passing fee constant, although the City and its partner could negotiate periodic increases.

Operating and maintenance expenses account for approximately 47 percent of the City's total annual costs. (P&I payment on debt is the remaining amount.) At a minimum, 47-percent of the per-passing fee should be increased by a CPI each year.

In the scenarios below, we show the sensitivity of the monthly fee.

7.4.5 Dark FTTP Fee Sensitivity

This section demonstrates the sensitivity of the financial projections to changes in per passing fee. We show the financial projects for fees at $35, $30, and $25 per passing per month.

Table 37, below, shows financial analysis for a $35 per month passing fee. In this model, the unrestricted cash balance shows a loss of approximately $435,000 by year five, and more than $2.6 million by year 20.

Compared to our base model of a $40 per-month passing fee, the decreased fee results in an unrestricted cash balance difference of $760 at year one, growing to an approximately $445,000 difference by year 5, and ultimately a difference of over $2.7 million by year 20.

Table 37: Dark FTTP Model Financial Analysis - $35 Per Month Passing Fee

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$5,380	$1,073,520	$1,073,520	$1,073,520	$1,073,520
Total Cash Expenses	(373,750)	(549,250)	(549,250)	(549,250)	(549,250)
Depreciation	(119,000)	(311,000)	(311,000)	(311,000)	(311,000)
Interest Expense	(130,000)	(351,000)	(275,000)	(176,000)	(51,000)
Taxes	-	-	-	-	-
Net Income	$ (617,370)	$ (137,730)	$ (61,730)	$37,270	$162,270

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$ (7,370)	$ (435,160)	$ (1,186,810)	$ (1,938,460)	$ (2,689,110)
Depreciation Reserve	-	141,000	185,000	229,000	273,000
Interest Reserve	130,000	-	-	-	-
Debt Service Reserve	130,000	380,000	380,000	380,000	380,000
Total Cash Balance	$252,630	$85,840	$ (621,810)	$ (1,329,460)	$ (2,036,110)

As the per-passing fee decreases, unrestricted cash balance and net income also decrease. Table 38, below, shows financial projections for a $30 per month passing fee. Were the City to charge this fee, we project an unrestricted cash balance deficit of $8,140 at year one, and that deficit increasing to over $5 million by year 20.

In comparison to our base model of a $40 per month passing fee, a $30 fee results in an unrestricted cash balance difference of $1,530 at year 1, growing to a difference of nearly $5.5 million by year 20.

Table 38: Dark FTTP Model Financial Analysis - $30 Per Month Passing Fee

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$4,610	$920,160	$920,160	$920,160	$920,160
Total Cash Expenses	(373,750)	(549,250)	(549,250)	(549,250)	(549,250)
Depreciation	(119,000)	(311,000)	(311,000)	(311,000)	(311,000)
Interest Expense	(130,000)	(351,000)	(275,000)	(176,000)	(51,000)
Taxes	-	-	-	-	-
Net Income	$ (618,140)	$ (291,090)	$ (215,090)	$ (116,090)	$ 8,910

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$ (8,140)	$ (880,680)	$ (2,399,130)	$ (3,917,580)	$ (5,435,030)
Depreciation Reserve	-	141,000	185,000	229,000	273,000
Interest Reserve	130,000	-	-	-	-
Debt Service Reserve	130,000	380,000	380,000	380,000	380,000
Total Cash Balance	$251,860	$ (359,680)	$ (1,834,130)	$ (3,308,580)	$ (4,782,030)

Table 39, below, shows our projections for the lowest passing fee of $25 per month. In this projection, the unrestricted cash balance begins as a deficit of $8,910, with that deficit growing to $8.1 million by year twenty. Further, this per-passing fee is unable to generate positive net income over the twenty-year projection.

In comparison to our base model, a $25 per month passing fee results in a difference of $2,300 at year one, $1.3 million difference by year five, and ultimately an $8.2 million difference by year 20.

Table 39: Dark FTTP Model Financial Analysis - $25 Per Month Passing Fee

Income Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Total Revenues	$3,840	$766,800	$766,800	$766,800	$766,800
Total Cash Expenses	(373,750)	(549,250)	(549,250)	(549,250)	(549,250)
Depreciation	(119,000)	(311,000)	(311,000)	(311,000)	(311,000)
Interest Expense	(130,000)	(351,000)	(275,000)	(176,000)	(51,000)
Taxes	-	-	-	-	-
Net Income	$ (618,910)	$ (444,450)	$ (368,450)	$ (269,450)	$ (144,450)

Cash Flow Statement	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	$ (8,910)	$ (1,326,190)	$ (3,611,440)	$ (5,896,690)	$ (8,180,940)
Depreciation Reserve	-	141,000	185,000	229,000	273,000
Interest Reserve	130,000	-	-	-	-
Debt Service Reserve	130,000	380,000	380,000	380,000	380,000
Total Cash Balance	$251,090	$ (805,190)	$ (3,046,440)	$ (5,287,690)	$ (7,527,940)

Appendix A: Glossary of Terms

The descriptions in our FTTP design and cost estimate analysis are highly technical and make use of several acronyms that can be confusing, especially to a non-technical audience. While we try to define each acronym the first time it appears in the text, we also believe that a glossary can be a useful tool to navigate this document. This section outlines most of the acronyms that appear in this analysis.

AE – Active Ethernet; a technology that provides a symmetrical (upload/download) Ethernet service and does not share optical wavelengths with other users. For subscribers that receive Active Ethernet service—typically business customers that request a premium service or require greater bandwidth—a single dedicated fiber goes directly to the subscriber premises with no optical splitting.

CPE – Customer premises equipment; the electronic equipment installed at a subscriber's home or business.

Distribution Fiber – The fiber in an FTTP network that connects the hub sites to the fiber distribution cabinets (see below).

Drop – The fiber connection from an optical tap in the ROW to the customer premises.

FDC – Fiber distribution cabinet; houses the fiber connections between the distribution fiber and the access fiber. FDCs, which can also house network electronics and optical splitters, can sit on a curb, be mounted on a pole, or reside in a building.

Access Fiber – The fiber in an FTTP network that goes from the FDCs to the optical taps that are located outside of homes and businesses in the rights-of-way.

FTTP – Fiber-to-the-premises; a network architecture in which fiber optics are used to provide broadband services all the way to each subscriber's premises.

GPON – Gigabit passive optical network; the most commonly provisioned FTTP service—used, for example, by Verizon (in its FiOS systems), Google Fiber, and Chattanooga Electric Power Board (EPB). GPON uses passive optical splitting, which is performed inside FDCs, to connect fiber from the Optical Line Terminals (OLTs) to multiple customer premises over a single GPON port.

Hub – At the hub, optical splitting is used to distribute network services deeper into the community, enabling eventual FTTP connections.

IP – Internet Protocol; the method by which computers share data on the Internet.

LEC – Local Exchange Carrier; a public telephone company that provides service to a local or regional area.

MDU – Multi-dwelling unit (i.e., an apartment or office building).

OLT – Optical Line Terminal; the upstream connection point (to the provider core network) for subscribers. The choice of an optical interface installed in the OLT determines whether the network provisions shared access (one fiber split among multiple subscribers in a GPON architecture) or dedicated Active Ethernet access (one port for one subscriber).

OSP – Outside plant; the physical portion of a network (also called "layer 1") that is constructed on utility poles (aerial) or in conduit (underground).

OSS – Operational Support Systems (OSS); includes a provider's provisioning platforms, fault and performance management systems, remote access, and other operational support systems for FTTP operations. OSS is housed in a network's core locations.

OTT – Over-the-top; content, such as voice or video service, that is delivered over a data connection.

Passing – A potential customer address, typically an individual home or business. Note that, in this report, the passing count includes individual single-unit buildings and units in small multi-business buildings as single passings. It treats larger multi-tenant businesses as single passings. In the Industrial Corridor, we estimated 2,556 passings that serve 5,100 businesses.

Peering – An interconnection between two service providers, or a service provider and an application provider (Netflix, Dropbox, etc.) to facilitate faster, less-expensive connections.

PON – Passive optical network; uses passive optical splitting, which is performed inside FDCs, to connect fiber from the OLTs to multiple customer premises over a single PON port.

POP – Point of presence; a physical location where network switches, routers, and servers are housed. POPs frequently offer appropriate power, cooling, and security resources for network equipment, peering (see above) and at times enable connections to multiple ISPs.

POTS – "Plain old telephone service;" delivered over the PSTN.

PSTN – Public switched telephone network; the copper-wire telephone networks that connect landline phones.

QoS – Quality of service; a network's performance as measured on a number of attributes.

ROW – Right-of-way; land reserved for the public good such as utility construction. ROW typically abuts public roadways.

VoIP – Voice over Internet Protocol; telephone service that is delivered over a data connection.

Appendix B: Assessment of Local Broadband Market

This Appendix is attached as a separate PDF file.

Appendix C: Retail Financial Model (spreadsheet)

This Appendix is attached as a separate Microsoft Excel file.

Appendix D: Wholesale Financial Model (spreadsheet)

This Appendix is attached as a separate Microsoft Excel file.

Appendix E: Dark FTTP Financial Model (spreadsheet)

This Appendix is attached as a separate Microsoft Excel file.

Appendix F: Online Business Survey Questions

This appendix is attached as a separate PDF file.

Appendix G: Online Business Survey Results

To understand the potential market demand for fiber connectivity and related services among Hayward businesses, CTC conducted an online survey in summer 2016. At a high level, the survey showed that the respondents that completed the questionnaire are not overwhelmingly unhappy with their current speeds, and that there is a modest willingness to switch to a higher-speed service—but only if the price point is $75 per month or less.

Most of the businesses indicated that price, reliability, and speed are important factors for them to consider as their connectivity needs evolve and they become increasingly dependent on cloud-based business solutions to support their operations.

Survey Methodology

The survey was sent out via e-email on behalf of the City to approximately 2,600 businesses in July 2016. An online survey mechanism enabled completion of the survey questionnaires over the Internet. The survey was designed to collect a range of data to understand businesses' current use of data and Internet services; satisfaction with current service providers; and interest in new, higher-speed data and Internet service offerings.

The survey's e-mail distribution list was culled from data purchased from InfoUSA on approximately 900 businesses located in Hayward, in conjunction with email lists provided by the City and Chamber of Commerce. CTC worked with City staff to develop a set of questions for Hayward businesses, which were then entered into a survey instrument on SurveyMonkey, an online tool that allows for customization, and provides granular output of responses in various formats for analysis. The survey questionnaire is attached to this report as Appendix C.

50 recipients opted out of the survey; 18 emails were returned as undeliverable; and 1,545 emails were unopened. Of the 1,006 potential respondents that opened the email, 183 clicked through. There were 156 total responses through the email collector, which included the original email we sent through SurveyMonkey.

In the weeks following the initial SurveyMonkey email notification, the City sent a follow-up email outside the SurveyMonkey system, which contained a web link for potential respondents to access the survey. There were 103 responses collected through the web link, for a total of 259 responses all together. Of the approximately 2,600 email recipients, there were 259 respondents that filled out at least some portion of the survey.

While there were 259 responses to the survey, not every respondent completed the full survey, as respondents were able to skip questions and answer questions only partially. We designed the survey in this way to encourage respondents to answer questions for which they had a response, while not forcing them to attempt to answer questions they do not believe are

applicable to their business. Although this does not produce statistically valid results, it can provide insight into the business community's connectivity needs, their willingness to switch to a new provider, and what role they believe the City should play in an FTTP deployment.

Further, a secondary purpose of the survey was to identify potential businesses that would be willing to further discuss their connectivity needs, and their potential willingness to purchase services from the City. The final questions in the survey prompted willing respondents to provide specific information about their contact information and their willingness to speak in greater detail with City representatives about their connectivity needs. While 77 respondents listed their business' specific address, only 41 respondents indicated a willingness to be contacted further. CTC was able to reach 24 businesses for follow-up discussions.

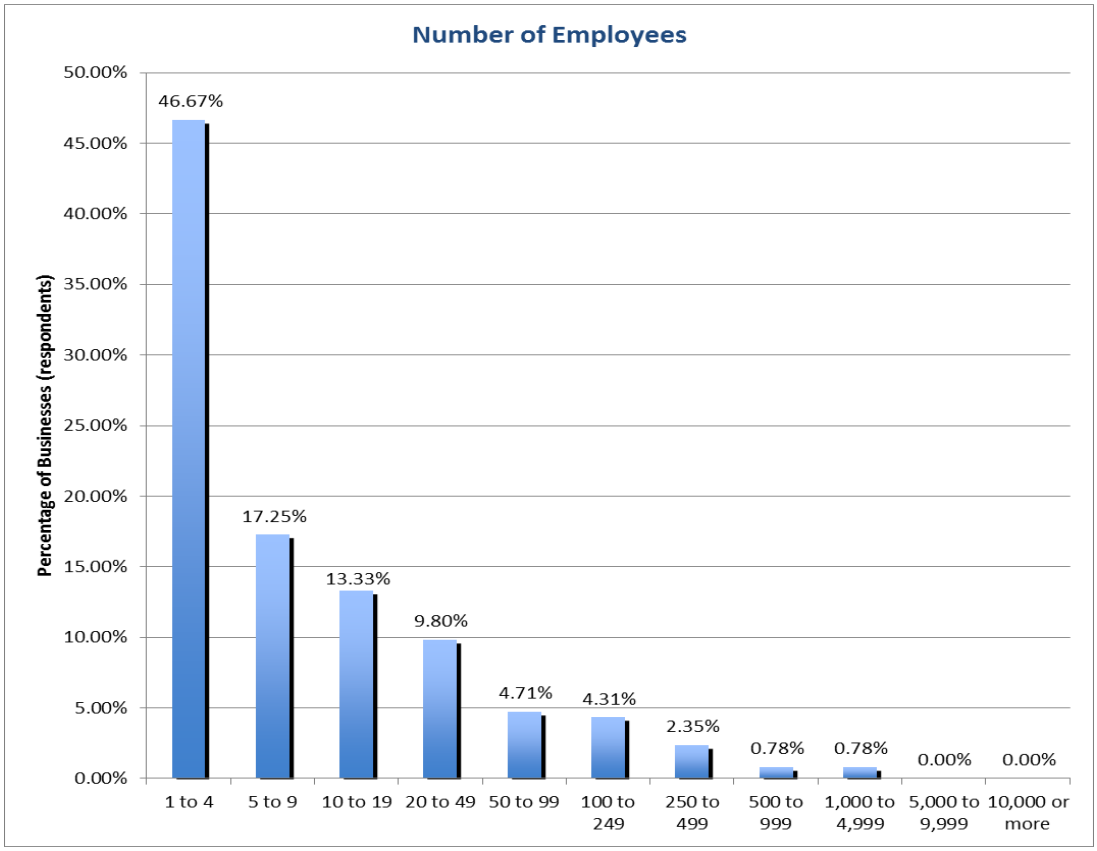
Online Survey Results

As we noted, the survey had some inherent limitations, and the respondents are not truly representative of a random selection of the population. Still, the City can potentially glean some valuable information from the businesses that chose to respond, caveats aside.

The Majority of Responses Were from Small-to-Medium Size Businesses

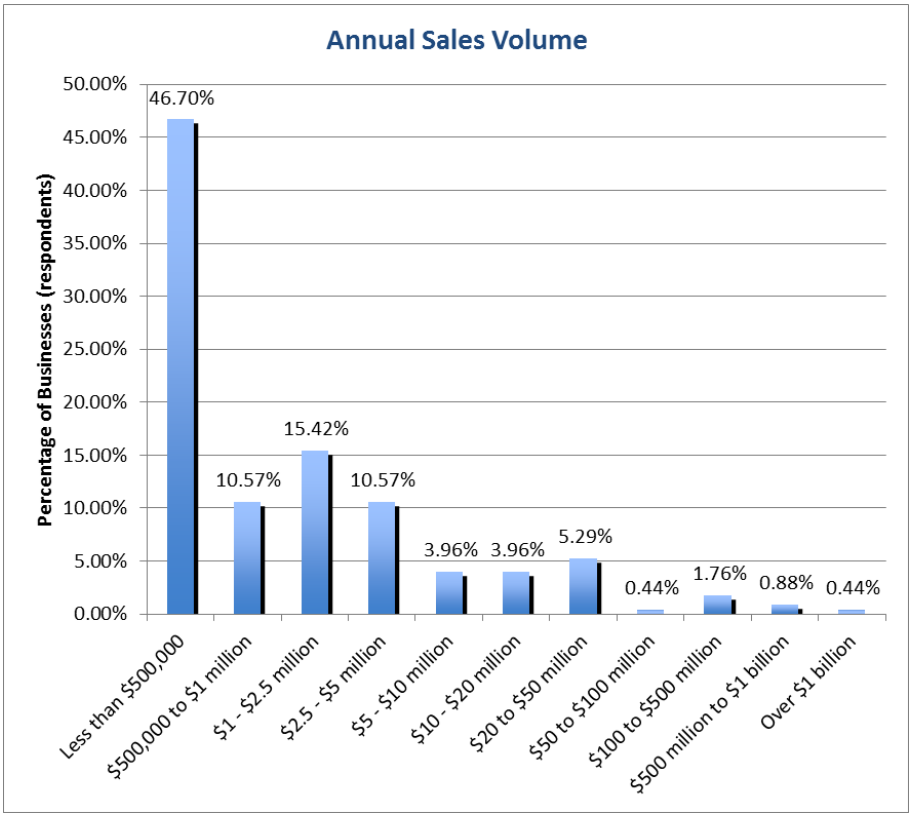
91 percent of the responses were from businesses with only one location. Nearly half the respondents to the business survey represented businesses with 1 to 4 employees, and more than three-quarters (approximately 77.25 percent) came from businesses with less than 20 employees. About 14.5 percent of responses were from businesses with 20 to 99 employees, and about 6.7 percent of responses were from businesses with 100 to 499 employees. Only about 1.5 percent of responses were from business with 500 or more employees. There were no responses from businesses with more than 5,000 employees. See Figure 12, below.

Figure 12: Respondents' Number of Employees (Based on 255 Responses)



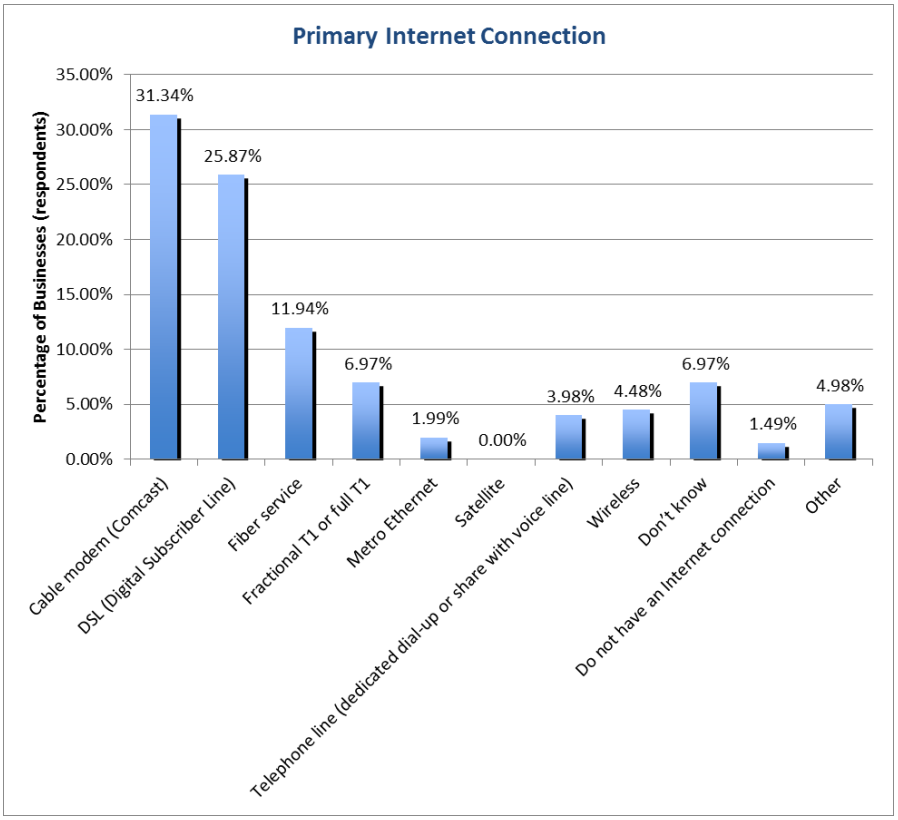
Nearly half of the responses were from businesses with a sales volume of less than $500,000 per year. A majority of businesses (approximately 83.3 percent) represented had an annual sales volume of $5 million or less. Only approximately 3.5 percent of respondents represented businesses with an annual sales volume of $50 million or greater.

Figure 13: Respondents' Annual Sales Volume (Based on 227 Responses)



More than half of the respondents (approximately 57.2 percent) currently subscribe to either cable or DSL; nearly 12 percent of respondents are connected via fiber; and slightly less than 7 percent are connected to a fractional or full T1. See Figure 14, below.

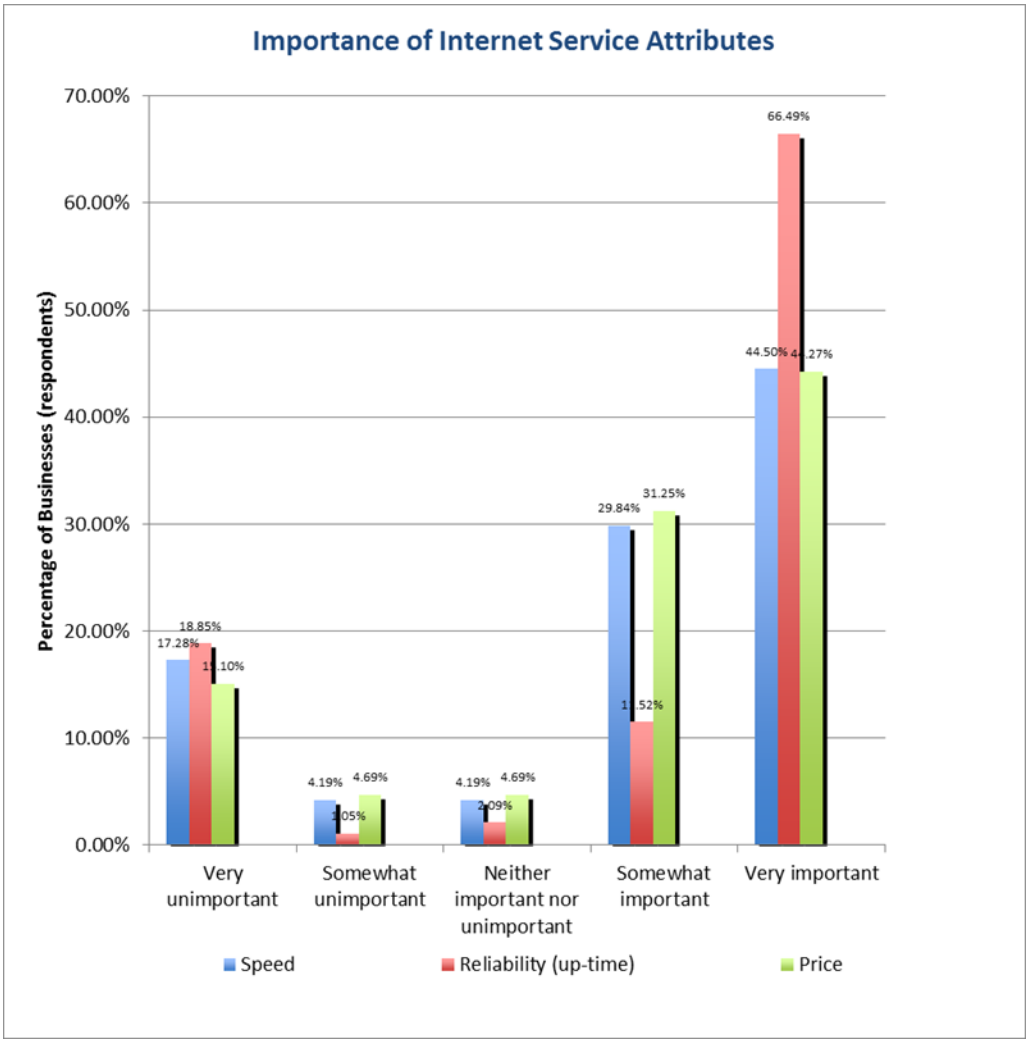
Figure 14: Business Respondents' Primary Internet Connection (Based on 201 Responses)



Nearly Half of Respondents Are Satisfied with Current Internet Speeds

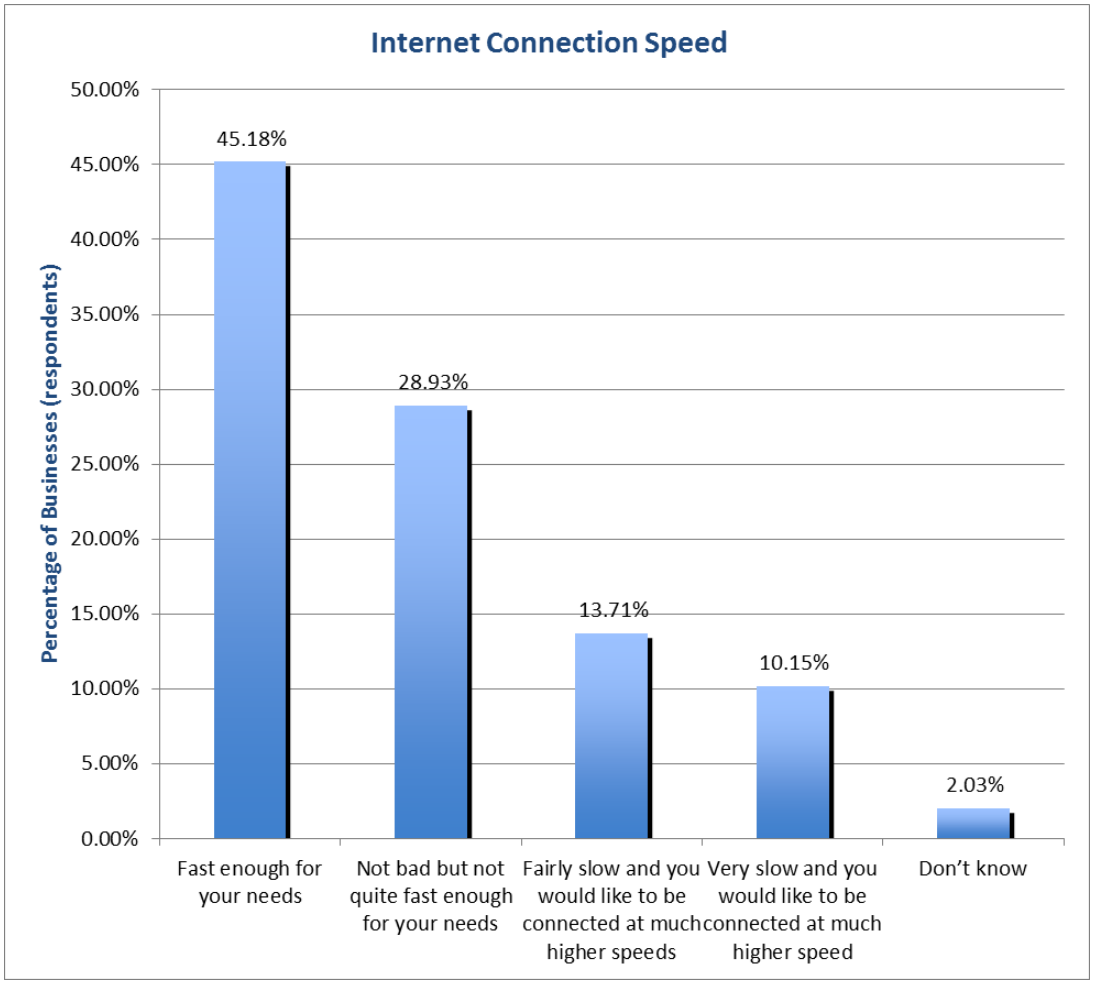
Price, Reliability, and Speed tend to be the most important factors that businesses consider when evaluating their connectivity options, and when considering the possibility of switching providers. Based on the 191 full responses to the question that prompted respondents to indicate the importance of various aspects of their business Internet service, it appears that reliability is most important, followed by price, and speed. Approximately 78 percent of respondents indicated that reliability was somewhat or very important; approximately 76 percent indicated price was somewhat or very important; and approximately 74 percent of respondents indicated that speed was somewhat or very important. See Figure 15, below.

Figure 15: Importance of Price, Reliability, and Speed (Based on 191 Responses)



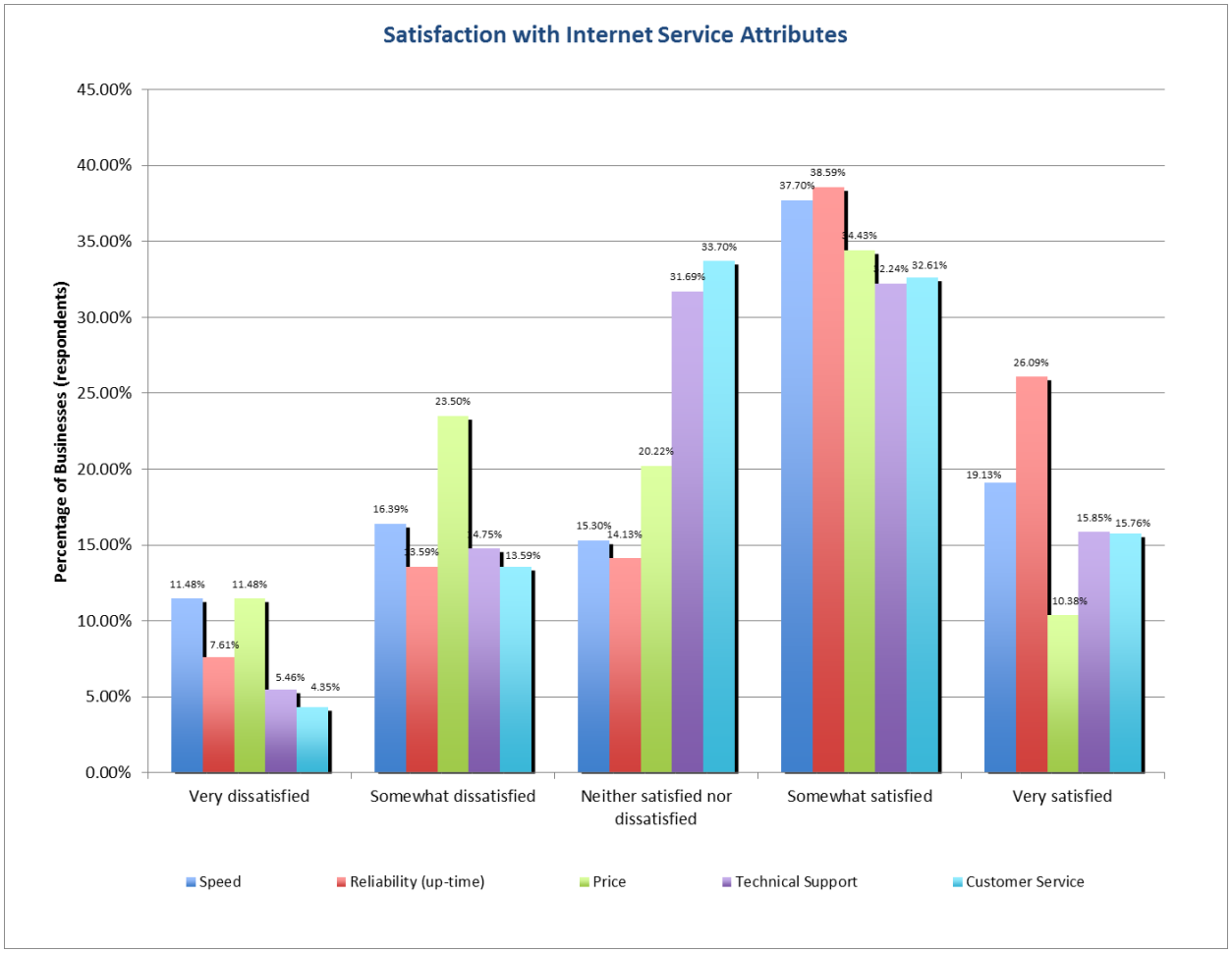
While speed appears to be an important attribute to the respondents, nearly half of the 197 respondents that fully answered the question indicated that their current Internet speed was fast enough for their needs. Approximately 29 percent of respondents indicated that their current speed was not bad, but not quite fast enough for their needs. Only a little over 10 percent of respondents indicated that their current Internet speed was very slow, and approximately 13.7 percent indicated it was fairly slow. That group—approximately 23.9 percent of respondents to the question—indicated that they would like to be connected at higher speeds.

Figure 16: Respondents' Satisfaction With Current Internet Speeds (Based on 197 Responses)



It appears that most respondents are not particularly unhappy with various attributes of their current service (see Figure 17, below). This does not mean that respondents would not consider alternative service from a different provider, but it does indicate that the City would have to find ways to differentiate itself to stand out among its competitors—particularly as a retail service provider.

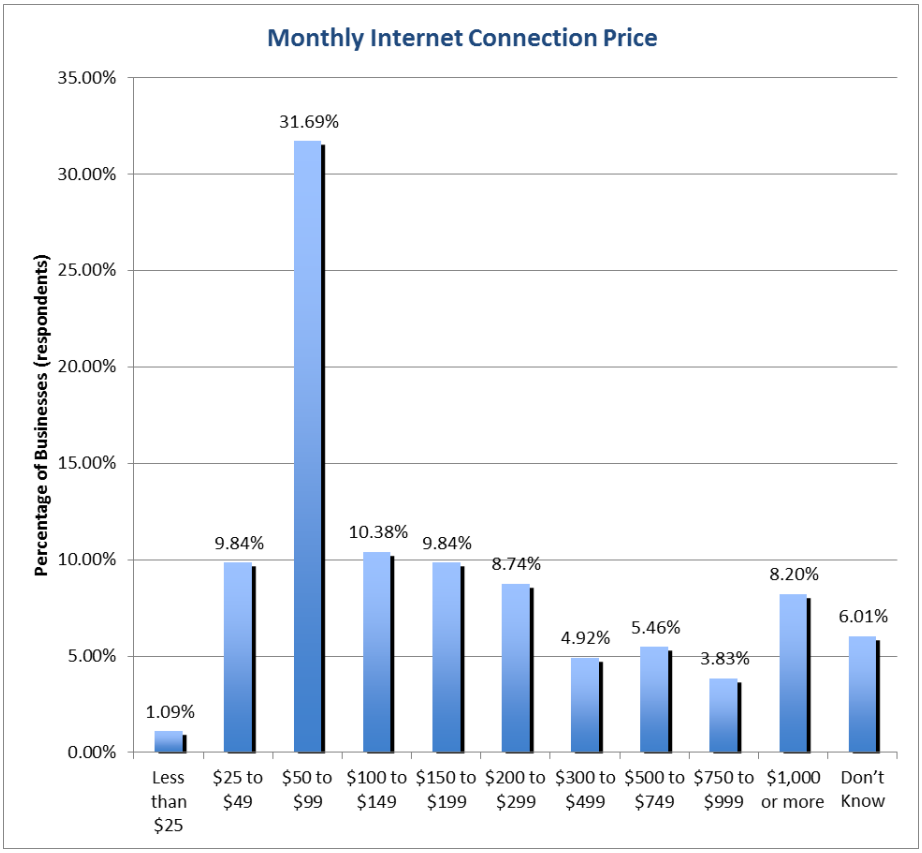
Figure 17: Satisfaction with Current Internet Service Attributes (Based on 192 Responses)



Pricing Sensitivity and Willingness to Switch Service Providers

Almost 60 percent of respondents indicated that they currently pay $100 or more per month for their business Internet connection. Just over 10 percent of respondents indicated that they currently pay $49 or less per month for their business Internet connection. Nearly 32 percent of respondents indicated that they currently pay $50 to $99 per month. See Figure 18, below.

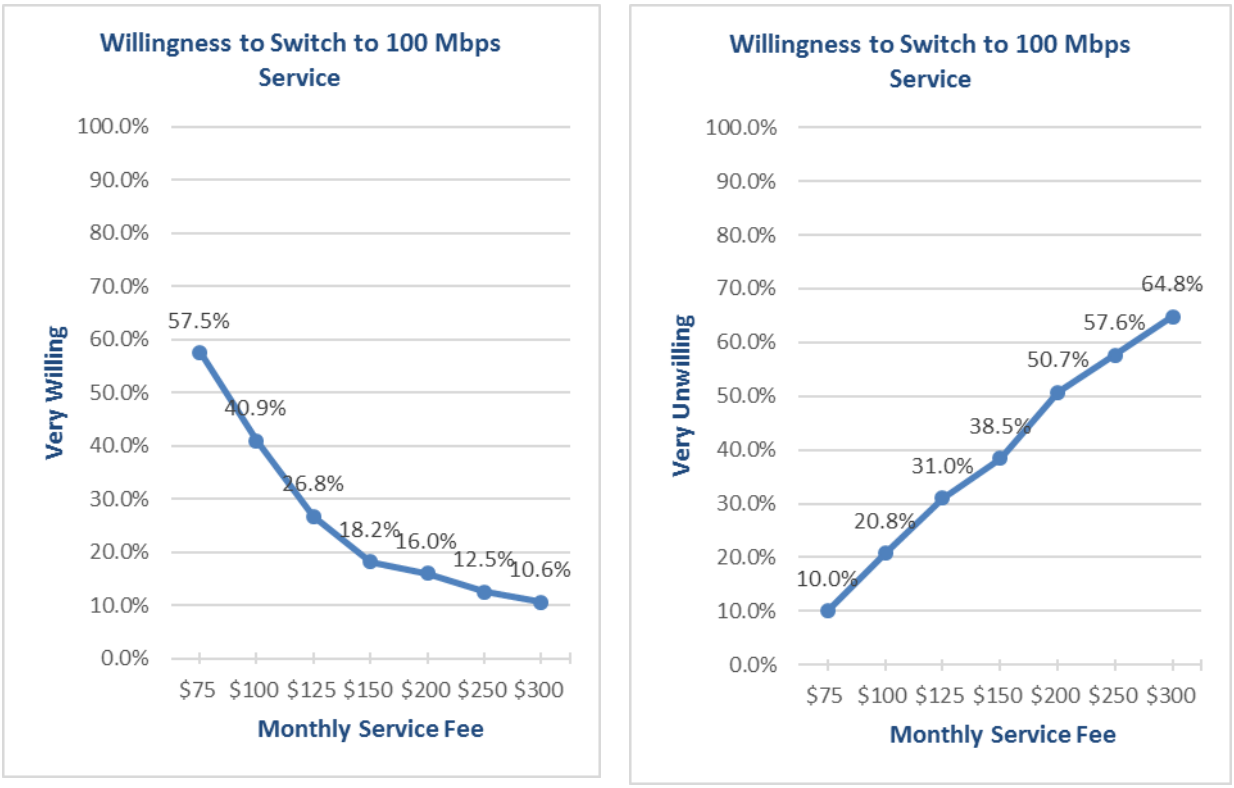
Figure 18: Monthly Cost for Internet Services (Based on 183 Responses)



Although most respondents appear to pay more than $75 per month, or somewhere near that price point, there did not appear to be a significant willingness to switch to much higher speeds. Nearly half of respondents (approximately 45 percent) indicated that they were somewhat or very satisfied with the price of their current services—based on the 192 respondents that fully answered the question. Still, only approximately 35 percent indicated that they were very or somewhat *dis*satisfied with the price of their current services.

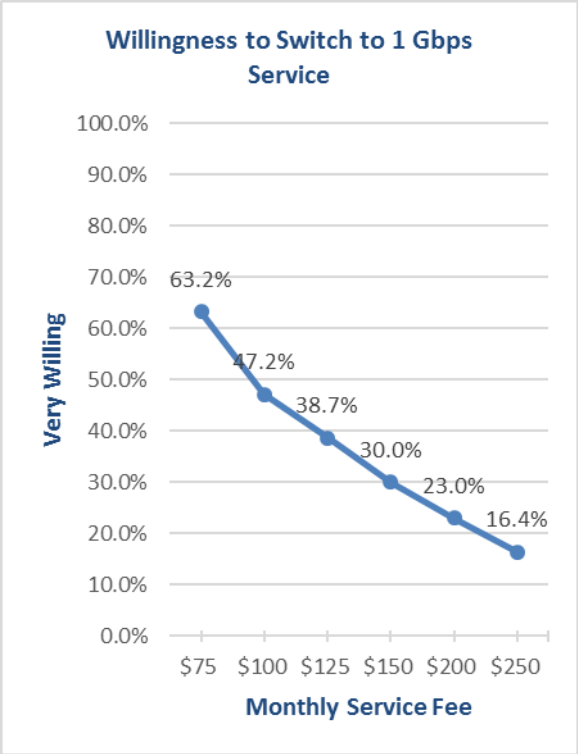
Just under 60 percent of respondents indicated that they would be "very willing" to switch to a 100 Mbps service for $75 per month, and only 10 percent indicated they would be "very unwilling" to switch to 100 Mbps service for $75 per month. The respondents appear to be particularly sensitive to price

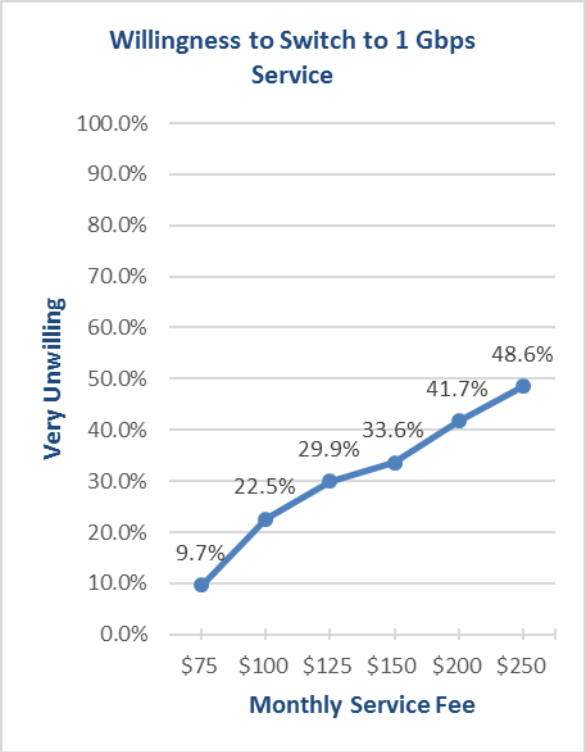
Figure 19: Respondents' Willingness to Switch to 100 Mbps Service at Various Price Points (Based on 142 Responses)



Approximately 63 percent of respondents to the survey indicated they would be "very willing" to switch to 1 Gbps service for $75 per month, which is a slightly higher willingness than those respondents that indicated they would switch to 100 Mbps service at the same price point. Respondents seem slightly more likely to switch service for higher speeds.

Figure 20: Respondents' Willingness to Switch to 1 Gbps Service at Various Price Points (Based on 137 Responses)

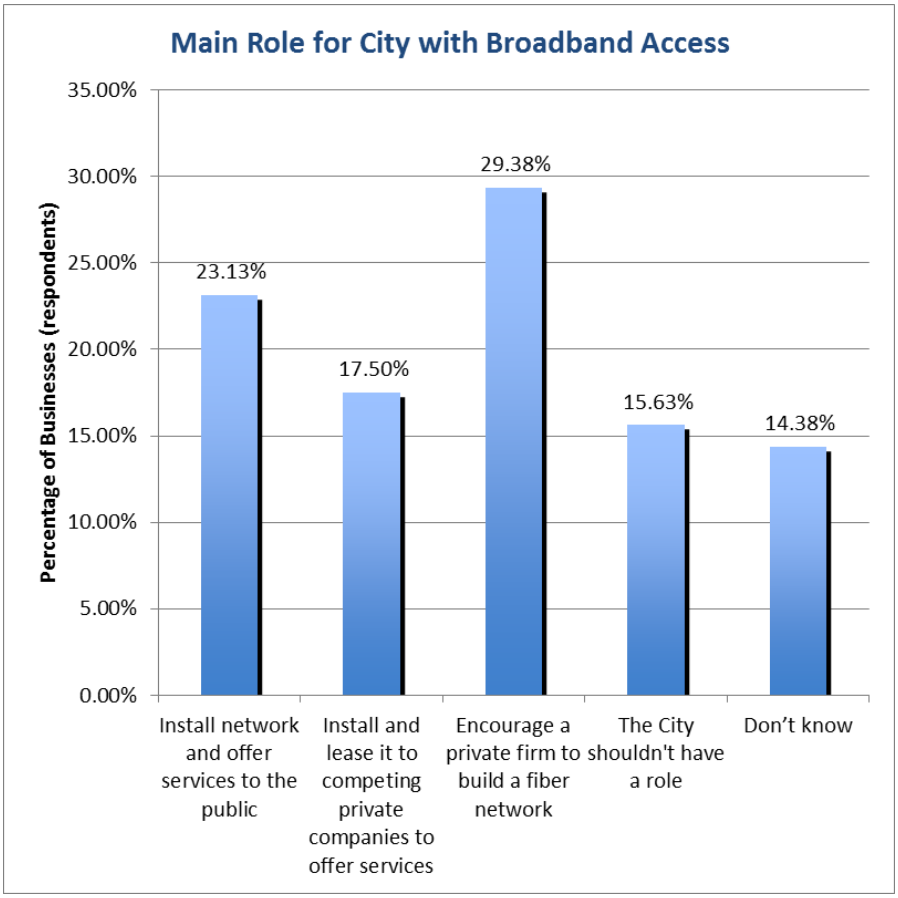




The City's Role

One of the questions the survey asked all respondents was what role they believe the City should play in facilitating broadband access in Hayward. Only approximately 15.6 percent of the 160 responses indicate a belief that the City should have no role. Just over 40 percent of respondents indicate that the City should either install a network and offer services to the public or install a network and lease it to competing private companies to offer services. Approximately 29.4 percent of respondents believe the City should encourage a private firm to build a fiber network in Hayward. Approximately 14.4 percent of respondents do not know what role the City should play. See Figure 21, Below.

Figure 21: Main Role for the City With Respect to Broadband Access (Based on 160 Responses)



Follow-Up Interviews with Select Businesses

As we noted, approximately 40 businesses indicated that they could be contacted further for additional discussions. We managed to reach 24 unique businesses for follow-up conversations to gather these businesses' insights. Most of these respondents believe that the City has some role in at least providing infrastructure to help manage the connectivity challenges in the market today, and especially in the future. Only one respondent indicated the City should become a provider, while only three respondents were on the opposite end of the spectrum and claimed the City's only role should be to expedite permits.

In general, the respondents that we reached indicated that they believe connectivity is critical for their business operations, and their dependency on it is growing. This is especially true as their business operations grow increasingly dependent on cloud computing. Most respondents indicated that the current market does not meet their needs, and that the speed and reliability of currently-available services is especially unlikely to meet their future needs as their businesses grow and evolve.

As is the case with many small- to medium-size businesses in other markets, connectivity options are limited to only DSL or cable for many of the respondents to the business survey. There is a shared perception that competition is lacking in the Hayward business market, and that it must be increased in order to drive better choice for businesses. Further, choices are limited for alternative services, or for back-up options to help offset the speed and reliability challenges these businesses face with their primary providers.

While some of the respondents could purchase cable modem service through Comcast, it tends to be much more expensive than AT&T's DSL service, and the speeds and reliability do not necessarily justify the increased cost. Still, satisfaction related to reliability and speed seems to be marginally higher with Comcast than with AT&T. Most of these respondents claimed that the customer service they receive from their current providers is not good, and they would prefer more positive experiences when seeking support.

File #: LB 19-002

DATE: January 8, 2019

TO: Mayor and City Council

FROM: Deputy City Manager
Director of Information Technology
Interim Director of Public Works

SUBJECT:

Introduction of an Ordinance of the City of Hayward, Adding Article 4 of Chapter 7 to the Hayward Municipal Code for Regulating Wireless Communication Facilities in the Public Right of Way and Adoption of a Resolution Amending the Master Fee Schedule for Related Program Fees.

RECOMMENDATION

That the City Council reviews, comments on, and approves the proposed Public Right of Way Telecommunications Antenna and Facilities Ordinance ("Wireless Ordinance") and Master Fee Schedule amendment resolution.

SUMMARY

The City's existing regulations for telecommunications antenna and facilities were passed in July of 1997. Over the past two years, telecommunication companies have signaled their intention to deploy small cell sites to expand 5G coverage. To complicate matters, the State and Federal legislatures have considered legislation that would constrict the ability of the City to regulate and charge lease revenue for small-cell wireless sites within the Public Right of Way.

This item includes a proposed updated Wireless Ordinance (Attachment II) to accommodate the anticipated requests from telecommunication providers as well as a Master License agreement to ensure the City receives fair compensation for use of the Public Right of Way and that said use is done in a consistent and equitable manner across telecommunication providers. It also includes a resolution amending the Master Fee Schedule for related program fees.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	Ordinance
Attachment III	Resolution

Attachment IV FCC Small Cell Order Summary

DATE: January 8, 2019

TO: Mayor and City Council

FROM: Deputy City Manager
Director of Information Technology
Interim Director of Public Works

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BACKGROUND

The City's existing regulations for telecommunications antenna and facilities were passed in July of 1997. Over the past two years, telecommunication companies have signaled their intention to deploy small cell sites to expand 5G coverage. 5G technology is designed to densify coverage within a given community by placing a cell site in intervals of 800 feet,

where feasible. Understanding this, the City is anticipating an increase in applications for small cell facilities in the public right of way (PROW). These telecommunication companies have begun this process with municipalities throughout the state.

Telecommunication companies prefer to install wireless facilities in the PROW since installations on private property will oftentimes be more expensive, or less viable for the buildout of a robust network. The City owns and maintains upwards of 4,500 streetlight poles throughout the community, which present themselves as the prime opportunity for telecommunication companies to complete their 5G networks.

In addition to telecommunication companies beginning to deploy this new technology throughout the State, they have been lobbying the State and Federal government to reduce any barriers or regulations that slow their ability to build out a 5G network. Specifically, these companies have lobbied the State and Federal government to implement laws that severely constrict an individual city's home rule authority in the regulation and assessment of fees for these small cell sites.

Last year, SB649 attempted to eliminate local discretionary review of small cell sites, treating their installation as a use by-right in all zones. This year, the United States Senate is considering S.3157 (Thune & Schatz). In its current form, this bill would force local governments to lease out publicly owned infrastructure, eliminate reasonable local environmental and design review, and eliminate the ability for local governments to negotiate fair leases or public benefits for the installation of small cell wireless equipment.

Recent Federal Communications Commission Rulemaking

In September, the Federal Communications Commission (FCC) adopted the *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment; Declaratory Ruling and Third Report and Order (Small Cell Order).* The order sets new regulations and restrictions over state and local governments authority to regulate the deployment of small cell wireless facilities. Attachment IV provides a summary of this order for reference.

This order establishes a 60-day shot clock for approving applications to attached wireless equipment to any preexisting structure regardless of its design or suitability for attaching such equipment.

Section 253 of the order allows state or local governments to recover the costs associated with permitting and allowing wireless facilities within the PROW. This set amounts for fees a City may charge for non-recurring application fees and recurring ROW access fees in the amount of $500 and $270 respectively. However, a locality may charge a fee in excess of these amounts as long as they can prove that the fees are "…reasonable approximation of costs; those costs themselves are reasonable; and are non-discriminatory." A summary of this order can be found in Attachment IV.

This order will be in effective on January 14, 2019. The City of San Jose along with a number of other cities and organizations have filed a lawsuit to overturn the preemptive order, while Sprint and AT&T have filed lawsuits claiming the order does not protect their business interests enough.

The proposed ordinance is a framework for the City to regulate the rollout of small cell wireless communication facilities in the public right-of way. Furthermore, the proposed regulations as described below provide clarity and certainty for telecommunications companies while protecting the public's interests. These regulations provide a path for the City to address the anticipated rollout, helping to speed the deployment of cutting-edge wireless technology. All of these activities will lead to more robust broadband services for the City's business community as well as for residents.

In June 2018, the City entered into an agreement with Magellan Advisors following a competitive request for proposals process, to develop and update the City's wireless telecommunications regulations, right of way ordinance, and master license agreements with telecommunication companies.

The Council Technology Application Committee (CTAC) reviewed and commented on the proposed ordinance at its September 14, 2018 meeting. These comments are incorporated in the Discussion section below.

Representatives from Magellan Advisors will be present at this meeting to answer any questions the Council may have.

Small Cell Definitions

Small cells are antenna and related equipment that telecommunication providers deploy to increase their overall network capacity and to extend wireless coverage. They are considerably smaller than their counterpart, macrocells, which usually take the form of a much larger cell tower site, antenna, or mast. Given their size, small cells lend themselves toward deployment on utility poles, streetlights, and other exterior structures. Small Cells base station equipment can range in sizes upwards of eight cubic feet while antennas can range in size upwards of three cubic feet. They can be easily camouflaged on the top of standard street light poles.

They are a vital component to the deployment of new highspeed wireless networks. Demand for quality, reliable wireless networks is increasing rapidly due in part to the "Internet of Things" where everyday items and services from cars, home appliances, real-time arrivals for buses, and basic fundamental items such as cell phones and computers on a connection to the internet and Wi-Fi. The deployment of a robust smart cell network is required for the continued growth and use of these items.

DISCUSSION

Current Policy and Procedure

Hayward Municipal Code, Chapter 10, Article 13 establishes the standards for the appropriate siting and change in location of any telecommunication antenna or related facility. The regulations aim to protect the city from adverse effects of telecommunications facilities including any negative environmental impacts, any related visual blight, and ensure a competitive and broad range of telecommunication services and infrastructure.

The City's current regulations cover three classes of antenna ranging from residential satellite dishes to telecommunication towers of varying heights, with many of these sites existing on private property. Depending on class, a permittee would have to receive approval of a Site Plan Review application from the Director of Development Services, an Administrative Use Permit from the Director of Development Services, or a Conditional Use Permit from the Planning Commission. The regulations do not provide a reasonable level of clarity on small cell sites, as this technology is new, and the ordinance was last revised in 1997.

Telecommunications are rapidly expanding their wireless networks through the buildout of 5G networks, largely through small cell installations on infrastructure in the PROW. Given this, it is prudent for the City to adopt current and relevant regulations to govern the deployment of small cell sites throughout the City. Doing so will ensure the public's interest is met while accommodating the business interests of telecommunication companies.

Proposed Policy and Procedure

The proposed ordinance (Attachment II) would govern all telecommunication antennas and related facilities within the PROW. It would be separate from the existing Antenna and Telecommunications Facilities Ordinance of the Planning Code.

The proposed ordinance intends to manage the short and long-term use of the PROW and City infrastructure within the PROW. Under these regulations, all applications for a Wireless Communication Facility PROW permit (WCF PROW Permit) will be submitted to and ultimately approved by the Public Works Department.

Applications may be for a single facility, modification to an existing facility, co-location facility, aerial mounted wireless/wi-fi equipment, and carrier/cell on wheels (COW). For each of these, the applicant will need to provide a site plan, load calculations, details on the specific equipment to be installed, photo or computer simulations of the proposed facility before and after installation.

<u>Public Noticing</u>

The City will be required to notice properties within a 300-foot radius for macro and micro cell sites, per feedback from the CTAC.

Discretionary Review

WCF PROW Permit applications will be subject to discretionary review by the Public Works Department if they are for:

1. New installation of any form of WCF at any location where there is not currently a WCF
2. New installation of any form of WCF where there is a WCF for another carrier
3. Modification to an existing WCF
4. Addition of a new wireless carrier to an existing and eligible WCF that do result in substantial changes
5. Existing wireless projects that do result in a change to the existing site, substantial or not, that add new antennas or increase output of the WCF.

Discretionary review requires public noticing of 300-foot radius and include a 14-day public comment period. The ordinance provides the criteria for approval under Discretionary Review. Following Discretionary Review and approval, the applicant will need to secure the applicable building and encroachment permits.

Administrative Review

WCF PROW permit applications will be subject to Administrative Review by the Public Works Department if they are for:

1. Routine maintenance to an existing WCF
2. Minor modification to an existing WCF
3. Optional pre-submittal applications (which include a tolling of the shot clock)
4. Co-location involving the addition of a new wireless carrier to an existing and eligible WCF on an existing base station that will not result in a substantial change to the existing facility
5. Existing wireless projects that replace existing equipment with like kind, number, and size equipment and do not increase the output of the WCF.

Administrative Review does not require public noticing and will be treated as an "over-the-counter" permit and will be approved by the Public Works Director or their designee.

Pre-Submittal Review

The Ordinance provides applicants the opportunity to request pre-submittal consultations where the applicant can ask questions, receive guidance and verbal feedback on a proposal. These reviews will include "tolling agreements" where the applicant agrees that the pre-submittal review does not constitute formal review of their application and that any applicable "shot-clock" review time limits will not begin until a formal application is submitted.

Appearance Regulations

Sections 7-4.140 and 7.4.145 provide the design standards and guidelines for all wireless facilities within the PROW. New small cell installations must maintain an unobtrusive design

and be camouflaged when feasible. There shall be no signage or advertising logos outside of small identifying information. Lastly, no facilities may be located immediately in front of, besides, or behind historic resources recognized by the City.

Term and Appeals

Permits will be issued for a term of ten (10) years with two five (5) year extensions. Extensions will be contingent on the applicant maintaining compliance with the original permit(s).

Applicants may appeal a decision by the Public Works Director to the City Manager.

Proposed Master License Agreement

In order to address the anticipated rollout of 5G technology and existing demands from 4G within the City, staff has developed an updated Master License Agreement (MLA) to provide a consistent and comprehensive approach to any requests from telecommunication providers. These MLAs will help the City align its own infrastructure within the PROW with the demands for access from telecommunication providers.

The MLA will not grant rights to any individual City streetlight or pole. They will, however, establish the guiding procedures, terms, and conditions for which the City will require of a telecommunication provider during their deployment of small cell sites. These providers will need to execute permits for their individual sites as described in the proposed Wireless Ordinance.

Each MLA will be brought before the City Council for initial approval, however any other addendums to those agreements will be approved by the City Manager with notice to the City Council, as requested by the CTAC.

Term

MLA's will have a minimum term of ten (10) years with two five (5) year option extensions.

Lease Rate

Under the MLA, the telecommunication lessee will have to pay an initial base annual rent ranging from $1,500 to $2,500 per pole based on location, with an increase at a rate of 4% each year thereafter. This initial base annual rent is in line with what cities like Concord ($1,800-2,500), Vallejo ($1,200), Santa Monica ($2,500), and Carlsbad ($1,500 + 4-6 fibers) charge. Furthermore, the agreement includes a "Favored Nations Clause" that states that if the telecommunications entity pays an annual rent greater than the City's rate range within the Counties of Alameda (less Oakland), Santa Clara (less San Jose), and Santa Cruz, that the City's lease rate will automatically increase to that higher amount.

Processing Payments

The telecommunication provider will have to pay a base fee plus time and materials for the staff costs associated with processing their MLA and associated pole licenses.

Fiber-In-Lieu of Payment

The MLA grants the Public Works Department the discretion to negotiate, as partial consideration paid to the City, a minimum of six strands of fiber and associated conduit that licensee owns to support each licensed pole. The agreement also stipulates that at the end of the term of the MLA, the licensee shall grant to the City by quitclaim or bill of sale title to any fiber strands, conduits, and pull boxes owned by Licensee that the City desires to use at no cost to the City.

Municipal Preference

The MLA requires that in situations where the Licensee has the option to install equipment to either City owned poles or similar third-party poles, that the licensee shall use good faith efforts to attach to City poles.

Commencement of Installation

All installations under a given MLA shall be completed within one year following the mutual execution of an applicable Encroachment Permit.

Security Deposits

Licensee shall pay a security deposit of $25,000 for the life of the agreement to cover any fees and costs to remedy any default by the licensee over the term of the MLA.

Relocation of Infrastructure

Per CTAC feedback, each Master License Agreement will include provisions to ensure the City retains its flexibility to relocate infrastructure that may have a wireless facility leased on it.

ECONOMIC IMPACT

The proposed regulations will improve the City's ability to address the anticipated increase in small cell applications. This will in-turn result in a quicker deployment of cutting-edge wireless technology leading to more robust wireless broadband services and technologies for the community. Making it easier for telecommunications to complete this work will result in better service to businesses and residents. Additionally, the fiber-in-lieu opportunities will increase the City's municipal fiber goals by helping to build out the "last mile" connections identified in the Fiber Master Plan.

FISCAL IMPACT

There is no immediate fiscal impact associated with implementing this ordinance and MLA. However, given the rent and in-lieu considerations within the MLA, the City has the potential to earn upwards to $2,500 annually on each of the leased City-owned light poles or gain new conduits and fiber to further the goals of the Fiber Master Plan.

Attachment III is a resolution amending the Master Fee Schedule for this program's fees. The WCF PROW Permit Fee of $2,500 refundable deposit is based on similar fees other California cities charge. The renewal of these permits is the same rate and any appeals will be $1,000. MLA's will require a $4,000 refundable deposit. Each subsequent pole license application fee will be $2,500 refundable deposit. These refundable deposits will cover the City's reasonable and actual costs incurred in processing the PROW WCF applications, MLAs and pole license applications. Should this deposit be exhausted, the applicant will pay the City for these costs on a staff time and materials basis.

STRATEGIC INITIATIVES

This agenda item supports the Complete Communities Strategic Initiative. The purpose of the Complete Communities Strategic Initiative is to create and support structures, services, and amenities to provide inclusive and equitable access with the goal of becoming a thriving and promising place to live, work and play for all. This item supports the following goals and objectives:

Goal 1: Improve quality of life for residents, business owners, and community members in all Hayward neighborhoods.

Objective 4: Create resilient and sustainable neighborhoods.

Goal 3: Develop a regulatory toolkit for policy makers.

Objective 1: Update, streamline, and modernize zoning & codes.

NEXT STEPS

The second reading of this item is scheduled for the January 15, 2019 City Council meeting. Should the Council adopt the ordinance and resolution, staff will begin to establish the wireless ordinance's program.

Prepared by: Fred Kelley, Transportation Manager
Jay Lee, Associate Planner
John Stefanski, Management Analyst II

Recommended by: Jennifer Ott, Deputy City Manager
Adam Kostrzak, Director of Information Technology
Alex Ameri, Interim Director of Public Works

Approved by:

_____

Kelly McAdoo, City Manager

ORDINANCE NO. 19-_

INTRODUCTION OF AN ORDINANCE OF THE CITY OF HAYWARD AMENDING CHAPTER 7 OF THE HAYWARD MUNICIPAL CODE BY ADDING ARTICLE 4 TO ESTABLISH REGULATIONS FOR WIRELESS COMMUNICATION FACILITIES IN THE PUBLIC RIGHT OF WAY

WHEREAS, The Hayward City Council adopted Ordinance No. 97-12 to establish development standards for wireless communication facilities outside of the Public Right-of-Way; and

WHEREAS, Section 7901 of the California Public Utilities Code authorizes telephone and telegraph corporations to construct telephone or telegraph lines along and upon any public road or highway, along or across any of the waters or lands within this state, and to erect poles, posts, piers, or abutments for supporting the insulators, wires, and other necessary fixtures of their lines, in such manner and at such points as not to incommode the public use of the road or highway or interrupt the navigation of the waters; and

WHEREAS, Section 7901.1 of the California Public Utilities Code confirms the right of municipalities to exercise reasonable control as to the time, place, and manner in which roads, highways, and waterways are accessed, which control must be applied to all entities in an equivalent manner, and may involve the imposition of fees; and

WHEREAS, Technology developments and demand for high-speed mobile data service and capacity has extended beyond the capabilities of traditional macro-cell wireless communications facilities. To meet this demand, wireless providers have accelerated their small cell and distributed antenna system deployments in the public rights-of-way and the City has a clear incentive to develop public-private agreements that manage these accelerated deployments in a way that balances local aesthetics and public health and safety while also deriving the benefits of these new technologies for the City's residents to the greatest extent practicable; and

WHEREAS, Wireless providers are in the business of installing, maintaining and operating wireless communication facilities and typically installs, maintains and operates its wireless communications facilities on existing vertical infrastructure in the public rights-of-way; and

WHEREAS, The City owns and maintains approximately 4,700 existing poles within the public right-of-way that are potentially suitable for installing wireless communications facilities within the City's jurisdiction and has an interest in deriving appropriate value from the City's property; and

WHEREAS, Wireless providers desire to install, maintain and operate wireless communications facilities on the City's poles in the public rights-of-way and these wireless providers are willing to compensate the City for the right to use the City's poles for wireless communications purposes; and

WHEREAS, The City prepared a form Master License Agreement and associated Pole License form to be used by the City and certain wireless providers for the requested installation, maintenance, and operations of wireless communication facilities on City poles in the public rights-of-way; and

WHEREAS, Consistent with all applicable Laws, the City does not intend the Master License Agreement or any issued Pole License to grant any particular wireless provider the exclusive right to use or occupy the public rights-of-way within the City's territorial and/or jurisdictional boundaries, and the City may enter into similar or identical agreements with other entities, which include without limitation to any business competitors of a wireless provider who has entered into the Master License Agreement; and

WHEREAS, The City desires to authorize certain wireless providers access to individual City- owned poles based on a comprehensive set of criteria and a uniform Master License Agreement and associated Pole License form and pursuant to all the applicable permits issued by the City to protect public health and safety; and

WHEREAS, Said approval of a form Master License Agreement and associated Pole License form is not considered a "project" pursuant to the California Environmental Quality Act of 1970, as amended, and implementing state CEQA Guidelines, Title 14, Chapter 3 of the California Code of Regulations (collectively "CEQA"), Section 15378 and Public Resources Code Section 21065 as the adoption of the form agreement and license is not the sort of activity that may cause a direct or reasonably foreseeable indirect physical change to the environment. In the alternative, the approval of the form Master License Agreement and associated Pole License form is exempt pursuant to Section 15061(b)(3) of the CEQA Guidelines in that there is no potential that the agreement and license approval may have a significant effect on the environment. Moreover, any site-specific future projects approved based on the Master License Agreement and associated Pole License form would necessitate further environmental review on a case by case basis; and

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF HAYWARD DOES ORDAIN AS FOLLOWS:

SECTION 1. Article 4 as shown in the attached Exhibit "A", is hereby added to Chapter 7, Public Works, of the Hayward Municipal Code, in order to establish a policy governing Wireless Communications Facilities in the Public Right of Way.

SECTION 2. Severance. Should any part of this ordinance be declared by a final

decision of a court or tribunal of competent jurisdiction to be unconstitutional, invalid, or beyond the authority of the City, such decision shall not affect the validity of the remainder of this ordinance, which shall continue in full force and effect, provided that the remainder of the ordinance, absent the unexcised portion, can be reasonably interpreted to give effect to the intentions of the City Council.

SECTION 3. Effective Date. This Ordinance shall become effective thirty (30) days following its adoption.

INTRODUCED at a regular meeting of the City Council of the City of Hayward, held the __th day of January, 2019, by Council Member_____.

ADOPTED at a regular meeting of the City Council of the City of Hayward, held the __th day of _____, 2019, by the following votes of members of said City Council:

AYES: COUNCIL MEMBERS:

MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

APPROVED:

_____
Mayor of the City of Hayward

DATE:_____

ATTEST:_____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

Exhibit A

CHAPTER 7- PUBLIC WORKS

ARTICLE 4- WIRELESS COMMUNICATIONS FACILITIES IN THE PUBLIC RIGHT OF WAY

SECTION 7-4.00. Title and Purpose

This Article 4 is known as and may be cited as the "Public Right of Way Wireless Communication Facilities Ordinance" of the City of Hayward. The purpose of this Ordinance is to ensure that residents and businesses in the City of Hayward have reliable access to wireless telecommunications networks and state of the art communications services and that installations, modifications, and maintenance of Wireless Communications Facilities (WCF) in the Public Right-of-Way (PROW) are completed in a manner consistent with all applicable laws, are safe, and avoid or mitigate visual, environmental and neighborhood impacts. This Ordinance regulates WCF installations in the PROW to the fullest extent allowed by law.

This ordinance is adopted:

(a) To provide uniform standards for the community desired design, placement, permitting, and monitoring of telecommunication facilities consistent with applicable state and federal requirements;
(b) To manage the public right of way as to the time, place, and manner in which it is accessed;
(c) To minimize the environmental and aesthetic impacts of installations in crowded public rights of way;
(d) To strongly encourage telecommunications facilities to be installed only as ancillary uses at new and existing sites;
(e) To require installation on arterial rather than local streets when feasible;
(f) To preserve view corridors, to discourage visual blight and clutter, and to encourage aesthetic placement of telecommunication facilities;
(g) To accommodate public and City use of the public right of way, so as to permit maintenance of telecommunication facilities, and to minimize disruption to vehicular traffic and pedestrian flow; and on-street parking;
(h) To minimize unnecessary disruption of the public right of way by coordinating installations so as to effectively manage use of the public right of way;
(i) To ensure the structural integrity, reliability, performance, safety, quality, ease of maintenance, and aesthetic integrity of the public right of way;
(j) To ensure that similarly situated public right of way users are treated in a competitively neutral and non-discriminatory manner while complying with applicable state and federal requirements;
(k) To ensure compliance with all federal, state, county, and local laws;
(l) To prevent hazardous conditions along the public right of way; and
(m) To manage the long-term use of the public right of way.

This Ordinance establishes standards for the siting, design, permitting, construction, operation, inspection, maintenance, repair, modification, removal and replacement of communications facilities in the public right of way in recognition of the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996); the Middle-Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156, § 6409(a) (2012) (Spectrum Act), *codified at* 47 U.S.C. § 1455(a), and FCC regulations promulgated thereunder by the Federal Communications Commission (FCC), including the FCC's Report and Order of October 21, 2014, FCC 14-153 (rel. Oct. 21, 2014).

The siting and construction of antennas and facilities used in providing telecommunications services on all property other than the PROW, are subject to the provisions in Chapter 10, Article 13, of the Hayward Municipal Code.

SECTION 7-4.10. Definitions

"Accessory Equipment" means any equipment serving or being used in conjunction with a WCF. This equipment includes, but is not limited to, utility or transmission equipment, power supplies, generators, batteries, cables, equipment buildings, cabinets, storage sheds, shelters, vaults, or other structures.

"Administrative Approval" means approval granted by designated staff members authorized to grant approval after Administrative Review.

"Administrative Review" means evaluation of an application by designated staff.

"Antenna" means a device used to transmit and/or receive radio or electromagnetic waves for the provision of services including, but not limited to cellular, paging, personal communications services (PCS) and microwave communications. Such devices include but are not limited to directional antennas; such as panel antenna, microwave dishes, and satellite dishes; omnidirectional antennas; wireless access points (Wi-Fi); and strand mounted wireless access points. This definition does not apply to broadcast antennas, antennas designed for amateur radio use, or satellite dishes designed for residential or household purposes.

"Base Station" means the same as defined by the FCC in 47 C.F.R. § 1.40001(b)(1), as may be amended, which defines that term as a structure or equipment at a fixed location that enables FCC-licensed or authorized wireless communications between user equipment and a communications network. The term does not encompass a tower as defined in 47 C.F.R. § 1.40001(b)(9) or any equipment associated with a tower. The term includes, but is not limited to, equipment associated with wireless communications services such as private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul. The term includes, but is not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration (including distributed antenna systems and small-cell networks). The term includes any structure other than a tower that, at the time the relevant application is filed with the State or local government under this section, supports or houses equipment described in 47 C.F.R. §§ 1.40001(b)(1)(i)-(ii) that has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, even if the structure was not

built for the sole or primary purpose of providing such support. The term does not include any structure that, at the time the relevant application is filed with the State or local government under this section, does not support or house equipment described in 47 C.F.R. §§ 1.40001(b)(1)(i)-(ii).

"Camouflage" means the means and methods by which a WCF is designed to conceal the equipment and blend the installation with the surrounding environment. This is accomplished by requiring the use of one or more Concealment Elements. The City of Hayward will not allow installation of monopalms or other artificial trees or plants in the PROW.

"Carrier on Wheels or Cell on Wheels ("COW")" means a portable self-contained WCF that can be moved to a location and set up to provide wireless services on a temporary or emergency basis. A COW is normally vehicle-mounted and contains a telescoping boom as the Antenna support structure.

"Collocation" means the act of siting multiple WCFs on an existing structure.

"Concealment Elements" means:

(1) Radio Frequency transparent screening;

(2) Approved, specific colors;

(3) Minimizing the size of the Site;

(4) Integrating the installation into existing utility infrastructure;

(5) Installing new infrastructure that matches existing infrastructure in the area surrounding the proposed Site. The new infrastructure is then dedicated to the City and the installation is integrated into the new infrastructure; and

(6) Controlling the installation location.

"CPUC" means the California Public Utilities Commission.

"Director" means the City's Director of Public Works – Engineering & Transportation Department or designee.

"Distributed Antenna System (DAS)" means a network of one or more Antenna and fiber optic nodes connecting to a common base station or "hub."

"EMF" means Electro-magnetic Frequency.

"Existing Height" means the height of the structure as originally approved or as of the most recent modification that received regulatory approval prior to the passage of the Spectrum Act. Height shall be measured from natural grade to the top of all appurtenances.

"Interference" means physically or electronically affecting the operation, views, signals or functions of City equipment or third-party equipment.

"Laws" means any and all applicable federal, state and local ordinances, resolutions, regulations, administrative orders, or other legal requirements.

“Macrocell Site” is a location that provides the largest area of coverage within a mobile network. The Antennas for macrocells can be mounted on ground-based masts, rooftops or other existing structures. They are generally positioned at a height that is not obstructed by terrain or buildings. They provide radio coverage over varying distances depending on the frequency used, the number of calls made and the physical terrain. Macrocell Base Stations typically occupy space greater than eight cubic feet for station equipment, greater than three cubic feet per Antenna and three or more Antennas. Macrocells have a typical power output in hundreds or thousands of watts.

“Minor Modification” means changes to an existing WCF or structure that results in less than a Substantial Change.

“Modifications” means changes to an existing WCF or structure that result in a Substantial Change to the structure, increase the number of antennas, increase the size of the antennas or increase the EMF output of the WCF.

"Public right of way" (“PROW”) or "right-of-way" means the area on, below, or above a city owned or controlled street or alley public right of way and the sidewalk and/or parkway adjacent thereto.

“Routine Maintenance” means ensuring that a WCF and structure is kept in good operating condition. Routine Maintenance includes, but is not limited to: inspections, testing and alterations that do not qualify as Modifications. An encroachment permit, excavation permit and traffic control plans may still be required depending on the scope and type of work required. Replacing the existing antennas with new, larger antennas or increasing the number of antennas does not qualify as Routine Maintenance.

“Site” means the WCF area occupied by the structure supporting the Antenna, the Accessory Equipment and the path of the wires and cable connecting the Antenna to the Accessory Equipment.

“Small Cell Site” is an umbrella term for low-powered radio access nodes, including those that operate in licensed spectrum and unlicensed carrier-grade Wi-Fi. The cumulative Base Station equipment for a Small Cell sites occupy no more than seventeen (17) cubic feet, including any pole-mounted Transmission Equipment, preexisting enclosures, Transmission Equipment on the ground associated with Antennas on the structure, but exclusive of Antennas and vertical cable runs for the connection of power and other services. Small cells occupy no more than eight cubic feet for all base station equipment, and no more than three cubic feet per antenna with a maximum of two antennas and typically have a range from ten meters to several hundred meters. Types of small cells include femtocells, picocells and microcells – broadly increasing in size from femtocells (the smallest) to microcells (the largest).

“Substantial Change” means the same as defined by the FCC in 47 C.F.R. § 1.40001(b)(7), as may be amended.

“WCF PROW Permit” is a permit authorized under this Article 4 for a WCF installation in the PROW.

"Wireless Local Area Network (Wi-Fi)" means a wireless networking technology that allows computers and other devices to communicate over a wireless signal mainly using the 2.4 gigahertz (12 cm) UHF and 5 gigahertz (6 cm) SHF ISM radio bands. It describes network components that are based on one of the 802.11 standards developed by the Institute of Electrical and Electronics Engineers.

"Wireless Communications Facility (WCF)" means any facility established for the purpose of providing wireless transmission of voice, data, images or other information including, but not limited to, cellular telephone service, personal communications service (PCS), and paging service. A WCF can consist of one or more Antennas and Accessory Equipment.

SECTION 7-4.20. Application Required for Wireless Communications Facility Public Right of Way Permit

(a) The applicant for a WCF PROW Permit shall submit an application on a City approved form to the Public Works Department and pay any required fee as established by City Council resolution in its Master Fee Schedule. The application must include all required information. Applications shall be rejected if all attachments are not included at the time of submittal. The Director has the discretion to require applications be submitted by appointment only and to set the frequency and number of appointments that will be granted each day.

(b) In addition to any other application requirements, all utilities granted access to the right-of-way by the California Public Utilities Commission (CPUC) shall file with the City of Hayward a copy of their certificate of public necessity and convenience (CPCN) or submit a copy of said CPCN with each application for a wireless facility. The applicant shall also provide evidence that the applicant holds all current licenses and registrations from the FCC and any other applicable regulatory bodies where such license(s) or registration(s) are necessary to provide wireless services utilizing the proposed wireless communications facility.

(c) For any change to an existing facility, the Director may require documentation to establish whether the change to the site is substantial, whether new Antennas are added or whether the change will result in an increase in EMF output.

(d) For a Minor Modification or a Modification, the applicant shall submit an application on a City approved form to the Public Works Department. The application shall include:

    (1) Electronic plans (in pdf format and electronic GIS-compatible file format) to sufficient detail to include and identify:

        i. Title sheet.

        ii. Site plan, showing:

            1. The exact location and route requested for applicant's proposed facilities, including other improvements in the area;

2. If excavation is required the plans must include the location and depth of all overhead and underground public utility, cable, water, sewer drainage, fiber optic, and other facilities in the public right of way along the proposed route;
3. The location(s), if any, for interconnection with the facilities of any other parties; and
4. The specific trees, structures, improvements, facilities and obstructions, if any, that applicant proposes to temporarily or permanently remove or relocate.

iii. If installing additional equipment or changing equipment on the pole include load calculations.

iv. Details of equipment to be installed and the proposed location(s).

v. Include all existing and proposed improvements in the project area.

vi. The site shall be designed per Design Standards included in these guidelines.

(2) Photo or computer simulations representing the above ground facility before and after installation (include any pedestals, vents, conduit and exposed cable).

(3) Copy of permit and approved plans for the existing facility.

(4) Completed wireless site evaluation form with new equipment signed by certifying licensed engineer.

(e) For a Co-location Application, the applicant shall submit an application on a City approved form to the Public Works Department. The application must be submitted per this Policy and include all required attachments, including:

(1) Electronic plans (in pdf format and electronic GIS-compatible file format) to sufficient detail to include and identify:

i. Title sheet.

ii. Site plan. If excavation is required the plans must include the size, depth and location of all subterranean infrastructures in the excavation area.

iii. Load calculations.

iv. Details of equipment to be installed and the proposed location(s).

v. Include all existing and proposed improvements in the project area.

vi. The site shall be designed in accordance with any Design Standards in this Article.

(2) Photo or computer simulations representing the above ground facility before and after installation (include any pedestals, vents, conduit and exposed cable).

(3) Completed wireless site evaluation form signed by certifying licensed engineer that includes the combined emissions of all antenna sectors (old and new).

(f) For all new wireless communications facilities and substantial changes to existing wireless communications facilities not covered under Section 6409 of the Spectrum Act (codified at 47 U.S.C. 1455), the applicant shall submit an application on a City approved form to the Public Works Department. The application shall include:

(1) Title Sheet showing:

i. The name, address and telephone number of both the applicant and the owner of the telecommunication facility or WCF;

ii. The name, address and telephone number of the responsible person whom the City may contact at any time concerning the telecommunication facility or WCF;

(2) Legal authority to occupy and use for the purpose mentioned in the application, the streets, alleys, sidewalks or other public places where the excavation, placement, location or installation of telecommunication facilities or WCF is proposed to be made;

(3) Electronic plans (in pdf format and electronic GIS-compatible file format) to sufficient detail to identify and include:

i. The pole number(s), address, and latitude/longitude GPS coordinates of the location of the pole or poles;

ii. Site plan, showing:

1. The exact location and route requested for applicant's proposed facilities, including other improvements in the area;

2. If excavation is required the plans must include the the location and depth of all overhead and underground public utility, cable, water, sewer drainage, fiber optic, and other facilities in the public way along the proposed route;

3. The location(s), if any, for interconnection with the facilities of any other parties; and

4. The specific trees, structures, improvements, facilities and obstructions, if any, that applicant proposes to temporarily or permanently remove or relocate.

iii. Load calculations.

iv. Details of equipment to be installed and the proposed location/s.

v. Include all existing and proposed improvements in the project area.

vi. The site shall be designed in accordance with the Design Standards included in this Chapter.

(4) Engineering certification demonstrating compliance with all existing RF emission standards. The technical information submitted must include support/analysis to justify the proposed location and height of the telecommunication facility or WCF;

(5) Photo or computer simulations representing the above ground facility before and after installation (include any pedestals, vents, conduit and exposed cable);

(6) A construction plan and schedule, to include start and end dates and phasing, as required by the City, including additional telecommunication facility or WCF locations which the applicant plans to install within five years from the date of application submittal. In the event an Applicant states it does not know its construction plans for a five-year period the Applicant must provide a declaration stating that fact and shall provide its construction plans as known in Applicants management and engineering planning processes, which shall be for a reasonable period of time in no event less than two years;

(7) If the applicant's proposed facility involves installing a replacement structure (e.g., a pole) in the public right of way and attaching additional facilities, or installing a facility on a pole owned by a third party, the applicant shall also provide a signed copy of the license, lease, pole attachment agreement, or whatever authorizations are required for the placement of the wireless facility at the location proposed, including proof that the applicant is authorized by the owner of the structure to install and operate the proposed wireless facility on the structure. Such submissions need not disclose financial terms;

(8) If the site is adjacent to a property or area that is included in or eligible for inclusion in the National Register of Historic Places, an Environmental Assessment as defined by the National Environmental Protection Act;

(9) All applicants shall submit a justification study which includes the rationale for selecting the proposed use; if applicable, a detailed explanation of the coverage gap that the proposed use would serve; and how the proposed use is the least intrusive means for the applicant to provide wireless service. Said study shall include all existing structures and/or alternative sites evaluated for potential installation of the proposed facility and why said alternatives are not a viable option;

(10) A coverage map indicating the area which will be served by the proposed telecommunication facility or WCF; and

(11) A non-refundable application and processing fee, in an amount established by resolution of the City Council to defray the City's costs to

process the application and to inspect the telecommunication facility or WCF.

(g) In the event a state or federal law prohibits the collection of any information required by this Section, the Director is authorized to omit or modify the city's application form to comply with applicable law.

(h) Pre-submittal Requests.

(1) The applicant may request a pre-application consultation/submittal to the City. This consultation is for the applicant to ask questions, receive guidance on specific requirements of this Article, and receive verbal feedback on specific elements to assist in the design of their site. Multiple proposal options may be provided for the same location under one Pre-submittal application.

(2) Pre-submittal Application request is to be made on a City approved form to the Public Works Department and shall include any required fee as established by City Council resolution in its Master Fee Schedule for each submittal. The form shall include a tolling agreement that states the applicant's understanding that the meeting in no way constitutes review of their application and that any applicable "shot-clock," or limits on application review time provided under state or federal law, regarding their project will not begin until an official application has been submitted.

(3) The pre-application request shall include:

i. Electronic plans (in pdf format) to include:

1. Site plan;
2. Details of equipment to be installed and the proposed location(s);
3. Include all existing and proposed improvements in the project area; and
4. The site shall be designed per Hayward Municipal Code Design Standards included in these guidelines.

ii. Photo or computer simulations representing the above ground facility before and after installation (include any pedestals, vents, conduit and exposed cable).

(4) Collaboration. Once conceptual review has been completed, the Public Works Department and the applicant may communicate to address comments and resolve issues identified in advance of an application being submitted. When necessary, at the request of the applicant, City Staff may conduct site visits with the applicant to address and/or resolve specific issues related to the site. The applicant may request a meeting with City Staff to review and discuss conceptual review comments, subject to any applicable fees.

SECTION 7-4.30. Application Withdrawn

An application for a WCF PROW Permit will be deemed withdrawn if, after it has been processed by the City, the City has sent the applicant a communication requiring a response from the applicant and more than sixty (60) days lapse without a response from the applicant. Once an application has been withdrawn it may not be reopened and a new application must be made. No refunds will be provided for withdrawn applications.

SECTION 7-4.40. Application Fees

The application for a WCF PROW Permit shall be accompanied by an application processing fee established by resolution of the City Council for its Master Fee Schedule. All fees shall be paid in full before any permit is issued by the City. Application processing fees must be paid at the time that the application is submitted. These fees are for permit processing and issuance only and are in addition to any other applicable fee or any separate payments that may be required for use of City infrastructure.

SECTION 7-4.50 Administrative Review

(a) The following WCF PROW Permit applications are subject to Administrative Review:

    (1) Routine Maintenance to an existing WCF;

    (2) A Minor Modification to an existing WCF;

    (3) Optional pre-submittal applications (which include a tolling of the shot clocks);

    (4) Co-location, meaning the addition of a new wireless carrier to an existing and eligible wireless communications facility on an existing base station that will not result in a Substantial Change to the existing facility; and

    (5) Existing wireless projects that replace existing equipment with the like kind, number and size of the existing equipment and do not increase the EMF output of the WCF and are considered to be Routine Maintenance.

(b) The Director may designate staff to review and approve applications for Administrative Review. These applications are reviewed at the Public Works counter as an over the counter permit.

(c) Administrative Review approval shall be granted if the Director, or designee, finds that:

    (1) Application is complete and any associated fee is tendered to the City;

    (2) The proposed facility meets the definition for the type of facility proposed;

    (3) The plans are stamped by a registered civil engineer;

    (4) The proposed facility complies with the requirements of the Hayward Municipal Code and all other applicable Laws;

    (5) The proposed facility will not interfere with the use of the PROW; and

(6) The applicant has provided a signed copy of the license, lease, pole attachment agreement, or whatever authorizations are required for the placement of the proposed facility at the proposed location.

(d) Following Administrative Review and Approval and a WCF PROW Permit is issued, the applicant can begin to pursue construction and encroachment permits as required. The WCF PROW Permit issued under this Chapter is not valid without all required construction and encroachment permits and any required license under the Hayward Municipal Code.

SECTION 7-4.60 Discretionary Review.

(a) The following WCF PROW Permit applications are subject to Discretionary Review:

(1) New installation of any form of WCF at any location where there is not currently a WCF;

(2) New installations where there is a WCF for another carrier;

(3) A Modification to an existing WCF;

(4) Addition of a new wireless carrier to an existing and eligible WCF that do result in Substantial Change (and are not considered a co-location and are considered new installations); and

(5) Existing wireless projects that result in a change to the existing Site, whether a Substantial Change or not, or add new Antennas or increase the EMF output of the WCF.

(b) Applications for Discretionary Review shall require Noticing as follows:

(1) The City, at applicant's sole cost, shall mail a notice, in a form approved by the Director, to all owners of real property as shown on the County's current equalized assessment roll, and all occupants within a radius of 300 feet from each antenna location being proposed. The notice shall describe the proposal and the 14-day comment period.

(2) The 14-day comment period will run from the date the notice is deposited in the mail. The City will accept comments from the public during this comment period.

(c) The Director is the review authority for Discretionary Review applications.

(d) Determination. Following the 14-day comment period, the Director shall review the application, pertinent documentation and public comments. Provided all of the following findings of fact are made, the Director shall issue a written letter of determination and mail it to the applicant. The Director may impose additional conditions on the permit relating to time, place and manner. The following findings are prerequisites of an approval:

(1) The proposed facility complies with all of the applicable provisions of the Hayward Municipal Code;

(2) The proposed facility will not interfere with the use of the PROW;

(3) The proposed construction plan and schedule will not unduly interfere with the public's use of the PROW;

(4) The proposed facility can be mitigated so that its impacts do not result in a material change to the character of the location and the facility relates harmoniously with the surrounding neighborhood;

(5) The proposed facility's impacts have been mitigated through the use of Camouflage and Concealment Elements;

(6) The proposed facility is in compliance with all Federal, State, and local standards and Laws; and

(7) The applicant has provided a signed copy of the license, lease, pole attachment agreement, or whatever authorizations are required for the placement of the proposed facility at the proposed location. If the applicant proposes placement of the proposed facility on City property, any approval shall be conditional on City Council approval of the applicant's MLA.

(e) Modifications. The City shall require that Modifications to existing facilities bring the Site into compliance with all current Laws. Proof of the applicable contractor's licenses and insurance shall be required before the permit will be issued and must remain valid during construction.

(f) If following Discretionary Review, a WCF PROW Permit is issued, the applicant can begin to pursue construction and encroachment permits as required. The WCF PROW Permit issued under this Chapter is not valid without all required construction and encroachment permits and any required license under the Hayward Municipal Code.

SECTION 7-4.70 Appeals.

Any applicant or interested party may appeal the Director's decision to the City Council within fourteen (14) calendar days after a determination has been made on the application. The appeal must be submitted in writing on an approved City form, along with any required fee, to the City Clerk within 14 days after the published determination letter and shall state the specific reason(s) for the appeal along with any supporting evidence. In the event that a decision is appealed, the City Clerk shall schedule the appeal for a public hearing and provide the Council with the record of any prior proceedings. The time and date of the appeal hearing before City Council shall be served on the public by the City in the same manner as the initial Noticing. As Section 332(c)(7) of the Telecommunications Act preempts local decisions premised directly or indirectly on the environmental effects of radio frequency (RF) emissions, appeals to the Director's decision premised on the environmental effects of radio frequency emissions will be rejected. An action of the Director of Public Works appealed to the City Council shall not become effective unless and until approved by the City Council.

Decisions of the City Council on such appeals shall be final and not subject to further appeal.

SECTION 7-4.80 Licenses for use of City Property.

In addition to the WCF PROW Permit required under this Article and any required encroachment and construction permits, the applicant shall also obtain a license from the City for the use of City property if the WCF is proposed on a City-owned or City-controlled pole, structure or property. Any Director approval under this Article is conditional on the applicant obtaining and maintaining a valid City License if the WCF PROW Permit involves the use of City property.

SECTION 7-4.90 Construction and Encroachment Permits.

Immediately following approval of the WCF PROW Permit and any required license, an applicant may begin the process of applying for construction and/or encroachment permit(s). The construction and/or encroachment permit(s) shall not be issued until the fourteen (14) day appeal time for challenging the issued WCF PROW Permit has passed. The permit issued under this Article is not valid without all required construction and encroachment permits. To begin the process the applicant must submit the following documentation to Public Works Department, in addition to any other information required under this Code for an encroachment or construction permit:

(a) The identity and address of the applicant, including all affiliates of the applicant;

(b) A description of the services that are or will be offered or provided by licensee over or through its facilities;

(c) A description of the transmission medium and capacities that will be used by the licensee to offer or provide such services, both within and outside the City's corporate boundaries;

(d) Engineering plans, specifications and a network map in both paper and electronic GIS-compatible file format of the facilities to be located within the City and any franchise or license area, all in sufficient detail to identify:

  (1) A site plan showing the exact location and route requested for applicant's proposed facilities, including other improvements in the area;

  (2) The location and depth of all overhead and underground public utility, cable, water, sewer drainage, fiber optic, and other facilities in the public way along the proposed route;

  (3) The location(s), if any, for interconnection with the facilities of any other parties; and

  (4) The specific trees, structures, improvements, facilities and obstructions, if any, that applicant proposes to temporarily or permanently remove or relocate.

(e) If applicant is proposing to install overhead facilities, evidence that surplus space is available for locating its facilities on existing vertical infrastructure along the proposed route;

(f) If applicant is proposing an underground installation in existing ducts or conduits within the public ways, information in sufficient details to identify:

(1) The excess capacity currently available in such ducts or conduits before installation of applicant's facilities; and

(2) The excess capacity, if any, that will exist in such ducts or conduits after installation of applicant's facilities.

(g) If applicant is proposing an underground installation within new ducts or conduits to be constructed within the public ways:

(1) The location proposed for the new ducts or conduits; and

(2) The excess capacity that will exist in such ducts or conduits after installation of applicant's facilities.

(h) A preliminary construction schedule and completion date;

(i) A preliminary traffic-control plan in accordance with the latest Manual on Uniform Traffic Control Devices;

(j) Information in sufficient detail to establish the applicant's technical qualifications, experience and expertise regarding the facilities and services described in the application;

(k) Information to establish that the applicant has obtained all other governmental approvals, permits, licenses and certifications to construct and operate the facilities and to offer or provide the subject services;

(l) An accurate map showing the location of any existing facilities in the City or license area that applicant intends to use or lease or could reasonably use or lease;

(m) A description of the services or facilities that the applicant will offer or make available to the City and other public, educational and governmental institutions;

(n) A description of applicant's access and line extension policies;

(o) The area or areas of the City the applicant desires to serve and a schedule for build-out to the entire license area;

(p) In the case of installation of new communications facilities, evidence that any CPUC “Certificate of Public Convenience and Necessity” or other regulatory authorization that the applicant is required by law to obtain;

(q) All required fees, deposits or charges required as required under this Code or established by City Council resolution; and

(r) Such other and further information as may be required by the Director.

SECTION 7-4.100 Periodic Review.

Permits are valid for a period of ten (10) years from the date issued. To extend the permit for additional five (5) year period(s) the permittee shall provide proof that it continues to have the legal authority to occupy and use the PROW for the purpose set

forth in its permit, that its site as it exists at the time of the renewal is in full compliance with the applicable City permits issued for the site, pay the fees for renewal, and amend the permittee's Small Cell Master Lease Agreement (MLA) with the City if the Permit involves the use of City property. Additionally, the carrier must provide an affidavit confirming that the site is still in compliance with the Federal Communications Commission regulations. Failure to submit such an affidavit or proof of legal authority to occupy or use the PROW shall be grounds for non-renewal of the permit. The burden is on the permittee to demonstrate that the site complies with the requirements herein. Notwithstanding anything to the contrary in this Section, for any WCF on a City-owned or City- controlled pole, structure or property, the term of the WCF Permit shall not extend beyond the term of any required license under Section 7-4.80.

SECTION 7-4.110 Inspection and Reporting.

A permittee when directed by the City, must perform an inspection of its permitted WCF and submit a report to the Public Works Department on the condition of the system to include any identified concerns and corrective action taken. Additionally, as the City performs maintenance on City infrastructure additional maintenance concerns may be identified. Upon the City reporting any identified maintenance concerns to the permittee, the permittee shall have thirty (30) days to correct the identified maintenance concerns. If the permittee fails to address the City's concerns, the City reserves the right to take any action it deems necessary, including the revocation of the permit. The burden is on the permittee to demonstrate that it complies with the requirements herein. Prior to issuance of a permit under this Chapter, the owner of the WCF shall sign an affidavit attesting to understanding the City's requirement for performance of annual inspections and reporting.

SECTION 7-4.120 Revocation.

Any permit or other authorized use of the PROW granted under this Ordinance may be revoked or modified for cause in accordance with the provisions of this Section.

(a) Revocation proceedings may be initiated by the Director at any time provided the Director gives the permittee ten (10) days' notice prior to the revocation hearing.

(b) Public Notice, Hearing, and Action. After conducting a duly-noticed public hearing, the Director or designee shall act on the proposed revocation within a reasonable time.

(c) Required Findings. The Director or designee may revoke or modify the permit if it makes any of the following findings:

    (1) The permittee obtained the approval by means of fraud or misrepresentation of a material fact;

    (2) The permittee substantially expanded or altered the use or structure beyond what is set forth in the permit or substantially changed the installations character;

    (3) The use in question has ceased to exist or has been suspended for 6 months or more;

(4) Failure to comply with any condition of a permit issued or any term of a required license under this section or any other section of the Hayward Municipal Code;

(5) Failure to comply with this Article;

(6) A substantive change of law affecting a utility's authority to occupy or use the PROW or the City's ability to impose regulations relating to such occupation or use;

(7) A facility's Interference with a City project;

(8) A facility's Interference with vehicular, bicycle, or pedestrian use of the PROW;

(9) Failure to make a safe and timely restoration of the PROW;

(10) When circumstances make revocation in the best interest of the City.

(d) Notice of Action. A written determination of revocation specifying the reasons for the revocation shall be mailed to the WCF owner within 10 days of such determination.

(e) A permittee whose permit or right has been revoked may have the revocation reviewed, upon written appeal as set forth in Section 7-4.70. Review of the Director's decision to revoke the permit by the City Council shall be *de novo.* Review shall be limited to the evidence presented at the revocation hearing.

SECTION 7-4.130 Interference.

(a) The WCF installation shall not damage or interfere in any way with City Property, the City's operations or the operations of prior-existing, third party installations. The City will reasonably cooperate with the permittee and/or carrier to carry out such activities as are necessary to correct the interference.

(1) Signal Interference – The permittee shall correct any such interference within 24 hours of written notification of the Interference. Upon the expiration of the 24-hour cure period and until the cause of the Interference is eliminated, the permittee shall cease operation of any WCF causing such Interference until such Interference is cured.

(2) Physical Interference – In non-emergency situations, the City shall give the permittee 30 days to correct the interference after which the City reserves the right to take any action it deems necessary at the permittee's sole expense, which could include revocation of the permit.

(b) The City, at all times, reserves the right to take any action it deems necessary, in its sole discretion, to repair, maintain, alter, or improve the Sites. Such actions may temporarily interfere with the operation of the WCF. The City will in all cases, other than emergencies, give the permittee 30 days written notification of such planned, non-emergency actions. In emergency situations, the City will give notice when it is reasonably feasible which, may be after the interference is abated. The permittee shall reimburse the City for all abatement actions caused by permittee's use of the

Sites within thirty (30) days of the City mailing or otherwise serving an invoice on permittee.

SECTION 7-4.135 Site Selection Guidelines and Criteria.

(a) Wireless facilities installed on City-owned infrastructure in the public rights-of-way shall use a valid master license agreement, approved by the City Council.

(b) Traffic Obstruction. The placement of the telecommunication facility shall not permanently impede vehicular, bicycle, or pedestrian traffic flow.

(c) No modification to above-ground or at-grade telecommunication facilities, including those related to size, color and shape of the housing, may be made by the permittee without first having obtained approval of the Director.

(d) To the maximum extent feasible, all appurtenant equipment, including radio base station, electrical panel, and control panel assembly, shall be placed below ground. Where feasible, as new technology becomes available, the permittee shall place an existing or proposed above-ground telecommunication facility below ground.

(e) No electrical meters will be allowed. The permittee should negotiate directly with the electric utility to determine a flat rate for installation. The applicant is responsible for the cost of all electrical usage. This provision may be waived on a case-by-case basis by the Director if the permittee is able to demonstrate use of flat-rated electricity is not feasible.

(f) No net new TF or WCF Poles or Towers shall be allowed in the PROW or on City property, except for approved replacements. This provision may be waived on a case-by-case basis by the Director if the Applicant is able to demonstrate there are no alternatives that are aesthetically preferable.

(g) No net new Transmission Equipment shall be installed above grade on a pedestal, cabinet, or other structure that is detached from the Pole or Tower in the PROW absent demonstration of clear benefit to the City. All Transmission Equipment shall be mounted on the approved Pole using Low Profile equipment or installed below grade in a vault. Vault vents must be flush to the ground.

SECTION 7-4.140 Visual Impact Guidelines.

(a) Unobtrusive Design. Telecommunication Facilities shall be designed to be as visually unobtrusive as feasible. Colors and designs must be visually neutral, integrated and compatible with surrounding buildings and/or uses in the area. Facilities shall be sited to avoid or minimize obstruction of views from adjacent properties and otherwise preserve the aesthetic integrity of the public right of way.

(b) An antenna array shall be installed as a shared use on an existing or replacement pole and shall not extend over seven feet beyond the top of the pole. However, no telecommunication facility located within 140 feet of a residential property shall exceed thirty-five (35) feet in height. Additionally, no telecommunication facility shall exceed sixty (60) feet in height from the ground level as measured from the nearest street curb. The Director may modify these

requirements if necessary to accommodate General Order 95 of the California Public Utilities Commission.

(c) Camouflaged Design and Screening. When feasible, Applicant shall use state of the art, well camouflaged designs and screening to minimize visual impact of the telecommunication facility. For example, the visual impact of a telecommunication facility may be mitigated by integrating it into existing functional facilities, by the planting of trees to screen the antenna from adjacent private properties.

(d) Landscaping. New landscaping and irrigation designs shall be restored to like or better condition approved by the Director in accordance with the City's landscaping standards.

(1) For telecommunication facilities installed in the PROW in an area where no sidewalk exists, the permittee shall install landscaping immediately surrounding the installation and restore any landscaping disturbed by the installation. The installed and restored landscaping shall be consistent with the existing surrounding landscaping.

(2) All new landscaping shall be served by an automatic irrigation system installed, or if existing, modified, to sustain landscaping. If an automatic irrigation system is not feasible, applicant shall submit a manual irrigation plan with its application and guarantee to replace any vegetation that dies from lack of watering.

(e) No Telecommunication Facility shall be illuminated unless specifically required by the FAA or other governmental agency for security or clearance purposes.

(f) Signs and Advertising. No advertising signage or identifying logos shall be displayed on any telecommunication facility except for small identification, address, warnings, and other similar information plates. Such information plates shall be identified in the an applicant's application and shall be subject to approval by the Director.

(g) If an applicant proposes to replace a pole in order to accommodate their telecommunication facility, the pole shall match the appearance of the original pole to the extent feasible and shall be approved by the Director.

(h) Historic Structures. The telecommunication facility should not be located immediately in front of, beside or behind historic resources recognized by the City pursuant to Chapter 10 of this Code.

SECTION 7-4.145 Design and Other Standards for all sites in PROW.

(a) Engineering calculations sealed by a registered professional engineer licensed in California shall be provided to ensure that the existing pole and footing are adequate to support the new loads. When it is determined that the existing infrastructure is not adequate to support the new loads, the applicant may propose to replace the existing infrastructure with adequate, City approved, new infrastructure at the applicant's expense.

(b) No Antenna owner or operator shall install an Antenna or any related facility on a joint-use pole unless such installation is designed and constructed to comply with the current edition of CPUC General Order 95.

(c) Where the City determines that it requires expert assistance in evaluating an application, the City may hire a consultant and the fee charged by the consultant shall be reimbursed to the City by the applicant regardless of the outcome of the application.

(d) Signage will be maintained in legible condition and the permittee will be required to replace any faded signage within 30 days of receiving written notification from the City that it is in need of replacing.

(e) All wireless communications facilities, including on-site generators, shall be designed to be compliant with the Section 4, Article 1 of this Code and all other applicable Laws. Failure to comply with the City's adopted noise standard after written notice and opportunity to cure have been given shall be grounds for the City to revoke the permit.

(f) All cabling and wiring must be contained in conduit, affixed directly to the face of the pole, for as long as it is technically feasible. No exposed slack or extra cable will be allowed.

(g) No historic or decorative street lights are eligible for WCF installations.

(h) The permittee shall assume full liability for damage or injury caused to any property or person by the facility.

(i) The permittee shall repair, at its sole cost and expense, any damage including, but not limited to subsidence, cracking, erosion, collapse, weakening, or loss of lateral support to city streets, sidewalks, walks, curbs, gutters, trees, parkways, street lights, traffic signals, improvements of any kind or nature, or utility lines and systems, underground utility line and systems, or sewer systems and sewer lines that result from any activities performed in connection with the installation, removal, and/or maintenance of a wireless telecommunications facility in the public right-of-way. The permittee shall restore such areas, structures and systems to the condition in which they existed prior to the installation or maintenance that necessitated the repairs. Such time period for correction shall be based on the facts and circumstances, danger to the community and severity of the disrepair. Should the permittee not make said correction within the time period allotted the Director shall cause such repair to be completed at permittee's sole cost and expense.

(j) The permittee shall keep the site, which includes without limitation any and all improvements, equipment, structures, access routes, fences and landscape features, in a neat, clean and safe condition in accordance with the Approved Plans and all conditions in this permit. The permittee shall keep the site area free from all litter and debris at all times. The permittee, at no cost to the City, shall remove and remediate any graffiti or other vandalism at the site within 48 hours after the permittee receives notice or otherwise becomes aware that such graffiti or other vandalism occurred. Each year after the permittee installs the wireless

facility, the permittee if requested by the Director shall submit a written report to the Director, in a form acceptable to the Director, that documents the then-current site condition.

(k) Property Maintenance. The permittee shall ensure that all equipment and other improvements to be constructed and/or installed in connection with the Approved Plans are maintained in a manner that is not detrimental or injurious to the public health, safety, and general welfare and that the aesthetic appearance is continuously preserved, and substantially the same as shown in the approved plans at all times relevant to this permit. The permittee further acknowledges that failure to maintain compliance with this condition may result in a revocation of the permit or any other remedy available to the City under the law.

SECTION 7-4.150 Macrocell Sites in the PROW.

(a) Site Selection:

(1) Preferred locations are on existing infrastructure such as street lights. The infrastructure selected shall be located at alleys and near property line prolongations. If the facility is not able to be placed on existing infrastructure, the applicant shall provide a map of existing infrastructure in the service area and describe why each such Site was not feasible.

(2) When existing infrastructure Sites have been exhausted, the City may require that the applicant provide new infrastructure such as a street light, on which the WCF can be installed. In such cases, the new infrastructure shall be dedicated to the City and will have a primary purpose other than as a WCF and the WCF will be the secondary use. This installation will be defined as a wireless Base Station.

(3) When all other preferred Sites have been exhausted and new infrastructure is not feasible, the applicant may request the installation of a new tower, camouflaged by City approved methods.

(b) Existing Infrastructure requirements

(1) Street light.

i. The installation shall not increase the total height by more than 10% or ten feet, whichever is greater, over other street lights in the area.

ii. The Antenna must be mounted to the top of the pole, or flush to the pole near the top, in a RF transparent screen that is coated or painted an approved color to match the street light pole. The screen is considered to Camouflage the installation.

iii. Equipment, other than Antennas, must be in an underground vault. Vault vents must be flush to the ground.

iv. Wires and cables must run in conduit inside the pole. Underground entry into the pole through the foundation is required.

v. As requested by the City, the applicant or carrier shall host on-site training for City maintenance staff at no cost to the City or its employees. The training will be offered for each WCF project on a street light pole. The training shall include occupational safety, personal protection, proximity limits, emergency procedures and contact information.

(2) Utility Pole.

i. Antenna installations will be top of pole mount. If this is not feasible due to California Public Utility Commission rules, then a replacement pole must be installed to comply with this requirement and the Commission rules.

ii. The Antenna must be in a RF transparent screen that is coated or painted an approved color to match the pole. The screen is considered to Camouflage the installation.

iii. Equipment, other than Antennas, must be in an underground vault. Vault vents must be flush to the ground.

iv. If the existing utility pole already has more than two existing risers/drops, the pole must be replaced with a metal pole that allows the new cable and wires to be inside the pole, in conduit. The existing drops will also be relocated inside the new pole and underground entry into the pole through the foundation is required. When the installation will result in two or fewer risers/drops on the pole, the wires and cable may be installed as a riser/drop in conduit painted an approved color or in commercially available black or dark brown conduit, as directed by the City.

(c) Traffic pole. Installations on traffic poles shall not be allowed.

SECTION 7-4.160 Small Cell Sites in the PROW.

(a) Site Selection:

(1) The preferred location shall be on existing infrastructure such as utility poles or street lights. The infrastructure selected should be located at alleys and near property line prolongations. If the facility is not able to be placed on existing infrastructure, the applicant shall provide a map of existing infrastructure in the service area and describe why each such Site was not feasible.

(2) When existing infrastructure Sites have been exhausted, the City requires that the applicant dedicate new infrastructure such as a street light, on which the WCF can be installed. In such cases, the new infrastructure shall be owned by the City and will have a primary purpose other than as a WCF and the WCF will be a secondary use. This installation will be defined as a wireless Base Station.

(b) Existing Infrastructure requirements

(1) Street light:

i. The Antenna shall be the smallest possible volume but in no case greater than three cubic feet. The Antenna must be enclosed in an RF transparent screen unless a whip style antenna is used. Antenna installations will be top of pole mount and shall not increase the height by more than 10% or ten feet, whichever is greater, over other street lights in the immediate vicinity. The small size of the Antenna or RF screen, and color treatment is considered to Camouflage the installation.

ii. Equipment, other than Antennas, shall be mounted as prescribed by the Director in one of the manners described.

1. Equipment shall be mounted in a base shroud of approved design to be retrofitted to the existing light standard. The base shroud shall be coated or painted with an approved color to match the existing pole.

2. Equipment shall be mounted directly to the pole a minimum of eight (8) feet above the existing grade and be coated or painted with an approved color to match the existing pole.

3. Equipment shall be mounted to the pole in an equipment box a minimum of eight (8) feet above the existing grade. The equipment box shall be coated or painted an approved color to match the existing pole and will be no wider than two times the diameter of the pole at the point it is mounted nor protrude from the surface of the pole by more than eight inches.

iii. The applicant may propose, or the City may require, that the existing light standard be replaced with a City approved pole that is manufactured with a base shroud designed to accept wireless equipment and integrated RF screen to accept a wireless Antenna.

(2) Utility Pole:

i. The Antenna shall be the smallest possible volume but in no case greater than three cubic feet and shall be mounted at the top of the pole or on the side of the pole with a bracket. When mounted with a bracket the bracket may extend no more than eighteen (18) inches from the surface of the pole and will be coated or painted an approved color to match the existing pole. The antenna must be enclosed in an RF transparent screen unless a whip style antenna is used. The small size of the Antenna or the RF screen, and color treatment is considered to Camouflage the installation.

ii. Equipment, other than Antennas, shall be mounted as prescribed by the Director in one of the manners described.

1. Equipment shall be mounted directly to the pole a minimum of eight (8) feet above the existing grade and be coated or painted with an approved color to match the existing pole.

2. Equipment shall be mounted in an equipment box that is mounted directly to the pole a minimum of eight (8) feet above the existing grade. The equipment or box shall be coated or painted an approved color to match the existing pole and will be no wider than the diameter of the pole at the point it is mounted nor protrude from the surface of the pole by more than eight inches.

iii. If the existing utility pole already has more than two existing risers/drops, the pole must be replaced with a metal pole that allows the new cable and wires to be inside the pole, in conduit. The existing drops will also be relocated inside the new pole and underground entry into the pole through the foundation is required. When the installation will result in two or fewer risers/drops on the pole, the wires and cable may be installed as a riser/drop in conduit painted an approved color or in commercially available black or dark brown conduit, as directed by the City.

(3) Traffic pole. Installations on traffic poles shall not be allowed.

SECTION 7-4.170 Distributed Antenna System (DAS).

Applications for DAS WCF shall be submitted as a single application and will have a single master license agreement for the entire project if located on City property. Each individual location within the system shall be processed and considered for approval separately. Permitting fees will be applied to each site, in an amount established by City Council resolution as reflected in its Master Fee Schedule. Each location will be evaluated and must comply with the installation design guidelines for the type of Site as defined by this ordinance.

SECTION 7-4.180 Carrier/Cell on Wheels (COW).

(a) A Carrier-on-wheels (COW) may only be placed in the PROW or City owned property through a use of an encroachment permit.

(b) The setup location requested for the COW will be reviewed and at the discretion of the Director of Public Works or designee may be modified to ensure public health and safety.

(c) The duration of a permit for a COW will be no longer than is necessary to establish the network and provide the temporary coverage required by the event or emergency.

(d) At the discretion of the Director or his or her designee, the permit may be revoked or modified when in the best interest of the City pursuant to the revocation procedures set forth in Section 7-4.120.

SECTION 7-4.190 Compliance with Applicable Law and Regulations.

This Article is not intended to be the exclusive means of regulating installation of Facilities in the public right of way and nothing herein is intended to waive any other applicable City requirements, including but not limited to building permit, storm water runoff, business license, excavation and undergrounding regulations. The

applicant/permittee shall obtain all permits, licenses, and similar authorizations that are required by other governmental entities for the installation of its Facilities. The applicant/permittee must also be and remain in compliance with all applicable statutes, ordinances, rules, regulations, orders, and decisions issued by any federal, state or local governmental body or agency, including without limitation those issued by the California Public Utilities Commission and the Federal Communications Commission.

SECTION 7-4.200 Nonexclusive Use of public right of way.

All permits to construct or place Facilities in the public right of way shall be nonexclusive. The granting of a permit under this article by the City does not provide any permittee with an exclusive use of the public right of way.

All telecommunication facilities permitted by this Article shall, upon the reasonable demand of the Director, be relocated if required by the City to avoid potential conflicts with a proper governmental use of a PROW including, but not limited to, any street, alley, sidewalk, facility, or other public place. All expenses incurred in relocating shall be paid by the permittee.

SECTION 7-4.210 Director's Guidelines.

To the extent not preempted by applicable laws, the Director may prescribe additional guidelines covering the location, size and depth of excavations in public streets and sidewalks as the Director may deem necessary for the public safety and welfare. Where such guidelines are general in character and are designed to apply to all excavations of a certain type or nature, they shall be promulgated in writing showing the date of their enactment, and a copy thereof, duly certified to by the Director shall be kept on file where they may be made available for public inspection upon the demand of any person. All Work performed under this Article shall be subject to such guidelines.

The Director may also prescribe Standards and Guidelines for Wireless Communications Facilities in the Public Right-of-Way. The primary purpose of these Standards and Guidelines shall be to provide procedural and design guidance and specific design standards and requirements for project applicants proposing wireless telecommunication facilities in the public right-of-way. The Standards and Guidelines Policy document is also intended for use and reference by City staff in reviewing and approving designs and verifying compliance with this Code. The Standards and Guidelines Policy document may also govern the maximum number of applications for WCF placement based on resource limitations, to promote administrative efficiency and deemed necessary or appropriate to organize, document and manage the application intake process. All such guidelines will be in written form and publicly stated to provide applicants with prior notice. Applicants for small cell permits are encouraged to apply for proposed buildout of entire neighborhoods or other contiguous areas to promote administrative efficiency.

SECTION 7-4.220 Indemnity; insurance.

Prior to issuance of any permit under this article, each applicant shall:

(a) Represent, stipulate, contract and agree that such applicant will, to the fullest extent allowed by law, indemnify, hold harmless, and defend the City of Hayward, its officers and employees from and against any and all suits, actions, judgments, losses, costs, demands, claims, expenses (including attorney's fees), damages, and liabilities of every kind for any and all claims for damage to property, or injury to, or death of persons arising out of or resulting from the issuance of the permit or the placement of the WCF, except to the extent any damage or injury is due to the gross negligence or willful misconduct of the City, its officers or employees.

(b) Obtain and file with the Director, and thereafter maintain during the term of any such permit, certificates evidencing comprehensive general liability insurance policy or policies, in a form acceptable to the City Attorney, issued by an insurance company or companies authorized to do business in the State of California. The City of Hayward, its officers and employees shall be named as additional insureds on said policy or policies. The policy limits of said insurance policy or policies shall be not less than one million dollars ($1,000,000.00) combined single limit for both bodily injury and property damage, or equivalent.

(c) Said policy or policies shall also contain a provision that no termination, cancellation, or change of coverage of insured or additional insured shall be effective until after thirty (30) days' notice thereof has been given in writing to the Director.

(d) Applicants who self-insure shall so state and attest in writing in the Application, which self-insurance in an amount equal to the amount required by this Article or the Guidelines, whichever is higher, shall be subject to approval by the City upon presentation to the City of sufficient documentary proof.

SECTION 7-4.230 Removal Procedures for Abandoned or Discontinued WCF.

(a) The Director may declare a WCF within the PROW abandoned or discontinued when:

1. The permittee notifies the Director that it abandoned or discontinued the use of a WCF for a continuous period of 90 calendar days; or

2. The permittee fails to respond within 30 calendar days to a written notice sent by Certified U.S. Mail, Return Receipt Requested, from the Director that states the basis for the Director's belief that the WCF has been: i) abandoned, or ii) discontinued for a continuous period of 90 calendar days; or

3. The permit expires in the case where the permittee has failed to file a timely application for renewal.

(b) After the Director declares a WCF abandoned or discontinued, the permittee shall have 90 calendar days from the date of the declaration (or longer time as the Director may approve in writing as reasonably necessary) to:

1. Reactivate the use of the abandoned or discontinued WCF subject to the provisions of this chapter and all conditions of approval;

2. Transfer its rights to use the WCF, subject to the provisions of this chapter and all conditions of approval, to another person or entity that immediately commences use of the abandoned or discontinued WCF; or

3. Remove the WCF and all improvements installed solely in connection with the WCF and restore the site to a condition compliant with all applicable codes consistent with the then-existing surrounding area.

(c) If the permittee fails to act as required in 7-4.230(b) within the prescribed time period, the City may remove and dispose of the abandoned or discontinued WCF in any manner allowed by law. The City may, but shall not be obligated to:

1. Restore the site to a condition compliant with all applicable codes and consistent with the then-existing surrounding area, and repair any and all damages that occurred in connection with such removal and restoration work; and

2. Use any financial security required in connection with the granting of the WCF permit to recover its costs and interest. Until the costs are paid in full, a lien may be placed on the WCF, all related personal property in connection with the WCF and, if applicable, the real private property on which the WCF was located for the full amount of all costs for removal, restoration, repair and storage.

SECTION 7-4.240 Permit Non-Compliance; No Waivers.

No permittee shall be excused from complying with any of the provisions of this Article by any failure of the City on any one or more occasions to seek, or insist upon, compliance with any requirements or provisions of this Code. Regardless of the City's failure to seek compliance on any occasions, such action shall not be considered a waiver of any requirements of this Code.

SECTION 7-4.250. Future Changes in the Law.

The City's rights under this Article are coextensive with the City's rights under state law with regard to the use of the public right of way. If future changes to state or federal law authorize the City to regulate the public rights of way to a greater degree than is now authorized by this article, nothing in this Article will be deemed to limit, restrict in any way, or to modify the City's exercise of that regulatory authority.

HAYWARD CITY COUNCIL

RESOLUTION NO. 19-

Introduced by Council Member _____

RESOLUTION AMENDING THE CITY OF HAYWARD FISCAL YEAR 2019 MASTER FEE SCHEDULE ASSOCIATED WITH AMENDMENTS TO CHAPTER 7 THE CITY OF HAYWARD MUNICIPAL CODE ADDING ARTICLE 4 ESTABLISHING REGULATIONS FOR WIRELESS COMMUNICATION FACILITIES IN THE PUBLIC RIGHT OF WAY

WHEREAS, Section 15273 of the California Environmental Quality Act (CEQA) Guidelines states that CEQA does not apply to the establishment, modification, structuring, restructuring, or approval of rates, tolls, fares, and other charges by public agencies which the public agency finds are for the purposes of:

1. Meeting operating expenses, including employee wage rates and fringe benefits;
2. Purchasing or leasing supplies, equipment, or materials;
3. Meeting financial reserve needs and requirements;
4. Obtaining funds necessary for capital projects necessary to maintain service within existing services areas; or
5. Obtaining funds necessary to maintain intra-city transfers as are authorized by city Charter; and

WHEREAS, The City Council finds and determines that this action is exempt from CEQA based on the foregoing provisions; and

WHEREAS, In November 2010, California voters approved Proposition 26, which amended Article XIII C of the State constitution regarding the adoption of fees and taxes. Proposition 26 seeks to assure that taxes, which much be approved by the voters, are not disguised as fees, which can be approved by legislative bodies, such as a city council. The proposed amendment to the Master Fee Schedule (MFS) is compliant.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hayward hereby adopts certain changes in the Master Fee Schedule relating to fees and charges for the Public Works: Engineering and Transportation Department, as reflected in Exhibit A.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2019

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

Exhibit A

Engineering and Transportation

D. Section 7-4 Wireless Communication Facilities

1. Wireless Communication Facilities in Public Right of Way (WCF PROW)
    a. WCF PROW Permit Application Fee — $2,000 (Deposit –T&M)
    b. Renewal Fee — 100% of Application Fee
    c. Appeal Fee — $400
    d. Application Pre-Submittal Review Fee — No Charge
2. Small Cell Master License Agreement (MLA)
    a. MLA Processing — $4,000 (Deposit –T&M)
    b. Pole License Administrative Fee — $2,500 (Deposit –T&M)

September 18, 2018

Summary of Proposed FCC Small Cell Order

Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment; Declaratory Ruling and Third Report and Order; WT Docket No. 17-79; WC Docket No. 17-84

Prepared in collaboration with Mark Del Bianco,
Principal, Law Office of Mark C. Del Bianco

DISCLAIMER: This document is intended to be a tool for education and information. It offers a summary of the proposed FCC order. This document is not intended to provide legal advice, or to be a legal analysis or a comprehensive list of all potential outcomes of this order. We offer this information for reference purposes only, as a starting point for analysis by interested parties.

The FCC recently released the text of an order in its ongoing proceeding to streamline the rollout of infrastructure for broadband services, including small cells for 5G wireless service.[i] The FCC is proposing to adopt this Order at its September 26 meeting. While there could be differences between these proposed rules and those adopted at the meeting, that is unlikely. If there are important changes, NCC will provide an update.

This summary addresses the effect of the Order on the issues of most importance to NCC members that have or are considering enacting small cell ordinances, or have or will be negotiating agreements with carriers or infrastructure providers such as Mobilitie or Crown Castle.

The Order has two parts: (1) an new set of regulations (the "Rules") that govern shot clocks and other limited aspects of the rollout of small wireless facilities (a/k/a "small cells") and (2) a Declaratory Ruling that does not enact any new regulations but is the FCC's interpretation of how the provisions of Section 253 and 332(c)(7) of the Communications Act that limit state or local regulations that "effectively prohibit" the provision of wireless services should be applied.[ii] The Declaratory Ruling portion of the Order adopts the position that a state or local government need only “materially inhibit” a particular small wireless facility deployment in order for its action to constitute an "effective prohibition" under Section 253 or 332(c)(7). Based on this conclusion, the Declaratory Ruling provides guidance on fees local governments may charge and on how they may regulate ancillary rollout issues such as tower spacing, equipment design and other aesthetic concerns. In lay terms, this means the FCC is making it easier for private companies to take local governments to court if they believe municipal policies are effectively prohibiting network investment.

Key Takeaways from the Order

- The Order is a blatant effort by the FCC to strengthen the hand of carriers in negotiations with local governments over small cell deployment and to limit the ability of local governments to negotiate in the public interest around small cells.

- The good news is that the FCC has left local governments with some power and flexibility to enact reasonable regulations governing small cell deployments. With the right approach and partner, local governments have a higher hill to climb but can still negotiate win-win outcomes that benefit carriers while addressing citizens' concerns.

- Local governments should immediately take proactive steps to maintain their leverage in possible negotiations with carriers.

- Local governments should move expeditiously to enact zoning and other regulations to address issues of importance to their community. These may include application processing cost recovery, antenna design, location and spacing, additional pole and equipment aesthetic requirements, and other factors of local concern.

- In particular, setting out and standardizing aesthetic requirements, including pre-approval of antenna, equipment cabinet and street furniture designs where appropriate, will make it easier for local governments to process applications reasonably expeditiously and to defend challenged siting decisions or failures to meet shot clock deadlines.

Key Issues for Members

What types of facilities does the Order apply to?

The Order applies to all types of facilities used to provide wireless services. There are specific shot clock and other rules that govern certain small wireless facilities, i.e., those less than 50 feet tall and on which the antenna size is less than 3 cubic feet.

What happens if a local government already has an agreement with a carrier or infrastructure provider that covers small wireless facilities?

- The FCC did not address whether existing agreements are preempted by the Order. While existing agreements were not explicitly grandfathered, there is no obvious means of voiding them. The result is that local governments should be able to keep existing agreements.
- In order to preempt existing agreements involving private parties, the FCC would have to make certain findings that doing so was in the public interest. It did not do so in the Order.
- Further evidence that the FCC did not intend to preempt existing agreements is its expressed intent in the Order to facilitate "mutually agreed solutions."

- Any attempt to preempt an existing agreement would require the carrier to file a lawsuit against the municipality, which seems very unlikely.
- Even if a carrier filed a case, we do not believe it would be able to convince a court to void a freely negotiated commercial agreement.

Going forward, can a local government negotiate new agreements with carriers or infrastructure providers? If so, are there issues that cannot be addressed in an agreement?

- Yes, local governments can still negotiate with carriers and infrastructure providers. Nothing in the Order preempts local governments' ability to negotiate future agreements in order to provide a mutually acceptable process for deployment of small cells.[iii] However, the Rules and presumptions created by the Order give carriers more leverage when negotiating with local governments and reduce the ability of local governments to enact regulations that achieve desirable outcomes when carriers are unwilling to engage in good faith negotiations, or to negotiate at all.
- The Declaratory Ruling provides guidance on some parameters of the deployment of small cells, including such factors as the cost, aesthetic requirements and location, but it does not prohibit local governments or carriers from reaching their own arrangements on these or any other factors. This means that if a local government wants to follow the Lincoln model of offering very rapid permitting in return for fees higher than the FCC sets, it may still do so.

Are there limits on the amounts that local governments can charge for small cell application and use fees?

- There is a presumed safe harbor for application and use fees, but no specific cap on fees.
- The safe harbor amounts are (a) $500 for a single up-front application that includes up to five Small Wireless Facilities, with an additional $100 for each Small Wireless Facility beyond five, and (b) $270 per Small Wireless Facility per year for all recurring fees, including any possible ROW access fee or fee for attachment to municipally-owned structures in the ROW.
- The FCC views these amounts as safe harbors because it believes they are low enough that no carrier would challenge them if they were imposed unilaterally in a local government’s regulations.
- Nothing in the Order prevents a local government from charging higher fees. However, under the FCC's framework, if a carrier files a lawsuit challenging the fees imposed by a local government, the burden would be on the local government to demonstrate that the amount is a reasonable approximation of its costs and that its costs are reasonable.
- The FCC did not specify a methodology for calculating cost, or what expenses could be included.
- We believe that the revenue-reducing effect of a cost-based methodology will be much greater for usage fees than for application fees, because usage fees are recurring.

Can a local government require in-kind contributions or set application or use fees at levels to achieve social goals such as closing the digital divide?

- If a court were to accept the FCC conclusion that fees must be cost-based, local governments would not be able to require in-kind contributions or set application or usage fees above cost.
- Local governments can still negotiate agreements containing provisions for non-cost-based fees (as San Jose and Honolulu did), but the Order attempts to remove most of a local government's negotiating leverage on these issues, so there will now be little incentive for a provider to agree to do so

What are the new application shot clocks?

- The Rules create four new shot clocks:
    - Collocation of small wireless facilities: Local government has 60 days to act upon to an application
    - Collocation of facilities other than small wireless facilities: 90 days.
    - Construction of new small wireless facilities: 90 days.
    - Construction of new facilities other than small wireless facilities: 150 days.
- The Rules also provide for the pausing of the shot clock when a local government determines that an application is incomplete. In order to prevent last minute “pausing” of the shot clock by local governments, an incompleteness determination must be made by the 30th day after an application is filed, and within 10 days after resubmission if a re-submitted application is still incomplete.

What is the legal effect of the new shot clocks?

- The shot clock deadlines have no direct legal effect.
- If an application is not acted on within the deadline, nothing happens unless a carrier either commences a formal complaint proceeding at the FCC or files a case in state or federal court. In either case, the carrier would have to demonstrate that the failure to act on the application amounts to an "effective prohibition" on wireless service under Section 253 or 332.
- Either process will take months, perhaps years.
- The Order recognizes that the shot clock is only a presumption, and that local governments have the ability to demonstrate to a court that the delay is reasonable under the circumstances.
- If a court finds that a shot clock violation is an effective prohibition, it will most likely order the local government simply to make a decision by a specific date in the near future; a court is very unlikely to order a local government to grant a specific application.
- We believe that carriers prefer certainty and rather than litigate over a few shot clock violations will be willing to negotiate a reasonable time for guaranteed local government action on applications.

Do different shot clock deadlines apply when multiple applications are filed at the same time (batched)?

- No.
- However, the FCC acknowledged that batched applications could strain local governments' resources and potentially justify a failure to meet shot clock deadlines.[iv]
- We believe that in any carrier lawsuit that was based on a failure to meet the shot clock deadlines on a large batch of applications, a court would be very sympathetic to a local government's argument that the batch application had caused a legitimate overload on its permitting resources.

What types of local government permits/authorizations do the new shot clocks apply to?

- The Rule applies to any request for authorization to place, construct, or modify wireless service facilities, including a zoning permit, a building permit, an electrical permit, a road closure permit, and an architectural or engineering permit.
- The Order does not specify whether or how the shot clocks apply to requests to use light poles and other government facilities, whether located in or outside the right of way.

May a local government still take aesthetics into account in its small cell zoning regulations?

- Yes.
- Aesthetic requirements must be reasonable, no more burdensome than those applied to similar types of infrastructure deployments (e.g., equipment cabinet size and color requirements would need to be similar to those for telco or cable company cabinets), and published in advance.[v]

May a local government require minimum spacing between small wireless facilities?

- Yes. The Order considers spacing requirements to be a subset of aesthetics requirements, and thus subject to same standard.
- The Order gives no guidance on what might be a reasonable spacing distance.

What if a local government has an undergrounding requirement for all utilities?

- Regulations requiring all utility facilities (including antennas) to be placed underground would effectively prohibit wireless services because antennas have to be placed above ground in order to function.
- Regulations requiring all wireless equipment other than antennas to be placed underground would be permissible, so long as they are applied on a non-discriminatory basis to other service providers, e.g. telco and cable companies.
- It is not clear what sorts of poles or other above ground antenna facilities a local government would have to allow access to in order to avoid being considered "effectively prohibiting wireless service.

Bottom Line

- The order significantly diminishes local decision making, but does not eliminate it.
- Local governments cannot say no to all small cell antennas within specific neighborhoods or other areas of their communities.
- Local governments can charge more than the recommended permitting fees and annual fees, but may have to show how the fees correlate with the local government's cost for managing the permitting and right of way.
- The order decreases a community's capacity to receive recompense for the use of their right of way that is in excess of the cost of managing that right of way.
- Local governments that are prepared by proactively putting in place policies and procedures will be able to retain some local control.
- If you have an existing agreement, we believe it will be hard for a vendor to justify a request to change that agreement and it seems unlikely that the courts would side with them.
- There will very likely be court challenges to this order.

Important Tips and Action Steps

- **ANTENNA PLACEMENT** - you cannot say no to any antennas on poles in an area. However, you can say no to a specific placement as long as there is a reasonable alternative.
- **UNDERGROUND** - you cannot require that all of this infrastructure be placed underground, but you may be able to require that all but the antenna be placed underground. However, if you are planning to do so, you must do so for ALL utilities and you must have an ordinance in place.
- **STREET FURNITURE** - you can require that street furniture have a certain aesthetic and a setback from the street (for both aesthetic and public safety reasons, such as to prevent loss of parking due to inability to open car doors). You must have an ordinance in place that applies to ALL utilities in the local government's right of way.
- **SHROUDING** - You can require a certain aesthetic for certain neighborhoods and certain types of poles. If these requirements are in place in advance of a carrier approaching you, you are less likely to experience push back and your position will be more defensible if challenged in court..
- **PERMITTING** - The time to revise and organize your permitting process is now. If your permitting process includes a plan to adhere to the shot clocks in the order, you will more likely be able to meet them.
- **SHOT CLOCK DEADLINES** - The deadlines may be difficult to meet, but there is NO DEEMED GRANTED provision in this order. Batch permitting may be particularly problematic for local governments as the scope of such requests can overwhelm a permitting department, but if you work in good faith, keep the carrier updated, and are still unable to meet the deadline, it is likely the carrier will work with you. If instead they take you to court, your due diligence and proactive efforts will work in your favor.
- **APPLICATION COSTS** - The costs listed in the order are for guidance. If you stay at or below them, your fees very likely will not be challenged in court. However, you can charge more if you have evidence that your costs are higher. Including your engineering costs, permitting staff costs, and post-installation

inspection costs may justify a higher application fee. If those costs are reasonable, the fee is unlikely to be challenged and if challenged, will likely be upheld even under the FCC's test.

- **ANNUAL ROW FEE** - If at or below the cost specified by the order ($270/year), this fee will very likely be unchallenged by carriers. If higher, a court may require the local government to justify the fee as being directly related to cost.
- **NEGOTIATING** - Remember that one of the single most valuable characteristics of your permitting from the carrier perspective is predictability. If you can give a high degree of certainty that permits will be finished in a predictable manner, carriers will be much more willing to negotiate for higher fees or more public interest requirements than those set by the FCC.

Endnotes

[i] Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment, Declaratory Ruling and Third Report and Order, WT Docket No. 17-79; WC Docket No. 17-84 (the "Order").

[ii] Section 253(a) provides that “[n]o State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.” Section 332(c)(7) provides that “[t]he regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof—(I) shall not unreasonably discriminate among providers of functionally equivalent services; and (II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.”

[iii] However, parts of the Declaratory Ruling and even the proposed Rules acknowledge the ability of local governments and carriers to negotiate outcomes different from those envisioned in the Declaratory Ruling. For example, with regard to proposals to allow local governments to implement best practices or an informal dispute resolution process, the FCC stated "Although we do not at this time adopt these proposals, we note that the steps taken in this order are intended to facilitate cooperation between parties to reach mutually agreed upon solutions. For example, as explained below, mutual agreement between the parties will toll the running of the shot clock period, thereby allowing parties to resolve disagreements in a collaborative, instead of an adversarial, setting." Order, ¶ 127. That reference is to proposed 47 C.F.R. § 1.6003(d), which allows local governments and carriers to agree to toll (i.e., lengthen) the shot clock period for any type of wireless facility. Similarly, nothing in the Declaratory Ruling prohibits local governments from reaching agreements with carriers and infrastructure providers that contain provisions fleshing out (or even departing from) the broad FCC guidelines on cost, aesthetic requirements, antenna location and other factors.

[iv] The FCC noted that under its “approach, in extraordinary cases, a siting authority, as discussed below, can rebut the presumption of reasonableness of the applicable shot clock period where a batch application causes legitimate overload on the siting authority’s resources. Thus, contrary to some localities’ arguments, our approach provides for a certain degree of flexibility to account for exceptional circumstances.

* * *

The siting authority then will have an opportunity to rebut the presumption of effective prohibition by demonstrating that the failure to act was reasonable under the circumstances and, therefore, did not materially limit or inhibit the applicant from introducing new services or improving existing services. Order, ¶¶ 110-112.

[v] The Order's discussion of the first two factors is brief and provides little guidance: [A]esthetic requirements that are reasonable in that they are reasonably directed to avoiding or remedying the intangible public harm of unsightly or out-of-character deployments are also permissible. In assessing whether this standard has been met, aesthetic requirements that are more burdensome than those the state or locality applies to similar infrastructure deployments are not permissible, because such discriminatory application evidences that the requirements are not, in fact, reasonable and directed at remedying the impact of the wireless infrastructure deployment. Order, ¶ 84.