



TOWN OF PORTOLA VALLEY

7:00 PM – Regular Meeting of the Town Council
 Wednesday, February 28, 2018
 Historic Schoolhouse
 765 Portola Road, Portola Valley, CA 94028

REGULAR MEETING AGENDA

7:00 PM - CALL TO ORDER AND ROLL CALL

Councilmember Hughes, Councilmember Derwin, Councilmember Aalfs, Vice Mayor Wengert and Mayor Richards

ORAL COMMUNICATIONS

Persons wishing to address the Town Council on any subject may do so now. Please note however, that the Council is not able to undertake extended discussion or action tonight on items not on the agenda.

1. **PRESENTATION** – ALPR Software Demo – Update from Sheriff's Office (3)

CONSENT AGENDA

The following items listed on the Consent Agenda are considered routine and approved by one roll call motion. The Mayor or any member of the Town Council or of the public may request that any item listed under the Consent Agenda be removed and action taken separately.

2. **Approval of Minutes** – January 24, 2018 (4)
3. **Ratification of Warrant List** – February 14, 2018 (10)
4. **Approval of Warrant List** – February 28, 2018 (24)
5. **Appointment by Mayor** – Member to the Geologic Safety Committee (36)
6. **Appointment by Mayor** – Members to the Parks & Recreation Committee (38)
7. **Recommendation by Interim Finance Director** – Audit and Financial Statements for FYE 06/30/17 (41)
8. **Report by Interim Planning Director** – 2017 Planning and Building Department Activities Report (139)
9. **Recommendation by Deputy Building Official** – 2017 Code Enforcement Activity Report (142)

REGULAR AGENDA

COMMITTEE REPORTS & REQUESTS

10. **Sustainability and Environmental Resources Committee** – Leaf Blowers – Education Program (154)

STAFF REPORTS AND RECOMMENDATIONS

11. **Recommendation by Town Manager** – Adoption of a Resolution Calling a Special Election for June 5, 2018, (258) to Vote on Ballot Measure to Temporarily Reduce Utility Users Tax from 5.5% to 4.5%
 - (a) Adoption of a Resolution of the Town Council of the Town of Portola Valley Calling and Giving Notice of the Holding of a Special Election to be Held on June 5, 2018 for the Purpose of Submitting to the Voters of the Town of Portola Valley a Ballot Measure Temporarily Reducing the Utility Users Tax from 5.5% to 4.5% (Resolution No. __)

12. COUNCIL LIAISON COMMITTEE AND REGIONAL AGENCIES REPORTS (268)

Council arising out of liaison appointments to both in-town and regional committees and initiatives. *There are no written materials and the Town Council does not take action under this agenda item.*

13. Town Manager Report (269)

WRITTEN COMMUNICATIONS

14. **Town Council Digest** – January 26, 2018 (270)
15. **Town Council Digest** – February 2, 2018 (277)

16. **Town Council Digest** – February 9, 2018 (288)

17. **Town Council Digest** – February 16, 2018 (293)

18. **Town Council Digest** – February 23, 2018 (300)

ADJOURNMENT

ASSISTANCE FOR PEOPLE WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Town Clerk at (650) 851-1700. Notification 48 hours prior to the meeting will enable the Town to make reasonable arrangements to ensure accessibility to this meeting.

AVAILABILITY OF INFORMATION

Copies of all agenda reports and supporting data are available for viewing and inspection at Town Hall and at the Portola Valley Library located adjacent to Town Hall. In accordance with SB343, Town Council agenda materials, released less than 72 hours prior to the meeting, are available to the public at Town Hall, 765 Portola Road, Portola Valley, CA 94028.

SUBMITTAL OF AGENDA ITEMS

The deadline for submittal of agenda items is 12:00 Noon WEDNESDAY of the week prior to the meeting. By law no action can be taken on matters not listed on the printed agenda unless the Town Council determines that emergency action is required. Non-emergency matters brought up by the public under Communications may be referred to the administrative staff for appropriate action.

PUBLIC HEARINGS

Public Hearings provide the general public and interested parties an opportunity to provide testimony on these items. If you challenge any proposed action(s) in court, you may be limited to raising only issues you or someone else raised at the Public Hearing(s) described in this agenda, or in written correspondence delivered to the Town Council at, or prior to, the Public Hearing(s).

#1

There are no written materials for Presentation of ALPR Software

PORTOLA VALLEY TOWN COUNCIL REGULAR MEETING NO. xxx, JANUARY 24, 2018

CALL TO ORDER AND ROLL CALL

Mayor Richards called the Town Council's Regular meeting to order at 7:00 p.m. and led the Pledge of Allegiance. Ms. Hanlon called the roll.

Present: Councilmember Hughes, Councilmember Derwin, Councilmember Aalfs, Vice Mayor Wengert and Mayor Richards

Absent: None

Others: Jeremy Dennis, Town Manager
Cara Silver, Town Attorney
Howard Young, Director of Public Works
Brandi de Garneau, Assistant to the Town Manager
Sharon Hanlon, Town Clerk

ORAL COMMUNICATIONS

- (1) Presentation – Garrett Kuramoto, Library Manager for Portola Valley and Woodside with San Mateo County Library 2016-2017 Annual Report.

Mr. Kuramoto presented the 2016-2017 annual report, reported on new programs, and shared achievements and awards received.

CONSENT AGENDA [7:09 p.m.]

- (2) Approval of Minutes – Town Council Regular Meeting of January 10, 2018. *[Removed from Consent Agenda.]*
- (3) Approval of Warrant List – January 24, 2018, in the amount of \$210,883.19.
- (4) Recommendation by Town Attorney – Updating the Designated Positions and Disclosure Obligations in the Town's Conflict of Interest Code.
 - (a) A Resolution of the Town Council of the Town of Portola Valley Designating Public Officials and Employees and their Disclosure Categories for the Town's Conflict of Interest Code (Resolution No. 2750-2018).
- (5) Recommendation by Public Works Director – Acceptance of the Spring Down Pond Restoration – Project #2017-PW05. *[Removed from Consent Agenda.]*
 - (a) Adoption of a Resolution of the Town Council of the Town of Portola Valley to Accept the Completed Spring Down Pond Restoration Project #2017-PW05 in the Town of Portola Valley, CA and Authorizing Final Payment to "O. Nelson & Son, Inc." Concerning Such Work, and Directing the Town Clerk to File a Notice of Completion (Resolution No. 2751-2018)
- (6) Appointment by Mayor – Commissions and Committees Membership Appointments for 2018 *[Removed from Consent Agenda.]*

Councilmember Aalfs moved to approve Items 3 and 4 of the Consent Agenda. Seconded by Councilmember Derwin, the motion carried 5-0, by roll call vote.

(2) Approval of Minutes – Town Council Regular Meeting of January 10, 2018.

Councilmember Hughes moved to approve Item 2. Seconded by Councilmember Aalfs, the motion carried 4-0, with Councilmember Derwin abstaining.

(5) Recommendation by Public Works Director – Acceptance of the Spring Down Pond Restoration – Project #2017-PW05.

(a) Adoption of a Resolution of the Town Council of the Town of Portola Valley to Accept the Completed Spring Down Pond Restoration Project #2017-PW05 in the Town of Portola Valley, CA and Authorizing Final Payment to “O. Nelson & Son, Inc.” Concerning Such Work, and Directing the Town Clerk to File a Notice of Completion (Resolution No. 2751-2018)

Mayor Richards reported that the Conservation Committee met and discussed the possibility of having a contest to name the pond, hoping to hold the contest on Earth Day. He said there was also discussion about maintenance of Spring Down in general.

Councilmember Hughes moved to approve Item 5. Seconded by Councilmember Aalfs, the motion carried 5-0.

(6) Appointment by Mayor – Commissions and Committees Membership Appointments for 2018

Councilmember Hughes moved to approve Item 6. Seconded by Councilmember Aalfs, the motion carried 5-0.

REGULAR AGENDA

STAFF REPORTS AND RECOMMENDATIONS

(7) Microgrid Study Session

Councilmember Aalfs presented the proposed microgrid project at the Town Center. He described the benefits of a microgrid electrical system, including backup power, renewables integration, peak shifting power, etc. He described what a microgrid system would look like locally. He explained the value of battery storage, the duck curve, and net load. He introduced Malini Kannan from the Clean Coalition, a nonprofit organization that may be a good consultant to the Town regarding the requirements and design of a microgrid. He introduced Frank Bishop from Gridscape, the for-profit company that built the microgrid at Fremont Fire Station 11 and is involved in several other microgrid projects. Councilmember Aalfs said Gridscape received one of the first California Energy Commission grants and have become a leader in this field. He described the neighboring communities that have expressed interest including the Mayor of Woodside, Portola Valley School District, Woodside School District, Woodside Priory, and Woodside Fire Protection. He said Gridscape and Clean Coalition are two groups that would be good partners for Portola Valley and he would like to work with them on a design and proposal for a project to bring to the Council in the next couple of months.

Councilmember Hughes asked regarding the timeline for complete installation and coming online. Mr. Bishop said it is not a long-term project.

Councilmember Hughes said if all the groups mentioned took part it would have an impact on grid stabilization, but asked regarding that level of stabilization if it was just Portola Valley and how far geographically the impact would reach. Councilmember Aalfs said the local impact would be low. He said people are now discussing creating home systems that can feed power and becoming part of the same process and the more the better. He said the Sequoias, in particular, would have a huge impact because it is a much bigger user and is at the very end of that power line.

Councilmember Hughes asked how battery life varied under the different usage scenarios. Mr. Bishop said the batteries' warranty is 10 years and charging and discharging is fine as long as they are maintained properly.

Councilmember Hughes asked if the system would need to be redesigned if the Town decided, in a few years, to add 10 more car chargers or build a new community center, thereby increasing the load substantially or changing the load profile. Mr. Bishop said it is a modular system and more batteries could be added as needed. Councilmember Aalfs said if the loads increased dramatically the service from PG&E might change at some point, but that would be true with or without the microgrid.

In response to Vice Mayor Wengert's question, Councilmember Aalfs said the primary benefit to the Town was emergency backup power, which is the highest priority. Vice Mayor Wengert asked about the cost comparison between the microgrid and the diesel backup currently existing. Public Works Director Young said the diesel generator has two days of fuel on hand and can be refilled at a gas station. Councilmember Aalfs said the microgrid would provide backup power indefinitely, providing substantially increased backup power compared to the diesel generator.

Vice Mayor Wengert asked how the energy savings was defined. Councilmember Aalfs said the batteries would be charged and then used when the sun was not shining. Vice Mayor Wengert asked regarding the cost analysis. Ms. Kannan said the batteries allow the Town to shave their demand charges. She said they would do a detailed analysis of the Town's current energy bill. She said there is definitely benefit to the electric bill to have energy storage if there is EV charging. Councilmember Hughes said a difference here relative to other microgrids is that mostly all the Town's usage is during the daytime, including the car charging.

Vice Mayor Wengert said while there are future things that the Town should be looking at, she is not considering the speculative items, such as creating a market for local grid services. Councilmember Aalfs said he would not suggest including speculative future items in the Town's analysis of the proposal.

Vice Mayor Wengert said the Town has not articulated their goals in terms of how much EV they want to provide, and it should be included in the analysis. Councilmember Aalfs said the Town Center operates a certain way now and the analysis could include how it would operate differently if it had the resources.

Mayor Richards said in a power outage a microgrid backup is much preferable to hearing the loud generators spewing gas into the air.

Vice Mayor Wengert asked if the microgrid would replace the diesel generator. Councilmember Aalfs said it could and, for example, a short-term outage would not even be noticed.

Mayor Richards said the cost is driven largely by the cost of the battery system. Mr. Bishop said although batteries have come way down in price, they are probably still the largest cost in the system. He said the detailed costs will be in the proposal, but noted that the prices of batteries are continuing to come down. Mr. Bishop said in Fremont they are using the fire station as part of their sustainability plan for the city and they do not want to use the diesel generators at all, planning to phase them out completely.

Mayor Richards said the initial microgrid could be very small and ramped up later after studying the actual critical loads. Councilmember Aalfs said 100 kilowatt hours would be a good start, providing quite a bit of flexibility.

Vice Mayor Wengert asked how much the new system would be reliant on access to the internet in the event of a disaster. Mr. Bishop said the system is driven from the cloud and requires a connection; however, the system is designed so that profiles are downloaded locally and it can run forever on that profile.

Vice Mayor Wengert requested the proposal include an estimate of the ongoing costs in addition to the capital costs.

Councilmember Hughes said the net metering would also need to be factored into the cost estimates. Councilmember Aalfs said there would be decisions to be made regarding net metering and feed-in tariff.

Sustainability and Environmental Resources Committee (SERC) member Stefan Unnasch asked regarding revenue to the Town. He said it would be strange to take in all the solar power during the day and put it out in the evening for the benefit of PG&E. Councilmember Aalfs said the first priority is to provide backup power. He said when he talked about peak shifting, for example, it was to explore whether the system could be made more valuable financially, although some of those markets don't yet exist. Stefan said if the Town has 100-kilowatt hours of storage and 10 EV charging stations, the study should show how much would be made in LCSF credits, which should go to the Town. He said he will forward a PowerPoint by the ARB that describes the provision for smart metering to generate LCSF credits based on solar power. SERC Committee member Anne-Laure Strong said the charger owner is usually the one receiving that credit unless it is released to a different entity.

Assistant to the Town Manager de Garmeaux clarified the power load is not just from 8:00 to 5:00, for example, the exercise classes, the library, cleaning staff, multiple evening events and meetings.

Mayor Richards said an interesting application would be the ability to extend it to neighborhoods. He said it would be nice to have a demonstration project at the Town Center, which serves some benefit. Councilmember Aalfs said this proposal is also an effort to show leadership around this.

Further analysis and cost estimates will return to the Council at a March meeting.

- (8) Recommendation by Town Manager – Adoption of a Resolution Calling an Election to Vote on Ballot Measure to Authorize Reduction of Utility Users Tax from 5.5 Percent to 4.5 Percent
- (a) Adoption of a Resolution of the Town Council of the Town of Portola Valley Calling and Giving Notice of the Holding of a Special Election to be Held on June 5, 2018 for the Purpose of Submitting to the Voters of the Town of Portola Valley a Ballot Measure Reducing the Utility Users Tax Rate (Resolution No.____)

This item was pulled from tonight's agenda. Vice Mayor Wengert said she has been working with Town Manager Dennis, Town Attorney Silver, and Councilmember Aalfs to figure out how to address concerns raised earlier this week. They came to the decision to form a subcommittee consisting of Mayor Richards, Vice Mayor Wengert, Finance Committee Chair Bill Urban, and Town Manager Dennis, to further analyze this subject and return to the Council with its findings at a near future meeting.

- (9) Recommendation by Town Attorney – Settlement of Lawsuit and Approval of Easement Agreement: *Blue Oaks Homeowners Association v. Cynthia Dorrell, et al.*

Town Attorney Silver explained the lawsuit, in which the Town of Portola Valley has been named as a cross-defendant, and the proposed settlement and easement agreement, as detailed in the staff report.

Vice Mayor Wengert moved to approve the Settlement of Lawsuit and Easement Agreement. Seconded by Councilmember Hughes; the motion carried 5-0.

- (10) Recommendation by Mayor – Amendment No. 2 to the Town Manager Employer Agreement.
- (a) Adoption of a Resolution of the Town Council of the Town of Portola Valley Approving Amendment No. 2 to the Town Manager Employment Agreement (Resolution No. 2752-2018)

Town Attorney Silver explained the Town Council's desire to amend the agreement to increase the Manager's base salary to reflect a 3.8 percent cost of living increase effective March 8, 2018, and to extend the agreement for one year, as detailed in the staff report.

Councilmember Derwin moved to approve Resolution of the Town Council of the Town of Portola Valley Approving Amendment No. 2 to the Town Manager Employment Agreement. Seconded by Councilmember Aalfs; the motion carried 5-0.

(11) Appointment by Mayor – Council Liaison Appointments for 2018.

The Council reviewed and approved the Council Liaison Appointments for 2018, as amended.

(12) COUNCIL LIAISON COMMITTEE AND REGIONAL AGENCIES REPORTS

Councilmember Hughes – Attended the January 17 Planning Commission meeting where they discussed the property on Firethorn, the shoulder-widening in front of the property, the tree removals, and traffic safety. He attended a Portola Valley School tour with Councilmember Aalfs. He met with Town Manager Dennis for an ALPR preview. He attended a meeting with PG&E to discuss the 20A Rule.

Councilmember Derwin -- Attended C/CAG Resource Management and Climate Protection Committee (RMCP) where they discussed city-level pilot programs such as microgrids, Energy Watch's call for projects, the BAWSCA update, and an annual water loss audit per SB555. She attended C/CAG Admin meeting with Town Manager Dennis. She attended the January 22 ASCC meeting where they discussed a remodel/addition at 40 Saddleback Drive and had their annual election of Chair and Vice Chair. In response to Councilmember Derwin's question, Town Attorney Silver said committee members serve at the will of the Council and it is appropriate for the Council to provide direction the Commission. She said if the Council Liaison sees an issue it would be appropriate to have a joint session to iron out issues. Councilmember Derwin suggested there be a refresher on how important it is that Commissioners remember they are representing the Town and not just their own points of view. She attended a Housing Endowment and Regional Trust (HEART) Board meeting today where they discussed a new program – Borrowing Idle Housing Funds from Cities.

Councilmember Aalfs – Attended the January 16 Trails & Paths Committee meeting where they discussed looking at all the trails and scoring them to assess the effects of the spraying program. They have received positive comments regarding the gates on the Toyon Trail.

Vice Mayor Wengert – Had lunch with Mayor Richards and Town Attorney Silver on Martin Luther King Day. She visited a commercial wellness center project on 3343 Alpine Road, where there are some challenges to overcome. She attended the first ad-hoc committee meeting on expanding membership of the San Francisco Roundtable.

Mayor Richards – Attended San Mateo County Emergency Services Council meeting where they discussed sirens. He attended a Conservation Committee meeting where they discussed rodenticides, owl boxes, and the broom pull.

(13) Town Manager Report – Town Manager Dennis reported ALPRs are installed and operational. There was follow up with participants of the various pedestrian/traffic gatherings, relative to the Circulation Study. An ad has been published in the Almanac regarding the Planning Commission review of proposed regulations for commercial cannabis. There will be a Finance Committee meeting on February 12. Town Manager Dennis and Councilmember Derwin will attend a Home for All meeting on January 26. He said upcoming ASCC and Planning Commission meetings will look at flag lot issues, green infrastructure in setbacks, and outdoor lighting. The Planning and Building Director recruitment will close at the end of the month. Larry Strain will attend a March Council meeting to discuss the Town Center Master Plan findings. The Cultural Arts Committee will hold a youth photo show on March 10th.

WRITTEN COMMUNICATIONS

(14) Town Council Digest – January 12, 2018

None.

(15) Town Council Digest – January 19, 2018

None.

ADJOURNMENT [9:05 p.m.]

Mayor Hughes adjourned the meeting.

Mayor

Town Clerk

INVOICE APPROVAL LIST REPORT - DETAIL WITH GL DIST

02/14/18

Date: 02/07/2018

Time: 3:39 pm

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TOWN OF PORTOLA VALLEY

Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

MIKE AGOFF	Instructor Fees - Winter, 2018	19424	02/14/2018	
			02/14/2018	
2341 KEHOE AVENUE	0016		02/14/2018	0.00
SAN MATEO	BOA	52290	02/14/2018	0.00
CA 94403				1,728.00

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4246	Instructors & Class Refunds	1,728.00	0.00

Check No.	52290	Total:	1,728.00
Total for	MIKE AGOFF		1,728.00

ALMANAC	January, Legal Ads	19454	02/14/2018	
			02/14/2018	
450 CAMBRIDGE AVE	0048		02/14/2018	0.00
PALO ALTO	BOA	52291	02/14/2018	0.00
CA 94306	57269			660.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4320	Advertising	660.00	0.00

Check No.	52291	Total:	660.00
Total for	ALMANAC		660.00

ANIMAL DAMAGE MGMT INC	January Pest Control	19399	02/14/2018	
			02/14/2018	
16170 VINEYARD BLVD. #150	804		02/14/2018	0.00
MORGAN HILL	BOA	52292	02/14/2018	0.00
CA 95037	105263			695.00

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4240	Parks & Fields Maintenance	572.50	0.00
05-66-4342	Landscape Supplies & Services	122.50	0.00

Check No.	52292	Total:	695.00
Total for	ANIMAL DAMAGE MGMT INC		695.00

ARRANGED4COMFORT	Ergo Equip, A. Taghavi/T.Bower	19423	02/14/2018	
	man	00006513	02/14/2018	
790 LAUREL STREET #10	0502		02/14/2018	0.00
SAN CARLOS	BOA	52293	02/14/2018	0.00
CA 94070	17-4689-SH			1,745.94

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4312	Office Equipment	1,745.94	1,745.94

Check No.	52293	Total:	1,745.94
Total for	ARRANGED4COMFORT		1,745.94

INVOICE APPROVAL LIST REPORT - DETAIL WITH GL DIST

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TOWN OF PORTOLA VALLEY

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State/Province Zip/Postal	Invoice Number			Check Amount

SANGINI MAJMUDAR BEDNER	Instructor Fees, Winter 2018	19426	02/14/2018	
			02/14/2018	
229 CORTE MADERA RD.	0548		02/14/2018	0.00
PORTOLA VALLEY	BOA	52294	02/14/2018	0.00
CA 94028				1,612.80

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4246	Instructors & Class Refunds	1,612.80	0.00

Check No.	52294	Total:	1,612.80
Total for	SANGINI MAJMUDAR BEDNER		1,612.80

LAURA BREGE	Refund Fee/Deposit, 6/23/18	19449	02/14/2018	
	Event Canceled		02/14/2018	
340 CERVANTES ROAD	1455		02/14/2018	0.00
PORTOLA VALLEY	BOA	52295	02/14/2018	0.00
CA 94028				3,500.00

GL Number	Description	Invoice Amount	Amount Relieved
05-00-2561	Community Hall Deposits	1,000.00	0.00
05-24-3185	Comm Hall Private Party Fees	2,500.00	0.00

Check No.	52295	Total:	3,500.00
Total for	LAURA BREGE		3,500.00

CJW ARCHITECTURE	Refund Tree Removal Permit	19400	02/14/2018	
			02/14/2018	
130 PORTOLA ROAD	0030		02/14/2018	0.00
PORTOLA	BOA	52296	02/14/2018	0.00
CA 94028				70.00

GL Number	Description	Invoice Amount	Amount Relieved
05-14-3062	Site Development Permits	70.00	0.00

Check No.	52296	Total:	70.00
Total for	CJW ARCHITECTURE		70.00

COMCAST	WiFi, 1/21/18 - 2/20/18	19401	02/14/2018	
			02/14/2018	
P.O. BOX 34744	0045		02/14/2018	0.00
SEATTLE	BOA	52297	02/14/2018	0.00
WA 98124-1227				46.21

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4318	Telephones	46.21	0.00

Check No.	52297	Total:	46.21
Total for	COMCAST		46.21

COTTON SHIRES & ASSOC. INC.	December Applicant Charges	19402	02/14/2018	
			02/14/2018	
330 VILLAGE LANE	0047		02/14/2018	0.00
LOS GATOS	BOA	52298	02/14/2018	0.00
CA 95030-7218				17,025.28

INVOICE APPROVAL LIST REPORT - DETAIL WITH GL DIST

02/14/18

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TOWN OF PORTOLA VALLEY

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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4190	Geoloqist - Charges to Appls	17,025.28	0.00

Check No.	52298	Total:	17,025.28
Total for	COTTON SHIRES & ASSOC. INC.		17,025.28

COUNTY OF SAN MATEO	FY 17/18 Animal Control	19455	02/14/2018	
HEALTH SYSTEM	VOID ORIG CK #52212		02/14/2018	
ATTN: PAMELA MACHADO	0049		02/14/2018	0.00
REDWOOD CITY	BOA	52299	02/14/2018	0.00
CA 94403				23,412.00

GL Number	Description	Invoice Amount	Amount Relieved
05-62-4280	Animal Control	23,412.00	0.00

Check No.	52299	Total:	23,412.00
Total for	COUNTY OF SAN MATEO		23,412.00

DENISE DE SOMER	Catering, Annual Volunteer Party	19404	02/14/2018	
17 DOLPHIN COURT	1367	00006514	02/14/2018	
HALF MOON BAY	BOA	52289	02/14/2018	0.00
CA 94019	TOPVAHP120117			0.00
				9,054.25

GL Number	Description	Invoice Amount	Amount Relieved
05-52-4147	Holiday Party	9,054.25	9,054.25

Check No.	52289	Total:	9,054.25 H
Total for	DENISE DE SOMER		9,054.25

DELL MARKETING L.P.	CPU/Monitors, S. Hanlon-CPU, C	19439	02/14/2018	
c/o DELL USA L.P.	. Rodas	00006518	02/14/2018	
P.O. BOX 910916	0194		02/14/2018	0.00
PASADENA	BOA	52300	02/14/2018	0.00
CA 91110-0916	10220736826			2,273.52

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4312	Office Equipment	2,273.52	2,273.52

Check No.	52300	Total:	2,273.52
Total for	DELL MARKETING L.P.		2,273.52

DFM ASSOCIATES	2018 CA Elections Code	19427	02/14/2018	
10 CHRYSLER	465		02/14/2018	
IRVINE	BOA	52301	02/14/2018	0.00
CA 92618-2008				0.00
				69.06

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4308	Office Supplies	69.06	0.00

Check No.	52301	Total:	69.06
Total for	DFM ASSOCIATES		69.06

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State/Province Zip/Postal	Invoice Number			Check Amount

ECONO TREE SERVICE	Tree Removal, Alpne Rd.	19442	02/14/2018	
			02/14/2018	
1914 SPRING STREET	1252		02/14/2018	0.00
REDWOOD CITY	BOA	52302	02/14/2018	0.00
CA 94063	339869			1,650.00

GL Number	Description	Invoice Amount	Amount Relieved
20-60-4264	ROW Tree Trimming & Mowing	1,650.00	0.00

Check No.	52302	Total:	1,650.00
Total for	ECONO TREE SERVICE		1,650.00

ESRI, INC.	GIS Renewal 3/31/18-3/30/2019	19438	02/14/2018	
		00006517	02/14/2018	
FILE #54630	0212		02/14/2018	0.00
LOS ANGELES	BOA	52303	02/14/2018	0.00
CA 90074-4630	93408793			1,813.75

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4311	Software & Licensing	1,813.75	1,813.75

Check No.	52303	Total:	1,813.75
Total for	ESRI, INC.		1,813.75

EXPRESS PLUMBING-EPS, INC.	Clear Sewer Line Back-up	19443	02/14/2018	
			02/14/2018	
307 N. AMPHLETT BLVD.	0745		02/14/2018	0.00
SAN MATEO	BOA	52304	02/14/2018	0.00
CA 94401	22692			235.00

GL Number	Description	Invoice Amount	Amount Relieved
05-66-4346	Mechanical Sys Maint & Repair	235.00	0.00

EXPRESS PLUMBING-EPS, INC.	ALPR Install/Final Pmt	19444	02/14/2018	
			02/14/2018	
307 N. AMPHLETT BLVD.	0745		02/14/2018	0.00
SAN MATEO	BOA	52304	02/14/2018	0.00
CA 94401	22483P			14,500.00

GL Number	Description	Invoice Amount	Amount Relieved
05-70-4486	CIP16/17 Equipment	14,500.00	0.00

Check No.	52304	Total:	14,735.00
Total for	EXPRESS PLUMBING-EPS, INC.		14,735.00

FASTRAK	'00 Chevy, Toll Fee	19433	02/14/2018	
			02/14/2018	
VIOLATION PROCESSING DEPT.	0761		02/14/2018	0.00
SAN FRANCISCO	BOA	52305	02/14/2018	0.00
CA 94126	T711838514613			30.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4336	Miscellaneous	30.00	0.00

Check No.	52305	Total:	30.00
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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

Total for FASTRAK 30.00

GREEN HALO SYSTEMS	Hosting/Access, January 2018	19405	02/14/2018	
			02/14/2018	
2431 ZANKER ROAD	0654		02/14/2018	0.00
SAN JOSE	BOA	52306	02/14/2018	0.00
CA 95131	1544			114.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4311	Software & Licensng	114.00	0.00

Check No. 52306 Total: 114.00

Total for GREEN HALO SYSTEMS 114.00

J.W. ENTERPRISES	Portable Lavs, 1/18-2/14/18	19406	02/14/2018	
			02/14/2018	
1689 MORSE AVE	829		02/14/2018	0.00
VENTURA	BOA	52307	02/14/2018	0.00
CA 93003	205852			242.40

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4244	Portable Lavatories	242.40	0.00

Check No. 52307 Total: 242.40

Total for J.W. ENTERPRISES 242.40

KEYES CONSTRUCTION	Deposit Refund, 20 Palmer Permit# BLDR0269-2017	19407	02/14/2018	
			02/14/2018	
2433 CAROLINA AVENUE	0759		02/14/2018	0.00
REDWOOD CITY	BOA	52308	02/14/2018	0.00
CA 94061				1,000.00

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4205	C&D Deposit	1,000.00	0.00

Check No. 52308 Total: 1,000.00

Total for KEYES CONSTRUCTION 1,000.00

BRITNEY KING	Instructor Fees, Winter 2018	19429	02/14/2018	
			02/14/2018	
4068A 26TH STREET	0380		02/14/2018	0.00
SAN FRANCISCO	BOA	52309	02/14/2018	0.00
CA 94131				19,535.00

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4246	Instructors & Class Refunds	19,535.00	0.00

Check No. 52309 Total: 19,535.00

Total for BRITNEY KING 19,535.00

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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

KUTZMANN & ASSOCIATES	January Plan Check	19430	02/14/2018	
			02/14/2018	
39355 CALIFORNIA STREET	0090		02/14/2018	0.00
FREMONT	BOA	52310	02/14/2018	0.00
CA 94538				366.25

GL Number	Description	Invoice Amount	Amount Relieved
05-54-4200	Plan Check Services	366.25	0.00

Check No.	52310	Total:	366.25
Total for	KUTZMANN & ASSOCIATES		366.25

LADERA GARDEN CENTER	Flower Arrangement, Boyce	19408	02/14/2018	
			02/14/2018	
3130 LADERA COUNTRY SHOPPER	0490		02/14/2018	0.00
PORTOLA VALLEY	BOA	52311	02/14/2018	0.00
CA 94028	15292			97.86

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4336	Miscellaneous	97.86	0.00

Check No.	52311	Total:	97.86
Total for	LADERA GARDEN CENTER		97.86

LEAGUE OF CALIFORNIA CITIES	2018 Dues, LCC Peninsula Div	19410	02/14/2018	
			02/14/2018	
	0093		02/14/2018	0.00
SACRAMENTO	BOA	52312	02/14/2018	0.00
CA 95814	1407			100.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4322	Dues	100.00	0.00

Check No.	52312	Total:	100.00
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LEAGUE OF CALIFORNIA CITIES	2018 Annual Dues	19409	02/14/2018	
			02/14/2018	
	0093		02/14/2018	0.00
SACRAMENTO	BOA	52313	02/14/2018	0.00
CA 95814	179323			3,108.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4322	Dues	3,108.00	0.00

Check No.	52313	Total:	3,108.00
Total for	LEAGUE OF CALIFORNIA CITIES		3,208.00

MAZE & ASSOCIATES	FYE 6/30/17 Annual Reports	19431	02/14/2018	
	Town/Special Districts		02/14/2018	
3478 BUSKIRK AVENUE	879		02/14/2018	0.00
PLEASANT HILL	BOA	52314	02/14/2018	0.00
CA 94523	27163			5,011.00

GL Number	Description	Invoice Amount	Amount Relieved
05-54-4180	Accounting & Auditing	5,011.00	0.00

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Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

Check No.	52314	Total:	5,011.00
Total for	MAZE & ASSOCIATES		5,011.00

MUNICIPAL RESOURCE GROUP, LLC	TM Evaluation, Nov '17-Jan '18	19432	02/14/2018	
			02/14/2018	
675 HARTZ AVENUE, SUITE 300	0661		02/14/2018	0.00
DANVILLE	BOA	52315	02/14/2018	0.00
CA 94526	03-18-22			7,285.83

GL Number	Description	Invoice Amount	Amount Relieved
05-54-4214	Miscellaneous Consultants	7,285.83	0.00

Check No.	52315	Total:	7,285.83
Total for	MUNICIPAL RESOURCE GROUP, L		7,285.83

NOLTE ASSOCIATES, INC. NV5	Applicant Charges, Oct 2017	19419	02/14/2018	
			02/14/2018	
P.O. BOX 74008680	0104		02/14/2018	0.00
CHICAGO	BOA	52316	02/14/2018	0.00
IL 89193-3243				5,170.97

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4194	Engineer - Charges to Appls	5,170.97	0.00

NOLTE ASSOCIATES, INC. NV5	Applicant Charges, Nov & Dec	19420	02/14/2018	
			02/14/2018	
P.O. BOX 74008680	0104		02/14/2018	0.00
CHICAGO	BOA	52316	02/14/2018	0.00
IL 89193-3243				6,339.73

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4194	Engineer - Charges to Appls	6,339.73	0.00

NOLTE ASSOCIATES, INC. NV5	Dec/Jan Applicant Charges	19421	02/14/2018	
			02/14/2018	
P.O. BOX 74008680	0104		02/14/2018	0.00
CHICAGO	BOA	52316	02/14/2018	0.00
IL 89193-3243				5,728.65

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4194	Engineer - Charges to Appls	5,728.65	0.00

NOLTE ASSOCIATES, INC. NV5	Nov-Jan Engineer Services	19447	02/14/2018	
			02/14/2018	
P.O. BOX 74008680	0104		02/14/2018	0.00
CHICAGO	BOA	52316	02/14/2018	0.00
IL 89193-3243	78510/81103			509.96

GL Number	Description	Invoice Amount	Amount Relieved
05-54-4192	Engineer Services	509.96	0.00

Check No.	52316	Total:	17,749.31
Total for	NOLTE ASSOCIATES, INC. NV5		17,749.31

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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

O. NELSON & SON, INC.	BackFill/Cover/Compact Culvert	19445	02/14/2018	
			02/14/2018	
3345 TRIPP ROAD	634		02/14/2018	0.00
WOODSIDE	BOA	52317	02/14/2018	0.00
CA 94062	204			327.75

GL Number	Description	Invoice Amount	Amount Relieved
20-60-4260	Public Road Surface & Drainage	327.75	0.00

Check No.	52317	Total:	327.75
Total for	O. NELSON & SON, INC.		327.75

PERS HEALTH	February Health	19422	02/14/2018	
			02/14/2018	
VIA EFT	0108		02/14/2018	0.00
	BOA	52318	02/14/2018	0.00
				12,708.67

GL Number	Description	Invoice Amount	Amount Relieved
05-50-4086	Health Insurance Medical	12,708.67	0.00

Check No.	52318	Total:	12,708.67
Total for	PERS HEALTH		12,708.67

PLATINUM FACILITY SERVICES	January Janitorial	19441	02/14/2018	
			02/14/2018	
1530 OAKLAND RD., #150	402		02/14/2018	0.00
SAN JOSE	BOA	52319	02/14/2018	0.00
CA 95112	30654			4,903.13

GL Number	Description	Invoice Amount	Amount Relieved
05-66-4341	Community Hall	1,203.35	0.00
05-66-4344	Janitorial Services	2,467.64	0.00
25-66-4344	Janitorial Services	1,232.14	0.00

Check No.	52319	Total:	4,903.13
Total for	PLATINUM FACILITY SERVICES		4,903.13

RAMONA'S SECRETARIAL SERVICES	January Transcription Svcs.	19398	02/14/2018	
			02/14/2018	
18403 WATERS DRIVE	1370		02/14/2018	0.00
CASTRO VALLEY	BOA	52320	02/14/2018	0.00
CA 94546	5979			1,312.00

GL Number	Description	Invoice Amount	Amount Relieved
05-54-4188	Transcription Services	1,312.00	0.00

Check No.	52320	Total:	1,312.00
Total for	RAMONA'S SECRETARIAL SERVIC		1,312.00

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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount
CYNTHIA RICHARDSON	January Planning Consult Svcs.	19411	02/14/2018	
dba Richardson Consulting			02/14/2018	
24 CAMPBELL LANE	1250		02/14/2018	0.00
MENLO PARK	BOA	52321	02/14/2018	0.00
CA 94025				5,250.00
GL Number	Description	Invoice Amount	Amount Relieved	
05-54-4196	Planner	367.50	0.00	
96-54-4198	Planner - Charges to Appls	4,882.50	0.00	

Check No.	52321	Total:	5,250.00
Total for	CYNTHIA RICHARDSON		5,250.00

Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount
HASAN RIZVI	Deposit Refund, 55 Golden Oak	19412	02/14/2018	
			02/14/2018	
55 GOLDEN OAK DRIVE	0760		02/14/2018	0.00
PORTOLA VALLEY	BOA	52322	02/14/2018	0.00
CA 94028				2,300.00
GL Number	Description	Invoice Amount	Amount Relieved	
96-54-4205	C&D Deposit	2,300.00	0.00	

Check No.	52322	Total:	2,300.00
Total for	HASAN RIZVI		2,300.00

Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount
RON RAMIES AUTOMOTIVE, INC.	Nov/Dec Fuel Statement	19413	02/14/2018	
			02/14/2018	
115 PORTOLA ROAD	422		02/14/2018	0.00
PORTOLA VALLEY	BOA	52323	02/14/2018	0.00
CA 94028				876.50
GL Number	Description	Invoice Amount	Amount Relieved	
05-64-4334	Vehicle Maintenance	876.50	0.00	

Check No.	52323	Total:	876.50
Total for	RON RAMIES AUTOMOTIVE, INC.		876.50

Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount
SAN MATEO COUNTY HR DEPT	Educ/Training - Brown	19403	02/14/2018	
			02/14/2018	
455 COUNTY CENTER	610		02/14/2018	0.00
REDWOOD CITY	BOA	52324	02/14/2018	0.00
CA 94063	CI17-025			75.00
GL Number	Description	Invoice Amount	Amount Relieved	
05-64-4326	Education & Training	75.00	0.00	

Check No.	52324	Total:	75.00
Total for	SAN MATEO COUNTY HR DEPT		75.00

Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount
SAN MATEO SHERIFF	FY 17-18 Law Enforcement-QTR 3	19450	02/14/2018	
OFFICE OF EMERGENCY SERVICES			02/14/2018	
400 COUNTY CENTER	0119		02/14/2018	0.00
REDWOOD CITY	BOA	52325	02/14/2018	0.00
CA 94063-0978	10930			255,490.25

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Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

GL Number	Description	Invoice Amount	Amount Relieved
05-62-4282	San Mateo County Sheriff's Ofc	223,537.50	0.00
05-62-4284	COPS Addl Traffic Patrols	31,952.75	0.00

Check No.	52325	Total:	255,490.25
<u>Total for</u>	<u>SAN MATEO SHERIFF</u>		<u>255,490.25</u>

ALISHA SENESCU	Refund Deposit, Event 1/6/18	19414	02/14/2018	
			02/14/2018	
6 RUSSELL AVENUE	0756		02/14/2018	0.00
PORTOLA VALLEY	BOA	52326	02/14/2018	0.00
CA 94028				600.00

GL Number	Description	Invoice Amount	Amount Relieved
05-00-2561	Community Hall Deposits	600.00	0.00

Check No.	52326	Total:	600.00
<u>Total for</u>	<u>ALISHA SENESCU</u>		<u>600.00</u>

SHARP BUSINESS SYSTEMS	December Copies	19415	02/14/2018	
			02/14/2018	
DEPT. LA 21510	0199		02/14/2018	0.00
PASADENA	BOA	52327	02/14/2018	0.00
CA 91185-1510	C969006-541			209.13

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4308	Office Supplies	209.13	0.00

Check No.	52327	Total:	209.13
<u>Total for</u>	<u>SHARP BUSINESS SYSTEMS</u>		<u>209.13</u>

SIERRA PACIFIC TURF SUPPLY INC	Fertilizer, All Fields	19448	02/14/2018	
		00006516	02/14/2018	
P.O. BOX 84	842		02/14/2018	0.00
CAMPBELL	BOA	52328	02/14/2018	0.00
CA 95009	0519892-IN			1,643.55

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4240	Parks & Fields Maintenance	1,643.55	1,643.55

Check No.	52328	Total:	1,643.55
<u>Total for</u>	<u>SIERRA PACIFIC TURF SUPPLY IN</u>		<u>1,643.55</u>

CONNIE STACK	Instructor Fees, Winter 2018	19456	02/14/2018	
			02/14/2018	
10127 LAMPLIGHTER SQUARE	648		02/14/2018	0.00
CUPERTINO	BOA	52329	02/14/2018	0.00
CA 95014				1,230.40

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4246	Instructors & Class Refunds	1,230.40	0.00

Check No.	52329	Total:	1,230.40
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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

Total for CONNIE STACK 1,230.40

STAPLES CREDIT PLAN	Office Supplies, 12/13-12/30/1	19416	02/14/2018	
			02/14/2018	
DEPT. 31 - 0000306219	430		02/14/2018	0.00
PHOENIX	BOA	52330	02/14/2018	0.00
AZ 85062-8004				361.25

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4308	Office Supplies	361.25	0.00

Check No. 52330 Total: 361.25

Total for STAPLES CREDIT PLAN 361.25

SUNSTATE EQUIPMENT CO.	Owl Boxes Install/Netting @ FF	19446	02/14/2018	
			02/14/2018	
P.O. BOX 52581	0673		02/14/2018	0.00
PHOENIX	BOA	52331	02/14/2018	0.00
AZ 85072	7346453-001			326.31

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4240	Parks & Fields Maintenance	326.31	0.00

Check No. 52331 Total: 326.31

Total for SUNSTATE EQUIPMENT CO. 326.31

SHELLY SWEENEY	Instructor Fees, Winter 2018	19434	02/14/2018	
			02/14/2018	
285 GRANDVIEW DRIVE	407		02/14/2018	0.00
WOODSIDE	BOA	52332	02/14/2018	0.00
CA 94062				1,968.00

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4246	Instructors & Class Refunds	1,968.00	0.00

Check No. 52332 Total: 1,968.00

Total for SHELLY SWEENEY 1,968.00

ALI TAGHAVI	Reimbursement, Software Lic & Advertising	19417	02/14/2018	
			02/14/2018	
	0747		02/14/2018	0.00
	BOA	52333	02/14/2018	0.00
				253.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4311	Software & Licensing	228.00	0.00
05-64-4320	Advertising	25.00	0.00

Check No. 52333 Total: 253.00

Total for ALI TAGHAVI 253.00

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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

THE SEQUOIAS PORTOLA VALLEY	Refund Deposit, 01/13/18 Event	19451	02/14/2018	
			02/14/2018	
501 PORTOLA ROAD	0762		02/14/2018	0.00
PORTOLA VALLEY	BOA	52334	02/14/2018	0.00
CA 94028				1,000.00

GL Number	Description	Invoice Amount	Amount Relieved
05-00-2561	Community Hall Deposits	1,000.00	0.00

Check No.	52334	Total:	1,000.00
Total for	THE SEQUOIAS PORTOLA VALLE`		1,000.00

TOWN OF ATHERTON	SMC City Clerks Assoc. Mtg -	19425	02/14/2018	
ATTN: JUDI HERREN	S. Hanlon		02/14/2018	
91 ASHFIELD ROAD	710		02/14/2018	0.00
ATHERTON	BOA	52335	02/14/2018	0.00
CA 94027-3897				20.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4326	Education & Training	20.00	0.00

Check No.	52335	Total:	20.00
Total for	TOWN OF ATHERTON		20.00

US POSTMASTER	Annual Bulk Mail Permit Renew	19435	02/14/2018	
Business Mail Entry Unit			02/14/2018	
3875 BOHANNON DRIVE	0287		02/14/2018	0.00
MENLO PARK	BOA	52336	02/14/2018	0.00
CA 94025				225.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4316	Postage	225.00	0.00

Check No.	52336	Total:	225.00
Total for	US POSTMASTER		225.00

VERIZON WIRELESS	January Cellular/ALPR SIM card	19436	02/14/2018	
			02/14/2018	
P.O. BOX 660108	0131		02/14/2018	0.00
DALLAS	BOA	52337	02/14/2018	0.00
TX 75266-0108	9800557341			417.74

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4318	Telephones	417.74	0.00

Check No.	52337	Total:	417.74
Total for	VERIZON WIRELESS		417.74

BRYAN WALKER	Refund Deposit, Event 01/27/18	19452	02/14/2018	
			02/14/2018	
140 RUSSELL AVENUE	0763		02/14/2018	0.00
PORTOLA VALLEY	BOA	52338	02/14/2018	0.00
CA 94028				100.00

GL Number	Description	Invoice Amount	Amount Relieved
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Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

05-00-2562	Field Deposits		100.00	0.00
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Check No.	52338	Total:	100.00
Total for	BRYAN WALKER		100.00

WESTRIDGE ARCHITECTURAL	2017 Annual Assessment	19437	02/14/2018	
C/O WALLI FINCH, TREASURER			02/14/2018	
C/O WALLI FINCH	388		02/14/2018	0.00
PORTOLA VALLEY	BOA	52339	02/14/2018	0.00
CA 94028				120.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4336	Miscellaneous	120.00	0.00

Check No.	52339	Total:	120.00
Total for	WESTRIDGE ARCHITECTURAL		120.00

WOODSIDE FIRE PROTECTION DISTR	CERPP Coordinator, Jan-Mar '18	19418	02/14/2018	
			02/14/2018	
808 PORTOLA ROAD	709		02/14/2018	0.00
PORTOLA VALLEY	BOA	52340	02/14/2018	0.00
CA 94028	114_PV			3,565.11

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4333	Fire Prevention	3,565.11	0.00

Check No.	52340	Total:	3,565.11
Total for	WOODSIDE FIRE PROTECTION DI		3,565.11

JEN WOODWORTH	Dinner/Open Space Event, J. Dennis	19453	02/14/2018	
			02/14/2018	
	0764		02/14/2018	0.00
	BOA	52341	02/14/2018	0.00
				20.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4326	Education & Training	20.00	0.00

Check No.	52341	Total:	20.00
Total for	JEN WOODWORTH		20.00

Total Invoices:	57	Grand Total:	430,033.25
		Less Credit Memos:	0.00
		Net Total:	430,033.25
		Less Hand Check Total:	9,054.25
		Outstanding Invoice Total:	420,979.00

TOWN OF PORTOLA VALLEY
Warrant Disbursement Journal
February 14, 2018

Claims totaling \$430,033.25 having been duly examined by me and found to be correct are hereby approved and verified by me as due bills against the Town of Portola Valley.

Date _____

Jeremy Dennis, Treasurer

Motion having been duly made and seconded, the above claims are hereby approved and allowed for payment.

Signed and sealed this (Date) _____

Sharon Hanlon, Town Clerk

Mayor

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Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

A-A LOCK & ALARM INC	Repairs to TH Lobby/Substation	19457	02/28/2018	
	Doors		02/28/2018	
1251 EL CAMINO REAL	0001		02/28/2018	0.00
MENLO PARK	BOA	52386	02/28/2018	0.00
CA 94025	276357, 276918			494.16

GL Number	Description	Invoice Amount	Amount Relieved	
05-66-4346	Mechanical Sys Maint & Repair	494.16	0.00	

Check No.	52386	Total:	494.16
Total for	A-A LOCK & ALARM INC		494.16

ABAG PLAN CORPORATION	FY 17-18 Plan Prem Inst 2 of 2	19458	02/28/2018	
C/O Bickmore			02/28/2018	
	0592		02/28/2018	0.00
SACRAMENTO	BOA	52387	02/28/2018	0.00
CA 95833	PLAN-2017-18-038			14,702.00

GL Number	Description	Invoice Amount	Amount Relieved	
05-64-4304	Liability Insurance/Bonds	14,702.00	0.00	

Check No.	52387	Total:	14,702.00
Total for	ABAG PLAN CORPORATION		14,702.00

ALLIED LANDSCAPE	Turf Renovations/Landscape	19483	02/28/2018	
	Maintenance Town Fields		02/28/2018	
5542 MONTEREY ROAD SUITE 277	0695		02/28/2018	0.00
SAN JOSE	BOA	52388	02/28/2018	0.00
CA 95138	19048			24,985.00

GL Number	Description	Invoice Amount	Amount Relieved	
05-58-4240	Parks & Fields Maintenance	24,985.00	0.00	

Check No.	52388	Total:	24,985.00
Total for	ALLIED LANDSCAPE		24,985.00

ANNUVIA AN ALLIED 100, LLC CO	LifePak AED Battery Replace	19497	02/28/2018	
			02/28/2018	
PO BOX 511351	1429		02/28/2018	0.00
LOS ANGELES	BOA	52389	02/28/2018	0.00
CA 90051	33256			137.03

GL Number	Description	Invoice Amount	Amount Relieved	
05-64-4336	Miscellaneous	137.03	0.00	

Check No.	52389	Total:	137.03
Total for	ANNUVIA AN ALLIED 100, LLC CO		137.03

AT&T	January Statements	19477	02/28/2018	
			02/28/2018	
P.O. BOX 9011	441		02/28/2018	0.00
CAROL STREAM	BOA	52390	02/28/2018	0.00
IL 60197-9011				284.13

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Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4318	Telephones	284.13	0.00

Check No.	52390	Total:	284.13
Total for	AT&T		284.13

BANK OF AMERICA	December/January Statement	19506	02/28/2018	
Bank Card Center			02/28/2018	
P.O. BOX 53155	0022		02/28/2018	0.00
PHOENIX	BOA	52391	02/28/2018	0.00
AZ 85072-3155				3,219.91

GL Number	Description	Invoice Amount	Amount Relieved
05-52-4147	Holiday Party	6.50	0.00
05-58-4240	Parks & Fields Maintenance	314.70	0.00
05-64-4308	Office Supplies	168.11	0.00
05-64-4311	Software & Licensing	577.09	0.00
05-64-4312	Office Equipment	335.78	0.00
05-64-4320	Advertising	50.00	0.00
05-64-4322	Dues	225.00	0.00
05-64-4335	Sustainability	425.11	0.00
05-64-4336	Miscellaneous	939.48	0.00
05-64-4337	Bank Fees	178.14	0.00

Check No.	52391	Total:	3,219.91
Total for	BANK OF AMERICA		3,219.91

BAY CITIES ROOFING	C&D Dep Refund-25 Valley Oak	19459	02/28/2018	
			02/28/2018	
201 JACKSON AVENUE	0207		02/28/2018	0.00
REDWOOD CITY	BOA	52392	02/28/2018	0.00
CA 94061				1,000.00

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4205	C&D Deposit	1,000.00	0.00

Check No.	52392	Total:	1,000.00
Total for	BAY CITIES ROOFING		1,000.00

CALIFORNIA WATER SERVICE CO	Water Service 1/10-2/8/18	19460	02/28/2018	
			02/28/2018	
3525 ALAMEDA DE LAS PULGAS	0011		02/28/2018	0.00
MENLO PARK	BOA	52393	02/28/2018	0.00
CA 94025844				1,433.90

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4330	Utilities	1,433.90	0.00

Check No.	52393	Total:	1,433.90
Total for	CALIFORNIA WATER SERVICE CC		1,433.90

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Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

CALPERS	December Retirement	19472	02/28/2018	
FISCAL SERVICES DIVISION			02/28/2018	
ATTN: RETIREMENT PROG ACCTG	0107		02/28/2018	0.00
SACRAMENTO	BOA	52394	02/28/2018	0.00
CA 94229-2703				19,707.47

GL Number	Description	Invoice Amount	Amount Relieved
05-00-2522	PERS Payroll	1,632.29	0.00
05-00-2556	Arrears Svc Cr	107.38	0.00
05-50-4080	Retirement - PERS	17,967.80	0.00

CALPERS	February Unfunded Liability	19476	02/28/2018	
FISCAL SERVICES DIVISION			02/28/2018	
ATTN: RETIREMENT PROG ACCTG	0107		02/28/2018	0.00
SACRAMENTO	BOA	52394	02/28/2018	0.00
CA 94229-2703				1,577.88

GL Number	Description	Invoice Amount	Amount Relieved
05-50-4080	Retirement - PERS	1,577.88	0.00

Check No.	52394	Total:	21,285.35
Total for	CALPERS		21,285.35

CITY CLERKS ASSOC OF CA	2018 CCAC Annual Conference	19474	02/28/2018	
			02/28/2018	
700 R STREET, SUITE 200	1231		02/28/2018	0.00
SACRAMENTO	BOA	52395	02/28/2018	0.00
CA 95811				390.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4326	Education & Training	390.00	0.00

Check No.	52395	Total:	390.00
Total for	CITY CLERKS ASSOC OF CA		390.00

CITY OF REDWOOD CITY (IT)	January IT Support	19461	02/28/2018	
			02/28/2018	
P.O. BOX 3629	586		02/28/2018	0.00
REDWOOD CITY	BOA	52396	02/28/2018	0.00
CA 94064	BR47019			2,250.30

GL Number	Description	Invoice Amount	Amount Relieved
05-54-4216	IT & Website Consultants	2,250.30	0.00

Check No.	52396	Total:	2,250.30
Total for	CITY OF REDWOOD CITY (IT)		2,250.30

CLAYTON TIMBRELL & CO	C&D Dep Refund-70 Hayfields	19470	02/28/2018	
			02/28/2018	
90 CEDAR STREET	2132		02/28/2018	0.00
SAN FRANCISCO	BOA	52397	02/28/2018	0.00
CA 94109				1,000.00

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4205	C&D Deposit	1,000.00	0.00

Check No.	52397	Total:	1,000.00
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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province	Zip/Postal	Invoice Number		Check Amount

Total for	CLAYTON TIMBRELL & CO	1,000.00
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CLEANSTREET	January Litter/Street Clean	19489	02/28/2018	
			02/28/2018	
1937 W. 169TH STREET	0034		02/28/2018	0.00
GARDENA	BOA	52398	02/28/2018	0.00
CA 90247-5254	89231			1,652.56

GL Number	Description	Invoice Amount	Amount Relieved
05-66-4342	Landscape Supplies & Services	74.00	0.00
20-60-4266	Litter Clean Up Program	680.62	0.00
22-60-4266	Litter Clean Up Program	897.94	0.00

Check No.	52398	Total:	1,652.56
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Total for	CLEANSTREET	1,652.56
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COBALT CONSTRUCTION CO.	Refund Deposit, 501 Portola 3A	19487	02/28/2018	
	Permit #BLDR0325-2017		02/28/2018	
105 SERRA WAY #196	0699		02/28/2018	0.00
MILPITAS	BOA	52399	02/28/2018	0.00
CA 95035				1,000.00

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4205	C&D Deposit	1,000.00	0.00

Check No.	52399	Total:	1,000.00
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Total for	COBALT CONSTRUCTION CO.	1,000.00
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ECONO TREE SERVICE	ROW Tree Removal	19491	02/28/2018	
			02/28/2018	
1914 SPRING STREET	1252		02/28/2018	0.00
REDWOOD CITY	BOA	52400	02/28/2018	0.00
CA 94063	339891			1,900.00

GL Number	Description	Invoice Amount	Amount Relieved
20-60-4264	ROW Tree Trimming & Mowing	1,900.00	0.00

Check No.	52400	Total:	1,900.00
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Total for	ECONO TREE SERVICE	1,900.00
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EXPRESS PLUMBING-EPS, INC.	Hydroflush Sewer/Storm Drain	19495	02/28/2018	
			02/28/2018	
307 N. AMPHLETT BLVD.	0745		02/28/2018	0.00
SAN MATEO	BOA	52401	02/28/2018	0.00
CA 94401	22095			450.00

GL Number	Description	Invoice Amount	Amount Relieved
20-60-4260	Public Road Surface & Drainage	450.00	0.00

Check No.	52401	Total:	450.00
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Total for	EXPRESS PLUMBING-EPS, INC.	450.00
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Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

JEANNIE GOLDMAN	Instructor Fees - Winter 2018	19462	02/28/2018	
			02/28/2018	
741 MANZANITA ROAD	706		02/28/2018	0.00
WOODSIDE	BOA	52402	02/28/2018	0.00
CA 94062				18,303.00

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4246	Instructors & Class Refunds	18,303.00	0.00

Check No.	52402	Total:	18,303.00
Total for	JEANNIE GOLDMAN		18,303.00

ICC PENINSULA CHAPTER	Energy Storage Systems Seminar	19478	02/28/2018	
C/O Christy Manzeck, 4LEAF Inc	Keith Weiner		02/28/2018	
2126 RHEEM DRIVE	0345		02/28/2018	0.00
PLEASANTON	BOA	52403	02/28/2018	0.00
CA 94588				50.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4326	Education & Training	50.00	0.00

Check No.	52403	Total:	50.00
Total for	ICC PENINSULA CHAPTER		50.00

J.W. ENTERPRISES	Portable Lavs, 2/15/18-3/14/18	19485	02/28/2018	
			02/28/2018	
1689 MORSE AVE	829		02/28/2018	0.00
VENTURA	BOA	52404	02/28/2018	0.00
CA 93003	206370			242.40

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4244	Portable Lavatories	242.40	0.00

Check No.	52404	Total:	242.40
Total for	J.W. ENTERPRISES		242.40

JORGENSON SIEGEL MCCLURE & FLEGEL	January Statement	19481	02/28/2018	
			02/28/2018	
1100 ALMA STREET	0089		02/28/2018	0.00
MENLO PARK	BOA	52405	02/28/2018	0.00
CA 94025				22,615.00

GL Number	Description	Invoice Amount	Amount Relieved
05-54-4182	Town Attorney	21,250.00	0.00
96-54-4186	Attorney - Charges to Appls	1,365.00	0.00

Check No.	52405	Total:	22,615.00
Total for	JORGENSON SIEGEL MCCLURE &		22,615.00

LUCILLE KALMAN	Instructor Fees - Winter 2018	19463	02/28/2018	
			02/28/2018	
245 OLD SPANISH TRAIL	1082		02/28/2018	0.00
PORTOLA VALLEY	BOA	52406	02/28/2018	0.00
CA 94028				2,592.00

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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4246	Instructors & Class Refunds	2,592.00	0.00

Check No.	52406	Total:	2,592.00
Total for	LUCILLE KALMAN		2,592.00

KIPP & KIPP DBA POLYMENDERS	Repair PlayGround Slide	19498	02/28/2018	
		00006521	02/28/2018	
3229 ELKHORN BLVD. #10	0767		02/28/2018	0.00
NORTH HIGHLANDS	BOA	52407	02/28/2018	0.00
CA 95660	45885			1,265.00

GL Number	Description	Invoice Amount	Amount Relieved
05-58-4240	Parks & Fields Maintenance	1,265.00	1,265.00

Check No.	52407	Total:	1,265.00
Total for	KIPP & KIPP DBA POLYMENDERS		1,265.00

LYNX TECHNOLOGIES, INC	GIS Hosting Fee, Jan	19482	02/28/2018	
			02/28/2018	
1350 41ST AVENUE	0294		02/28/2018	0.00
CAPITOLA	BOA	52408	02/28/2018	0.00
CA 95010	8375			250.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4311	Software & Licensing	250.00	0.00

Check No.	52408	Total:	250.00
Total for	LYNX TECHNOLOGIES, INC		250.00

METROPOLITAN TRANS COMMISSION	P-TAP 19 Local Match	19505	02/28/2018	
			02/28/2018	
P.O. BOX 45788	741		02/28/2018	0.00
SAN FRANCISCO	BOA	52409	02/28/2018	0.00
CA 94145-0788	AR016223			4,800.00

GL Number	Description	Invoice Amount	Amount Relieved
05-68-4503	CIPStreetDesignFutureFY	4,800.00	0.00

Check No.	52409	Total:	4,800.00
Total for	METROPOLITAN TRANS COMMIS!		4,800.00

NCE	16/17 St ReSurf Proj 2017 PW01	19500	02/28/2018	
Nichols Consulting Engineers			02/28/2018	
1885 S. ARLINGTON AVE	0183		02/28/2018	0.00
RENO	BOA	52410	02/28/2018	0.00
NV 89509	424205509			1,612.50

GL Number	Description	Invoice Amount	Amount Relieved
05-68-4544	CIP16/17 Street Resurface	1,612.50	0.00

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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount
NCE	17/18 St. Resurf Proj Street	19501	02/28/2018	
Nichols Consulting Engineers	Selection		02/28/2018	
1885 S. ARLINGTON AVE	0183		02/28/2018	0.00
RENO	BOA	52410	02/28/2018	0.00
NV 89509	424205509			5,282.50

GL Number	Description	Invoice Amount	Amount Relieved
05-68-4582	CIP17/18 Street Resurface	5,282.50	0.00

NCE	16/17 St. Resur Proj 2017 PW01	19502	02/28/2018	
Nichols Consulting Engineers			02/28/2018	
1885 S. ARLINGTON AVE	0183		02/28/2018	0.00
RENO	BOA	52410	02/28/2018	0.00
NV 89509	424205508			4,210.32

GL Number	Description	Invoice Amount	Amount Relieved
05-68-4544	CIP16/17 Street Resurface	4,210.32	0.00

NCE	17/18 St Resurf Proj Street	19503	02/28/2018	
Nichols Consulting Engineers	Selection Process		02/28/2018	
1885 S. ARLINGTON AVE	0183		02/28/2018	0.00
RENO	BOA	52410	02/28/2018	0.00
NV 89509	424205508			142.50

GL Number	Description	Invoice Amount	Amount Relieved
05-68-4582	CIP17/18 Street Resurface	142.50	0.00

Check No.	52410	Total:	11,247.82
Total for	NCE		11,247.82

NOLTE ASSOCIATES, INC. NV5	Applicant Charges, Carano	19492	02/28/2018	
			02/28/2018	
P.O. BOX 74008680	0104		02/28/2018	0.00
CHICAGO	BOA	52411	02/28/2018	0.00
IL 89193-3243	81357			1,271.94

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4194	Engineer - Charges to Appls	1,271.94	0.00

Check No.	52411	Total:	1,271.94
Total for	NOLTE ASSOCIATES, INC. NV5		1,271.94

ODIN SYSTEMS, INC.	ALPR Project Drawings	19499	02/28/2018	
			02/28/2018	
6642 MERCHANDISE WAY	0757		02/28/2018	0.00
DIAMOND SPRINGS	BOA	52412	02/28/2018	0.00
CA 95619	1466			4,329.00

GL Number	Description	Invoice Amount	Amount Relieved
05-70-4486	CIP16/17 Equipment	4,329.00	0.00

Check No.	52412	Total:	4,329.00
Total for	ODIN SYSTEMS, INC.		4,329.00

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Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount
PERS HEALTH	March Health	19488	02/28/2018	
			02/28/2018	
VIA EFT	0108		02/28/2018	0.00
	BOA	52413	02/28/2018	0.00
				11,926.24

GL Number	Description	Invoice Amount	Amount Relieved
05-50-4086	Health Insurance Medical	11,926.24	0.00
		Check No. 52413	Total: 11,926.24
		Total for PERS HEALTH	11,926.24

PG&E	January Statements	19479	02/28/2018	
			02/28/2018	
BOX 997300	0109		02/28/2018	0.00
SACRAMENTO	BOA	52414	02/28/2018	0.00
CA 95899-7300				1,432.89
GL Number	Description	Invoice Amount	Amount Relieved	
05-64-4330	Utilities	1,432.89	0.00	
		Check No. 52414	Total: 1,432.89	
		Total for PG&E	1,432.89	

PITNEY BOWES INC.	Meter Rental-Postage Replenish	19504	02/28/2018	
			02/28/2018	
PO BOX 371896	0754		02/28/2018	0.00
PITTSBURGH	BOA	52415	02/28/2018	0.00
PA 15250-7896	1006493487			169.65
GL Number	Description	Invoice Amount	Amount Relieved	
05-64-4316	Postage	169.65	0.00	
		Check No. 52415	Total: 169.65	
		Total for PITNEY BOWES INC.	169.65	

CAITLIN REILLY	Dep Refund-Event 1/27/18	19469	02/28/2018	
			02/28/2018	
C/O Summit Prep Charter HS	2131		02/28/2018	0.00
890 BROADWAY	BOA	52416	02/28/2018	0.00
REDWOOD CITY				950.00
CA 94063				
GL Number	Description	Invoice Amount	Amount Relieved	
05-00-2561	Community Hall Deposits	950.00	0.00	
		Check No. 52416	Total: 950.00	
		Total for CAITLIN REILLY	950.00	

RELIABLE FIRE EXTINGUISHER CO	Annual Extinguisher Service, All Buildings/Vehicles	19494	02/28/2018	
			02/28/2018	
P.O. BOX 3461	2028		02/28/2018	0.00
REDWOOD CITY	BOA	52417	02/28/2018	0.00
CA 94064	93805			580.42
GL Number	Description	Invoice Amount	Amount Relieved	

INVOICE APPROVAL LIST REPORT - DETAIL WITH GL DIST

02/28/2018

Date: 02/22/2018

Time: 12:37 pm

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TOWN OF PORTOLA VALLEY

Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

05-66-4341	Community Hall	128.33	0.00	
05-66-4346	Mechanical Sys Maint & Repair	323.76	0.00	
25-66-4346	Mechanical Sys Maint & Repair	128.33	0.00	

Check No.	52417	Total:	580.42
Total for	RELIABLE FIRE EXTINGUISHER C		580.42

ROBERTS MARKET	Kitchen Supplies	19465	02/28/2018	
3015 WOODSIDE ROAD	1236		02/28/2018	0.00
WOODSIDE	BOA	52418	02/28/2018	0.00
CA 94062	13811831			13.29

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4336	Miscellaneous	13.29	0.00

Check No.	52418	Total:	13.29
Total for	ROBERTS MARKET		13.29

RON RAMIES AUTOMOTIVE, INC.	'87 Ford, Repair Vacuum Hose	19493	02/28/2018	
115 PORTOLA ROAD	422		02/28/2018	0.00
PORTOLA VALLEY	BOA	52419	02/28/2018	0.00
CA 94028	57177			225.00

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4334	Vehicle Maintenance	225.00	0.00

Check No.	52419	Total:	225.00
Total for	RON RAMIES AUTOMOTIVE, INC.		225.00

RR DONNELLEY	Letterhead/Stationery Supplies	19475	02/28/2018	
PO BOX 932721	582		02/28/2018	0.00
CLEVELAND	BOA	52420	02/28/2018	0.00
OH 44193	375626555			210.93

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4308	Office Supplies	210.93	0.00

Check No.	52420	Total:	210.93
Total for	RR DONNELLEY		210.93

SCHWAAB INC	Stamp-Ali Taghavi	19466	02/28/2018	
PO BOX 3128	0120		02/28/2018	0.00
MILWAUKEE	BOA	52421	02/28/2018	0.00
WI 53201-3128	2662270			129.69

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4308	Office Supplies	129.69	0.00

Check No.	52421	Total:	129.69
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INVOICE APPROVAL LIST REPORT - DETAIL WITH GL DIST

02/28/2018

Date: 02/22/2018

Time: 12:37 pm

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TOWN OF PORTOLA VALLEY

Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province	Zip/Postal	Invoice Number		Check Amount

Total for	SCHWAAB INC	129.69
-----------	-------------	--------

SHARP BUSINESS SYSTEMS	January Copies	19467	02/28/2018	
			02/28/2018	
DEPT. LA 21510	0199		02/28/2018	0.00
PASADENA	BOA	52422	02/28/2018	0.00
CA 91185-1510	C972462-541			224.14

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4308	Office Supplies	224.14	0.00

Check No.	52422	Total:	224.14
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Total for	SHARP BUSINESS SYSTEMS	224.14
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SMALL BUSINESS BENEFIT PLAN TR	March Dental & Vision	19468	02/28/2018	
			02/28/2018	
	0132		02/28/2018	0.00
BELMONT	BOA	52423	02/28/2018	0.00
CA 94002-0156				2,483.00

GL Number	Description	Invoice Amount	Amount Relieved
05-50-4090	Health Ins Dental & Vision	2,483.00	0.00

Check No.	52423	Total:	2,483.00
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Total for	SMALL BUSINESS BENEFIT PLAN	2,483.00
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STANDARD INSURANCE CO.	LTD/Life Premium	19480	02/28/2018	
			02/28/2018	
PO BOX 5676	0469		02/28/2018	0.00
PORTLAND	BOA	52424	02/28/2018	0.00
OR 97228				1,892.69

GL Number	Description	Invoice Amount	Amount Relieved
05-50-4091	Long Term Disability Insurance	1,892.69	0.00

Check No.	52424	Total:	1,892.69
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Total for	STANDARD INSURANCE CO.	1,892.69
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STAPLES CREDIT PLAN	Office Supplies, 1/10-2/3/18	19471	02/28/2018	
			02/28/2018	
DEPT. 31 - 0000306219	430		02/28/2018	0.00
PHOENIX	BOA	52425	02/28/2018	0.00
AZ 85062-8004				694.07

GL Number	Description	Invoice Amount	Amount Relieved
05-64-4308	Office Supplies	694.07	0.00

Check No.	52425	Total:	694.07
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Total for	STAPLES CREDIT PLAN	694.07
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INVOICE APPROVAL LIST REPORT - DETAIL WITH GL DIST

02/28/2018

Date: 02/22/2018

Time: 12:37 pm

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TOWN OF PORTOLA VALLEY

Vendor Name	Invoice Description1	Ref No.	Discount Date	
Vendor Name Line 2	Invoice Description2	PO No.	Pay Date	
Vendor Address	Vendor Number		Due Date	Taxes Withheld
City	Bank	Check No.	Check Date	Discount Amount
State/Province Zip/Postal	Invoice Number			Check Amount

LARRY TESLER	Refund Deposit, 351 Grove	19473	02/28/2018	
			02/28/2018	
351 GROVE DRIVE	0765		02/28/2018	0.00
PORTOLA VALLEY	BOA	52426	02/28/2018	0.00
CA 94028				774.48

GL Number	Description	Invoice Amount	Amount Relieved
96-54-4207	Deposit Refunds, Other Charges	774.48	0.00

Check No.	52426	Total:	774.48
Total for	LARRY TESLER		774.48

THE JEAN LANE REVOCABLE TRUST	Refund Deposit, Event 2/10/18	19496	02/28/2018	
Donna Jean Lane Trustee			02/28/2018	
1100 ALMA STREET SUITE #104	0766		02/28/2018	0.00
MENLO PARK	BOA	52427	02/28/2018	0.00
CA 94025				500.00

GL Number	Description	Invoice Amount	Amount Relieved
05-00-2561	Community Hall Deposits	500.00	0.00

Check No.	52427	Total:	500.00
Total for	THE JEAN LANE REVOCABLE TRU		500.00

VIGILANT SOLUTIONS	ALPR, Hardware Installation	19484	02/28/2018	
			02/28/2018	
1152 STEALTH STREET	0735		02/28/2018	0.00
LIVERMORE	BOA	52428	02/28/2018	0.00
CA 94551	14535RI			15,683.80

GL Number	Description	Invoice Amount	Amount Relieved
05-70-4486	CIP16/17 Equipment	15,683.80	0.00

Check No.	52428	Total:	15,683.80
Total for	VIGILANT SOLUTIONS		15,683.80

Total Invoices:	47	Grand Total:	181,040.79
		Less Credit Memos:	0.00
		Net Total:	181,040.79
		Less Hand Check Total:	0.00
		Outstanding Invoice Total:	181,040.79

TOWN OF PORTOLA VALLEY
Warrant Disbursement Journal
February 28, 2018

Claims totaling \$181,040.79 having been duly examined by me and found to be correct are hereby approved and verified by me as due bills against the Town of Portola Valley.

Date _____

Jeremy Dennis, Treasurer

Motion having been duly made and seconded, the above claims are hereby approved and allowed for payment.

Signed and sealed this (Date) _____

Sharon Hanlon, Town Clerk

Mayor

From: webmaster@portolavalley.net [mailto:webmaster@portolavalley.net]
Sent: Thursday, February 08, 2018 10:22 AM
To: Sharon Hanlon <shanlon@portolavalley.net>
Subject: Portola Valley, CA: Committee Application - Geo Safety / Ernst

A new entry to a form/survey has been submitted.

Form Name: Committee Application
Date & Time: 02/08/2018 10:21 AM
Response #: 56
Submitter ID: 3392
IP address:
Time to complete: 8 min. , 19 sec.

Survey Details

Page 1

Committee applications are submitted to Portola Valley's Town Clerk, Sharon Hanlon. Please feel free to forward a letter of interest or resume with your application as well. Sharon can be reached at (650) 851-1700 ex210, or you may email her at shanlon@portolavalley.net.

Name of committee which I am interested in serving on (please note that only committees currently seeking volunteers are listed):

Geologic Safety

Applicant Information

Full Name Wallace Gary Ernst
Email Address
Street Address 1 Sunhill Street
City/Zip Portola Valley, CA 94028
Number of years in 29
Portola Valley
Cell Phone
Home Phone
Other Phone
Emergency Preparedness Not answered

Preferred Phone Contact Number

Other

I prefer to receive Town communications via

E-mail (recommended)

Please state why you have an interest in this committee, and state any background or experience you may have that may be useful in your service to this committee.

As a career geologist, I have mapped and studied terranes and constituent rocks of the California Coast Ranges off and on for more than 40 years. I am familiar with some of the many complexities of this part of California and its seismic and landslide hazards. I would be happy to help shield our community from the deleterious effects of natural hazards.

Do you have any personal or financial interest that could be perceived by others as a conflict of interest relative to your service on the committee? If so, please describe.

no, none

TIME COMMITMENT: Generally committees meet monthly and require a significant time commitment and participation at regular meetings. Please consider this level of commitment when evaluating your interest in serving on one of the Town's Committees.

Form Name: Committee Application
Date & Time: 02/13/2018 11:01 AM
Response #: 58
Submitter ID: 3396
Time to complete: 10 min. , 32 sec.

Survey Details

Page 1

Committee applications are submitted to Portola Valley's Town Clerk, Sharon Hanlon. Please feel free to forward a letter of interest or resume with your application as well. Sharon can be reached at (650) 851-1700 ex210, or you may email her at shanlon@portolavalley.net.

Name of committee which I am interested in serving on (please note that only committees currently seeking volunteers are listed):

(o) Parks & Recreation

Applicant Information

Full Name Shruti Haldea
Email Address
Street Address
City/Zip Portola Valley, CA 94028
Number of years in 4
Portola Valley
Cell Phone
Home Phone
Other Phone Not answered
Emergency Preparedness Not answered

Preferred Phone Contact Number

(o) Cell

I prefer to receive Town communications via

(o) E-mail (recommended)

Please state why you have an interest in this committee, and state any background or experience you may have that may be useful in your service to this committee.

I love the parks of Portola Valley. They are the beautiful backdrop for my children's daily play, and we are grateful for them. I'd simply like to contribute to the team's work to continue to make PV's public spaces inviting and special for our community.

I have experience with project management and fundraising.

Do you have any personal or financial interest that could be perceived by others as a conflict of interest relative to your service on the committee? If so, please describe.

I have no personal or financial conflicts of interest.

TIME COMMITMENT: Generally committees meet monthly and require a significant time commitment and participation at regular meetings. Please consider this level of commitment when evaluating your interest in serving on one of the Town's Committees.

Form Name: Committee Application
Date & Time: 02/08/2018 3:55 PM
Response #: 57
Submitter ID: 3393
Time to complete: 4 min. , 24 sec.

Survey Details

Page 1

Committee applications are submitted to Portola Valley's Town Clerk, Sharon Hanlon. Please feel free to forward a letter of interest or resume with your application as well. Sharon can be reached at (650) 851-1700 ex210, or you may email her at shanlon@portolavalley.net.

Name of committee which I am interested in serving on (please note that only committees currently seeking volunteers are listed):

(o) Parks & Recreation

Applicant Information

Full Name Scott C Taylor
Email Address
Street Address
City/Zip Portola Valley, CA 94028
Number of years in 6
Portola Valley
Cell Phone
Home Phone
Other Phone Not answered
Emergency Preparedness Not answered

Preferred Phone Contact Number

(o) Cell

I prefer to receive Town communications via

(o) E-mail (recommended)

Please state why you have an interest in this committee, and state any background or experience you may have that may be useful in your service to this committee.

I have been a Portola Valley resident since 2012, when I moved here from Palo Alto with my wife and twin boys. One of the most appealing aspects of living in Portola Valley has been the availability and abundance of parks and open space near our home. We regularly utilize the fields (both of sons played AYSO and club soccer on Portola Valley fields), hiking trails (we regularly walking our dog on Windy Hill) and biking trails in and around our town. We also appreciate and enjoy Town Center and the community events that it hosts, in particular the Farmers Market. I am interested in joining this committee because of: my family's use and interest in Portola Valley's parks, a general interest in becoming more engaged in the Portola Valley community, and a specific connection to the committee Co-chair, Stephen Gillett, who is a friend and former colleague.

My background

For the last 10 years I have worked for Symantec Corporation as executive vice president, general counsel and secretary. Symantec is the global leader in cybersecurity and is a publicly traded company with approximately 13,000 employees worldwide. In my role I oversee Symantec's global functions in the following areas: legal, physical and information management security, government affairs, public policy, corporate responsibility, philanthropy and ethics and compliance. I'm also a director on the corporate boards of Piper Jaffray and DigiCert. I hold a juris doctorate from George Washington University, and a bachelor's degree from Stanford University.

Do you have any personal or financial interest that could be perceived by others as a conflict of interest relative to your service on the committee? If so, please describe.

No.

TIME COMMITMENT: Generally committees meet monthly and require a significant time commitment and participation at regular meetings. Please consider this level of commitment when evaluating your interest in serving on one of the Town's Committees.



TOWN OF PORTOLA VALLEY

STAFF REPORT

TO: Mayor and Members of the Town Council

FROM: Starla Jerome-Robinson, Interim Finance Director

DATE: February 28, 2018

RE: Audit and Financial Statements for FYE 6/30/17

RECOMMENDATION

Staff recommends that the Mayor and Town Council review, accept and file the attached Basic Financial Statements and Memorandum on Internal Control (MOIC) for the fiscal year ending June 30, 2017.

BACKGROUND

The Town's independent auditor, Maze & Associates, has completed the Town's Basic Financial Statements for the fiscal year ending June 30, 2017. The Town is required to annually utilize the services of an independent auditor to review and audit the Town's financial records.

DISCUSSION

The audit has been completed on all Town funds and the results are found in the attached reports. We are pleased to report that both documents indicate the auditor's satisfaction that the financial position of the Town's activities, major funds and aggregate remaining fund information has been presented fairly in all material aspects.

An analysis is contained in the Management Discussion and Analysis section of the Basic Financial Statements. Of particular interest to all agencies within the California Public Employees Retirement System (CalPERS) is the increase in the unfunded pension liability. Fortunately, Portola Valley made a significant payment in 2015 of \$907,699 to reduce the Town of Portola Valley's Unfunded Pension Liability in June of 2015. Although the unfunded Pension Liability has grown from \$82,000 on June 30th, 2016 to \$523,000 on June 30th, 2017, the increase would have been much greater without the earlier payment.

One additional note of interest in the FY 2016-17 Fiscal Year is the under expenditure of the General Fund budget compared to the amended budget which totaled \$866,555. The majority of the savings occurred in the Capital Projects budget. Of a total budget of \$837,090 only \$191,930 was spent in FY 2016-17. Due to a timing issue \$350,066 was spent after the fiscal year closed, so must be expensed to the FY 2017-18 General Fund

Budget. Attachment 3 provides a comparison of the amended budget to the final expenditures as of June 30th, 2017 to provide more detail.

At the February 12th meeting, the Finance Committee reviewed the Basic Financial Statements and Memorandum on Internal Control (MOIC) and recommended forwarding these documents to the Town Council for consideration and acceptance.

FISCAL IMPACT

The audit process has no direct financial impact but does result in Basic Financial Statement which clearly present the Town's financial position available to anyone interested.

ATTACHMENT (Use indented numbers)

1. Basic Financial Statements
2. Memorandum of Internal Control
3. General Fund Capital Outlay Amended Budget to Actual

Approved by: Jeremy Dennis, Town Manager

**TOWN OF PORTOLA VALLEY
BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED
JUNE 30, 2017**

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TOWN OF PORTOLA VALLEY
Basic Financial Statements
For the Year Ended June 30, 2017
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TOWN OF PORTOLA VALLEY
Basic Financial Statements
For the Year Ended June 30, 2017
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INDEPENDENT AUDITOR'S REPORT

To the Honorable Members of the Town Council
Town of Portola Valley, California

We have audited the accompanying financial statements of the governmental activities, each major fund, and the aggregate remaining fund information of the Town of Portola Valley, California (Town) as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the Town's basic financial statements as listed in the Table of Contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Town's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Town's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities, each major fund, and the aggregate remaining fund information of the Town as of June 30, 2017, and the respective changes in financial position for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Other Matters***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and other required supplementary information as listed in the Table of Contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Town's basic financial statements as a whole. The Supplemental Information is presented for purposes of additional analysis and is not required parts of the basic financial statements.

The Supplemental Information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Supplemental Information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated January 30, 2018 on our consideration of the Town's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Town's internal control over financial reporting and compliance.

Maze & Associates

Pleasant Hill, California
January 30, 2018

MANAGEMENT'S DISCUSSION AND ANALYSIS

This analysis of the Town of Portola Valley's (Town) financial performance provides an overview of the Town's financial activities for the fiscal year ended June 30, 2017. Please read it in conjunction with the accompanying financial statements.

FINANCIAL HIGHLIGHTS:

- The assets of the Town exceeded its liabilities as of June 30, 2017 to \$45.2 million (or 2.1%) which represents the net position.
- The total liabilities increased 43% to \$2.5 million. The largest impact is to the Net Pension Liability and the net Other Post Employment Benefit (OPEB) liability. The change to the net pension liability is complicated but driven primarily by a reduction in net investment income and accounting for the change in the discount rate in 2015 from 7.5% to 7.65% to account for administrative expenses.
- The Town's net position increased \$923,725 for the year ended June 30, 2017. This increase was due to an under expenditures of the approved budget, particularly in the General Government and Capital Improvements categories.
- One required accounting statement was implemented:
 - Governmental Accounting Standard Board Statement No. 81 (GASB 81) - Irrevocable Split-Interest Agreements

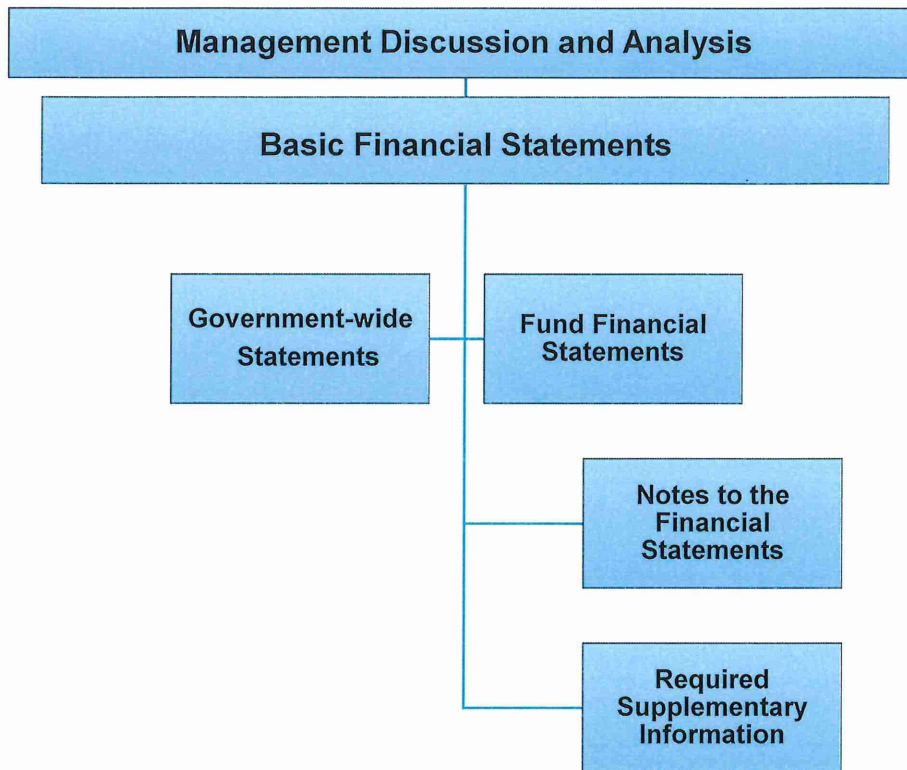
OVERVIEW OF THE FINANCIAL STATEMENTS:

This discussion and analysis serves as an introduction to the Town's basic financial statements that are comprised of three components:

1. Government-Wide Financial Statements - Provides both *short-term and long-term* information about the Town's overall financial status.
2. Fund Financial Statements - Focuses on *individual parts* of the Town's financial information, reporting these operations in *more detail* than the government-wide financial statements.
 - The *governmental funds statements* and the *agency funds statements* tell how basic services such as operations, administration, and restricted funds were financed in the short-term as well as what remains for future spending
3. Notes to Basic Financial Statements – Provides explanation of the information contained in the basic financial statements.

The basic financial statements also include notes that explain some of the information in the statements and provide more detailed data analysis. Figure A-1 shows how the various parts of this annual report are arranged and relate to one another.

Figure A-1
Organization of the Town of Portola Valley's Financial Report



Government-Wide Financial Statements:

The government-wide financial statements present the financial picture of the Town and provide readers with a broad view of the Town's finances. The current year's revenues and expenses are considered, regardless of when cash is received or paid.

The first of the government-wide statements is the *Statement of Net Position*. The *Statement of Net Position* reports the difference between the Town's total assets and total liabilities and includes all the Town's capital assets and all its long-term debt.

Although the *Statement of Net Position* reports a total net position of \$45.2 million, the Town has restrictions over the use of these funds. The investment in land, buildings, and equipment (capital assets, net of related debt) is necessary for the successful operation of the Town. Governmental laws segregate funds and place restrictions on spending. This should be considered when reviewing the report.

The second of the government-wide financial statements is the *Statement of Activities*. This statement shows the result of operations that caused net position to change from the prior year to the amount reported on the *Statement of Net Position* as of June 30, 2017. This statement answers the question, "How did we do financially during fiscal year 2017?" This change in net position is important because it tells the reader whether the financial position has improved or diminished for the Town. The causes of this change may be the result of many factors. To assess the Town's overall health, consideration should be given to additional non-financial factors such as building and land improvements, governmental mandates and staffing levels.

The *Statement of Activities* classifies expenses by functional area. The report also shows corresponding charges for services and restricted grants for each function that help support the expenses. The resulting Net (Expenses) Revenue and Changes in Net Position shows the remaining expenses not supported by charges for services and restricted grants. General revenues are then applied to the remaining expenses resulting in the total change in net position.

Fund Financial Statements:

The fund financial statements provide detailed information about the Town's major funds, defined as funds having significant activities and balances in the current year. Non-major funds are combined in a single column, referenced in the Supplemental section of this report.

Funds are accounting devices used to keep track of specific sources of funding and spending on particular programs. These are not reflective of the Town as a whole. It is important to note that:

- Some funds are required to be established by State law.
- The Town establishes other funds to help it control and manage money for specific purposes or to show that it is meeting legal responsibilities for using certain taxes, grants and other money.

The fund financial statements include statements for governmental funds only. These are considered major funds and include:

- The General Fund – Most of the Town's basic services and financial resources are contained in this fund.
- Open Space Restricted Fund – This fund accounts for monies accrued from special voter-approved utility tax. It is used to support services for open space within the Town.
- Inclusionary-in-Lieu Fund – This fund accounts for fees that can only be used for affordable housing.
- Measure A Fund – This fund accounts for sales revenue that is restricted for the improvement of local transportation and road maintenance services.

The governmental funds statements provide a detailed *short-term* view that helps determine whether there are more or fewer financial resources that can be spent in the near future to finance the Town's programs. Because the focus of governmental funds is narrower than that of the government-wide financial statements, it is useful to compare the information presented for *governmental funds* with similar information presented for *governmental activities* in the government-wide financial statements. Reconciliations are provided for both the governmental funds Balance Sheet and Statement of Revenues, Expenditures, and Changes in fund balances to facilitate this comparison.

With the implementation of GASB-54 in 2011, the usefulness of fund balance information has been enhanced by providing clearer fund balance classifications that can be more consistently applied and by clarifying the existing governmental fund type definitions. In the case of the Town's statements, fund balances within the General Fund that were formerly classified as "designated" by the Council are now reclassified as "assigned" fund balances. In the case of the Town's loan receivable, these have now been reclassified as "non-spendable" fund balance.

Notes to Basic Financial Statements:

The notes provide additional information that is essential to a full understanding of the data provided in the government-wide and fund financial statements.

Required Supplementary Information:

In addition to the basic financial statements, this report also presents certain Required Supplementary Information including the Town's budgetary comparison schedules for the General, Open Space Restricted, Inclusionary-in-Lieu and Road Impact Fee funds.

Other Supplementary Information:

Supplementary schedules concerning balance sheets and changes in fund balances for all other funds are presented immediately following the Required Supplementary Information. Financial activity related to the Town's agency funds (maintenance districts) is also presented separately in this section.

GOVERNMENT-WIDE FINANCIAL ANALYSIS:

Statement of Net Position:

The Town's net position was greater as of June 30, 2017 than the year before, increasing 2.1% from \$44.3 million to \$45.2 million. The following are major components of the Town's net position:

Town of Portola Valley
 Condensed Statement of Net Position

	Fiscal Year Ended		Change	
	6/30/2017	6/30/2016	Amount	Percent
Assets:				
Other Assets	\$ 15,379,677	\$ 13,632,683	\$ 1,746,994	12.8%
Capital Assets, Net	32,173,830	32,501,960	(328,130)	-1.0%
Total Assets	47,553,507	46,134,643	1,418,864	3.1%
Deferred Outflows	728,800	712,052	16,748	2.4%
Liabilities:				
Accounts Payable	1,611,186	1,517,024	94,162	6.2%
Long-term Liabilities	888,291	226,244	662,047	292.6%
Total Liabilities	2,499,477	1,743,268	756,209	43.4%
Deferred Inflows	582,744	827,066	(244,322)	-29.5%
Net Position:				
Invested in Capital Assets,	32,173,830	32,501,960	(328,130)	-1.0%
Restricted	9,067,601	8,159,393	908,208	11.1%
Unrestricted	3,958,655	3,615,008	343,647	9.5%
Total Net Position	\$ 45,200,086	\$ 44,276,361	\$ 923,725	2.1%

The Town's net position of \$45.2 million consists of \$32.2 million net investment in capital assets less \$9.1 million in restricted net assets. Restricted net assets are restricted by State law, municipal code and contractual obligation to be utilized for public works, safety and open space. The Town has \$4.0 million in unrestricted assets that represents funds that are not restricted by law; however, \$2.1 million of these funds remain assigned by the Town for special programs.

The increase in Long-Term Liabilities represents the increases in the Pension Liability and the Other Post-Employment Benefits (contributions to the health insurance for Portola Valley retirees) as well as a small increase in compensated absences.

The Town uses capital assets to provide services to the Town's populace; consequently, these assets are not available for future spending.

Statement of Activities:

The Town's total revenues for 2017 shows \$6.6 million compared to total revenues of \$6.1 million for the previous year. Most revenue sources demonstrated modest variances from prior years, with a few exceptions. The most significant increase is attributable to the Inclusionary-in-lieu revenue of \$580,961 gained from a large subdivision project. Operating Grants and Contributions as well as Capital Grants and Contributions both experienced sharp decreases. Such a decline is not surprising since grants typically fluctuate year to year. Investment earnings grew by 93.1% but interest rates still remain low, resulting in a net increase of \$49,060 increase year over year.

Town of Portola Valley
 Condensed Statement of Activities

	Fiscal Year Ended		Change	
	<u>6/30/2017</u>	<u>6/30/2016</u>	<u>Amount</u>	<u>Percent</u>
Revenues				
Program Revenues:				
Charges for Services	\$ 1,765,760	\$ 1,119,145	\$ 646,615	57.8%
Grants and Contributions	590,323	944,490	(354,167)	-37.5%
General Revenues:				
Property Taxes	2,688,349	2,579,728	108,621	4.2%
Agency Revenues	303,945	349,491	(45,546)	-13.0%
Franchise Fees	276,916	258,384	18,532	7.2%
Utility Users Tax	899,490	817,193	82,297	10.1%
Investment Earnings	101,732	52,672	49,060	93.1%
Miscellaneous	12,080	23,680	(11,600)	-49.0%
Total Revenues	<u>6,638,595</u>	<u>6,144,783</u>	<u>493,812</u>	<u>8.0%</u>
Expenses:				
General Government	3,250,369	2,849,022	401,347	14.1%
Parks and Recreation	282,457	270,295	12,162	4.5%
Town Center Facilities	641,538	603,832	37,706	6.2%
Public Safety	1,012,708	981,043	31,665	3.2%
Public Works	527,798	483,073	44,725	9.3%
Capital Improvement Program	-	-	-	0.0%
Miscellaneous Expenses	-	-	-	0.0%
Total Expenses	<u>5,714,870</u>	<u>5,187,265</u>	<u>527,605</u>	<u>10.2%</u>
Change in Net Assets	923,725	957,518	(33,793)	-3.5%
Net Position - Beginning	44,276,361	43,318,843	957,518	2.2%
Net Position - Ending	<u>\$ 45,200,086</u>	<u>\$ 44,276,361</u>	<u>\$ 923,725</u>	<u>2.1%</u>

Other Observations for 2017:

- General Government expenses increased by 14.1% due to the increases in long-term liabilities, accounts payable and customer deposits.
- Town Center Facilities expenses increased by 6.2% due to increased need for the Community Hall services, repairs and maintenance.
- Public Works expenses increased by 9.3% due primarily to Trail Surface Rehabilitation and emergency and storm damage repairs.

FUND FINANCIAL STATEMENT ANALYSIS

As the Town completed the year, its governmental funds (General Fund, Open Space Restricted Fund, Inclusionary-in-Lieu Fund, Measure A Fund, and Other Governmental Funds) reported combined fund balances of \$13.8, an increase of \$1.6 million from last year's ending fund balances of \$12.2 million. This \$1.6 million increase is attributable to two key causes: Expenditures in the General Fund were \$916,550 less than budgeted, and the Inclusionary-in-Lieu fund received a \$580,000 one-time payment from a subdivision project.

The following assigned fund balances can be used for their specific purposes within the General Fund; however, these funds can be reassigned at the Council's discretion. These assignments are consistent with prior years:

- Assigned for unfunded pension reserve \$47,773
- Assigned for equipment replacement 200,000
- Assigned for emergency capital reserve 1,400,000
- Assigned for OPEB 308,280
- Assigned for other purposes 100,000

The remaining \$9.1 million in restricted funds can only be used for projects within the intended purpose of the funds.

Additional detail on specific fund balances can be found in Note 6.

Fund Budgetary Highlights:

The overall General Fund adopted budget, in total, remained the same in fiscal year 2017, with the exception of an appropriation for Automated License Plate Reader of \$265,000 in the spring.

Anticipated revenues for the General Fund for 2017 totaled \$5.1 million while actual revenues equaled \$5.08 million. Increases were realized in Utility User's Tax at \$98,571, Licenses and Permits at \$85,572 and Parks and Recreation at \$36,143. However, a few revenues were under budget. As an example, Business License tax was \$28,098 less than budgeted, and Service Charges and Fees were \$31,060 less than budgeted.

General Fund expenditures budgeted for 2017 totaled \$5.3 million while *actual* expenditures equaled \$4.36 million, a difference of \$866,555. The variance is mainly attributable to salary and benefit savings from staff vacancies, staff turnover and measured progress on capital improvement needs.

- General government expenditures were \$203,080 less than budgeted due to changes in personnel. While there were salary savings, the loss of employees impacts the ability to complete work in a timely manner.
- Capital improvement expenditures were \$645,158 lower than budget due to the effort to complete prior year projects, as well as planning current and future year projects and a delay in the acquisition of the Automated License Plate Readers.

CAPITAL ASSET AND DEBT ADMINISTRATION

Capital Assets:

As of the end of fiscal year 2017, the Town had invested \$32.2 million in a broad range of capital assets including buildings, land and technology upgrades. The Town increased its gross capital assets by \$500,834 during 2017. Total depreciation expense for the year was \$828,964. Depreciation expense is allocated to the fund and category in which the capital asset has been recorded. The Ford Field renovation and the SMTA Road project were converted from construction in progress to capital assets.

Additional information on the Town's capital assets can be found in Note 3.

Condensed Statement of Capital Assets

	Fiscal Year Ended		Change	
	<u>6/30/2017</u>	<u>6/30/2016</u>	<u>Amount</u>	<u>Percent</u>
Land	\$ 6,690,959	\$ 6,690,959	\$ -	0%
Construction in Progress	87,355	520,729	(433,374)	
Infrastructure	9,532,358	9,118,228	414,130	5%
Land Improvements	3,101,941	2,627,145	474,796	18%
Buildings & Improvements	19,805,194	19,805,194	-	0%
Equipment	<u>404,771</u>	<u>359,489</u>	<u>45,282</u>	13%
 Total Capital Assets	 39,622,578	 39,121,744	 500,834	 1%
 Accumulated Depreciation	 <u>(7,448,748)</u>	 <u>(6,619,784)</u>	 <u>(828,964)</u>	 13%
 Total Net Capital Assets	 <u>\$32,173,830</u>	 <u>\$32,501,960</u>	 <u>\$(328,130)</u>	 -1%

Long-Term Debt:

The Town's long term liabilities include \$523,840 Net Pension Liability and \$281,102 Net OPEB obligation, with no new debt incurred during the fiscal year.

ECONOMIC FACTORS AND NEXT YEAR'S BUDGET:

The factors that most significantly impact the Town and its budget are driven by property values, building activity, and labor costs. The local real estate market and housing demand in the region remained steady. These two factors directly impact property taxes, which are the Town's largest revenue source.

The Town recognizes its contractual obligations to employees for vacation and benefits payable. As of June 30, 2017, the Town had accumulated obligations totaling \$83,349 for unpaid vacation leave. Funding for this liability has not occurred since it is not payable currently. The annual expected payout of vacation leave is reflected in the current operating budget of the General Fund. The Town provides post-employment benefits other than pensions such as health insurance to their retirees. The beginning fiscal year 2017 net OPEB obligation was \$143,755 and the ending obligation was \$281,102, an increase of \$137,347. Although the Town contributed \$21,504 to the OPEB Trust and additional adjustments of \$7,828 and \$13,203 of implicit subsidy were accounted, the combined total was less than the \$169,969 Annual Required Contribution (ARC) resulting in a \$137,347 increase in the ending obligation.

During Fiscal Year 2017, the Town implemented GASB 81, which enhances the comparability of financial statements among governments by requiring measurement of certain assets and liabilities at fair value using a consistent and more detailed definition of fair value and accepted valuation techniques.

CONTACTING THE TOWN'S FINANCIAL MANAGEMENT:

This financial report is designed to provide our citizens, taxpayers, customers, investors, and creditors with a general overview of the Town's finances and to show the Town's accountability for the money it receives. If you have questions about this report or would like additional financial information, please contact the Town of Portola Valley, 765 Portola Road, Portola Valley, California 94028.

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TOWN OF PORTOLA VALLEY**STATEMENT OF NET POSITION
AND STATEMENT OF ACTIVITIES**

The purpose of the Statement of Net Position and the Statement of Activities is to summarize the Town's entire financial activities and financial position. They are prepared on the same basis as is used by most businesses, which means they include all the Town's assets, liabilities and deferred inflows/outflows, as well as all its revenues and expenses. This is known as the full accrual basis—the effect of all the Town's transactions is taken into account, regardless of whether or when cash changes hands, but all material internal transactions between Town funds have been eliminated.

The Statement of Net Position reports the difference between the Town's total assets and deferred outflows of resources, if any; and the Town's total liabilities and deferred inflows of resources, if any, including all the Town's capital assets and all its long-term debt.

The Statement of Net Position summarizes the financial position of all of the Town's Governmental Activities in a single column.

The Town's Governmental Activities include the activities of its General Fund along with all its Special Revenue Funds and Capital Projects Funds.

The Statement of Activities reports increases and decreases in the Town's net position. It is also prepared on the full accrual basis, which means it includes all the Town's revenues and all its expenses, regardless of when cash changes hands. This differs from the "modified accrual" basis used in the Fund financial statements, which reflect only current assets, current liabilities, available revenues and measurable expenditures.

The Statement of Activities presents the Town's expenses first, listed by program. Program revenues—that is, revenues which are generated directly by these programs—are then deducted from program expenses to arrive at the net expense of each governmental program. The Town's general revenues are then listed in the Governmental Activities column and the Change in Net Position is computed and reconciled with the Statement of Net Position.

TOWN OF PORTOLA VALLEY
STATEMENT OF NET POSITION
JUNE 30, 2017

	Governmental Activities
ASSETS	
Cash and investments (Note 2)	\$13,931,599
Restricted cash - customer deposits (Note 2)	1,028,747
Accounts and interest receivable	381,748
Loans receivable (Note 5)	37,583
Capital assets, net (Note 3)	
Nondepreciable	6,778,314
Depreciable, net of accumulated depreciation	25,395,516
Total Assets	47,553,507
DEFERRED OUTFLOWS OF RESOURCES	
Related to pensions (Note 7)	728,800
LIABILITIES	
Current liabilities:	
Accounts payable	573,690
Refundable customer deposits	1,037,496
Non-current liabilities:	
Accrued compensated absences (Note 1G)	83,349
Net Pension Liability (Note 7)	523,840
Net OPEB obligation (Note 8)	281,102
Total Liabilities	2,499,477
DEFERRED INFLOWS OF RESOURCES	
Related to pensions (Note 7)	582,744
NET POSITION (Note 6)	
Net investment in capital assets	32,173,830
Restricted for:	
Special Revenue Projects	9,034,651
Capital Projects	32,950
Unrestricted	3,958,655
Total Net Position	\$45,200,086

See accompanying notes to financial statements

TOWN OF PORTOLA VALLEY
STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2017

Functions/Programs	Operating Expenses	Program Revenues		Net (Expense) Revenue	
		Charges for Services	Operating Grants and Contributions		Capital Grants and Contributions
Governmental Activities:					
General government	\$3,250,369	\$1,443,219		\$3,364	(\$1,803,786)
Parks and recreation	282,457	100,821			(181,636)
Town center facilities	641,538	221,720			(419,818)
Public safety	1,012,708		\$146,535		(866,173)
Public works	527,798		440,424		(87,374)
Total governmental activities	<u>\$5,714,870</u>	<u>\$1,765,760</u>	<u>\$586,959</u>	<u>\$3,364</u>	<u>(3,358,787)</u>
General Revenues:					
Property Tax Revenues.....					2,688,349
Other Governmental Agencies Revenues.....					303,945
Franchise Fees.....					276,916
Utility User Tax.....					899,490
Investment Earnings.....					101,732
Miscellaneous Revenue.....					12,080
Total general revenues					<u>4,282,512</u>
Change in net position					923,725
Net Position, beginning of year					<u>44,276,361</u>
Net Position, end of year					<u>\$45,200,086</u>

See accompanying notes to financial statements

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FUND FINANCIAL STATEMENTS

The Fund Financial Statements present only individual major funds, while non-major funds are combined in a single column. Major funds are defined generally as having significant activities or balances in the current year.

The funds described below were determined to be Major Funds by the Town in fiscal year 2017. Individual non-major funds may be found in the Supplemental section.

GENERAL FUND

Accounts for all financial resources except those required to be accounted for in another fund.

OPEN SPACE RESTRICTED

Accounts for monies accrued from a special 2% utility tax approved by the voters in 1997, 2001, 2005, 2009 and from private donations. It can be used for the acquisition and support of open space within the Town. Private donations are generally in the form of tax-deductible checks or appreciated securities.

INCLUSIONARY-IN-LIEU

Accounts for the subdivision developer's fee, payable by fee or land that can only be used for affordable housing.

MEASURE A

Accounts for the half-cent County sales tax revenue restricted for the improvement of local transportation, including streets and roads for the recovery of road repair costs from building permit applicants due to road wear and tear from construction vehicles.

TOWN OF PORTOLA VALLEY
GOVERNMENTAL FUNDS
BALANCE SHEET
JUNE 30, 2017

	<u>General</u>	<u>Open Space Restricted</u>	<u>Inclusionary In-Lieu</u>
ASSETS			
Cash and investments (Note 2)	\$4,600,493	\$5,100,359	\$3,500,779
Restricted cash - customer deposits (Note 2)	1,028,747		
Accounts and interest receivable	272,462	59,002	7,219
Due from other funds (Note 4)	59,168		
Loans receivable (Note 5)	37,583		
	<u> </u>	<u> </u>	<u> </u>
Total Assets	<u>\$5,998,453</u>	<u>\$5,159,361</u>	<u>\$3,507,998</u>
LIABILITIES			
Accounts payable	\$188,098	\$7,879	
Refundable deposits	1,037,496		
Due to other funds (Note 4)			
	<u> </u>	<u> </u>	<u> </u>
Total Liabilities	<u>1,225,594</u>	<u>7,879</u>	<u> </u>
FUND BALANCES (Note 6)			
Nonspendable	37,583		
Restricted		5,151,482	\$3,507,998
Assigned	2,056,053		
Unassigned	2,679,223		
	<u> </u>	<u> </u>	<u> </u>
Total Fund Balances	<u>4,772,859</u>	<u>5,151,482</u>	<u>3,507,998</u>
	<u> </u>	<u> </u>	<u> </u>
Total Liabilities and Fund Balances	<u>\$5,998,453</u>	<u>\$5,159,361</u>	<u>\$3,507,998</u>

See accompanying notes to financial statements

<u>Measure A</u>	<u>Other Governmental Funds</u>	<u>Total Governmental Funds</u>
\$248,007	\$481,961	\$13,931,599
		1,028,747
27,906	15,159	381,748
		59,168
		37,583
<u>\$275,913</u>	<u>\$497,120</u>	<u>\$15,438,845</u>
\$274,523	\$103,190	\$573,690
		1,037,496
	59,168	59,168
<u>274,523</u>	<u>162,358</u>	<u>1,670,354</u>
		37,583
1,390	406,731	9,067,601
		2,056,053
	(71,969)	2,607,254
<u>1,390</u>	<u>334,762</u>	<u>13,768,491</u>
<u>\$275,913</u>	<u>\$497,120</u>	<u>\$15,438,845</u>

TOWN OF PORTOLA VALLEY
RECONCILIATION OF THE
GOVERNMENTAL FUNDS BALANCE SHEET
TO THE
STATEMENT OF NET POSITION
JUNE 30, 2017

Fund Balances - Total Governmental Funds **\$13,768,491**

Amounts reported for governmental activities in the statement of net position are different because:

Capital assets used in governmental activities are not financial resources and therefore are not reported in the funds:

Governmental capital assets	\$39,622,578	
Less: accumulated depreciation	<u>(7,448,748)</u>	32,173,830

Retirement contributions and changes in net pension liability subsequent to the measurement date are not recognized on the Fund Balance Sheets and taken into the Statement of Net Position:

Deferred outflows of resources		728,800
Deferred inflows of resources		<u>(582,744)</u>

Long-term liabilities are not due and payable in the current period and therefore are not reported in the funds

Collective net pension liability		(523,840)
Net OPEB obligations		(281,102)
Compensated absences		<u>(83,349)</u>

Net Position of Governmental Activities **\$45,200,086**

See accompanying notes to financial statements

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TOWN OF PORTOLA VALLEY
GOVERNMENTAL FUNDS
STATEMENT OF REVENUES, EXPENDITURES
AND CHANGES IN FUND BALANCE
FOR THE YEAR ENDED JUNE 30, 2017

	General Fund	Open Space Restricted	Inclusionary In-Lieu
REVENUES			
Taxes			
Property taxes	\$2,688,349		
Sales tax	208,498		
Utility users tax	622,722	\$276,768	
Gas tax			
Business license tax and other taxes	73,902		
Total taxes	3,593,471	276,768	
Agency revenues	8,864		
Grants			
Contributions		3,364	
Franchise fees	276,916		
Licenses and permits	673,572		
Service charges and fees	159,805		\$580,961
Parks and recreation	314,009		
Investment and other revenues	51,841	37,841	25,551
Total Revenues	5,078,478	317,973	606,512
EXPENDITURES			
General government	2,873,780		
Parks and recreation	250,967		
Town center facilities	133,252		
Public safety	897,079		
Public works	14,096		
Capital improvement program	191,932	14,541	
Total Expenditures	4,361,106	14,541	
NET CHANGE IN FUND BALANCES	717,372	303,432	606,512
FUND BALANCES, BEGINNING OF YEAR	4,055,487	4,848,050	2,901,486
FUND BALANCES, END OF YEAR	\$4,772,859	\$5,151,482	\$3,507,998

See accompanying notes to financial statements

<u>Measure A</u>	<u>Other Governmental Funds</u>	<u>Total Governmental Funds</u>
		\$2,688,349
\$274,575	\$15,502	498,575
		899,490
	97,383	97,383
		73,902
<u>274,575</u>	<u>112,885</u>	<u>4,257,699</u>
	81,147	90,011
	136,033	136,033
		3,364
		276,916
		673,572
	26,469	767,235
		314,009
<u>1,338</u>	<u>3,185</u>	<u>119,756</u>
<u>275,913</u>	<u>359,719</u>	<u>6,638,595</u>
		2,873,780
		250,967
	56,832	190,084
	113,390	1,010,469
	173,685	187,781
<u>274,523</u>	<u>59,176</u>	<u>540,172</u>
<u>274,523</u>	<u>403,083</u>	<u>5,053,253</u>
1,390	(43,364)	1,585,342
	378,126	12,183,149
<u>\$1,390</u>	<u>\$334,762</u>	<u>\$13,768,491</u>

TOWN OF PORTOLA VALLEY
RECONCILIATION OF THE
STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES
IN THE FUND BALANCE OF GOVERNMENTAL FUNDS TO THE
STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2017

Net Change in Fund Balances - Total Governmental Funds \$1,585,342

Amounts reported for governmental activities in the statement of net position are different because:

Capital outlay is an expenditure in the government funds financial statement, but the cost of those assets is allocated over their estimated useful lives as depreciation expense in the statement of activities.

Capital outlay and other capitalized expenditures	\$500,834	
Depreciation expense	<u>(828,964)</u>	(328,130)

The amount below included in the Statement of Activities does not provide or (require) the use of current financial resources and therefore is not reported as revenue or expenditures in governmental funds (net change):

Pension expense		(180,281)
OPEB expense		(137,347)
Net change in compensated absences		<u>(15,859)</u>

Change in Net Position of Governmental Activities \$923,725

See accompanying notes to financial statements

AGENCY FUNDS

Agency funds are used to account for assets held by the Town as an agent for individuals, private organizations, and other governments. The financial activities of these funds are excluded from the Entity – wide financial statements, but are presented in separate Agency Fund financial statements.

TOWN OF PORTOLA VALLEY
AGENCY FUNDS
STATEMENT OF NET POSITION
JUNE 30, 2017

	<u>Agency Funds</u>
ASSETS	
Cash and investments (Note 2)	\$383,814
Accounts and interest receivable	<u>3,284</u>
Total Assets	<u><u>\$387,098</u></u>
 LIABILITIES	
Deposits and accrued liabilities	<u>\$387,098</u>
Total Liabilities	<u><u>\$387,098</u></u>

See accompanying notes to financial statements

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The following is a summary of accounting policies of the Town:

A. Reporting Entity

The Town of Portola Valley (the Town) was incorporated on July 14, 1964 under the laws of the State of California. Portola Valley operates under a Council-Manager form of government. The Town provides a full range of municipal services to its citizens including public safety, culture, recreation, public improvements, planning and zoning, and general administrative support. These financial statements present the financial status of the Town.

B. Basis of Presentation

The Town's Basic Financial Statements are prepared in conformity with accounting principles generally accepted in the United States of America. The Government Accounting Standards Board is the acknowledged standard setting body for establishing accounting and financial reporting standards followed by governmental entities in the U.S.A.

These Statements require that the financial statements described below be presented.

Government-wide Statements: The Statement of Net Position and the Statement of Activities display information about the primary government (the Town). These statements include the financial activities of the overall Town government. Governmental activities generally are financed through taxes, intergovernmental revenues, and other nonexchange transactions.

The Statement of Activities presents a comparison between direct expenses and program revenues for each function of the Town's governmental activities. Direct expenses are those that are specifically associated with a program or function and, therefore, are clearly identifiable to a particular function. Program revenues include (a) charges paid by the recipients of goods or services offered by the programs, (b) grants and contributions that are restricted to meeting the operational needs of a particular program and (c) fees, grants and contributions that are restricted to financing the acquisition or construction of capital assets. Revenues that are not classified as program revenues, including all taxes, are presented as general revenues.

Fund Financial Statements: The fund financial statements provide information about the Town's funds. The emphasis of fund financial statements is on major individual governmental funds, each of which is displayed in a separate column. All remaining governmental funds are aggregated and reported as nonmajor funds.

C. Major Funds

The Town's major governmental funds are presented separately in the fund financial statements. All other funds, called non-major funds, are combined and reported in a single column, regardless of their fund-type.

Major funds are defined as funds that have either assets, liabilities, revenues or expenditures/expenses equal to ten percent of their fund-type total and five percent of the grand total. The General Fund is always a major fund. The Town may also select other funds it believes should be presented as major funds.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

The Town reported the following major governmental funds in the accompanying financial statements:

General Fund is the general operating fund of the Town. It is used to account for all financial resources except those required to be accounted for in another fund.

Open Space Restricted Fund is a major fund of the Town. Through the years, residents and others have raised funds to preserve some 100 acres of open space within the Town's boundaries. Several fund-raising committees have worked at various times to achieve this goal, culminating in today's Open Space Acquisition Fund (PVOSAF). This fund, overseen by the Town Council, is composed of monies accrued from a special 2% utility tax approved by the voters in 1997 and from private donations. Subsequent elections were re-authorizing the increase of the appropriations limits for 4 additional years. It can be used for the acquisition and support of open space within the Town. Private donations are generally in the form of tax-deductible checks or appreciated securities.

Inclusionary-In-Lieu is used to account for the subdivision developer's fee, payable by fee or land that can only be used for affordable housing.

Measure A accounts for the half-cent County sales tax revenue restricted for the improvement of local transportation, including streets and roads for the recovery of road repair costs from building permit applicants due to road wear and tear from construction vehicles.

The Town also reports the following fund types:

Fiduciary Funds - Agency Funds are used to account for assets held by the Town as an agent for individuals, private organizations, and other governments. The financial activities of these funds are excluded from the Government-wide financial statements, but are presented in separate Fiduciary Fund financial statements.

D. Basis of Accounting

The government-wide financial statements are reported using the *economic resources measurement focus* and the full *accrual basis* of accounting. Revenues are recorded when *earned* and expenses are recorded at the time liabilities are *incurred*, regardless of when the related cash flows take place.

Governmental funds financial statements are reported using the *current financial resources* measurement focus and the *modified accrual* basis of accounting. Under this method, revenues are recognized when *measurable* and *available*. The Town considers all revenues reported in the governmental funds to be available if the revenues are collected within 45 to 60 days after year-end. Expenditures are recorded when the related fund liability is incurred, except for principal and interest on general long-term debt, claims and judgments, and compensated absences, which are recognized as expenditures to the extent they have matured. Governmental capital asset acquisitions are reported as *expenditures* in governmental funds. Proceeds of governmental long-term debt and acquisitions under capital leases are reported as *other financing sources*.

Those revenues susceptible to accrual are property tax, sales tax, utility user tax, interest revenue and franchise fees. Fines, licenses and permits are not susceptible to accrual because they are not measurable until received in cash.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Non-exchange transactions, in which the Town gives or receives value without directly receiving or giving equal value in exchange, include taxes, grants, entitlements, and donations. On the accrual basis, revenue from property taxes is recognized in the fiscal year for which the taxes are levied or assessed. Revenue from grants, entitlements, and donations is recognized in the fiscal year in which all eligibility requirements have been satisfied.

The Town may fund programs with a combination of cost-reimbursement grants and general revenues. Thus, both restricted and unrestricted net position may be available to finance program expenditures. The Town's policy is to first apply restricted grant resources to such programs, followed by general revenues if necessary.

Certain indirect costs are included in program expenses reported for individual functions and activities.

E. Property Taxes

County tax assessments include secured and unsecured property taxes. Unsecured taxes are taxes on personal property. Tax assessments are secured by liens on the property being taxed. The County makes annual adjustments as needed to current year revenues based on true-ups and prior year tax roll corrections to special districts related to Tax Equity Allocations.

Revenue is recognized in the period for which the tax and assessment is levied. The County of San Mateo levies, bills and collects property taxes for the Town. The County remits the entire amount levied and handles all delinquencies, retaining interest and penalties.

Secured and unsecured property taxes are levied on January 1. Secured property tax is due in two installments, on November 1 and February 1, and becomes a lien on those dates. It becomes delinquent on December 10 and April 10, respectively. Unsecured property tax is due on July 1 and becomes delinquent on August 31.

F. Implementation of Governmental Accounting Standards Board Statements

Management adopted the provisions of the following Governmental Accounting Standards Board (GASB) Statement, which became effective during the year ended June 30, 2017.

GASB Statement No. 82 - The objective of this Statement is to address certain issues that have been raised with respect to Statements No. 67, *Financial Reporting for Pension Plans*, No. 68, *Accounting and Financial Reporting for Pensions*, and No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*. Specifically, this Statement addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

G. *Compensated Absences*

Compensated absences represent the vested portion of accumulated vacation, compensation time and overtime. Upon termination, 100% of vacation leave will be paid. The Town records a liability for unpaid compensated absences.

The changes of the compensated absences are as follows:

Beginning balance	\$67,490
Additions	81,019
Payments	<u>(65,160)</u>
Ending balance	<u><u>\$83,349</u></u>

Accumulated sick leave benefits are not recognized as liabilities of the Town. The Town's policy is to record sick leave as an operation expense in the period taken since such benefits do not vest nor is payment probable.

For all governmental funds, amounts that have matured are recorded as fund liabilities; the long-term portion is recorded in the Statement of Net Position.

Compensated absences are liquidated by the fund that has recorded the liability. The long-term portion of governmental activities compensated absences is liquidated primarily by the General Fund.

H. *Deferred Compensation Plan*

Town employees may defer a portion of their compensation under Town sponsored Deferred Compensation Plans created in accordance with Internal Revenue Code Section 457. Under these plans, participants are not taxed on the deferred portion of their compensation until distributed to them; distributions may be made only at termination, retirement, death or in an emergency as defined by the Plans.

The laws governing deferred compensation plan assets required them to be held by a Trust for the exclusive benefit of plan participants and their beneficiaries. Since the assets held under these plans are not the Town's property and are not subject to the Town control, they have been excluded from these financial statements.

I. *Expenditures in Excess of Budget*

The funds below incurred expenditures in excess of their budgets in the amounts below for the year ended June 30, 2017:

Library Special Revenue Fund	\$15,332
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TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

J. Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

K. Deferred Outflows/Inflows of Resources

In addition to assets, the statement of net position or balance sheet will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, *deferred outflows of resources*, represents a consumption of net position or fund balance that applies to a future period(s) and so will *not* be recognized as an outflow of resources (expense/expenditure) until then.

In addition to liabilities, the statement of net position or balance sheet will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, *deferred inflows of resources*, represents an acquisition of net position or fund balance that applies to a future period(s) and so will *not* be recognized as an inflow of resources (revenue) until that time.

L. Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Town categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels based on the extent to which inputs used in measuring fair value are observable in the market.

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are inputs – other than quoted prices included within level 1 – that are observable for an asset or liability, either directly or indirectly.

Level 3 inputs are unobservable inputs for an asset or liability.

If the fair value of an asset or liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 2 - CASH AND INVESTMENTS

The Town pools cash from all sources and all funds so that it can be invested at the maximum yield consistent with safety and liquidity, while individual funds can make expenditures at any time.

A. Policies

California Law requires banks and savings and loan institutions to pledge government securities with a market value of 110% of the Town's cash on deposit or first trust deed mortgage notes with a market value of 150% of the deposit, as collateral for these deposits. Under California Law this collateral is held in a separate investment pool by another institution in the Town's name and places the Town ahead of general creditors of the institution.

The Town's investments are carried at fair value, as required by the generally accepted accounting principles. The Town adjusts the carrying value of its investments to reflect their fair value at each fiscal year end, and it includes the effects of these adjustments in income for that fiscal year.

B. Classification

Cash and investments are classified in the financial statements as follows:

Statement of Net Position:

Cash and investments	\$13,931,599
Restricted cash and investments	<u>1,028,747</u>
Cash and investments of the Town	14,960,346
Cash and investments in Fiduciary Funds (separate statement)	<u>383,814</u>
Total cash and investments	<u><u>\$15,344,160</u></u>

C. Investments Authorized by the California Government Code and the Town's Investment Policy

The Town's Investment Policy and the California Government Code allow the Town to invest in the following, provided the credit ratings of the issuers are acceptable to the Town; and approved percentages and maturities are not exceeded.

Authorized Investment Type	Maximum Maturity	Maximum Percentage of Portfolio	Maximum Investment In One Issuer
U.S. Treasury Obligations	5 years	None	None
Negotiable Certificates of Deposits	5 years	30%	None
County Pooled Investment Funds	N/A	None	None
Joint Powers Authority Pool	N/A	None	None
California Local Agency Investment Fund	N/A	None	\$40 million

The Town does not enter into repurchase or reverse repurchase agreements.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 2 - CASH AND INVESTMENTS (Continued)

D. Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Normally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates will be.

Information on the fair values of the Town's cash and investments at June 30, 2017, is provided by the following table:

	Cash and Investments	Restricted Cash and Investments	Total
California Local Agency Investment Fund	\$12,965,546	\$1,028,747	\$13,994,293
Cash in Bank - Checking Account	1,348,367		1,348,367
Cash on Hand	1,500		1,500
Total cash and investments	\$14,315,413	\$1,028,747	\$15,344,160

The Town is a participant in the Local Agency Investment Fund (LAIF) that is regulated by California Government Code Section 16429 under the oversight of the Treasurer of the State of California. The Town reports its investment in LAIF at the fair value amount provided by LAIF. The balance is available for withdrawal on demand, and is based on the accounting records maintained by LAIF, which are recorded on an amortized cost basis. Included in LAIF's investment portfolio are collateralized mortgage obligation, mortgage-backed securities, other asset-backed securities, loans to certain state funds, and floating rate securities issued by federal agencies, government-sponsored enterprises, and corporations. At June 30, 2017, these investments matured in an average of 194 days.

E. Fair Value Hierarchy

The Town categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure fair value of the assets. Level 1 inputs are quoted prices in an active market for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The California Local Agency Investment Fund is reported at amortized cost, and is not subject to the fair value reporting requirements. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by our custodian bank.

F. Credit Risk

Credit Risk is the risk that an issuer will not fulfill its obligation to the holder of the investment. The Town invests in the California Local Agency Investment Fund, which is not rated.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 3 - CAPITAL ASSETS

The Town defines capital assets as assets with an initial cost generally of \$5,000 or more and an estimated useful life in excess of two years except for land which is always capitalized and buildings, land improvements and infrastructure which have a \$25,000 capitalization threshold.

All capital assets are valued at historical cost or estimated historical cost if actual historical cost is not available. Contributed capital assets are valued at their estimated fair market value on the date contributed.

The Town is required to record all its public domain (infrastructure) capital assets. The Town has elected to prospectively record its infrastructure placed into service beginning in fiscal year 2004, including roads, curbs and gutters, streets, trails, paths and drainage systems.

All capital assets with limited useful lives are depreciated over their estimated useful lives. The purpose of depreciation is to spread the cost of capital assets equitably among all users over the life of these assets. The amount charged to depreciation expense each year represents that year's pro rata share of the cost of capital assets.

Depreciation is provided using the straight line method which means the cost of the asset is divided by its expected useful life in years and the result is charged to expense each year until the asset is fully depreciated. The Town has assigned the useful lives listed below to capital assets:

<u>Asset Class</u>	<u>Useful Lives</u>
Infrastructure	20 - 50 years
Improvements other than Buildings	35 years
Buildings and Improvements	20 - 50 years
Equipment	5 - 20 years
Infrastructure - Slurry Seal	5 years

Major outlays for capital assets and improvements are capitalized as projects are constructed. Interest incurred during the construction phase is reflected in the capitalized value of the asset constructed, net of interest earned on the invested proceeds over the same period.

TOWN OF PORTOLA VALLEY NOTES TO BASIC FINANCIAL STATEMENTS For the Year Ended June 30, 2017
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NOTE 3 - CAPITAL ASSETS (Continued)
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A. Capital Asset Additions and Retirements

Capital asset activity during the fiscal year ended June 30, 2017 was as follows:

	<u>Balance</u> <u>June 30, 2016</u>	<u>Additions</u>	<u>Transfers</u>	<u>Balance</u> <u>June 30, 2017</u>
Governmental Activities				
Capital assets not being depreciated:				
Land	\$6,690,959			\$6,690,959
Construction in Progress	520,729	\$39,287	(\$472,661)	87,355
Total capital assets not being depreciated	<u>7,211,688</u>	<u>39,287</u>	<u>(472,661)</u>	<u>6,778,314</u>
Capital assets being depreciated:				
Infrastructure	9,118,228	414,130		9,532,358
Land improvements	2,627,145	2,135	472,661	3,101,941
Buildings and improvements	19,805,194			19,805,194
Equipment	359,489	45,282		404,771
Total capital assets being depreciated	<u>31,910,056</u>	<u>461,547</u>	<u>472,661</u>	<u>32,844,264</u>
Less accumulated depreciation for:				
Infrastructure	(2,524,159)	(340,018)		(2,864,177)
Land improvements	(895,697)	(73,779)		(969,476)
Buildings and improvements	(2,960,550)	(396,104)		(3,356,654)
Equipment	(239,378)	(19,063)		(258,441)
Total accumulated depreciation	<u>(6,619,784)</u>	<u>(828,964)</u>		<u>(7,448,748)</u>
Total depreciable assets, net	<u>25,290,272</u>	<u>(367,417)</u>	<u>472,661</u>	<u>25,395,516</u>
Capital assets, net	<u>\$32,501,960</u>	<u>(\$328,130)</u>		<u>\$32,173,830</u>

B. Depreciation Allocation

Depreciation expense is charged to functions and programs based on their usage of the related assets. The amounts allocated to each function or program is as follows:

Governmental Activities	
General Government	\$3,764
Parks and Recreation	31,490
Town Center Facilities	451,454
Public Safety	2,239
Public Works	340,017
Total Governmental Activities	<u>\$828,964</u>

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 4 - INTERFUND TRANSACTIONS

Current interfund balances arise in the normal course of business and are expected to be repaid shortly after the end of the fiscal year. As of June 30, 2017, the Gas Tax Special Revenue Fund, the Storm Damage Capital Projects Fund, the Public Safety Special Revenue Fund and the Measure M Special Revenue Fund owe the General Fund \$24,857, \$21,290, \$4,320, and \$8,701; respectively.

NOTE 5 – LOANS RECEIVABLE

The Town issued loans to Wayside II Road Maintenance District to maintain the private roads within the Wayside Road area of the Town. The District repays the Town on an annual basis and the interest rate varies in each fiscal year based on quarterly LAIF statements. As of June 30, 2017, the remaining balance of the loans is \$37,583.

NOTE 6 – NET POSITION AND FUND BALANCES

A. Net Position

Net Position is measured on the full accrual basis and is the excess of all the Town's assets and deferred outflows of resources over all its liabilities, and deferred inflows of resources. Net Position is divided into three captions which are determined only at the Government-wide level, and are described below:

Net Investment in Capital Assets describes the portion of Net Position which is represented by the current net book value of the Town's capital assets, less the outstanding balance of any retention payables.

Restricted describes the portion of Net Position which is restricted as to use by the terms and conditions of agreements with outside parties, governmental regulations, laws, or other restrictions which the Town cannot unilaterally alter.

Unrestricted describes the portion of Net Position which is not restricted to use.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 6 – NET POSITION AND FUND BALANCES (Continued)

B. Fund Balances

Governmental fund balances represent the net current assets of each fund. Net current assets generally represent a fund's cash and receivables, less its liabilities.

The Town's fund balances are classified in accordance with Governmental Accounting Standards Board Statement Number 54 (GASB 54), *Fund Balance Reporting and Governmental Fund Type Definitions*, which requires the Town to classify its fund balances based on spending constraints imposed on the use of resources. For programs with multiple funding sources, the Town prioritizes and expends funds in the following order: Restricted, Committed, Assigned, and Unassigned.

Each category in the following hierarchy is ranked according to the degree of spending constraint:

Nonspendable represents balances set aside to indicate items do not represent available, spendable resources even though they are a component of assets. Assets not expected to be converted to cash, such as prepaids and notes receivable are included. However, if proceeds realized from the sale or collection of nonspendable assets are restricted, committed or assigned, then nonspendable amounts are required to be presented as a component of the applicable category.

Restricted fund balances have external restrictions imposed by creditors, grantors, contributors, laws, regulations, or enabling legislation which requires the resources to be used only for a specific purpose. Nonspendable amounts subject to restrictions are included along with spendable resources.

Committed fund balances have constraints imposed by formal action of the Town Council which may be altered only by formal action of the Town Council. Nonspendable amounts subject to council commitments are included along with spendable resources.

Assigned fund balances are amounts constrained by the Town's intent to be used for a specific purpose, but are neither restricted nor committed. Intent is expressed by the Town Council and may be changed at the discretion of the Town Council. This category includes *nonspendables*, when it is the Town's intent to use proceeds or collections for a specific purpose; and residual fund balances, if any, of Special Revenue Funds which have not been restricted or committed.

Unassigned fund balance represents residual amounts that have not been restricted, committed, or assigned. This includes the residual General Fund balance and residual fund deficits, if any, of other governmental funds.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 6 – NET POSITION AND FUND BALANCES (Continued)

Detailed classifications of the Town's fund balances, as of June 30, 2017, are below:

	General Fund	Open Space Restricted Special Revenue Fund	Inclusionary In-lieu Special Revenue Fund	Measure A Special Revenue Fund	Other Governmental Funds	Total
Fund balances:						
Nonspendables:						
Loans receivable	\$37,583					\$37,583
Total nonspendable	37,583					37,583
Restricted for:						
Open space acquisition		\$5,151,482				5,151,482
Public safety COPS					\$60,721	60,721
Library fund					313,060	313,060
Park in-lieu					32,950	32,950
Inclusionary in-lieu			\$3,507,998			3,507,998
Measure A				\$1,390		1,390
Total restricted		5,151,482	3,507,998	1,390	406,731	9,067,601
Assigned to:						
Unfunded pension reserve	47,773					47,773
Equipment replacement	200,000					200,000
Capital replacement/repairs	1,400,000					1,400,000
OPEB	308,280					308,280
Legal contingency	100,000					100,000
Total assigned	2,056,053					2,056,053
Unassigned	2,679,223				(71,969)	2,607,254
Total fund balances	\$4,772,859	\$5,151,482	\$3,507,998	\$1,390	\$334,762	\$13,768,491

C. General Fund Minimum Fund Balance Policy

Town is required to maintain a minimum of 60% of its annual budgeted operating expenditures (excluding capital improvement expenditures) within the General Fund's unrestricted fund balance. This amount is to be calculated annually via the adopted budget for the next fiscal year. The General Fund unrestricted fund at June 30, 2017 is as follows:

Fiscal 2017-18 Adopted Budget General Fund Operating Expenditures	<u>\$4,837,224</u>
Multiplied by 60%:	
Required minimum unrestricted General Fund fund balance	<u>\$2,902,334</u>
General Fund unrestricted fund balance as of June 30, 2017	<u>\$4,735,276</u>

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 6 – NET POSITION AND FUND BALANCES (Continued)

D. Fund Balance Deficit

The fund listed in the table below had fund balance deficit at June 30, 2017. The deficit is expected to be eliminated by future revenues.

<u>Funds</u>	<u>Deficit Balance</u>
Non-Major Governmental Special Revenue Funds:	
Public Safety	(\$1,084)
Gax Tax	(65,652)
Non-Major Governmental Capital Projects Funds:	
Grants	(1,615)
Storm Damage	(21,290)

NOTE 7 - PENSION PLAN

For purposes of measuring the net pension liability and deferred outflows/inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Town's California Public Employees' Retirement System (CalPERS) plans (Plans) and additions to/deductions from the Plans' fiduciary net position have been determined on the same basis as they are reported by CalPERS. For the purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

A. General Information about the Pension Plans

Plan Description – All qualified permanent and probationary employees are eligible to participate in the Town's separate Miscellaneous Employee Pension Rate Plans. The Town's Miscellaneous Rate Plan is part of the public agency cost-sharing multiple-employer defined benefit pension plan (PERF C), which is administered by the California Public Employees' Retirement System (CalPERS). PERF C consists of a miscellaneous pool and a safety pool (also referred to as "risk pools"), which are comprised of individual employer miscellaneous and safety rate plans, respectively. Individual employers may sponsor more than one miscellaneous rate plan. The employer participates in one cost-sharing multiple-employer defined benefit pension plan regardless of the number of rate plans the employer sponsors. The Town sponsors two miscellaneous rate plans. Benefit provisions under the Plan are established by State statute and Town resolution. CalPERS issues publicly available reports that include a full description of the pension plan regarding benefit provisions, assumptions and membership information that can be found on the CalPERS website.

Benefits Provided – CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full time employment. Members with five years of total service are eligible to retire at age 50 with statutorily reduced benefits. All members are eligible for non-duty disability benefits after 10 years of service. The death benefit is one of the following: the Basic Death Benefit, the 1957 Survivor Benefit, or the Optional Settlement 2W Death Benefit. The cost of living adjustments for each plan are applied as specified by the Public Employees' Retirement Law.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 7 – PENSION PLAN (Continued)

The Plans' provisions and benefits in effect at June 30, 2017, are summarized as follows:

	<u>Miscellaneous</u>	
	<u>Classic</u>	<u>PEPRA</u>
Hire date	Prior to January 1, 2013	On or after January 1, 2013
Benefit Formula	2% at 55	2% at 62
Benefit vesting schedule	5 years service	5 years service
Benefit payments	Monthly for life	Monthly for life
Retirement age	55	62
Monthly benefits, as a % of eligible compensation	1.426-2.418%	1.000-2.500%
Required employee contribution rates	6.886%	6.250%
Required employer contribution rates	8.377%	6.555%

Contributions – Section 20814(c) of the California Public Employees' Retirement Law requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. Funding contributions for the Plan are determined annually on an actuarial basis as of June 30 by CalPERS. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The Town is required to contribute the difference between the actuarially determined rate and the contribution rate of employees.

For the year ended June 30, 2017, the Town's contributions to the Plan were as follows:

	<u>Miscellaneous</u>
Contributions - employer	\$116,123
Contributions - employee (paid by employer)	80,846

B. Pension Liabilities, Pension Expenses and Deferred Outflows/Inflows of Resources Related to Pensions

As of June 30, 2017, the Town reported a net pension liability for its proportionate share of the net pension liability of the Plan as follows:

	<u>Proportionate Share of Net Pension Liability</u>
Miscellaneous	\$523,840
Total Net Pension Liability	<u>\$523,840</u>

TOWN OF PORTOLA VALLEY NOTES TO BASIC FINANCIAL STATEMENTS For the Year Ended June 30, 2017
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NOTE 7 – PENSION PLAN (Continued)
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The Town's net pension liability for the Plan is measured as the proportionate share of the net pension liability. The net pension liability of the Plan is measured as of June 30, 2016, and the total pension liability for the Plan used to calculate the net pension liability was determined by an actuarial valuation as of June 30, 2015 rolled forward to June 30, 2016 using standard update procedures. The Town's proportion of the net pension liability was based on a projection of the Town's long-term share of contributions to the pension plan relative to the projected contributions of all participating employers, actuarially determined. The Town's proportionate share of the net pension liability for the Plan as of June 30, 2015 and 2016 was as follows:

	<u>Miscellaneous</u>
Proportion - June 30, 2015	0.00301%
Proportion - June 30, 2016	<u>0.01508%</u>
Change - Increase (Decrease)	<u><u>0.01207%</u></u>

For the year ended June 30, 2017, the Town recognized negative pension expense of \$296,404. At June 30, 2017, the Town reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Pension contributions subsequent to measurement date	\$116,123	
Differences between actual and expected experience	3,194	(\$732)
Changes in assumptions		(30,214)
Change in employer's proportion and differences between the employer's contributions and the employer's proportionate share of contributions	452,231	(551,798)
Change in proportion		
Net differences between projected and actual earnings on plan investments	<u>157,252</u>	
Total	<u><u>\$728,800</u></u>	<u><u>(\$582,744)</u></u>

The \$116,123 reported as deferred outflows of resources related to contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as pension expense as follows:

Year Ended June 30	Annual Amortization
2018	(\$39,602)
2019	(30,503)
2020	59,307
2021	40,731
Thereafter	-

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 7 – PENSION PLAN (Continued)

Actuarial Assumptions – For the measurement period ended June 30, 2016, the total pension liability was determined by rolling forward the June 30, 2015 total pension liability. The June 30, 2016 total pension liability is based on the following actuarial methods and assumptions:

Valuation Date	June 30, 2015
Measurement Date	June 30, 2016
Actuarial Cost Method	Entry-Age Normal Cost Method
Actuarial Assumptions:	
Discount Rate	7.65%
Inflation	2.75%
Salary Increase	Varies by Entry Age and Service
Mortality Rate Table	Derived using CalPERS' Membership Data for all funds
Post Retirement Benefit Increase	Contract COLA up to 2.75% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.75 % thereafter

(1) The mortality table used was developed based on CalPERS' specific data. The table includes 20 years of mortality improvements using Society of Actuaries Scale BB. For more details on this table, please refer to the 2014 experience study report.

All other actuarial assumptions used in the June 30, 2015 valuation were based on the results of a January 2015 actuarial experience study for the period 1997 to 2011. Further details of the Experience Study can be found on the CalPERS website under Forms and Publications.

Discount Rate – The discount rate used to measure the total pension liability was 7.65 percent. To determine whether the municipal bond rate should be used in the calculation of the discount rate for each plan, CalPERS stress tested plans that would most likely result in a discount rate that would be different from the actuarially assumed discount rate. The tests revealed the assets would not run out. Therefore, the current 7.65 percent discount rate is appropriate and the use of the municipal bond rate calculation is not deemed necessary. The long-term expected discount rate of 7.65 percent is applied to all plans in the Public Employees' Retirement Fund (PERF). The cash flows used in the testing were developed assuming that both members and employers will make their required contributions on time and as scheduled in all future years. The stress test results are presented in a detailed report called "GASB Crossover Testing Report" that can be obtained at CalPERS website under the GASB 68 section.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 7 – PENSION PLAN (Continued)

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, staff took into account both short-term and long-term market return expectations as well as the expected pension fund (PERF) cash flows. Taking into account historical returns of all the Public Employees Retirement Funds' asset classes (which includes the agent plan and two cost-sharing plans or PERF A, B, and C funds), expected compound (geometric) returns were calculated over the short-term (first 10 years) and the long-term (11-60 years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each PERF fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equal to the single equivalent rate calculated above and rounded down to the nearest one quarter of one percent.

The table below reflects long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. The target allocation shown was adopted by the Board effective on July 1, 2015.

Asset Class	New Strategic Allocation	Real Return Years 1 - 10(a)	Real Return Years 11+(b)
Global Equity	51.0%	5.25%	5.71%
Global Fixed Income	20.0%	0.99%	2.43%
Inflation Sensitive	6.0%	0.45%	3.36%
Private Equity	10.0%	6.83%	6.95%
Real Estate	10.0%	4.50%	5.13%
Infrastructure and Forestland	2.0%	4.50%	5.09%
Liquidity	1.0%	-0.55%	-1.05%
Total	<u>100%</u>		

(a) An expected inflation of 2.5% used for this period.

(b) An expected inflation of 3.0% used for this period.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 7 – PENSION PLAN (Continued)

Sensitivity of the Proportionate Share of the Net Pension Liability to Changes in the Discount Rate – The following presents the Town’s proportionate share of the net pension liability for the Plan, calculated using the discount rate for the Plan, as well as what the Town’s proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

	<u>Miscellaneous</u>
1% Decrease	6.65%
Net Pension Liability	\$1,381,746
Current Discount Rate	7.65%
Net Pension Liability	\$523,840
1% Increase	8.65%
Net Pension Liability (Asset)	(\$185,177)

Pension Plan Fiduciary Net Position – Detailed information about each pension plan’s fiduciary net position is available in the separately issued CalPERS financial reports.

NOTE 8 – OTHER POSTEMPLOYMENT BENEFITS (OPEB) OBLIGATIONS

A. Plan Description

Permanent employees who retire under the Town’s CalPERS retirement plan are, pursuant to their respective collective bargaining agreements, eligible to have certain portion of their medical insurance premiums paid by the Town.

The Town contracts with CalPERS for this insured-benefit plan established under the state Public Employees’ Medical and Hospital Care Act (PEMHCA). The plan offers employees and retirees three CalPERS’ self-funded options, setup as insurance risk pools, or offers various third-party insured health plans. The plan’s medical benefits and premium rates are established by CalPERS and the insurance providers. The Town contribution is established by Town resolution. Retirees and active employees pay the difference between the premium rate and the Town’s contribution. Premiums and Town contributions are based on the plan and coverage selected by actives and retirees. A comprehensive annual financial report of CalPERS, inclusive of their benefit plans, is available at www.calpers.ca.gov. Eligibility and the Town contributions toward month premiums are as follows:

Eligibility:	
Minimum age before retirement	50
Minimum required years of service:	5
Health Benefit - Employer Contribution	
Monthly Premiums	
BlueShield HMO medical, pharmacy	\$128
Kaiser medical, pharmacy coverage	\$128
PERSChoice medical, pharmacy coverage	\$128

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 8 – OTHER POSTEMPLOYMENT BENEFITS (OPEB) OBLIGATIONS (Continued)

B. Funding Policy

The Town contributes to the plan on a pay-as-you go basis.

C. Annual OPEB Cost and Net OPEB Obligation

The end of the year net OPEB obligation is determined as follows:

Annual required contribution (ARC) and	
Annual OPEB cost	\$169,969
Interest on net OPEB obligation	9,913
Adjustment to annual required contribution	(7,828)
Contributions:	
Town's contribution made	21,504
Implicit subsidy	<u>13,203</u>
(Decrease) increase in net OPEB obligations	137,347
Net OPEB obligation June 30, 2016	<u>143,755</u>
Net OPEB obligation June 30, 2017	<u><u>\$281,102</u></u>

The government's annual OPEB cost, percentage of OPEB cost contributed, and net postemployment benefit obligation for the plan for the fiscal year ended June 30, 2017 is as follows:

Fiscal Year	Annual OPEB Cost	Actual Contribution	Percentage of OPEB Cost	Net OPEB Obligation
6/30/2015	\$54,712	\$5,546	10%	\$98,814
6/30/2016	56,353	12,850	23%	143,755
6/30/2017	172,054	34,707	20%	281,102

D. Funded Status and Funding Progress

As of June 30, 2017, the most recent actuarial valuation date, the funded status of the plan was as follows:

Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (B)	Overfunded (Underfunded) Actuarial Liability (A – B)	Funded Ratio (A/B)	Covered Payroll (C)	Overfunded (Underfunded) Actuarial Liability as Percentage of Covered Payroll [(A – B)/C]
6/30/2013	\$0	\$308,280	(\$308,280)	0.00%	\$1,241,961	(24.82%)
6/30/2015	308,280	929,194	(620,914)	33.18%	1,445,581	(42.95%)

Actuarial valuations for OPEB plans involve estimates of the value of reported amounts and assumptions about the probability of events far into the future. These actuarially determined amounts are subject to continual revisions as actual results are compared to past expectations and new estimates are made about the future.

**TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017**

NOTE 8 – OTHER POSTEMPLOYMENT BENEFITS (OPEB) OBLIGATIONS (Continued)

E. Actuarial Methods and Assumptions

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the type of benefits provided at the time of each valuation and the historical pattern of sharing benefit costs between the employer and plan members to that point. The actuarial calculations of the OPEB plan reflect a long-term perspective. Consistent with this perspective, actuarial valuations, after this initial year, will use actuarial methods and assumptions that include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets. The ARC for the plan was determined as part of the actuarial valuation using the following methods and assumptions:

Key Assumptions

UAL and ARC	Alternative measurement method
Actuarial cost method	Entry age
Amortization cost method	Level percentage of payroll
Plan asset return	0.00%
Employer asset return	2.50%
Discount rate	2.50%
Projected salary increase	3.00%
Amortization period	27 years

NOTE 9 - RISK MANAGEMENT

The Town participates in the following public entity risk pools; other risks are covered by commercial insurance.

A. Liability Coverage

ABAG Plan Corporation (ABAG Plan) provides the first \$5 million of general liability coverage. If a general liability claim exceeds \$5 million, the excess liability would kick in. As a member of ABAG Plan, the Town has \$25 million in excess liability limits, for total liability limits of \$30 million. The Town has a deductible or uninsured liability of up to \$25,000 per claim. During the fiscal year ended June 30, 2017, the Town contributed \$47,199 for current year coverage.

ABAG Plan pool is governed by a board consisting of representatives from member municipalities. The board controls the operations, including approval of operating budgets, independent of any influence by member municipalities beyond their representation on the board.

Financial statements for ABAG Plan may be obtained from ABAG Plan, P.O. Box 2050, Oakland, California, 94604-2050.

B. Workers Compensation Coverage

The State Compensation Insurance Fund covers workers compensation claims up to \$200,000 for each claim and has coverage above that limit to a maximum of \$1,000,000. The Town has no deductible for these claims. During the fiscal year ended June 30, 2017, the Town contributed \$38,673 for current year coverage.

TOWN OF PORTOLA VALLEY
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2017

NOTE 9 - RISK MANAGEMENT (Continued)

C. *Liability for Uninsured Claims*

The Town has retained the risk for the deductible or uninsured portion of general liability claims. The Town's liability for uninsured claims at June 30, 2017 is believed by management to be nil based on the absence of any asserted claims.

NOTE 10 - JOINT POWERS AGREEMENT

A. *C/CAG*

The Town participates in the City/County Association of Governments of San Mateo County (C/CAG), which is governed by a board consisting of a representative from each member. The board controls the operations of C/CAG, including selection of management and approval of operating budgets, independent of any influence by each member beyond member representation on the Board.

C/CAG was established under a 1990 Joint Exercise of Powers Agreement between the Town, San Mateo County and a majority of cities within San Mateo County for the purpose of developing State mandated plans such as an integrated waste management plan. The Town makes annual nonrefundable contributions to C/CAG which are used along with other member contributions to finance C/CAG operations. Audited financial statements may be obtained from the Town of San Carlos, 666 Elm Street, San Carlos, CA, 94070. The Town's payments to C/CAG during the year totaled \$15,091. The Town's share of year-end assets, liabilities, or fund equity has not been calculated by C/CAG.

B. *San Mateo County Free Library Systems*

The Town is a participant with the County of San Mateo in the San Mateo County Free Library System (the Library System), a joint powers agency created to provide extended library services to the residents of the Town and the County. The Agency is governed by a 12-member board made up of a representative from each participating City or Town. The Agency shall continue, uninterrupted, until two thirds of the members vote to terminate the Agency. However, an individual member can terminate its membership with a six-month notice. Upon individual member termination, the member would not be entitled to the return of any funds contributed to the Joint Powers Agency nor to the return in cash or in kind of any materials or supplies contributed. Upon full termination of the Joint Powers Agency the member would receive any surplus money on hand proportionate to its contribution to the Joint Powers Agency. However, all property acquired by the Joint Powers Agency during the term of the agreement shall become the property of the County Free Library System. The Library System's financial statements can be obtained by contacting the San Mateo Library System, 25 Tower Road, San Mateo, California 94402.

NOTE 11 – COMMITMENTS AND CONTINGENT LIABILITIES

A. *Outstanding Litigation*

The Town is subject to litigation arising in the normal course of business. In the opinion of the Town Attorney there is no pending litigation which is likely to have a material adverse effect on the financial position of the Town. Litigation outstanding in prior years has been settled without material cost to the Town.

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REQUIRED SUPPLEMENTARY INFORMATION

TOWN OF PORTOLA VALLEY
Schedule of the Proportionate Share of the Net Pension Liability
Last 10 Fiscal Years*

Measurement Date	6/30/2014	6/30/2015	6/30/2016
Plan's proportion of the Net Pension Liability (Asset)	0.03873%	0.00301%	0.01508%
Plan's proportion share of the Net Pension Liability (Asset)	\$957,322	\$82,489	\$523,840
Plan's Covered Payroll	\$993,466	\$1,071,540	\$1,442,039
Plan's Proportionate Share of the Net Pension Liability/(Asset) as a Percentage of its Covered Payroll	96.36%	7.70%	36.33%
Plan's Proportionate Share of the Fiduciary Net Position as a Percentage of the Plan's Total Pension Liability	83.03%	98.59%	91.78%

* Fiscal year 2015 was the 1st year of implementation. Additional years will be displayed as they become available.

**TOWN OF PORTOLA VALLEY PENSION PLAN
SCHEDULE OF CONTRIBUTIONS
Last 10 Fiscal Years***

<u>Fiscal Year Ended June 30</u>	<u>6/30/2015</u>	<u>6/30/2016</u>	<u>6/30/2017</u>
Actuarially determined contribution	\$111,313	\$84,007	\$116,123
Contributions in relation to the actuarially determined contributions	(111,313)	(84,007)	(116,123)
Additional Contributions	(907,699)	-	-
Contribution deficiency (excess)	<u>(\$907,699)</u>	<u>\$0</u>	<u>\$0</u>
 Covered payroll	 \$993,466	 \$1,071,540	 \$1,442,039
 Contributions as a percentage of covered payroll	 11.20%	 7.84%	 8.05%

* Fiscal year 2015 was the 1st year of implementation. Additional years will be displayed as they become available.

**OTHER POSTEMPLOYMENTS BENEFITS (OPEB) PLAN
SCHEDULE OF FUNDING PROGRESS**

Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (B)	Overfunded (Underfunded) Actuarial Accrued Liability (A - B)	Funded Ratio (A/B)	Covered Payroll (C)	Overfunded (Underfunded) Actuarial Liability as Percentage of Covered Payroll [(A - B)/C]
6/30/2013	\$0	\$308,280	(\$308,280)	0.00%	\$1,241,961	(24.82%)
6/30/2015	308,280	929,194	(620,914)	33.18%	1,445,581	(42.95%)

TOWN OF PORTOLA VALLEY
GENERAL FUND
SCHEDULE OF REVENUES, EXPENDITURES
AND CHANGES IN FUND BALANCE
BUDGET AND ACTUAL
FOR THE YEAR ENDED JUNE 30, 2017

	<u>Original Budget</u>	<u>Final Budget</u>	<u>Actual</u>	<u>Variance Positive (Negative)</u>
REVENUES				
Taxes:				
Property taxes	\$2,705,397	\$2,705,397	\$2,688,349	(\$17,048)
Sales tax	208,000	208,000	208,498	498
Business license tax and other taxes	102,000	102,000	73,902	(28,098)
Total Taxes	<u>3,015,397</u>	<u>3,015,397</u>	<u>2,970,749</u>	<u>(44,648)</u>
Franchise fees	281,669	281,669	276,916	(4,753)
Utility users tax	524,151	524,151	622,722	98,571
Agency revenues	23,285	23,285	8,864	(14,421)
Contributions	111,668	111,668		(111,668)
Licenses and permits	588,000	588,000	673,572	85,572
Service charges and fees	190,865	190,865	159,805	(31,060)
Parks and recreation	277,866	277,866	314,009	36,143
Investment and other revenues	94,076	94,076	51,841	(42,235)
Total Revenues	<u>5,106,977</u>	<u>5,106,977</u>	<u>5,078,478</u>	<u>(28,499)</u>
EXPENDITURES				
General government	3,076,860	3,076,860	2,873,780	203,080
Parks and recreation	251,800	251,800	250,967	833
Town center facilities	161,832	161,832	133,252	28,580
Public safety	897,079	897,079	897,079	
Public works	3,000	3,000	14,096	(11,096)
Capital improvement program	571,332	837,090	191,932	645,158
Total Expenditures	<u>4,961,903</u>	<u>5,227,661</u>	<u>4,361,106</u>	<u>866,555</u>
Excess (Deficiency) of Revenues Over Expenses	<u>145,074</u>	<u>(120,684)</u>	<u>717,372</u>	<u>838,056</u>
NET CHANGE IN FUND BALANCE	<u>\$145,074</u>	<u>(\$120,684)</u>	<u>717,372</u>	<u>\$838,056</u>
Fund balance at beginning of year			<u>4,055,487</u>	
Fund balance at end of year			<u>\$4,772,859</u>	

TOWN OF PORTOLA VALLEY
 OPEN SPACE RESTRICTED SPECIAL REVENUE FUND
 SCHEDULE OF REVENUES, EXPENDITURES
 AND CHANGES IN FUND BALANCE
 BUDGET AND ACTUAL
 FOR THE YEAR ENDED JUNE 30, 2017

	Original and Final Budget	Actual	Variance Positive (Negative)
REVENUES			
Utility users tax	\$229,754	\$276,768	\$47,014
Contribution	1,000	3,364	2,364
Investment and other revenues		37,841	37,841
	<u>230,754</u>	<u>317,973</u>	<u>87,219</u>
EXPENDITURES			
Capital improvement program	110,000	14,541	95,459
	<u>110,000</u>	<u>14,541</u>	<u>95,459</u>
Net change in fund balance	<u>\$120,754</u>	303,432	<u>\$182,678</u>
Fund balance at beginning of year		<u>4,848,050</u>	
Fund balance at end of year		<u>\$5,151,482</u>	

TOWN OF PORTOLA VALLEY
 MEASURE A SPECIAL REVENUE FUND
 SCHEDULE OF REVENUES, EXPENDITURES
 AND CHANGES IN FUND BALANCE
 BUDGET AND ACTUAL
 FOR THE YEAR ENDED JUNE 30, 2017

	Original and Final Budget	Actual	Variance Positive (Negative)
REVENUES			
Sales tax	\$274,523	\$274,575	\$52
Investment and other revenues		1,338	1,338
Total Revenues	<u>274,523</u>	<u>275,913</u>	<u>1,390</u>
EXPENDITURES			
Capital improvement program	<u>274,523</u>	<u>274,523</u>	
Total Expenditures	<u>274,523</u>	<u>274,523</u>	
Net change in fund balance	<u><u> </u></u>	1,390	<u><u>\$1,390</u></u>
Fund balance at beginning of year		<u> </u>	
Fund balance at end of year		<u><u>\$1,390</u></u>	

Note to Budgetary Schedules

The Town follows these procedures annually in establishing the budgetary data reflected in the financial statements:

1. The Town Manager submits a proposed budget to the Finance Committee for review and approval.
2. The Town Manager then submits to the Town Council a recommended draft budget for the fiscal year commencing the following July 1. The budget includes proposed expenditures and the means of financing them.
3. The Town Council reviews the proposed budget at one of its regularly scheduled meetings which is open to the public. The Council also conducts a public hearing on the proposed budget to obtain comments from interested persons.
4. Prior to July 1, the budget is adopted through the passage of a resolution. All appropriations lapse at year end.
5. From the effective date of the budget, which is adopted and controlled by the Town Manager at the fund level, the amounts stated therein as proposed expenditures become appropriations to the various Town activities. The Town Council may amend the budget by resolution during the fiscal year.
6. Capital Projects Funds are budgeted on an annual basis. If a capital project is not completed in a budget year, it is included in the subsequent budget year, if necessary. Inclusionary In-lieu Capital Project Fund was not budgeted.

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OTHER SUPPLEMENTAL INFORMATION

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NON-MAJOR GOVERNMENTAL FUNDS

SPECIAL REVENUE FUNDS:**PUBLIC SAFETY**

Accounts for half-cent State sales tax revenue designated exclusively for local agency public safety services, (Sec. 35 of Art. XIII of California Constitution).

GAS TAX

Accounts for maintenance and repair for streets.

PUBLIC SAFETY COPS (Citizens' Options for Public Safety)

Accounts for the supplemental State law enforcement fund for special law and traffic enforcement.

LIBRARY FUND

Accounts for library service revenue from San Mateo County Library JPA that can only be used for library related activities.

MEASURE M

Accounts for County-generated vehicle registration revenue to be used for local streets and roads for congestion mitigation and water pollution prevention programs.

CAPITAL PROJECTS FUNDS:**PARK IN-LIEU**

Accounts for the subdivision developer's fee that can only be used for parks or recreational purposes.

GRANTS

Accounts for grant activities.

STORM DAMAGE

This fund is used as necessary to track federal or state-reimbursed storm-related road repairs.

TOWN OF PORTOLA VALLEY
NON-MAJOR GOVERNMENTAL FUNDS
COMBINING BALANCE SHEET
JUNE 30, 2017

	Special Revenue Funds			
	Public Safety	Gas Tax	Public Safety COPS	Library Fund
ASSETS				
Cash and investments	\$2,155		\$56,507	\$316,601
Accounts and interest receivable	1,081	\$8,844	4,214	1,005
Total Assets	<u>\$3,236</u>	<u>\$8,844</u>	<u>\$60,721</u>	<u>\$317,606</u>
LIABILITIES				
Accounts payable		\$49,639		\$4,546
Due to other funds	\$4,320	24,857		
Total Liabilities	<u>4,320</u>	<u>74,496</u>		<u>4,546</u>
FUND BALANCES (DEFICIT)				
Restricted			\$60,721	313,060
Unassigned	(1,084)	(65,652)		
Total Fund Balance	<u>(1,084)</u>	<u>(65,652)</u>	<u>60,721</u>	<u>313,060</u>
Total Liabilities and Fund Balances	<u>\$3,236</u>	<u>\$8,844</u>	<u>\$60,721</u>	<u>\$317,606</u>

Special Revenue Funds	Capital Projects Funds			
Measure M	Park In-Lieu	Grants	Storm Damage	Totals
\$72,223	\$32,935	\$1,540		\$481,961
	15			15,159
<u>\$72,223</u>	<u>\$32,950</u>	<u>\$1,540</u>		<u>\$497,120</u>
\$45,850		\$3,155		\$103,190
8,701			\$21,290	59,168
<u>54,551</u>		<u>3,155</u>	<u>21,290</u>	<u>162,358</u>
17,672	\$32,950	(1,615)	(21,290)	406,731
				(71,969)
<u>17,672</u>	<u>32,950</u>	<u>(1,615)</u>	<u>(21,290)</u>	<u>334,762</u>
<u>\$72,223</u>	<u>\$32,950</u>	<u>\$1,540</u>		<u>\$497,120</u>

TOWN OF PORTOLA VALLEY
NON-MAJOR GOVERNMENTAL FUNDS
COMBINING STATEMENT OF REVENUES, EXPENDITURES
AND CHANGES IN FUND BALANCES
FOR THE YEAR ENDED JUNE 30, 2017

	Special Revenue Funds			
	Public Safety	Gas Tax	Public Safety COPS	Library Fund
REVENUES				
Taxes				
Sales tax	\$15,502			
Gas tax		\$97,383		
Total taxes	<u>15,502</u>	<u>97,383</u>		
Agency revenues				
Grants			\$131,033	
Service charges and fees				
Investment and other revenues	2	71		\$2,935
Total Revenues	<u>15,504</u>	<u>97,454</u>	<u>131,033</u>	<u>2,935</u>
EXPENDITURES				
Town center facilities				56,832
Public safety	13,390		100,000	
Public works		163,106		
Capital improvement program				
Total Expenditures	<u>13,390</u>	<u>163,106</u>	<u>100,000</u>	<u>56,832</u>
OTHER FINANCING SOURCES				
Transfers in (Note 4)				
Total other financing sources				
Net change in fund balances	2,114	(65,652)	31,033	(53,897)
Fund balances at beginning of year	<u>(3,198)</u>		<u>29,688</u>	<u>366,957</u>
Fund balances (deficit) at end of year	<u><u>(\$1,084)</u></u>	<u><u>(\$65,652)</u></u>	<u><u>\$60,721</u></u>	<u><u>\$313,060</u></u>

Special Revenue Funds	Capital Projects Funds			
Measure M	Park In-Lieu	Grants	Storm Damage	Totals
				\$15,502
				97,383
				112,885
\$81,147		\$5,000		81,147
	\$26,469			136,033
	177			26,469
				3,185
81,147	26,646	5,000		359,719
				56,832
8,979		1,600		113,390
44,055		15,121		173,685
				59,176
53,034		16,721		403,083
28,113	26,646	(11,721)		(43,364)
(10,441)	6,304	10,106	(\$21,290)	378,126
\$17,672	\$32,950	(\$1,615)	(\$21,290)	\$334,762

TOWN OF PORTOLA VALLEY
NON-MAJOR GOVERNMENTAL FUNDS
SCHEDULE OF REVENUES, EXPENDITURES
AND CHANGES IN FUND BALANCES
BUDGET AND ACTUAL
FOR THE YEAR ENDED JUNE 30, 2017

	Public Safety			Gas Tax		
	Budget	Actual	Variance Positive (Negative)	Budget	Actual	Variance Positive (Negative)
REVENUES						
Taxes						
Sales tax	\$13,390	\$15,502	\$2,112			
Gas tax				\$98,117	\$97,383	(\$734)
Total taxes	<u>13,390</u>	<u>15,502</u>	<u>2,112</u>	<u>98,117</u>	<u>97,383</u>	<u>(734)</u>
Agency revenues						
Grants						
Service charges and fees						
Investment and other revenues		2	2		71	71
Total Revenues	<u>13,390</u>	<u>15,504</u>	<u>2,114</u>	<u>98,117</u>	<u>97,454</u>	<u>(663)</u>
EXPENDITURES						
Town center facilities						
Public safety	13,390	13,390				
Public works				225,000	163,106	61,894
Capital improvement program						
Total Expenditures	<u>13,390</u>	<u>13,390</u>		<u>225,000</u>	<u>163,106</u>	<u>61,894</u>
Excess (Deficiency) of Revenues Over Expenses		<u>2,114</u>	<u>2,114</u>	<u>(126,883)</u>	<u>(65,652)</u>	<u>(62,557)</u>
Net change in fund balances		<u>2,114</u>		<u>(\$126,883)</u>	<u>(65,652)</u>	<u>(\$62,557)</u>
Fund balances, beginning of Year		<u>(3,198)</u>				
Fund balances, (deficit) end of Year		<u>(\$1,084)</u>			<u>(\$65,652)</u>	

Public Safety COPS			Library Fund			Measure M		
Budget	Actual	Variance Positive (Negative)	Budget	Actual	Variance Positive (Negative)	Budget	Actual	Variance Positive (Negative)
\$100,000	\$131,033	\$31,033				\$89,830	\$81,147	(\$8,683)
			(\$81,103)	\$2,935	\$84,038			
100,000	131,033	31,033	(81,103)	2,935	84,038	89,830	81,147	(8,683)
100,000	100,000		41,500	56,832	(15,332)			
						10,775	8,979	1,796
						79,055	44,055	35,000
100,000	100,000		41,500	56,832	(15,332)	89,830	53,034	36,796
	31,033	31,033	(122,603)	(53,897)	99,370		28,113	28,113
	31,033	\$31,033	(\$122,603)	(53,897)	\$99,370		28,113	\$28,113
	29,688			366,957			(10,441)	
	\$60,721			\$313,060			\$17,672	

(Continued)

TOWN OF PORTOLA VALLEY
NON-MAJOR GOVERNMENTAL FUNDS
SCHEDULE OF REVENUES, EXPENDITURES
AND CHANGES IN FUND BALANCES
BUDGET AND ACTUAL
FOR THE YEAR ENDED JUNE 30, 2017

	Grants			Storm Damage		
	Budget	Actual	Variance Positive (Negative)	Budget	Actual	Variance Positive (Negative)
REVENUES						
Taxes						
Sales tax						
Gas tax						
Total taxes						
Agency revenues	\$118,772		(\$118,772)			
Grants	26,600	\$5,000	(21,600)			
Service charges and fees						
Investment and other revenues						
Total Revenues	<u>145,372</u>	<u>5,000</u>	<u>(140,372)</u>			
EXPENDITURES						
Town center facilities						
Public safety						
Public works	1,600	1,600				
Capital improvement program	<u>118,772</u>	<u>15,121</u>	<u>103,651</u>			
Total Expenditures	<u>120,372</u>	<u>16,721</u>	<u>103,651</u>			
Excess (Deficiency) of Revenues Over Expenses	<u>25,000</u>	<u>(11,721)</u>	<u>(244,023)</u>			
Net change in fund balances	<u>\$25,000</u>	<u>(11,721)</u>	<u>(\$244,023)</u>			
Fund balances, beginning of Year		<u>10,106</u>			<u>(\$21,290)</u>	
Fund balances, end of Year		<u>(\$1,615)</u>			<u>(\$21,290)</u>	

AGENCY FUNDS

Agency Funds are presented separately from the Government-wide and Fund financial statements.

Agency Funds account for assets held by the Town as agent for individuals, governmental entities, and non-public organizations.

MAINTENANCE DISTRICTS

Accounts for all revenues and expenditures related to the maintenance districts.

TOWN OF PORTOLA VALLEY
 AGENCY FUNDS
 STATEMENT OF CHANGES IN ASSETS AND LIABILITIES
 FOR THE YEAR ENDED JUNE 30, 2017

	<u>Balance</u> <u>June 30, 2016</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance</u> <u>June 30, 2017</u>
<u>Maintenance Districts</u>				
<u>Assets</u>				
Cash and investments	\$354,899	\$28,915		\$383,814
Accounts and interest receivable	<u>5,069</u>		<u>\$1,785</u>	<u>3,284</u>
Total assets	<u>\$359,968</u>	<u>\$28,915</u>	<u>\$1,785</u>	<u>\$387,098</u>
<u>Liabilities</u>				
Deposits and other liabilities	<u>\$359,968</u>	<u>\$28,915</u>	<u>\$1,785</u>	<u>\$387,098</u>
<u>Total Agency Funds</u>				
<u>Assets</u>				
Cash and investments	\$354,899	\$28,915		\$383,814
Accounts and interest receivable	<u>5,069</u>		<u>\$1,785</u>	<u>3,284</u>
Total assets	<u>\$359,968</u>	<u>\$28,915</u>	<u>\$1,785</u>	<u>\$387,098</u>
<u>Liabilities</u>				
Deposits and other liabilities	<u>\$359,968</u>	<u>\$28,915</u>	<u>\$1,785</u>	<u>\$387,098</u>

**TOWN OF PORTOLA VALLEY
MEMORANDUM ON INTERNAL CONTROL
AND
REQUIRED COMMUNICATIONS
FOR THE YEAR ENDED JUNE 30, 2017**

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**TOWN OF PORTOLA VALLEY
MEMORANDUM ON INTERNAL CONTROL
AND
REQUIRED COMMUNICATIONS**

For The Year Ended June 30, 2017

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MEMORANDUM ON INTERNAL CONTROL

To the Honorable Mayor and Members of the Town Council
Town of Portola Valley, California

In planning and performing our audit of the basic financial statements of the Town of Portola Valley (Town) as of and for the year ended June 30, 2017, in accordance with auditing standards generally accepted in the United States of America, we considered the Town's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Town's internal control. Accordingly, we do not express an opinion on the effectiveness of the Town's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Town's financial statements will not be prevented, or detected and corrected, on a timely basis.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses. In addition, because of inherent limitations in internal control, including the possibility of management override of controls, misstatements due to error or fraud may occur and not be detected by such controls. Given these limitations during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Included in the Schedule of Other Matters are recommendations not meeting the above definitions that we believe are opportunities for strengthening internal controls and operating efficiency.

Management's written responses included in this report have not been subjected to the audit procedures applied in the audit of the financial statements and, accordingly, we express no opinion on them.

This communication is intended solely for the information and use of management, Town Council, others within the organization, and agencies and pass-through entities requiring compliance with *Government Auditing Standards*, and is not intended to be and should not be used by anyone other than these specified parties.

Maze & Associates

Pleasant Hill, California
January 30, 2018

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MEMORANDUM ON INTERNAL CONTROL

SCHEDULE OF OTHER MATTERS

2017-01:**NEW GASB PRONOUNCEMENTS OR PRONOUNCEMENTS NOT YET EFFECTIVE**

The following comment represents new pronouncements taking affect in next fiscal year. We cite them here to keep you abreast of developments:

Effective in fiscal year 2017-18:**GASB 75 – *Accounting and Financial Reporting for Post-employment Benefits Other Than Pensions***

The primary objective of this Statement is to improve accounting and financial reporting by state and local governments for post-employment benefits other than pensions (other post-employment benefits or OPEB). It also improves information provided by state and local governmental employers about financial support for OPEB that is provided by other entities. This Statement results from a comprehensive review of the effectiveness of existing standards of accounting and financial reporting for all post-employment benefits (pensions and OPEB) with regard to providing decision-useful information, supporting assessments of accountability and inter-period equity, and creating additional transparency.

This Statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions, as amended*, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for OPEB. Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, establishes new accounting and financial reporting requirements for OPEB plans.

The scope of this Statement addresses accounting and financial reporting for OPEB that is provided to the employees of state and local governmental employers. This Statement establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures. For defined benefit OPEB, this Statement identifies the methods and assumptions that are required to be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Note disclosure and required supplementary information requirements about defined benefit OPEB also are addressed.

In addition, this Statement details the recognition and disclosure requirements for employers with payables to defined benefit OPEB plans that are administered through trusts that meet the specified criteria and for employers whose employees are provided with defined contribution OPEB. This Statement also addresses certain circumstances in which a nonemployer entity provides financial support for OPEB of employees of another entity.

In this Statement, distinctions are made regarding the particular requirements depending upon whether the OPEB plans through which the benefits are provided are administered through trusts that meet the following criteria:

- Contributions from employers and nonemployer contributing entities to the OPEB plan and earnings on those contributions are irrevocable.
- OPEB plan assets are dedicated to providing OPEB to plan members in accordance with the benefit terms.
- OPEB plan assets are legally protected from the creditors of employers, nonemployer contributing entities, the OPEB plan administrator, and the plan members.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS****DEFINED BENEFIT OPEB**

Defined Benefit OPEB That Is Provided through OPEB Plans That Are Administered through Trusts That Meet the Specified Criteria

For OPEB that is administered through a trust that meets the specified criteria, requirements differ based on the number of employers whose employees are provided with OPEB through the OPEB plan and whether OPEB obligations and OPEB plan assets are shared by the employers. Employers are classified in one of the following categories for purposes of this Statement:

- Single employers are those whose employees are provided with defined benefit OPEB through single-employer OPEB plans—OPEB plans in which OPEB is provided to the employees of only one employer (as defined in this Statement).
- Agent employers are those whose employees are provided with defined benefit OPEB through agent multiple-employer OPEB plans—OPEB plans in which plan assets are pooled for investment purposes but separate accounts are maintained for each individual employer so that each employer's share of the pooled assets is legally available to pay the benefits of only its employees.
- Cost-sharing employers are those whose employees are provided with defined benefit OPEB through cost-sharing multiple-employer OPEB plans—OPEB plans in which the OPEB obligations to the employees of more than one employer are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides OPEB through the OPEB plan.

Measurement of the OPEB Liability to Employees for Benefits

This Statement requires the liability of employers and nonemployer contributing entities to employees for defined benefit OPEB (net OPEB liability) to be measured as the portion of the present value of projected benefit payments to be provided to current active and inactive employees that is attributed to those employees' past periods of service (total OPEB liability), less the amount of the OPEB plan's fiduciary net position.

The total OPEB liability generally is required to be determined through an actuarial valuation. However, if fewer than 100 employees (active and inactive) are provided with OPEB through the plan, use of a specified alternative measurement method in place of an actuarial valuation is permitted. An actuarial valuation or a calculation using the specified alternative measurement method of the total OPEB liability is required to be performed at least every two years, with more frequent valuations or calculations encouraged. If an actuarial valuation or a calculation using the alternative measurement method is not performed as of the measurement date, the total OPEB liability is required to be based on update procedures to roll forward amounts from an earlier actuarial valuation or alternative measurement method calculation (performed as of a date no more than 30 months and 1 day prior to the employer's most recent fiscal year-end). Unless otherwise specified by this Statement, all assumptions underlying the determination of the total OPEB liability and related measures set forth by this Statement are required to be made in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS**

Projections of benefit payments are required to be based on claims costs, or age-adjusted premiums approximating claims costs, and the benefit terms and legal agreements existing at the measurement date. For purposes of evaluating the benefit terms, consideration is required to be given to the written plan document, as well as other information, including other communications between the employer and employees and an established pattern of practice with regard to the sharing of benefit-related costs with inactive employees. Certain legal or contractual caps on benefit payments to be provided are required to be considered in projections of benefit payments.

This Statement requires that projections of benefit payments incorporate the effects of projected salary changes (if the OPEB formula incorporates future compensation levels) and service credits (if the OPEB formula incorporates periods of service), as well as projected automatic postemployment benefit changes, including automatic cost-of-living-adjustments (COLAs). The effects of ad hoc postemployment benefit changes (including ad hoc COLAs), if they are considered to be substantively automatic, also are required to be included in the projections. This Statement also requires that projections of benefit payments include certain taxes or other assessments expected to be imposed on the benefit payments.

Projected benefit payments are required to be discounted to their actuarial present value using the single rate that reflects (1) a long-term expected rate of return on OPEB plan investments to the extent that the OPEB plan's fiduciary net position is projected to be sufficient to make projected benefit payments and OPEB plan assets are expected to be invested using a strategy to achieve that return and (2) a tax-exempt, high-quality municipal bond rate to the extent that the conditions for use of the long-term expected rate of return are not met.

This Statement requires that the actuarial present value of projected benefit payments be attributed to periods of employee service using the entry age actuarial cost method with each period's service cost determined as a level percentage of pay. The actuarial present value is required to be attributed for each employee individually, from the first period in which the employee provides service under the benefit terms, through the period in which the employee exits active service.

Alternative Measurement Method

This Statement includes an option for the use of a specified alternative measurement method in place of an actuarial valuation for purposes of determining the total OPEB liability for benefits provided through an OPEB plan in which fewer than 100 employees (active and inactive) are provided with OPEB through the plan. The alternative measurement method is an approach that includes the same broad measurement steps as an actuarial valuation (projecting benefit payments, discounting projected benefit payments to a present value, and attributing the present value of projected benefit payments to periods using an actuarial cost method). However, it permits simplification of certain assumptions.

SINGLE AND AGENT EMPLOYERS

In financial statements prepared using the economic resources measurement focus and accrual basis of accounting, a single or agent employer that does not have a special funding situation is required to recognize a liability equal to the net OPEB liability. The net OPEB liability is required to be measured as of a date no earlier than the end of the employer's prior fiscal year and no later than the end of the employer's current fiscal year (the measurement date), consistently applied from period to period.

The OPEB expense and deferred outflows of resources and deferred inflows of resources related to OPEB that are required to be reported by an employer primarily result from changes in the components of the net OPEB liability—that is, changes in the total OPEB liability and in the OPEB plan's fiduciary net position.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS**

This Statement requires that most changes in the net OPEB liability be included in OPEB expense in the period of the change. For example, changes in the total OPEB liability resulting from current-period service cost, interest on the total OPEB liability, and changes of benefit terms are required to be included in OPEB expense immediately. Projected earnings on the OPEB plan's investments also are required to be included in the determination of OPEB expense immediately.

In circumstances in which the net OPEB liability is determined based on the results of an actuarial valuation, the effects of certain other changes in the net OPEB liability are required to be included in OPEB expense over the current and future periods. The effects on the total OPEB liability of (1) changes of economic and demographic assumptions or of other inputs and (2) differences between expected and actual experience are required to be included in OPEB expense in a systematic and rational manner over a closed period equal to the average of the expected remaining service lives of all employees that are provided with benefits through the OPEB plan (active employees and inactive employees), beginning in the current period.

Under all means of determining the net OPEB liability, the effect on the net OPEB liability of differences between the projected earnings on OPEB plan investments and actual experience with regard to those earnings is required to be included in OPEB expense in a systematic and rational manner over a closed period of five years, beginning in the current period.

Changes in the net OPEB liability that have not been included in OPEB expense are required to be reported as deferred outflows of resources or deferred inflows of resources related to OPEB.

Employer contributions subsequent to the measurement date of the net OPEB liability are required to be reported as deferred outflows of resources.

In governmental fund financial statements, a net OPEB liability is required to be recognized to the extent the liability is normally expected to be liquidated with expendable available financial resources. OPEB expenditures are required to be recognized equal to the total of (1) amounts paid by the employer to the OPEB plan, including amounts paid for OPEB as the benefits come due, and (2) the change between the beginning and ending balances of amounts normally expected to be liquidated with expendable available financial resources.

Notes to Financial Statements

This Statement requires that notes to financial statements of single and agent employers include descriptive information, such as the types of benefits provided and the number and classes of employees covered by the benefit terms. Single and agent employers also are required to disclose information that includes the following, as applicable:

- For the current year, sources of changes in the net OPEB liability
- Significant assumptions and other inputs used to calculate the total OPEB liability, including those about inflation, the healthcare cost trend rate, salary changes, ad hoc postemployment benefit changes (including ad hoc COLAs), and inputs to the discount rate, as well as certain information about mortality assumptions and the dates of experience studies
- The date of the actuarial valuation or calculation using the alternative measurement method used to determine the total OPEB liability, information about changes of assumptions or other inputs and benefit terms, the basis for determining employer contributions to the OPEB plan, and information about the purchase of allocated insurance contracts, if any.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS****Required Supplementary Information**

This Statement requires single and agent employers to present in required supplementary information the following information, determined as of the measurement date, for each of the 10 most recent fiscal years:

- Sources of changes in the net OPEB liability
- The components of the net OPEB liability and related ratios, including the OPEB plan's fiduciary net position as a percentage of the total OPEB liability, and the net OPEB liability as a percentage of covered-employee payroll.

If an actuarially determined contribution is calculated for a single or agent employer, the employer is required to present in required supplementary information a schedule covering each of the 10 most recent fiscal years that includes information about the actuarially determined contribution, contributions to the OPEB plan, and related ratios. If a single or agent employer does not have information about an actuarially determined contribution but has a contribution requirement that is established by statute or contract, the employer is required to present a schedule covering each of the 10 most recent fiscal years that includes information about the statutorily or contractually required contribution rates, contributions to the OPEB plan, and related ratios.

Significant methods and assumptions used in calculating the actuarially determined contributions, if applicable, are required to be presented as notes to required supplementary information. In addition, the employer is required to explain certain factors that significantly affect trends in the amounts reported in the schedules.

COST-SHARING EMPLOYERS

In financial statements prepared using the economic resources measurement focus and accrual basis of accounting, a cost-sharing employer that does not have a special funding situation is required to recognize a liability for its proportionate share of the net OPEB liability (of all employers for benefits provided through the OPEB plan)—the collective net OPEB liability. An employer's proportion is required to be determined on a basis that is consistent with the manner in which contributions to the OPEB plan are determined. The use of the employer's projected long-term contribution effort as compared to the total projected long-term contribution effort of all employers as the basis for determining an employer's proportion is encouraged.

A cost-sharing employer is required to recognize OPEB expense and report deferred outflows of resources and deferred inflows of resources related to OPEB for its proportionate shares of collective OPEB expense and collective deferred outflows of resources and deferred inflows of resources related to OPEB.

In addition, the effects of (1) a change in the employer's proportion of the collective net OPEB liability and (2) differences during the measurement period between certain of the employer's contributions and its proportionate share of the total of certain contributions from employers included in the collective net OPEB liability are required to be determined. These effects are required to be recognized in the employer's OPEB expense in a systematic and rational manner over a closed period equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active employees and inactive employees). The portions of the effects not recognized in the employer's OPEB expense are required to be reported as deferred outflows of resources or deferred inflows of resources related to OPEB. Employer contributions to the OPEB plan subsequent to the measurement date of the collective net OPEB liability also are required to be reported as deferred outflows of resources related to OPEB.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS**

In governmental fund financial statements, the cost-sharing employer's proportionate share of the collective net OPEB liability is required to be recognized to the extent the liability is normally expected to be liquidated with expendable available financial resources. OPEB expenditures are required to be recognized equal to the total of (1) amounts paid by the employer to the OPEB plan, including amounts paid for OPEB as the benefits come due, and (2) the change between the beginning and ending balances of amounts normally expected to be liquidated with expendable available financial resources.

This Statement requires that notes to financial statements of cost-sharing employers include descriptive information about the OPEB plans through which the OPEB is provided. Cost-sharing employers are required to identify the discount rate and assumptions made in the measurement of their proportionate shares of net OPEB liabilities, similar to the disclosures about those items that should be made by single and agent employers. Cost-sharing employers, like single and agent employers, also are required to disclose information about how their contributions to the OPEB plan are determined.

This Statement requires cost-sharing employers to present in required supplementary information 10-year schedules containing (1) the net OPEB liability and certain related ratios and (2) if applicable, information about statutorily or contractually required contributions, contributions to the OPEB plan, and related ratios.

Defined Benefit OPEB That Is Provided through OPEB Plans That Are Not Administered through Trusts That Meet the Specified Criteria

For employers that provide insured benefits—defined benefit OPEB through an arrangement whereby premiums are paid or other payments are made to an insurance company while employees are in active service, in return for which the insurance company unconditionally undertakes an obligation to pay the OPEB of those employees—this Statement requires recognition of OPEB expense/expenditures equal to the amount of premiums or other payments required in accordance with their agreement with the insurance company. In addition to the amount of OPEB expense/expenditures recognized in the current period, a brief description of the benefits provided through the arrangement is required to be disclosed.

For defined benefit OPEB, other than insured benefits, that are provided through OPEB plans that are not administered through trusts that meet the specified criteria, this Statement requires an approach to measurement of OPEB liabilities, OPEB expense, and deferred outflows of resources and deferred inflows of resources related to OPEB parallel to that which is required for OPEB provided through OPEB plans that are administered through trusts that meet the specified criteria. Similar note disclosures and required supplementary information are required to be presented. However, the requirements incorporate modifications to reflect the absence of OPEB plan assets for financial reporting purposes.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS****DEFINED CONTRIBUTION OPEB**

This Statement requires an employer whose employees are provided with defined contribution OPEB to recognize OPEB expense for the amount of contributions or credits to employees' accounts that are defined by the benefit terms as attributable to employees' services in the period, net of forfeited amounts that are removed from employees' accounts. A change in the OPEB liability is required to be recognized for the difference between amounts recognized in expense and amounts paid by the employer to (or benefit payments through) a defined contribution OPEB plan. In governmental fund financial statements, OPEB expenditures are required to be recognized equal to the total of (1) amounts paid by the employer to (or benefit payments through) an OPEB plan and (2) the change between the beginning and ending balances of amounts normally expected to be liquidated with expendable available financial resources. An OPEB liability is required to be recognized to the extent the liability is normally expected to be liquidated with expendable available financial resources. Notes to financial statements of an employer with a defined contribution plan are required to include descriptive information about the OPEB plan and benefit terms, contribution rates and how they are determined, and amounts attributed to employee service and forfeitures in the current period.

SPECIAL FUNDING SITUATIONS

In this Statement, special funding situations are defined as circumstances in which a nonemployer entity is legally responsible for providing certain forms of financial support for OPEB of the employees of another entity. Relevant forms of financial support are contributions directly to an OPEB plan that is administered through a trust that meets the specified criteria, including benefit payments as OPEB comes due for OPEB provided through such a plan, or making benefit payments directly as the OPEB comes due in circumstances in which OPEB is provided through an OPEB plan that is not administered through a trust that meets the specified criteria. Such support is a special funding situation if either (1) the amount of contributions or benefit payments, as applicable, for which the nonemployer entity legally is responsible is not dependent upon one or more events unrelated to the OPEB or (2) the nonemployer entity is the only entity with a legal obligation to make contributions directly to an OPEB plan or to make benefit payments as OPEB comes due, as applicable.

This Statement requires an employer that has a special funding situation for defined benefit OPEB to recognize an OPEB liability and deferred outflows of resources and deferred inflows of resources related to OPEB with adjustments for the involvement of nonemployer contributing entities. The employer is required to recognize its proportionate share of the collective OPEB expense, as well as additional OPEB expense and revenue for the OPEB support of the nonemployer contributing entities. This Statement requires that the employer disclose in notes to financial statements information about the amount of support provided by nonemployer contributing entities and present similar information about the involvement of those entities in 10-year schedules of required supplementary information.

The approach that is required by this Statement for measurement and recognition of liabilities, deferred outflows of resources and deferred inflows of resources, and expense by a governmental nonemployer contributing entity in a special funding situation for defined benefit OPEB is similar to the approach required for cost-sharing employers.

MEMORANDUM ON INTERNAL CONTROL

SCHEDULE OF OTHER MATTERS

The information that is required to be disclosed in notes to financial statements and presented in required supplementary information of a governmental nonemployer contributing entity in a special funding situation depends on the proportion of the collective net OPEB liability that it recognizes. In circumstances in which a governmental nonemployer contributing entity recognizes a substantial proportion of the collective net OPEB liability, requirements for note disclosures and required supplementary information are similar to those for cost-sharing employers. Reduced note disclosures and required supplementary information are required for governmental nonemployer contributing entities that recognize a less-than-substantial portion of the collective net OPEB liability.

This Statement also establishes requirements related to special funding situations for defined contribution OPEB.

Effective Date

This Statement is effective for fiscal years beginning after June 15, 2017.

How the Changes in This Statement Improve Financial Reporting

The requirements of this Statement will improve the decision-usefulness of information in employer and governmental nonemployer contributing entity financial reports and will enhance its value for assessing accountability and interperiod equity by requiring recognition of the entire OPEB liability and a more comprehensive measure of OPEB expense. Decision-usefulness and accountability also will be enhanced through new note disclosures and required supplementary information, as follows:

- More robust disclosures of assumptions will allow for better informed assessments of the reasonableness of OPEB measurements.
- Explanations of how and why the OPEB liability changed from year to year will improve transparency.
- The summary OPEB liability information, including ratios, will offer an indication of the extent to which the total OPEB liability is covered by resources held by the OPEB plan, if any.
- For employers that provide benefits through OPEB plans that are administered through trusts that meet the specified criteria, the contribution schedules will provide measures to evaluate decisions related to contributions.

The consistency, comparability, and transparency of the information reported by employers and governmental nonemployer contributing entities about OPEB transactions will be improved by requiring:

- The use of a discount rate that considers the availability of the OPEB plan's fiduciary net position associated with the OPEB of current active and inactive employees and the investment horizon of those resources, rather than utilizing only the long-term expected rate of return regardless of whether the OPEB plan's fiduciary net position is projected to be sufficient to make projected benefit payments and is expected to be invested using a strategy to achieve that return.
- A single method of attributing the actuarial present value of projected benefit payments to periods of employee service, rather than allowing a choice among six methods with additional variations.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS**

- Immediate recognition in OPEB expense, rather than a choice of recognition periods, of the effects of changes of benefit terms.
- Recognition of OPEB expense that incorporates deferred outflows of resources and deferred inflows of resources related to OPEB over a defined, closed period, rather than a choice between an open or closed period.

GASB 81 - Irrevocable Split-Interest Agreements

The objective of this Statement is to improve accounting and financial reporting for irrevocable split-interest agreements by providing recognition and measurement guidance for situations in which a government is a beneficiary of the agreement.

Split-interest agreements are a type of giving agreement used by donors to provide resources to two or more beneficiaries, including governments. Split-interest agreements can be created through trusts—or other legally enforceable agreements with characteristics that are equivalent to split-interest agreements—in which a donor transfers resources to an intermediary to hold and administer for the benefit of a government and at least one other beneficiary. Examples of these types of agreements include charitable lead trusts, charitable remainder trusts, and life-interests in real estate.

This Statement requires that a government that receives resources pursuant to an irrevocable split-interest agreement recognize assets, liabilities, and deferred inflows of resources at the inception of the agreement. Furthermore, this Statement requires that a government recognize assets representing its beneficial interests in irrevocable split-interest agreements that are administered by a third party, if the government controls the present service capacity of the beneficial interests. This Statement requires that a government recognize revenue when the resources become applicable to the reporting period.

Effective Date

The requirements of this Statement are effective for financial statements for periods beginning after December 15, 2016, and should be applied retroactively.

How the Changes in This Statement Improve Financial Reporting

This Statement enhances the comparability of financial statements by providing accounting and financial reporting guidance for irrevocable split-interest agreements in which a government is a beneficiary. This Statement also enhances the decision-usefulness of general purpose external financial reports, and their value for assessing accountability, by more clearly identifying the resources that are available for the government to carry out its mission.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS****GASB 85 – Omnibus 2017**

The objective of this Statement is to address practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits [OPEB]). Specifically, this Statement addresses the following topics:

- Blending a component unit in circumstances in which the primary government is a business-type activity that reports in a single column for financial statement presentation
- Reporting amounts previously reported as goodwill and “negative” goodwill
- Classifying real estate held by insurance entities
- Measuring certain money market investments and participating interest-earning investment contracts at amortized cost
- Timing of the measurement of pension or OPEB liabilities and expenditures recognized in financial statements prepared using the current financial resources measurement focus
- Recognizing on-behalf payments for pensions or OPEB in employer financial statements
- Presenting payroll-related measures in required supplementary information for purposes of reporting by OPEB plans and employers that provide OPEB
- Classifying employer-paid member contributions for OPEB
- Simplifying certain aspects of the alternative measurement method for OPEB
- Accounting and financial reporting for OPEB provided through certain multiple-employer defined benefit OPEB plans.

Effective Date

The requirements of this Statement are effective for reporting periods beginning after June 15, 2017.

How the Changes in This Statement Improve Financial Reporting

The requirements of this Statement will enhance consistency in the application of accounting and financial reporting requirements. Consistent reporting will improve the usefulness of information for users of state and local government financial statements.

MEMORANDUM ON INTERNAL CONTROL

SCHEDULE OF OTHER MATTERS

OTHER STATEMENTS RECENTLY ISSUED BY GASB (2019 and Beyond):***GASB 83 - Certain Asset Retirement Obligations***

This Statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. A government that has legal obligations to perform future asset retirement activities related to its tangible capital assets should recognize a liability based on the guidance in this Statement.

This Statement establishes criteria for determining the timing and pattern of recognition of a liability and a corresponding deferred outflow of resources for AROs. This Statement requires that recognition occur when the liability is both incurred and reasonably estimable. The determination of when the liability is incurred should be based on the occurrence of external laws, regulations, contracts, or court judgments, together with the occurrence of an internal event that obligates a government to perform asset retirement activities. Laws and regulations may require governments to take specific actions to retire certain tangible capital assets at the end of the useful lives of those capital assets, such as decommissioning nuclear reactors and dismantling and removing sewage treatment plants. Other obligations to retire tangible capital assets may arise from contracts or court judgments. Internal obligating events include the occurrence of contamination, placing into operation a tangible capital asset that is required to be retired, abandoning a tangible capital asset before it is placed into operation, or acquiring a tangible capital asset that has an existing ARO.

This Statement requires the measurement of an ARO to be based on the best estimate of the current value of outlays expected to be incurred. The best estimate should include probability weighting of all potential outcomes, when such information is available or can be obtained at reasonable cost. If probability weighting is not feasible at reasonable cost, the most likely amount should be used. This Statement requires that a deferred outflow of resources associated with an ARO be measured at the amount of the corresponding liability upon initial measurement.

This Statement requires the current value of a government's AROs to be adjusted for the effects of general inflation or deflation at least annually. In addition, it requires a government to evaluate all relevant factors at least annually to determine whether the effects of one or more of the factors are expected to significantly change the estimated asset retirement outlays. A government should remeasure an ARO only when the result of the evaluation indicates there is a significant change in the estimated outlays. The deferred outflows of resources should be reduced and recognized as outflows of resources (for example, as an expense) in a systematic and rational manner over the estimated useful life of the tangible capital asset.

A government may have a minority share (less than 50 percent) of ownership interest in a jointly owned tangible capital asset in which a nongovernmental entity is the majority owner and reports its ARO in accordance with the guidance of another recognized accounting standards setter. Additionally, a government may have a minority share of ownership interest in a jointly owned tangible capital asset in which no joint owner has a majority ownership, and a nongovernmental joint owner that has operational responsibility for the jointly owned tangible capital asset reports the associated ARO in accordance with the guidance of another recognized accounting standards setter. In both situations, the government's minority share of an ARO should be reported using the measurement produced by the nongovernmental majority owner or the nongovernmental minority owner that has operational responsibility, without adjustment to conform to the liability measurement and recognition requirements of this Statement.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS**

In some cases, governments are legally required to provide funding or other financial assurance for their performance of asset retirement activities. This Statement requires disclosure of how those funding and assurance requirements are being met by a government, as well as the amount of any assets restricted for payment of the government's AROs, if not separately displayed in the financial statements.

This Statement also requires disclosure of information about the nature of a government's AROs, the methods and assumptions used for the estimates of the liabilities, and the estimated remaining useful life of the associated tangible capital assets. If an ARO (or portions thereof) has been incurred by a government but is not yet recognized because it is not reasonably estimable, the government is required to disclose that fact and the reasons therefor. This Statement requires similar disclosures for a government's minority shares of AROs.

Effective Date

The requirements of this Statement are effective for reporting periods beginning after June 15, 2018.

How the Changes in This Statement Will Improve Financial Reporting

This Statement will enhance comparability of financial statements among governments by establishing uniform criteria for governments to recognize and measure certain AROs, including obligations that may not have been previously reported. This Statement also will enhance the decision-usefulness of the information provided to financial statement users by requiring disclosures related to those AROs.

GASB 84 - Fiduciary Activities

The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported.

This Statement establishes criteria for identifying fiduciary activities of all state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. Separate criteria are included to identify fiduciary component units and postemployment benefit arrangements that are fiduciary activities.

An activity meeting the criteria should be reported in a fiduciary fund in the basic financial statements. Governments with activities meeting the criteria should present a statement of fiduciary net position and a statement of changes in fiduciary net position. An exception to that requirement is provided for a business-type activity that normally expects to hold custodial assets for three months or less.

This Statement describes four fiduciary funds that should be reported, if applicable: (1) pension (and other employee benefit) trust funds, (2) investment trust funds, (3) private-purpose trust funds, and (4) custodial funds. Custodial funds generally should report fiduciary activities that are not held in a trust or equivalent arrangement that meets specific criteria.

A fiduciary component unit, when reported in the fiduciary fund financial statements of a primary government, should combine its information with its component units that are fiduciary component units and aggregate that combined information with the primary government's fiduciary funds.

MEMORANDUM ON INTERNAL CONTROL**SCHEDULE OF OTHER MATTERS**

This Statement also provides for recognition of a liability to the beneficiaries in a fiduciary fund when an event has occurred that compels the government to disburse fiduciary resources. Events that compel a government to disburse fiduciary resources occur when a demand for the resources has been made or when no further action, approval, or condition is required to be taken or met by the beneficiary to release the assets.

Effective Date

The requirements of this Statement are effective for reporting periods beginning after December 15, 2018.

How the Changes in This Statement Will Improve Financial Reporting

The requirements of this Statement will enhance consistency and comparability by (1) establishing specific criteria for identifying activities that should be reported as fiduciary activities and (2) clarifying whether and how business-type activities should report their fiduciary activities. Greater consistency and comparability enhances the value provided by the information reported in financial statements for assessing government accountability and stewardship.

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REQUIRED COMMUNICATIONS

To the Honorable Mayor and Members of the Town Council
Town of Portola Valley, California

We have audited the basic financial statements of the Town of Portola Valley (Town) for the year ended June 30, 2017. Professional standards require that we communicate to you the following information related to our audit under generally accepted auditing standards and *Government Auditing Standards*.

Significant Audit Findings

Accounting Policies

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the Town are described in Note 1 to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during the year.

Unusual Transactions, Controversial or Emerging Areas

We noted no transactions entered into by the Town during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting Estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the Town's financial statements were:

Estimated Fair Value of Investments: As of June 30, 2017, the Town held approximately \$15.3 million of cash and investments as measured by fair value as disclosed in Note 2 to the financial statements. Fair value is essentially market pricing in effect as of June 30, 2017. These fair values are not required to be adjusted for changes in general market conditions occurring subsequent to June 30, 2017.

Estimate of Depreciation: Management's estimate of the depreciation is based on useful lives determined by management. These lives have been determined by management based on the expected useful life of assets as disclosed in Note 3 to the financial statements. We evaluated the key factors and assumptions used to develop the depreciation estimate and determined that it is reasonable in relation to the basic financial statements taken as a whole.

Estimate of Compensated Absences: Accrued compensated absences which are comprised of accrued vacation, holiday, and certain other compensating time is estimated using accumulated unpaid leave hours and hourly pay rates in effect at the end of the fiscal year as disclosed in Note 1 to the financial statements. We evaluated the key factors and assumptions used to develop the accrued compensated absences and determined that it is reasonable in relation to the basic financial statements taken as a whole.

Estimated Claims Liabilities: Management's estimate of the claims liabilities payable is disclosed in Note 9 to the financial statements and is based on actuarial studies determined by a consultant, which are based on the claims experience of the Town. We evaluated the key factors and assumptions used to develop the estimate and determined that it is reasonable in relation to the basic financial statements taken as a whole.

Estimated Net Pension Liabilities and Pension-Related Deferred Outflows and Inflows of Resources: Management's estimate of the net pension liabilities and deferred outflows/inflows of resources are disclosed in Note 7 to the financial statements and are based on actuarial studies determined by a consultant, which are based on the experience of the Town. We evaluated the key factors and assumptions used to develop the estimate and determined that it is reasonable in relation to the basic financial statements taken as a whole.

Estimated Net OPEB Liability: Management's estimate of the net OPEB liability is disclosed in Note 8 to the financial statements and is based on actuarial study determined by a consultant, which is based on the experience of the Town. We evaluated the key factors and assumptions used to develop the estimate and determined that it is reasonable in relation to the basic financial statements taken as a whole.

Disclosures

The financial statement disclosures are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. Management has corrected all such misstatements. In addition, none of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to each opinion unit's financial statements taken as a whole.

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in a management representation letter dated January 30, 2018.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a “second opinion” on certain situations. If a consultation involves application of an accounting principle to the Town’s financial statements or a determination of the type of auditor’s opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the Town’s auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Information Accompanying the Financial Statements

We applied certain limited procedures to the required supplementary information that accompanies and supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management’s responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the required supplementary information and do not express an opinion or provide any assurance on the required supplementary information.

We were engaged to report on the supplementary information which accompany the financial statements, but are not required supplementary information. With respect to this supplementary information, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

This information is intended solely for the use of Town Council and management and is not intended to be, and should not be, used by anyone other than these specified parties.

Maze & Associates

Pleasant Hill, California
January 30, 2018

General Fund

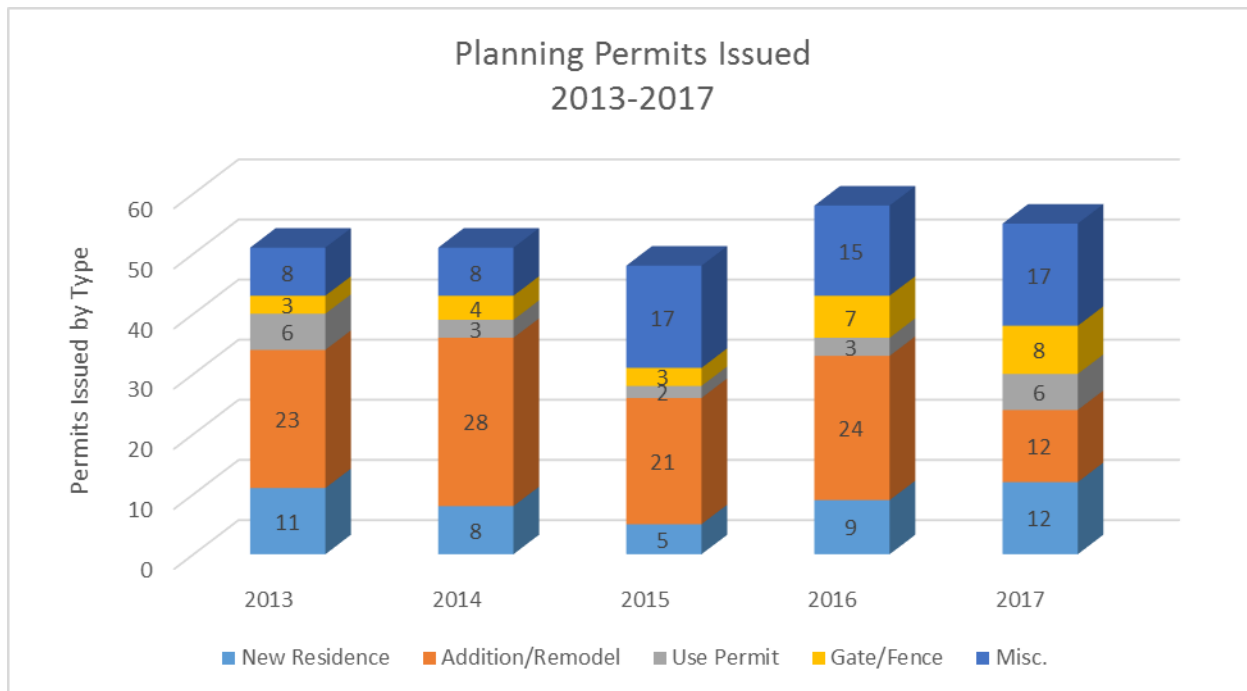
Account	Description	Amended Budget	FINAL 6/30/2017	Difference
05-68-4415	Historic Schoolhouse	-	2,135	(2,135)
05-68-4503	CIPStreetDesignFutureFY	50,000	37,648	12,352
05-68-4531	Ford Field Renovation	34,570	4,763	29,807
05-68-4532	CIP Crowder Trail Imprvs	76,098	0	76,098
05-68-4537	SMTA Road Project	59,242	7,188	52,054
				0
05-68-4539	Permit Tracking Software	-	43,048	(43,048)
05-68-4540	CIP15/16 Street Resurface	-	20,288	(20,288)
05-68-4544	CIP16/17 Street Resurface	209,422	37,616	171,806
05-68-4545	Recreation Software	8,000	3,749	4,251
05-68-4546	Earthquake Info Mgmt Software	7,000	6,667	333
05-70-4481	CIP15/16 Equipment	30,000	19,331	10,669
05-70-4485	CIP Street Testing	50,000	0	50,000
05-70-4486	CIP16/17 Equipment	312,758	9,499	303,259
Total		837,090	191,932	645,158



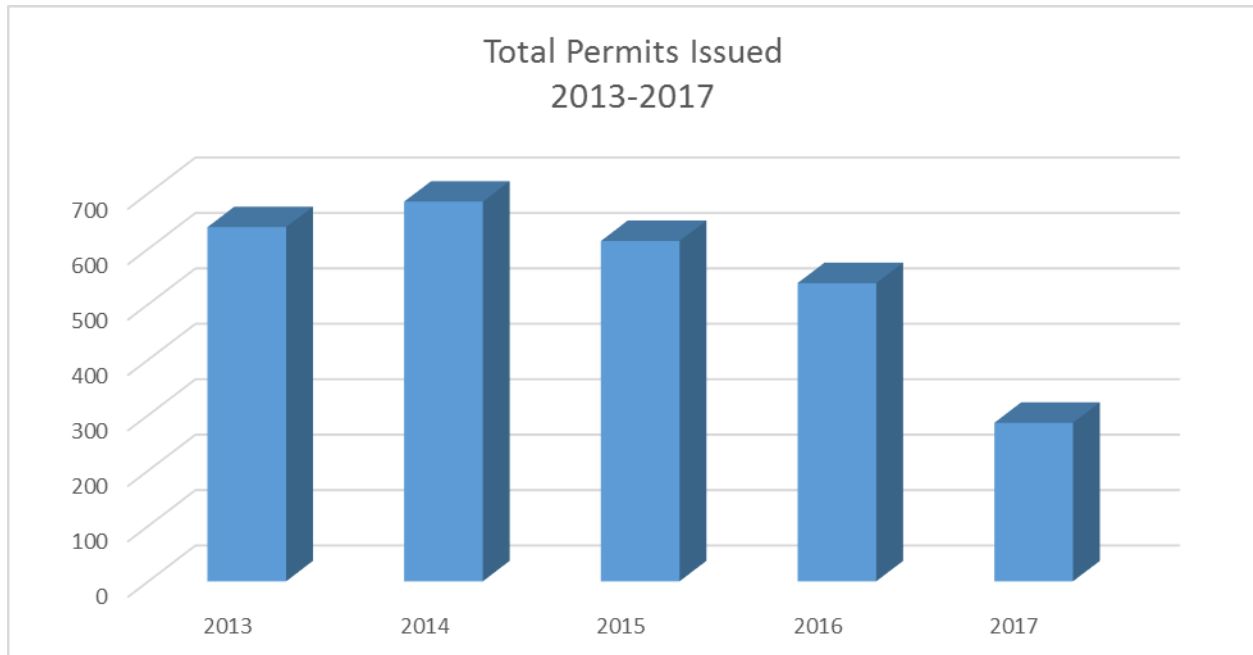
TOWN OF PORTOLA VALLEY STAFF REPORT

TO: Mayor and Members of the Town Council
FROM: Arly Cassidy, Interim Planning Director
DATE: February 28, 2018
RE: 2017 Planning and Building Department Activities Report

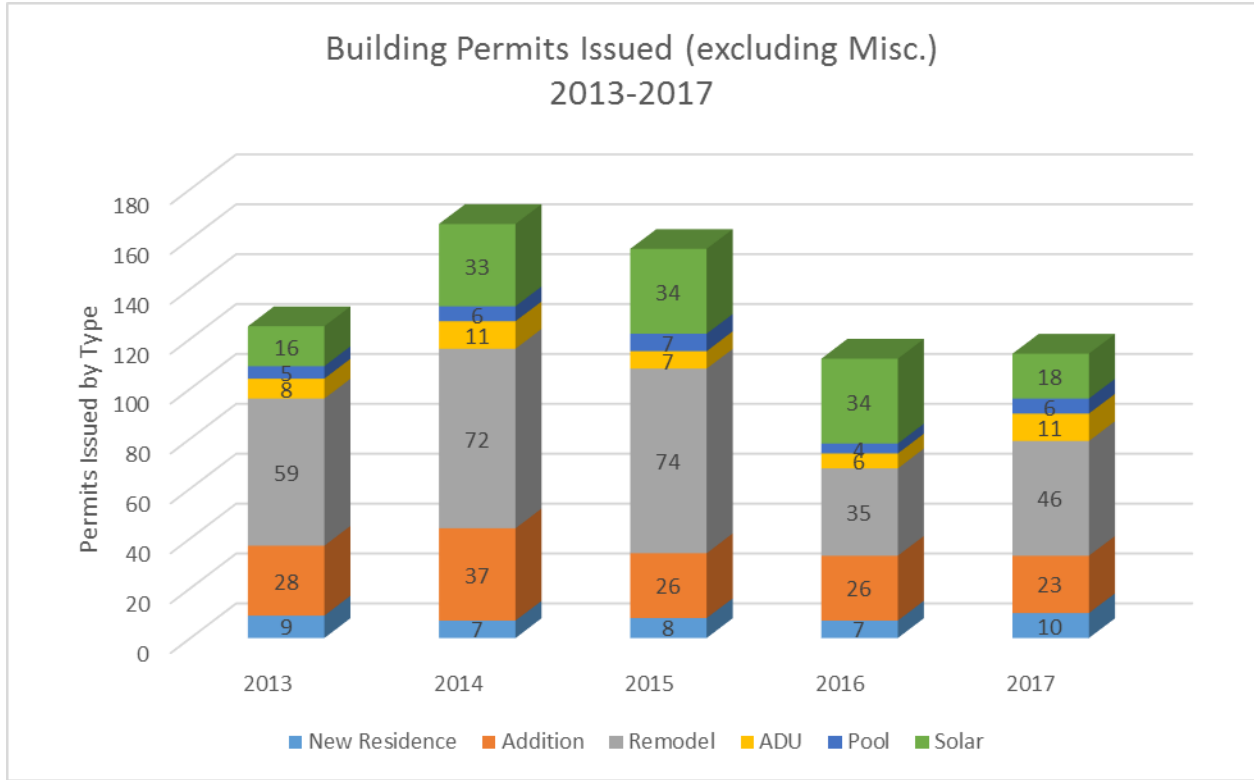
In the 2017 calendar year, the Planning Department processed 55 permits, including the major categories of new residence (12), addition/remodel (12), use permits (6), and gates/fences (8). In addition, four ordinance amendments were processed (grouped with Misc.). The ASCC held 19 meetings and the Planning Commission held 17 meetings, with an additional 19 special field meetings held for both bodies. The following is a summary of planning projects completed in the last 5 years.



The Building Department issued 286 permits and conducted 1,328 inspections. A summary of building permit activities in the past five years is included below. In late 2016 the Planning and Building Department began tracking all permits in Energov, which tallies permit type differently than was done in the past: where electrical, plumbing, mechanical and reroof permits for one address had been processed as four different permits in the past, they are now counted as a single permit if they come in at the same time. Hence, while the Miscellaneous permit count has dropped significantly in the charts below, the overall workload and number of individual permits under “miscellaneous” has not decreased.



	2013	2014	2015	2016	2017
New Residence	9	7	8	7	10
Addition	28	37	26	26	23
Remodel	59	72	74	35	46
ADU	8	11	7	6	11
Pool	5	6	7	4	6
Solar	16	33	34	34	18
Misc.	514	519	458	426	172
Total Permits	639	685	614	538	286
Total Valuation	\$26,851,210	\$36,736,268	\$34,543,896	\$39,386,248	\$37,224,901



Report approved by: Jeremy Dennis, Town Manager



TOWN OF PORTOLA VALLEY

STAFF REPORT

TO: Mayor and Members of the Town Council

FROM: Keith Weiner, Deputy Building Official

DATE: February 28, 2018

RE: 2017 Code Enforcement Activity Report

RECOMMENDATION

Town staff recommends that the Town Council accept the 2017 Code Enforcement Activity Report.

DISCUSSION

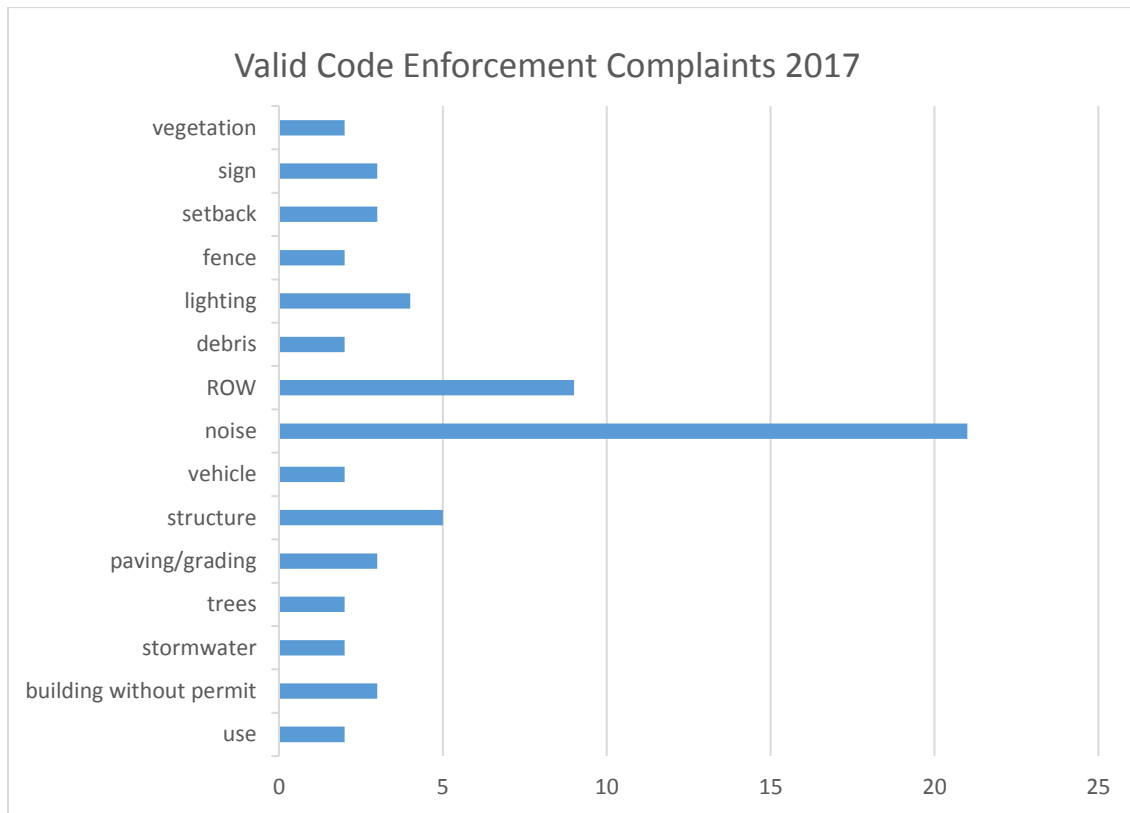
The Town's code enforcement program underwent a review in 2017, resulting in changes for staff and in procedures. The Building Official now reports to the Planning Director and has been tasked with management of the Code Enforcement program. Public Works, Planning and Building divisions continue to work together, coordinating the investigation and abatement processes. The Town has purchased and is in the process of implementing a new code enforcement application (APP) developed by the software company Accela. This application provides means via mobile phone for residents to document and report code violations. Staff has recently updated the Town web site code enforcement section and anticipates starting Beta testing the software in early spring. The Code Enforcement program continues to be complaint driven and residents are encouraged to reach out to their neighbors to achieve resolution before the Town is asked to get involved.

In the past twelve months there have been 78 requests for code enforcement investigation, 13 of these requests were unfounded¹. Currently there are 7 valid cases with an in progress status, staff is working diligently towards their resolution.

Common code violations include

- Structures or grading without permit (fences, sheds, etc.)
- Noise (weekend construction, landscape work)
- Lighting (nonconforming outdoor lights)
- Miscellaneous nuisances (barking dogs, trash, parking)

¹ Regardless of validity, all requests for code enforcement investigation require staff time.



Summary of 2017 Code Enforcement Complaints

Noise Complaints comprise the largest number of complaints filed. This can be attributed to an increase in the number of ongoing construction projects. Also contributing has been the size of the projects which increases the number of deliveries and concrete trucks needed in the course of work. Staff emphasizes the established working hours during preconstruction meetings with the contractors and the homeowners. Staff stands firm that a second violation results in the issuance of a stop work order for 24 hours. Contractors are reminded to pass the working hour restrictions onto their employees and sub-contractors as they are most often the offending parties.

Building or grading without a proper permit resulted in 13 complaints, 8 have been resolved and the remaining 5 are in the process of being remedied. The types of problems staff see are sheds or accessory structures that exceed (non-permitted) size limitations or built in non-conforming locations, fences that do not conform to the Town's zoning code and in one case a garage converted into living space. We have been very successful in achieving voluntary compliance to abate or permit such structures.

Once a violation has been confirmed, staff would contact the property owner either by phone or letter notifying them of the problem. Typically, property owners are simply unaware of the violation and are willing to correct the issue. If the violation continues, a series of

abatement letters would be issued outlining the steps and timeframe to bring the property into compliance. When these efforts are exhausted, the Town may elect to follow procedures as outlined in Ordinance No. 1998-309 (attached), adopted by Town Council in 1998 to satisfy a need for a more systematic and comprehensive approach to code enforcement. This ordinance outlines the Town's code compliance process and includes procedures for filing a County recorded notice of violation against the property and, if necessary, appeals process, mediation and civil injunctions and/or criminal penalties.

Once the Accela app is adopted for use by residents, staff anticipates an increase in the number of code enforcement calls.

ATTACHMENT

1. Ordinance No. 1998-309

Approved by: Jeremy Dennis, Town Manager



ORDINANCE NO. 1998-309

AN ORDINANCE OF THE TOWN OF PORTOLA VALLEY
AMENDING THE PORTOLA VALLEY MUNICIPAL CODE
TO ADD AND AMEND PROVISIONS
RELATING TO CODE COMPLIANCE

WHEREAS, the Town Council of the Town of Portola Valley desires a more systematic and comprehensive approach to Code Enforcement; and

WHEREAS, the present Town of Portola Valley Municipal Code does not have a Chapter on Code Compliance.

NOW, THEREFORE, the Town Council of the Town of Portola Valley, San Mateo County, California, does ORDAIN as follows:

1. Deletion to Code. Chapter 1.12 (General Penalty and Infraction) of Title 1 (General Provisions) is hereby deleted in its entirety.

2. Addition to Code. A new Chapter 1.12 (Code Compliance - Judicial and Administrative Remedies) of Title 1 (General Provisions) is added as follows:

Chapter 1.12

CODE COMPLIANCE - JUDICIAL AND ADMINISTRATIVE REMEDIES

Sections:

1.12.010	Purpose
1.12.020	Notice of Code Violations
1.12.030	Mediation
1.12.040	Code Compliance Cost Recovery
1.12.050	Civil Penalties, Injunction
1.12.060	Violations Misdemeanors or Infractions
1.12.070	Nuisance
1.12.080	No Exclusivity

1.12.010 Purpose. The Town Council finds that compliance with the Municipal Code and applicable State codes throughout the Town is an important public service and enables the Town to better implement its General Plan. Code compliance is vital to protection of the public's health, safety, and quality of life. The Council finds that its citizens have a right to expect effective code compliance without confrontation between neighbors. The Council further finds that a comprehensive code compliance system that uses a

combination of judicial and administrative remedies is critical to gain compliance with code regulations.

The Council adopts the following basic principles to guide the Town's code compliance process:

A. It is the sole responsibility of the property owner and his/her builder or contractor or other responsible person to understand and comply with all applicable provisions of the Portola Valley Municipal Code.

B. The Town has a duty and responsibility to investigate and enforce code violations in order to obtain compliance with Municipal Code provisions.

C. When a Municipal Code violation is discovered, any related work activity must cease immediately.

D. No Town official has the authority to waive the need for a permit required by the Municipal Code unless expressly given that right by the Municipal Code or a court order.

E. When a Municipal Code violation occurs, the property owner responsible shall be liable for the Town's costs of obtaining compliance with the Town's regulations.

1.12.020 Notice of Code Violations.

A. In addition to any other remedy for violations of the Municipal Code provided for in the Municipal Code, or in any other ordinance of the Town, or in the provisions of any code adopted by reference by the Municipal Code ("Code"), whenever the Town Administrator has knowledge of an alleged violation that relates in any way to the use or occupation of real property within the Town, he/she may provide a Notice of Code Violation ("Notice") to the owner of the property upon which the alleged violation is located and, where different from the owner, if known, to the person(s) responsible for causing or maintaining such alleged violation.

B. The Notice shall specify the property address, the owner's name, any responsible party's name, if known, and the nature of the alleged violations, including reference to the pertinent Code section(s). The Notice shall provide a list of corrections needed to bring the property into compliance and a deadline or specific date to correct the violations. The Notice shall also indicate the potential consequences should the property

remain in violation, including, but not limited to: Criminal prosecution; civil injunction; civil penalties; administrative costs; recordation of the Notice; and withholding of future permits and inspections. The potential consequences listed should be commensurate with the nature and severity of the alleged violation.

C. The Notice shall also state that within twenty (20) days after the date of the mailing of the Notice, the owner and/or any responsible person may request a meeting with the Town Administrator to present evidence that a violation does not exist. If a meeting is requested, the Town Administrator shall arrange to meet with the owner and/or responsible person as soon as possible, but not later than five (5) working days after receipt of the request for a meeting.

D. In the event a meeting is not requested and the alleged violation has not been corrected or a corrective plan of action is not approved by the Town Administrator within twenty (20) days after the date of the mailing of the Notice or in the event that, after consideration of evidence, the Town Administrator determines that one or more violations of the Code in fact exists, the Town Administrator shall issue a Notice of Intent to Record the Notice of Code Violation. The Notice of Intent shall be provided to the property owner and any responsible party.

E. If the owner or the responsible person disagrees with the determination of the Town Administrator, either party may appeal the decision to the Town Council by providing a written request to the Town Clerk or to the Town Administrator, along with an appeal fee as set forth in the Town's Fee Schedule, not later than fifteen (15) days after the date of the mailing of the Notice of Intent to Record the Notice of Violation.

F. The Town Council shall, not later than forty-five (45) days after the date an appeal is filed, conduct a hearing to consider the action of the Town Administrator and the evidence of the appellant. At least fifteen (15) days prior to the hearing, the Town shall provide written notice regarding the date and time of the hearing to the affected property owner, any responsible person, if known, and to the property owners of the ten (10) nearest neighboring properties or the property owners of all properties within five hundred (500) feet of the subject property, whichever number is lesser. The Town Council shall either affirm, modify, or reverse the decision of the Town Administrator and may attach conditions deemed necessary to assure compliance

with Town regulations and to reimburse the Town for the costs of Code compliance.

G. If no appeal is timely filed, or if directed by the decision of the Town Council on an appeal, the Town Administrator may proceed with civil or criminal enforcement remedies and shall record the Notice of Code Violation with the Office of the County Recorder of San Mateo County. The recorded Notice of Code Violation shall also include the name of the property owner, the assessor's parcel number, and the parcel's legal description. A copy of the Notice of Code Violation shall also be provided by certified mail to the property owner and any responsible person, if known.

H. A Notice of Release of Code Violation shall be issued by the Town Administrator only if the Town Administrator or Town Council determines that:

1. All violations listed in the Notice of Code Violation have been corrected;
2. All necessary permits have been issued and finalized;
3. All civil penalties have been paid;
4. All administrative costs of Code compliance have been paid.

The Notice of Release of Code Violation shall be also be recorded if a Notice of Code Violation was previously recorded.

I. The Town shall cause a Stop Work Notice to be issued for any work related to a Code violation, and where a Notice of Code Violation has been recorded, shall withhold permits for any alteration, repair, or construction on the property, or any permits pertaining to the use and development of the real property or any structure on such property until a Notice of Release of Code Violation has been issued by the Town Administrator. The Town shall not withhold permits which are necessary to obtain a Notice of Release of Code Violation or which are necessary to correct serious health and safety violations.

J. Whenever a Notice is required to be given under this Section, the following provisions apply, unless different provisions are otherwise specifically stated to apply:

1. Notice shall be given by personal service or certified mail, postage prepaid, return receipt requested. Simultaneously, the same Notice may be sent by first class (regular) mail. If a Notice that is sent by certified mail is returned unsigned, then service shall be deemed effective pursuant to regular mail, provided the Notice that was sent by regular mail is not returned.

2. Notice to the property owner by mail shall be to the address shown on the last assessment roll or to any other address of the owner known to the Town Administrator. In the event the owner's address is unknown, notice shall be posted in three (3) places on or in front of the property, in a form to be approved by the Town Administrator.

3. Notice to any known responsible party shall be by mail to the street address of the property or to any other address of the responsible party known to the Town Administrator.

4. Service by personal service or by certified or regular mail in the manner described above shall be effective on the date of personal delivery or the date of mailing. The failure of any person with an interest in the property to receive any Notice served in accordance with this section shall not affect the validity of any proceedings taken under this chapter.

1.12.030 Mediation.

A. The Council finds there may be a need for mediation as a means of dispute resolution to gain compliance with provisions of the Municipal Code and other applicable Federal and State Codes. The Council further declares that mediation can be an effective technique to avoid disputes by developing consensus on controversial issues. Mediation can often resolve disputes in a more efficient and effective manner without the necessity of more formal administrative action or litigation.

B. At any stage of a Code compliance proceeding, including during a civil action, the matter may be referred to mediation by the Town or by a court that has jurisdiction over the matter.

C. The mediation shall be held before a neutral third party agreed to by the parties or appointed by the court that has jurisdiction over the matter.

D. The mediation shall occur within sixty (60) days of the date of the referral.

1.12.040 Code Compliance Cost Recovery.

A. Any property owner to whom a Notice of Violation is issued and recorded shall pay to the Town the costs of staff administration, as set forth in the Town's Fee Schedule. Such costs shall be based on the time of staff involved in abating the violation and may include the costs of research, field investigation, notice, and administrative hearing costs.

B. Any person against whom a civil or criminal complaint is filed shall pay to the Town the reasonable costs of staff administration, as set forth in the Town's Fee Schedule, unless the party after trial is deemed by the court to be the prevailing party. Such costs shall be based on the time of staff involved in abating the violation and may include the costs of research, field investigation, notice, administrative hearing, and court costs.

C. Code compliance administrative costs shall not be required where the violations on a property are corrected before the date of recordation of a Notice of Code Violation.

D. No Notice of Code Violation shall be released by the Town and no civil or criminal complaint shall be dismissed by the Town until all applicable Code compliance costs have been paid. Additionally, no permit shall be issued and no staff inspection shall be conducted for work on a property currently subject to a Notice of Code Violation or to a civil or criminal complaint, until such Code compliance costs have been paid.

E. Code compliance costs shall be required in addition to any other fees or penalties required by the Code.

1.12.050 Civil Penalties: Injunction.

A. The Town Council finds that in addition to any other procedures, fines, or penalties, that where it is necessary for the Town to file a civil action in court to obtain compliance with the Code, the court may, in its discretion, assess a civil penalty of up to Five Thousand

Dollars (\$5,000) against the violating parties in connection with the Code enforcement action in the event the Town is the prevailing party. The court shall consider some or all of the following factors:

1. The duration of the violation(s).
2. The frequency or recurrence of the violation(s).
3. The seriousness of the violation(s).
4. The history of the violation(s).
5. The person's conduct after issuance of the Notice of Code Violation.
6. The good faith effort by the person to comply.
7. The economic impact of the penalty on the person.
8. The impact of the violation upon the community.
9. Any other factors that justice may require.

B. Any person or entity who commences development or begins construction of any improvement prior to obtaining a zoning approval, architectural and site plan review, subdivision approval, or building permit required by the Portola Valley Municipal Code shall pay a civil penalty to the Town equivalent to three times (3x) any and all fees required for the development or improvement. The Town Administrator may reduce or waive the administrative civil penalty fee in those cases where an application for permit is filed prior to staff awareness of a potential violation and may reduce the fee by one-half where the Town Administrator determines that the applicant has not acted willfully to violate the Code, provided that a complete permit application is submitted not later than ten (10) days after staff has notified the owner of the violation.

C. Any provision of the Code may be enforced by injunction issued by the Superior Court upon a suit brought by the Town.

D. As part of any civil court action, the Town has the authority to require a performance bond to ensure

compliance with the Municipal Code, applicable State Codes, or any judicial action.

1.12.060 Violations, Misdemeanors or Infractions.

A. It shall be unlawful for any person to violate any provision or to fail to comply with the requirements of this Code or of any other ordinance of the Town. Any person violating any of the provisions or failing to comply with any of the mandatory requirements of this Code or any of the Town's ordinances, other than administrative provisions thereof, shall be guilty of a misdemeanor, unless the violation of such provision is designated as an infraction or is a parking violation.

B. Any person convicted of a misdemeanor under the provisions of this Code or other Town ordinance shall be punishable by a fine of not more than One Thousand Dollars (\$1,000) or by imprisonment in the county jail for a period not exceeding six (6) months, or by both such fine and imprisonment.

C. Any person convicted of an infraction under the provisions of this Code or other Town ordinance shall be punishable by:

1. A fine not exceeding One Hundred Dollars (\$100) for a first violation;
2. A fine not exceeding Two Hundred Dollars (\$200) for a second violation within one (1) year of the same provision of this Code or of the same ordinance;
3. A fine not exceeding Five Hundred Dollars (\$500) for a third violation within one (1) year of the same provisions of this Code or of the same ordinance; and
4. Any person violating the same provision of this Code or other Town ordinance that is designated as an infraction for the fourth time within one (1) year shall be guilty of a misdemeanor.

D. Each such person shall be guilty of a separate offense for each and every day during any portion of which any violation of any provision of this Code or of any other Town ordinance is committed, continued, or

permitted by such person and shall be punishable accordingly.

1.12.070 Nuisance. Any condition existing in violation of any of the provisions of this Code or any other Town ordinance shall be deemed a public nuisance and may be abated by the Town pursuant to Title 8 (Health and Safety), of this Code.

1.12.080 No Exclusivity. The remedies specified in this Chapter are not mutually exclusive or definitive, and no remedy in this Chapter supersedes or limits any other remedies, civil or criminal, whether set out in the chapter or not.

3. Severability. If any part of this Ordinance is held to be invalid or inapplicable to any situation by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance or the applicability of this Ordinance to other situations.

4. Effective Date; Posting. This Ordinance shall be posted in three (3) public places within the Town of Portola Valley and shall take effect from and after thirty (30) days after its adoption.

INTRODUCED: *February 5, 1998*

PASSED: *February 11, 1998*

AYES: *Council members; Nielsen, Brown, Driscoll, Merk and Vrain*

NOES: *None*

ABSTENTIONS: *None*

ABSENT: *None*

ATTEST:

Town Clerk

By:

Gary Nielsen
Mayor

APPROVED AS TO FORM:

Margaret A. Sloan
Town Attorney



TOWN OF PORTOLA VALLEY STAFF REPORT

TO: Members of SERC

FROM: Jeremy Dennis, Town Manager
Sustainability and Environmental Resources Committee

DATE: February 28, 2018

RE: Leaf Blowers – Education Program

RECOMMENDATION

Town staff and the Sustainability and Environmental Resources Committee (SERC) recommend that the Town Council approve a resident education and incentive program regarding the appropriate use of leaf blowers, with an update six months after the commencement of the program.

BACKGROUND

At the July 26th 2017 Council meeting, a resident requested that the Town further regulate the use of leaf blowers, citing noise, air quality, and other pollution issues. The Mayor and Vice Mayor requested that a study session be scheduled on the next available Council agenda to discuss these issues and provide direction to staff on potential next steps.

On September 13th, 2017, the Town Council held a study session about leaf blowers (Attachment 1). The Town Council directed staff to work with the SERC to recommend potential amendments to Town code.

On December 18th, 2017, staff and SERC met to discuss next steps to a potential leaf blower ordinance. Delle Maxwell volunteered to work with staff on the staff report.

On February 12th, 2018 the SERC reviewed the draft program and recommended it to the Town Council.

DISCUSSION

Town Staff and SERC recommend the following:

1. Create a six-month education program for residents to learn more about the impacts of gas-powered leaf blowers:
 - a. Particulate and dust impacts
 - b. Noise impacts
 - c. Best soil/mulch management practices to reduce dust and soil loss
 - d. Alternatives to gas-powered leaf blowers
2. Create an incentive program funded by Town Sustainability resources to transition residents and landscape gardeners from gas-powered to electric leaf blowers¹;
3. Return to the Council after six months to report back and review the education and incentive program and make potential recommendation on ordinance change, which could include:
 - a. Amending the Noise Ordinance to ban the use of gas-powered leaf blowers
 - b. Reviewing code enforcement opportunities and penalties of gas-powered leaf blower use violations

The education program is expected to commence in the beginning of April after the drafting and distribution of a one-page flier, in English and Spanish, describing the issues associated with leaf blower use, and suggestions on their operations. The flier will be distributed within town, but also to local gardening supply companies.

FISCAL IMPACT

Fiscal impact will be a result of an incentive program, as discussed above.

ATTACHMENT

1. **September 13th 2017 Town Council Staff Report**

¹ SERC members are working with the landscaping/gardening community to determine the most appropriate incentive program. There is also some consideration of a discount on the business license fee for participation in some kind of incentive program.



TOWN OF PORTOLA VALLEY STAFF REPORT

TO: Mayor and Members of the Town Council

FROM: Jeremy Dennis, Town Manager

DATE: September 13, 2017

RE: Study Session, Leaf Blowers

RECOMMENDATION

Staff recommends that the Town Council provide direction to staff on potential further regulation of leaf blowers in Portola Valley.

BACKGROUND

At the July 26th 2017 Council meeting, a resident requested that the Town further regulate the use of leaf blowers, citing noise, air quality, and other pollution issues. The Mayor and Vice Mayor requested that a study session be scheduled on the next available Council agenda to discuss these issues and provide direction to staff on potential next steps.

Regulation in Portola Valley

The Town currently regulates leaf blowers through the Noise Ordinance (Attachment 1). Regulation is achieved through specific noise standards, as well as the times “domestic garden tools” can be used by both commercial entities and residents. There is further regulation in a subsequent code section specifying dBa levels within 50 feet of the equipment while in use, the equipment’s model number and dBa rating and the use of mufflers and extension tubes

As show in the table below, non-transportation noise in residential districts cannot be higher than 65dBa during daylight hours:

Non-Transportation Generated Noise Standards

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard In Any Hour {dBa}		Interior Noise-Level Standard In Any Hour {dBa}	
		Day 7am-10pm	Night 10pm-7am	Day 7am-10pm	Night 10pm-7am
Residential	Leq	50	40	40	30
	Lmax	65	55	55	45
Medical, convalescent	Leq	55	45	45	35
	Lmax	70	60	55	45
Theater, auditorium	Leq			35	35
	Lmax			50	50
Religious facility, meeting hall	Leq	55		40	40
				55	55
Office Building	Leq			45	

9.10.040B. Domestic Garden Tools¹. Domestic garden tools may be used by commercial companies only Monday through Friday between 8:00 am and 5:30 pm and Saturday between 10:00 am and 5:00 pm; provided that chippers and chain saws may not be used on Saturday. Any resident may personally (including with the help of immediate family members) use domestic garden tools during the following hours: Monday through Friday between 8:00 am and 5:30 pm and Saturday and Sunday between 10:00 am and 5:00 pm. Domestic garden tools may be used by property owners only for the purpose of removing seasonal grasses and plant materials that pose a fire hazard on all days, except holidays, between 8:00 am and 8:00 pm from April 15 to June 15; however, this provision does not allow the use of chain saws and chippers on Sundays. The commercial and resident use of domestic garden tools is prohibited on holidays.

9.10.060H. Prohibited Sources of Noise. Leaf blowers. Leaf blowers shall not produce a sound that exceeds sixty-five dBA when measured from a distance of fifty feet utilizing American National Standard Institute methodology. No person shall operate any leaf blower which does not bear an affixed manufacturer's label indicating the model number of the leaf blower and designating a noise level not in excess of

¹ "Domestic garden tools" are defined in this ordinance as leaf blowers, weed whackers, lawn mowers, chippers, chain saws, or any other lawn or garden power tool.

sixty-five dBA. Any leaf blower that bears such a manufacturer's label shall be presumed to comply with any noise level limit of this chapter provided that it is operated with all mufflers and full extension tubes supplied by the manufacturer for that leaf blower. No person shall operate any leaf blower without attachment of all mufflers and full extension tubes supplied by the manufacturer for that leaf blower. This requirement becomes effective one year after the adoption of this revised chapter.

In the past 6 years, Town Staff has fielded six complaints related to gardening work – two were specific to leaf blower noise.

General Plan

The Sustainability Element of the General Plan calls on the “reduction of greenhouse gas emissions in the air” and a primary goal. Additionally, the Sustainability Element calls for “community education about sustainable principles and applications” (Attachment 2). The Noise Element of the General Plan addresses noise generated by yard maintenance activities and states a goal to “implement appropriate standard controls for yard maintenance activities carried out by commercial companies and homeowners” (Attachment 3).

From a greenhouse gas emissions standpoint, leaf blowers are considered part of the “off-road emissions” inventory, which accounted for 4.5% of the Town’s total 2010 GHG emissions. (Attachment 4)

DISCUSSION

Leaf Blower Design

The majority of leaf blowers purchased in the United States are two stroke model, which means that gas and oil are mixed together to fuel the device. Approximately 30% of the fuel does not completely combust; as a result, they are considered significant polluters. Certain types of two stroke engines have been banned in some areas, including Lake Tahoe, Lake Mead, and many California State Parks that contain lakes. Four stroke engines, similar to automobile engines, are much less common in leaf blowers and are much more environmentally friendly.

In 2000, the California Air Resources Board’s “Report to the California Legislature on the Potential Health and Environmental Impacts of Leaf Blowers” (Attachment 4) identified approximately 410,000 gasoline leaf blowers in California with 1.2% four stroke models. At the same time, there were approximately 600,000 electric leaf blowers in the State, the vast majority used occasionally by homeowners. At the time of the report, it was assumed that “virtually all professional gardeners use gas engine-powered blowers” (page 13).

Air Pollution and Dust

Although somewhat limited, there is a growing number of sources documenting the pollution impacts of leaf blowers.

The aforementioned 2000 California Air Resources Board (CARB) report cited above identified potential health impacts from noise, carbon and dust emissions. The health impacts from these hazards were “from mild to serious, but the appearance of those effects depends on the exposure, the dose, or how much of the hazard is received by a person, and the exposure time” (Page 55).

The CARB report found that leaf blowers generated 7.1 tons per day of hydrocarbons, and 16.6 tons per day of carbon monoxide; however, the report anticipated reductions by 2010 as a result of new leaf blowers standards implemented in 2000. A half-hour of leaf blower operation generated the same amount of hydrocarbon emissions as 7,700 miles of driving at 30 miles per hour; for carbon monoxide, half hour of use is equivalent to 440 miles of driving at 30 miles per hour.

Leaf blowers also impacted the spread of fugitive dust due to the hurricane-level speed of the wind generated (typically between 150 and 280 mph).

Other noteworthy studies/reports/news articles/programs include:

1. 2010 US EPA review of Maricopa County Arizona’s air quality plan – the EPA found that Maricopa County did not adequately inventory sources of coarse particulate matter, and that leaf blowers contributed to the amount of particulate matter in the air.
2. 2011 Edmunds report – the automobile review company Edmunds found that a Ryobi 4-stroke leaf blower contributes 7 times more oxides of nitrogen and 12.5 times more carbon monoxide than a 2011 Ford F-150 Raptor truck, and a 2 stroke Echo 2 leaf blower generated 23 times more carbon monoxide and nearly 300 times more non-methane hydrocarbons than the truck (Attachment 6)
3. 2016 Medical Society of the State of New York resolution – In May 2016, the MSSNY passed a first of its kind resolution calling on the New York State Department of Environmental Conservation and manufacturers of gas powered leaf blowers to develop guidelines to reduce emissions and noise, promote nonpolluting alternatives and ask the American Medical Association to do the same (Attachment 7)
4. 2017 California Air Resources Board rule proposal – the CARB has proposed lowering emissions from small gas off-road engines (including the gas powered engine that leaf blowers use) by 85 percent by the end of 2030 (Attachments 8 and 9).
5. Quiet Communities, a non-profit based in Massachusetts “dedicated to protecting our health, environment, and quality of life from the excessive use of industrial

outdoor maintenance equipment” published a brochure describing the impacts of leaf blowers (Attachment 10)

6. The Bay Area Air Quality Management District (BAAQMD) - Alameda and Contra Costa Counties - and the South Coast Air Quality Management District have a leaf blower exchange program that will replace old gas units with zero-emission equipment (Attachment 11)

Noise

The City of Palm Springs recently approved a ban of gas powered leaf blowers. In their July 19, 2017 report, staff compiled a list of commercially available leaf blowers and their dB noise levels (Attachment 12).

Their review of the noise levels of both gas and electric powered models found that electric units were between 50-68 dB while gas units were between 67-77dB. As a rule of thumb, when a sound increased by 10dB is it assumed that its loudness has doubled.

Other Municipalities

A number of cities in California have regulated the use of leaf blowers beyond general noise abatement or time of use. Below is a chart of some of these communities, with the type of regulations they have adopted; municipalities were chosen to both reflect the diversity of approached in regulation, as well as some jurisdictions similar to Portola Valley:

Municipality	Date	Regulations ²
Belvedere	1987	No person in City limits may operate any portable machine powered with a gasoline engine used to blow leaves, dirt and other debris
Berkeley	1982	No portable machine with a gasoline engine used to blow leaves, dirt and other debris may be used in the City, including City employees
Beverly Hills	1978	No portable machine powered with a gasoline engine used to blow leaves, dirt and other debris
Carmel	1975	Gas powered leaf blowers prohibited
Dana Point	1990	<ul style="list-style-type: none"> • Residential use limited to 9am-5pm, Monday – Saturday • No leaf blower can exceed 65 dBa • Debris cannot be blown or deposited on any adjacent land • Commercially-operated leaf blowers shall have business name, address and telephone number attached
Foster City	Prior to 2000	Leaf blowers within 100 feet of a residential district limited to 8am-5pm Monday-Friday, 9am-5pm Saturday, at 100 dBa
Hillsborough	1998	No leaf blowers allowed on weekends

² Municipal use of gas powered leaf blowers in emergencies is typically exempted.

Laguna Beach	2009	All leaf blowers, gas and electric powered, banned
Los Altos	1991	<ul style="list-style-type: none"> Gas powered blowers banned Electric powered leaf blowers allowed 8am-8p M-F, 9am-6pm Sat, 10am-6pm Sunday
Los Angeles	1998	Gas powered leaf blowers banned within 500 feet of a residence; electric powered leaf blowers allowed
Menlo Park	1999	<ul style="list-style-type: none"> “Certified” leaf blowers (rated at 65 dBa at 50 ft.) can be used 8am-5pm M-F, 11am-3pm Sat Only electric powered allowed
Palo Alto	2005	<ul style="list-style-type: none"> Gas powered leaf blowers prohibited in Residential Zones, electric powered can be used 9am-5pm M-F, 10am-4pm Saturday at 75 dBa Non-residential Zones allow gas and electric powered leaf blowers, at same times at 95 dBa Commercial leaf blower operators must display on device training certificate Devices should retain all mufflers and full extension tubes
Piedmont	1990	<ul style="list-style-type: none"> Gas powered leaf blowers prohibited Exception for public agency work on publicly-owned or operated facilities
Sacramento	2002	<ul style="list-style-type: none"> Gas powered leaf blowers banned on residential property or within 200 feet of residential property at 65dBa at 50 feet Allowed between 10am-4pm M-Sat
Santa Barbara	1997	<ul style="list-style-type: none"> Gas powered leaf blowers prohibited New leaf blowers cannot be sold in City that exceed 65 dBa City will inspect all leaf blowers and issue a certification sticker
Santa Monica	1996	All motorized leaf blowers prohibited
Tiburon	2010	<ul style="list-style-type: none"> Gas powered leaf blowers and hedge trimmers prohibited in residential areas Gas powered leaf blowers and hedge trimmers allowed in non-residential areas from 9am-4pm M-F

Enforcement

Although many jurisdictions in California have passed more stringent leaf blower regulations, enforcement is typically difficult. Simply having resources to respond to complaints can be challenging for any municipality; additionally, having evidence that a violation has occurred when the violation may have already ended, with no evidence of said violation, may make it challenging to enforce.

Cost of Electric Powered Equipment

A cursory review of pricing found that a typical, residential-use electric powered leaf blower costs between \$30-150, while a similar gas powered unit costs at least \$75. Commercial units, more appropriate for larger lots, costs \$175-\$600. Very large properties may be more appropriate for walk-behind leaf blowers, but there are fewer electric powered models on the market than gas powered models – cost ranges from \$150 up.

Town staff could develop a rebate/trade in program, similar to the BAAQMD's system, to provide incentives for the replacement of gas powered leaf blowers with electric units.

Council Direction

Staff seeks direction on the following questions:

1. Should the Town consider new regulations on leaf blowers? If yes:
 - a. What committees should be utilized to further research leaf blower issues?
 - b. Are there any parameters to the research the Council would like to consider before work starts?
2. Should the Town consider amending the Noise Ordinance to include penalties for leaf blower noise violations?
3. Should the Town consider a rebate program to encourage the replacement of gas powered leaf blowers with electric units?
4. Should the Town consider further regulations on other gas powered gardening or landscaping equipment, as defined as "domestic garden tools" in the Noise Ordinance?

FISCAL IMPACT

There is no fiscal impact resulting from this study session. Future actions on leaf blowers may result in direct costs to the Town related to equipment, and indirect costs to residents.

ATTACHMENTS

1. Portola Valley Noise Ordinance
2. Portola Valley Sustainability Element, page 5
3. Portola Valley Noise Element, page 13
4. 2010 Town GHG emissions report
5. 2000 CARB Report to State Legislature on Leaf Blowers
6. Edmunds Report
7. MSSNY Resolution
8. NPR Article, CARB
9. CARB Small Off Road Engines Fact Sheet
10. Quiet Communities Handout
11. Trade In Programs, Air Quality Management Districts

12. July 19, 2017 Palm Springs Leaf Blowers Noise Table

Approved by: Jeremy Dennis, Town Manager

A handwritten signature in black ink, appearing to read "Jeremy Dennis", is positioned to the right of the approval text.

ORDINANCE NO. 2009-380

ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF PORTOLA VALLEY AMENDING CHAPTER 9.10 [NOISE CONTROL] OF TITLE 9 [PUBLIC PEACE, MORALS AND WELFARE] OF THE PORTOLA VALLEY MUNICIPAL CODE

WHEREAS, the Town of Portola Valley ("Town") desires to amend Chapter 9.10 [Noise Control] of Title 9 [Public Peace, Morals and Welfare] of the Portola Valley Municipal Code.

NOW, THEREFORE, the Town Council of the Town of Portola Valley does **ORDAIN** as follows:

1. Amendment of Code. Chapter 9.10 [Noise Control] of Title 9 [Public Peace, Morals and Welfare] of the Portola Valley Municipal Code is hereby amended to read as follows:

9.10.010	Purpose
9.10.020	Definitions
9.10.030	Noise Standards
9.10.040	Permitted Sources of Noise
9.10.050	Special Circumstances
9.10.060	Prohibited Sources of Noise
9.10.070	Exemptions
9.10.080	Other Noises

9.10.010 Purpose

It is the policy of the town to protect its citizens from the harmful and annoying effects of excessive noise. This ordinance is established to implement the Noise Element of the General Plan and to regulate and control disturbing, excessive and offensive noise. The town encourages efforts by residents to address noise issues amicably through direct communication with their neighbors.

9.10.020 Definitions

Ambient Noise. The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

A-Weighted Sound Level (dBA). The sound pressure level in decibels as measured on a sound level meter using the A-weighted network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a

manner similar to the response of the human ear and gives a good correlation with subjective reactions to noise. Also referred to in this Chapter as simply “sound level”.

Construction, Grading and Clearing. Construction, demolition, or repair work on any building, structure, foundation, vegetation or project, which activities include, but are not limited to: the use of any mechanically powered saw, sander, drill, grinder, pneumatic jack hammer, electric jack hammer, chain saw, steam or electric hoist, hydraulic drill or shovel, “bob-cat”, backhoe, bulldozer, dump truck, or other construction device; grading; clearing of land; delivery or removal of construction materials; or movement of construction materials from place to place on a site.

Decibel (dB). A unit for measuring the volume of a sound.

Demolition. Any dismantling, intentional destruction or removal of structures, utilities, public or private right-of-way surfaces, or property.

Domestic Garden Tools. Leaf blowers, weed whackers, lawn mowers, chippers, chain saws, or any other lawn or garden power tool.

Emergency. Any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate actions.

Equivalent A-Weighted Sound Level (L_{eq}). The sound level containing the same total energy as a time varying signal over a given sample period, typically one hour.

Holidays. January 1st, Martin Luther King, Jr. Day, President’s Day, Memorial Day, July 4th, Labor Day, Veteran’s Day, Thanksgiving and Christmas. If any holiday falls on a Sunday, the next Monday shall be considered a holiday.

Impulsive Sound. Sound of short duration, usually less than one second, with an abrupt onset and rapid decay, such as hammering.

Maximum Sound Level (L_{max}). The maximum sound level recorded during a noise event. To measure a constant sound, the “slow” sound level meter time constant setting shall be used; if the sound is impulsive, the “fast” setting shall be used.

Noise. Any sound that annoys or disturbs a reasonable person of normal sensitivities.

Noise Sensitive Land Use. Locations where there are greater sensitivities to excess noise, including but not limited to residences, hospitals, nursing homes, theaters, auditoriums, religious facilities, meeting halls, schools, libraries, museums and parks.

Non-Transportation Noise Source. Any source of noise that emanates from a particular fixed location. Examples include machinery, equipment, loudspeakers, truck loading areas, parking and waiting areas and places of entertainment.

Tonal Sound. A sound that can be distinctly heard as a single pitch usually characterized by a whine, screech or hum.

Transportation Noise Source. Any source of noise that emanates from vehicles in motion either associated with ground transportation (roadway) or with air traffic (airplane and helicopter).

9.10.030 Noise Standards

It is unlawful for any person in any location in the town from the effective date of this ordinance to create or cause to be created any noise that exposes properties in the vicinity to noise levels that exceed the levels indicated in Table 9.10-1, provided that, if the noise is generated by a structure or integral part of a structure, such compliance is required within twelve months after the effective date of the ordinance, August 21, 2009. Noises permitted by Sections 9.10.040 and 9.10.070 are not subject to Table 9.10-1.

Table 9.10-1 Non-Transportation Generated Noise Standards

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard In Any Hour (dBA)		Interior Noise-Level Standard In Any Hour (dBA)	
		Daytime (7am-10pm)	Nighttime (10pm-7am)	Daytime (7am-10pm)	Nighttime (10pm-7am)
Residential	L _{eq}	50	40	40	30
	L _{max}	65	55	55	45
Medical, convalescent	L _{eq}	55	45	45	35
	L _{max}	70	60	55	45
Theater, auditorium	L _{eq}			35	35
	L _{max}			50	50
Religious facility, meeting hall	L _{eq}	55		40	40
	L _{max}			55	55
Office Building	L _{eq}			45	

School, library, museum	L_{eq} L_{max}	55		40 55	
Playground, park	L_{eq}	55			
<p>Notes:</p> <p>a) The Residential standards apply to all residentially zoned properties.</p> <p>b) Each of the noise levels specified above shall be lowered by 5 dBA for tonal noises characterized by a whine, screech, or hum, noises consisting primarily of speech or music, or recurring impulsive noises.</p> <p>c) The exterior noise standards are measured at any point on the property on which sound is generated, or on a separate receiving property.</p> <p>d) The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors, the thresholds are about 15 dBA higher. Steady noise of sufficient intensity, above 35 dBA, and fluctuating noise levels above about 45 dBA have been shown to affect sleep.</p>					

9.10.040 Permitted Sources of Noise

No person shall do, cause or suffer or permit to be done on any premises owned, occupied or controlled by such a person, any of the following acts except as provided below. All vehicles, equipment and machines associated with the enumerated activities shall incorporate design features in good operating order that meet current industry standards for noise muffling and noise reduction. Permitted sources of noise described in this section shall be subject to applicable conditional use permit conditions, construction program agreements, town noise reduction guidelines, and other forms of regulation.

A. Construction Activities. Commercial construction activities may take place between 8:00 am and 5:30 pm Monday through Friday. Any resident may personally (including with the help of immediate family members) undertake construction activities during the following hours: Monday through Friday between 8:00 am and 5:30 pm and Saturday and Sunday between 10:00 am and 5:00 pm. Commercial and resident construction activities are prohibited on holidays. Exceptions to these hours may be permitted in unusual circumstances pursuant to written authorization from the Director of Public Works. No radios or other amplified sound devices shall be audible beyond the property line of the construction site.

B. Domestic Garden Tools. Domestic garden tools may be used by commercial companies only Monday through Friday between 8:00 am and 5:30 pm and Saturday between 10:00 am and 5:00 pm; provided that chippers and chain saws may

not be used on Saturday. Any resident may personally (including with the help of immediate family members) use domestic garden tools during the following hours: Monday through Friday between 8:00 am and 5:30 pm and Saturday and Sunday between 10:00 am and 5:00 pm. Domestic garden tools may be used by property owners only for the purpose of removing seasonal grasses and plant materials that pose a fire hazard on all days, except holidays, between 8:00 am and 8:00 pm from April 15 to June 15; however, this provision does not allow the use of chain saws and chippers on Sundays. The commercial and resident use of domestic garden tools is prohibited on holidays.

C. Large Vehicle Delivery and Loading. For other than construction activities, the loading, unloading or delivery of goods, merchandise, vehicles or supplies by large trucks, tractor-trailers, or other similar vehicles is restricted to the hours between 8:00 am and 5:30 pm Monday through Friday, unless otherwise authorized by a conditional use permit.

D. Garbage Collection. Collection of garbage and other refuse is restricted to the hours between 8:00 am and 5:00 pm, Monday through Friday, unless authorized otherwise by a franchise agreement with the town.

E. Residential Emergency Generators. The testing of home generators used for emergency power is permitted only on weekdays, no more frequently than once a week and for a duration not exceeding 20 minutes restricted to the hours between 10:00 am and 4:00 pm. Home generators shall not be tested on holidays. Home generators shall not produce a sound exceeding 65 dBA when measured 22 feet from the generator, and shall have mufflers and generator enclosures in good condition and appropriate for the generator. Emergency generators shall be located as far as possible from adjoining properties.

9.10.050 Special Circumstances

While the noise standards in this Chapter are consistent with generally accepted community noise limitations, there may be circumstances where the standards do not reduce noise from non-transportation noise sources to a level appropriate for the use and the surrounding area. In such instances, and where the noise generator is controlled by a conditional use permit, the conditional use permit may establish conditions for such use to achieve noise levels that are lower than the standards in this Chapter.

9.10.060 Prohibited Sources of Noise

Notwithstanding any other provision of this Chapter, the following sources of noise are prohibited:

A. Animals and Fowl. The keeping of any animal, including but not limited to, dogs, fowl and crowing roosters, which by any persistent sound or cry disturbs a reasonable person owning, using, or occupying property in the neighborhood.

B. Sounding Horns and Signal Devices. The sounding of any horn or signal device on any automobile, motorcycle, bus, or other vehicle in any other manner or circumstance or of any other purpose than required or permitted by the California Vehicle Code or other laws of the state.

C. Racing Engine. The racing of an engine of any motor vehicle, except when necessary to do so in the course of repairing, adjusting or testing but not so that a reasonable person owning, using or occupying property in the neighborhood is disturbed.

D. Musical Instruments, Sound Amplifiers and Sounds in General. The making of any recurring and excessive sound or noise by any method so that the sound is plainly audible and a reasonable person owning, using, or occupying property in the neighborhood is disturbed. This prohibition includes, but is not limited to, the use or operation of any musical instrument or any device, machine, apparatus, or instrument for intensification or amplification of the human voice or music.

E. Outdoor Amplified Sound on Town Property. The use of amplified sound outdoors on property owned by the town for any purpose unless authorized in writing by the town.

F. Explosives, Firearms, and Similar Devices. The use or firing of explosives, firearms, or similar devices which create impulsive sound so as to cause a noise disturbance across a real property boundary or on a public space or right-of-way, except when part of a government-authorized honor guard.

G. Motor Vehicle Maintenance. Work on motor vehicles, at other than service facilities approved by the town, that is plainly audible and a reasonable person owning, using, or occupying property in the neighborhood is disturbed.

H. Leaf Blowers. Leaf blowers shall not produce a sound that exceeds 65 dBA when measured from a distance of fifty feet utilizing American National Standard Institute methodology. No person shall operate any leaf blower which does not bear an affixed manufacturer's label indicating the model number of the leaf blower and designating a noise level not in excess of 65 dBA. Any leaf blower that bears such a manufacturer's label shall be presumed to comply with any noise level limit of this Chapter provided that it is operated with all mufflers and full extension tubes supplied by the manufacturer for that leaf blower. No person shall operate any leaf blower without attachment of all mufflers and full extension tubes supplied by the manufacturer for that leaf blower. This requirement becomes effective one year after the adoption of this revised Chapter.

9.10.070 Exemptions

Sound or noise emanating from the following sources and activities are exempt from the provisions of this ordinance:

A. Emergencies, involving the execution of the duties of duly authorized governmental personnel and others providing emergency response to the general public, including but not limited to sworn peace officers, emergency personnel, utility personnel, and the operation of emergency response vehicles and equipment.

B. Emergencies that pose a threat to property or safety of persons or animals and require action by a resident, including with the help of immediate family members or a commercial company.

C. Safety, warning and alarm devices, including house and car alarms, and other warning devices that are designed to protect the health, safety, and welfare, provided such devices are well-maintained, and designed with automatic shut offs or a direct connection to a security service, both of which turn off the device after a reasonable time limit.

9.10.080 Other Noises

Noises not addressed in the Chapter shall adhere to the most relevant provisions in the ordinance as determined by town staff or on referral to the town Council.

2. Environmental Review. Based on information contained in the proposed Negative Declaration and presented at public hearings on the proposed ordinance, this Ordinance will not result in any potentially significant environmental impacts. The proposed Negative Declaration reflects the Council's independent judgment, and the Council hereby adopts the Negative Declaration.

3. Effective Date; Posting. This ordinance shall become effective thirty (30) days after the date of its adoption and shall be posted within the Town of Portola Valley in three (3) public places.

INTRODUCED: June 24, 2009

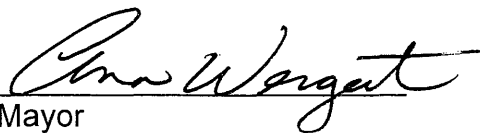
PASSED: July 22, 2009

AYES: Councilmember Derwin, Councilmember Driscoll, Councilmember Merk, Vice Mayor Toben and Mayor Wengert

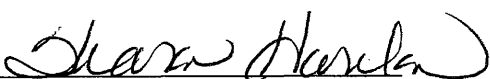
NOES: None

ABSTENTIONS: None

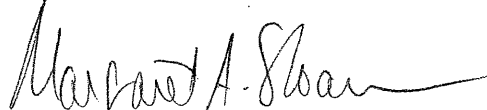
ATTEST:

By: 
Mayor

ATTEST:


Town Clerk

APPROVED AS TO FORM:


Town Attorney

facilities contributes to residents being able to accomplish several missions on a single trip and thereby reduce automobile traffic. A full range of trail and path facilities also serves this area. The town center helps instill a sense of pride in the community and its values which in turn can help lead to community consensus on sustainability programs.

Goals and Objectives

- 4420 A major goal of the community is to ensure the sustainability of our environment. The provisions of this element, in addition to the above-referenced provisions in other parts of the general plan, are intended to help the community realize this goal. The element includes broad goals and objectives. In addition, Sustainability Element Appendix 1 lists “Illustrative Policies and Practices” that the town could consider in furthering the goals and objectives of the element.
- 4421 Following are the goals and objectives. The goals address: reduction of greenhouse gas emissions in the air, green building for new and existing structures, protection of water resources, protection of the natural environment, and community education and involvement. Each of the categories involves activities that can increase sustainability. The major goals are not mutually exclusive since sustainability is affected by many activities that occur in the town.

Overarching Goals

1. To encourage and provide community education about sustainable principles and applications.
2. To encourage the use of renewable resources and minimize the use of nonrenewable resources.
3. To strive for an optimum balance among the activities of residents, the built environment and the natural environment so as to maintain and improve the condition of life for future generations.
4. To encourage and provide for enhanced resource efficiency and the use of sustainable materials in all building projects.
5. To employ the principles of “green” building.
6. To reduce carbon emissions to 1990 levels by the year 2020 and to 80% below 1990 levels by the year 2050.

- Cause the Ldn at noise-sensitive uses to increase by 3 dBA or more and exceed the “normally acceptable” level. See Figure 2 for the definition of “normally acceptable.”
- Cause the Ldn at noise-sensitive uses to increase by 5 dBA or more and remain “normally acceptable.”

Where a proposed transportation noise source is likely to produce noise levels that would exceed the above standards, an acoustical analysis shall be required as a part of project review or as part of the environmental review process so that noise mitigation may be included in the project design.

2. Noise created by new non-transportation noise sources shall be mitigated so as to not cause the land use receiving the noise to exceed interior and exterior noise level standards of Table 3. Where proposed non-transportation noise sources are likely to produce noise levels that would exceed the standards of Table 3, an acoustical analysis shall be required as a part of project review or as part of the environmental review process so that noise mitigation may be included in the project design.
3. All acoustical analyses shall:
 - Be the responsibility of the applicant for the project.
 - Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
 - Include representative noise level assessments with sufficient sampling periods and locations to adequately describe local conditions.
 - Estimate existing and projected (20 years) noise levels in terms of Ldn and/or the standards of Table 3, and compare those levels to the policies of this Element.
 - Recommend mitigation to achieve compliance with the adopted policies and standards of this Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
 - Describe a post-project assessment program that could be used to evaluate the effectiveness of the proposed mitigation measures.

4319 Goal 4: Control Noise from Construction and Yard Maintenance Activities

1. Implement appropriate standard controls for all construction projects carried out by contractors or homeowners.
2. Implement appropriate standard controls for yard maintenance activities carried out by commercial companies and homeowners.
3. Require ASCC review for all construction projects scheduled for or lasting more than 24 months and submittal of construction staging, timing and noise management plans.

4. **Develop a guidance manual to provide information to the public regarding noise control.**

4320 Goal 5: Control Noise from Other Sources

1. Communicate with the FAA through the San Francisco International Airport (SFO) Airport Roundtable, and other government persons and agencies, to minimize the noise impact of commercial aircraft operations.
2. Work with local airports to promote a “fly neighborly” program to minimize noise resulting from low altitude aircraft operations and unnecessary general aviation aircraft over Portola Valley.
3. Revise the noise ordinance to address ongoing noise issues by using quantitative noise limits where appropriate and establishing comprehensive noise control measures.
4. Develop a “quiet neighbor” information program and distribute information to the community defining community norms.
5. Develop a program for dealing with chronic noise complaints.

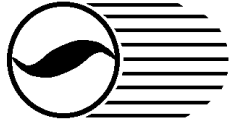
Appendix

The document “Noise Technical Report Supporting the Updates of the Portola Valley Noise Element and Noise Ordinance, June 18, 2008” prepared by Richard B. Rodkin, PE, is included as an appendix to the noise element.

Table 4

Sectors Included in the Baseline Inventory	2005 GHG Emissions (metric tons CO ₂ e)	2010 GHG Emissions (metric tons CO ₂ e)	Increase or Decrease in GHG Emissions (metric tons CO ₂ e)	Percentage of 2010 GHG Emissions
Residential	13,720	13,367	-353	41.5%
Commercial/Industrial	4,276	4,389	113	13.6%
Transportation – Local roads	12,880	12,310	-570	38.2%
Transportation – State highways	163	140	-23	0.4%
Transportation – Off-road equipment	1,411	1,462	51	4.5%
Solid Waste – Generated Waste	561	338	-223	1.0%
SUBTOTAL	33,011	32,007	-1,004	99.3%
New Sectors (not included in the Baseline Inventory)	2005 GHG Emissions (metric tons CO ₂ e)	2010 GHG Emissions (metric tons CO ₂ e)	Increase or Decrease in GHG Emissions (metric tons CO ₂ e)	Percentage of 2010 GHG Emissions
Wastewater	Not applicable	107	Not applicable	0.3%
Water		125		0.4%
SUBTOTAL		232		0.7%
GRAND TOTAL OF 2010 EMISSIONS	32,239		metric tons CO₂e	
Total of 2005 Baseline Emissions	33,079		metric tons CO₂e	
Total Decrease	-840		metric tons CO₂e	

California Environmental Protection Agency



AIR RESOURCES BOARD

**A REPORT TO THE CALIFORNIA
LEGISLATURE ON THE POTENTIAL
HEALTH AND ENVIRONMENTAL
IMPACTS OF
LEAF BLOWERS**

Mobile Source Control Division

February 2000

State of California

AIR RESOURCES BOARD

**A REPORT TO THE CALIFORNIA LEGISLATURE ON
THE POTENTIAL HEALTH AND ENVIRONMENTAL
IMPACTS OF LEAF BLOWERS**

Public Hearing: January 27, 2000
Date of Revision: February 29, 2000

This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

ACKNOWLEDGMENTS

This report on potential health and environmental impacts of leaf blowers was developed by the following Air Resources Board staff:

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And with the assistance of additional staff: Cresencia Gapas-Jackson, Leslie Krinsk, Jeff Long, Keith Macias, Angela Ortega, Muriel Strand, John Swanton, Maggie Wilkinson, and Walter Wong.

The many other individuals who provided information and assistance for this report are listed in Appendix B.

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EXECUTIVE SUMMARY

Background and Overview

California Senate Concurrent Resolution No. 19 (SCR 19) requests the Air Resources Board (ARB) to prepare and submit a report to the Legislature on or before January 1, 2000, summarizing the potential health and environmental impacts of leaf blowers and including recommendations for alternatives to the use of leaf blowers and alternative leaf blower technology, if the ARB determines that alternatives are necessary. The goal of this report is to summarize for the California Legislature existing data on health and environmental impacts of leaf blowers, to identify relevant questions not answered in the literature, and suggest areas for future research.

The leaf blower was invented in the early 1970s and introduced to the United States as a lawn and garden maintenance tool. Drought conditions in California facilitated acceptance of the leaf blower as the use of water for many garden clean-up tasks was prohibited. By 1990, annual sales were over 800,000 nationwide, and the tool had become a ubiquitous gardening implement. In 1998, industry shipments of gasoline-powered handheld and backpack leaf blowers increased 30% over 1997 shipments, to 1,868,160 units nationwide.

Soon after the leaf blower was introduced into the U.S., its use was banned as a noise nuisance in two California cities, Carmel-by-the-Sea in 1975 and Beverly Hills in 1978. By 1990, the number of California cities that had banned the use of leaf blowers was up to five. There are currently twenty California cities that have banned leaf blowers, sometimes only within residential neighborhoods and usually targeting gasoline-powered equipment. Another 80 cities have ordinances on the books restricting either usage or noise level or both. Other cities have considered and rejected leaf blower bans. Nationwide, two states, Arizona and New Jersey, have considered laws at the state level, and five other states have at least one city with a leaf blower ordinance.

The issues usually mentioned by those who object to leaf blowers are health impacts from noise, air pollution, and dust. Municipalities regulate leaf blowers most often as public nuisances in response to citizen complaints. Two reports were located that address environmental concerns: the Orange County Grand Jury Report, and a series of reports from the City of Palo Alto City Manager's office. The City of Palo Alto reports were produced in order to make recommendations to the City Council on amending their existing ordinance. The Orange County Grand Jury took action to make recommendations to improve the quality of life in Orange County, and recommended that cities, school districts, community college districts, and the County stop using gasoline-powered leaf blowers in their maintenance and clean-up operations. The major findings of each are similar: leaf blowers produce exhaust emissions, resuspend dust, and generate high noise levels.

As per SCR 19, this report includes a comprehensive review of existing studies of the impacts of leaf blowers on leaf blower operators and on the public at large, and of the availability and actual use of protective equipment for leaf blowers. The receptors identified by the resolution are humans and the environment; sources of impacts are exhaust, noise, and dust. Because the Legislature specified that ARB use existing information, staff conducted no new studies. In order to locate existing data, staff searched the published literature, contacted potential resources and experts, and requested data from the public via mail and through a web page devoted to the leaf blower report. Two public workshops were held in El Monte, California, to facilitate further discussions with interested parties.

The methodology followed for this report depends on both the objectives of SCR 19 and available data. As staff discovered, in some areas, such as exhaust emissions, much is known; in other areas, such as fugitive dust emissions, we know very little. For both fugitive dust and noise, there are few or no data specifically on leaf blower impacts. For all hazards, there have been no dose-response studies related to emissions from leaf blowers, we do not know how many people are affected by those emissions, and no studies were located that address potential health impacts from leaf blowers. Therefore, staff determined to provide the Legislature with a report that has elements of both impact and risk assessments.

The body of the report comprises three components, following the introduction: hazard identification, review of health effects, and a characterization of the potential impacts of leaf blowers on operators and bystanders. In Section II, the emissions are quantified as to specific hazardous constituents, the number of people potentially exposed to emissions is discussed, and laws that seek to control emissions are summarized. Section III reviews health effects, identifying the range of potential negative health outcomes of exposure to the identified hazards. Section IV is a synthesis of hazard identification and health effects, characterizing potential health impacts that may be experienced by those exposed to the exhaust emissions, fugitive dust, and noise from leaf blowers in both occupational and non-occupational setting. Section V discusses recommendations. Additional information, including a discussion of research needs to make progress toward answering some of the questions raised by this report, a description of engine technologies that could reduce exhaust emissions and alternatives to leaf blowers, and a complete bibliography of materials received and consulted but not cited in the report, is found in the appendices.

Description of the Hazards

Hazard identification is the first step in an impact or risk assessment. Each of the three identified hazards are examined in turn, exhaust emissions, dust emissions, and noise. For each, the hazard is described and quantified, to the extent possible, and the number of people potentially exposed to the hazard is discussed. For exhaust emissions, the number of people potentially impacted is as high as the population of the state, differing within air basins. Fugitive dust emissions impact a varying number of people, depending on one's proximity to the source, the size of the particles, and the amount of time since the source resuspended the particles. Finally, we also discuss laws that control the particular hazard.

Exhaust emissions from leaf blowers consist of the following specific pollutants of concern: hydrocarbons from both burned and unburned fuel, and which combine with other gases in the atmosphere to form ozone; carbon monoxide; fine particulate matter; and other toxic air contaminants in the unburned fuel, including benzene, 1,3-butadiene, acetaldehyde, and formaldehyde. Exhaust emissions from these engines, while high compared to on-road mobile sources on a per engine basis, are a small part of the overall emission inventory. Emissions have only been controlled since 1995, with more stringent standards taking effect in 2000. The exhaust emissions from leaf blowers are consistent with the exhaust emissions of other, similar off-road equipment powered by small, two-stroke engines, such as string trimmers. Manufacturers have developed several different methods to comply with the standards and have done an acceptable job certifying and producing engines that are below the regulated limits. Electric-powered models that are exhaust-free are also available.

Data on fugitive dust indicate that the PM10 emissions impacts from dust suspended by leaf blowers are small, but probably significant. Previous emission estimates range from less than 1% to 5% of the statewide PM10 inventory. The ARB previously estimated statewide fugitive dust emissions to be about 5 percent of the total, the Sacramento Metropolitan AQMD estimated leaf blower fugitive dust emissions to be about 2 percent of the Sacramento county PM10 air burden, and AeroVironment estimated dust attributable to leaf blowers in the South Coast Air Basin to be less than 1% of all fugitive dust sources. Dust emissions attributable to leaf blowers are not part of the inventory of fugitive dust sources. ARB, therefore, does not have official data on the quantity of fugitive dust resuspended by leaf blowers. A more definitive estimate of leaf blower fugitive dust emissions will require verification of appropriate calculation parameters and representative silt loadings, measurement of actual fugitive dust emissions through source testing, and identification of the composition of leaf blower-generated fugitive dust.

Noise is the general term for any loud, unmusical, disagreeable, or unwanted sound, which has the potential of causing hearing loss and other adverse health impacts. While millions of Californians are likely exposed to noise from leaf blowers as bystanders, given the ubiquity of their use and the increasing density of California cities and towns, there is presently no way of knowing for certain how many are actually exposed, because of the lack of studies. In contrast, it is likely that at least 60,000 lawn and garden workers are daily exposed to the noise from leaf blowers. Many gardeners and landscapers in southern California are aware that noise is an issue and apparently would prefer quieter leaf blowers. Purchases of quieter leaf blowers, based on manufacturer data, are increasing. While little data exist on the noise dose received on an 8-hr time-weighted-average by operators of leaf blowers, data indicate that some operators may be exposed above the OSHA permissible exposure limit. It is unlikely that more than 10% of leaf blower operators and members of the gardening crew, and probably a much lower percentage, regularly wear hearing protection, thus exposing them to an increased risk of hearing loss. The sound quality of gasoline-powered leaf blowers may account for the high level of annoyance reported by bystanders.

Review of Health Effects

Potential health effects from exhaust emissions, fugitive dust, and noise range from mild to serious. Fugitive dust is not a single pollutant, but rather is a mixture of many subclasses of pollutants, each containing many different chemical species. Many epidemiological studies have shown statistically significant associations of ambient particulate matter levels with a variety of negative health endpoints, including mortality, hospital admissions, respiratory symptoms and illness, and changes in lung function. Carbon monoxide is a component of exhaust emissions which causes health effects ranging from subtle changes to death. At low exposures, CO causes headaches, dizziness, weakness, and nausea. Children and people with heart disease are particularly at risk from CO exposure. Some toxic compounds in gasoline exhaust, in particular benzene, 1,3-butadiene, acetaldehyde, and formaldehyde, are carcinogens. Ozone, formed in the presence of sunlight from chemical reactions of exhaust emissions, primarily hydrocarbons and nitrogen dioxide, is a strong irritant and exposures can cause airway constriction, coughing, sore throat, and shortness of breath. Finally, noise exposures can damage hearing, and cause other adverse health impacts, including interference with communication, rest and sleep disturbance, changes in performance and behavior, annoyance, and other psychological and physiological changes that may lead to poor health.

Potential Health and Environmental Impacts of Leaf Blowers

Health effects from hazards identified as being generated by leaf blowers range from mild to serious, but the appearance of those effects depends on exposures: the dose, or how much of the hazard is received by a person, and the exposure time. Without reasonable estimates of exposures, ARB cannot conclusively determine the health impacts from leaf blowers; the discussion herein clearly is about potential health impacts. The goal is to direct the discussion and raise questions about the nature of potential health impacts for those exposed to the exhaust emissions, fugitive dust, and noise from leaf blowers in both occupational and non-occupational settings.

For the worker, the analysis suggests concern. Bearing in mind that the worker population is most likely young and healthy, and that these workers may not work in this business for all of their working lives, we nonetheless are cautioned by our research. Leaf blower operators may be exposed to potentially hazardous concentrations of CO and PM intermittently throughout their work day, and noise exposures may be high enough that operators are at increased risk of developing hearing loss. While exposures to CO, PM, and noise may not have immediate, acute effects, the potential health impacts are greater for long term exposures leading to chronic effects. In addition, evidence of significantly elevated concentrations of benzene and 1,3-butadiene in the breathing zone of operators leads to concern about exposures to these toxic air contaminants.

Potential noise and PM health impacts should be reduced by the use of appropriate breathing and hearing protective equipment. Employers should be more vigilant in requiring and ensuring their employees wear breathing and hearing protection. Regulatory agencies should conduct educational and enforcement campaigns, in addition to exploring the extent of the use of protective gear. Exposures to CO and other air toxics are more problematic because there is no effective air filter. More study of CO and other air toxics exposures experienced by leaf blower

operators is warranted to determine whether the potential health effects discussed herein are actual effects or not.

Describing the impacts on the public at large is more difficult than for workers because people's exposures and reactions to those exposures are much more variable. Bystanders are clearly annoyed and stressed by the noise and dust from leaf blowers. They can be interrupted, awakened, and may feel harassed, to the point of taking the time to contact public officials, complain, write letters and set up web sites, form associations, and attend city council meetings. These are actions taken by highly annoyed individuals who believe their health is being negatively impacted. In addition, some sensitive individuals may experience extreme physical reactions, mostly respiratory symptoms, from exposure to the kicked up dust.

On the other hand, others voluntarily purchase and use leaf blowers in their own homes, seemingly immune to the effects that cause other people such problems. While these owner-operators are likely not concerned about the noise and dust, they should still wear protective equipment, for example, eye protection, dust masks, and ear plugs, and their exposures to CO are a potential problem and warrant more study.

Recommendations

The Legislature asked ARB to include recommendations for alternatives in the report, if ARB determines alternatives are necessary. This report makes no recommendations for alternatives. Based on the lack of available data, such conclusions are premature at this time. Exhaust standards already in place have reduced exhaust emissions from the engines used on leaf blowers, and manufacturers have significantly reduced CO emissions further than required by the standards. Ultra-low or zero exhaust emitting leaf blowers could further reduce public and worker exposures. At the January 27, 2000, public hearing, the Air Resources Board directed staff to explore the potential for technological advancement in this area.

For noise, the ARB has no Legislative mandate to control noise emissions, but the evidence seems clear that quieter leaf blowers would reduce worker exposures and protect hearing, and reduce negative impacts on bystanders. In connection with this report, the Air Resources Board received several letters urging that the ARB or another state agency set health-based standards for noise and control noise pollution.

A more complete understanding of the noise and the amount and nature of dust resuspended by leaf blower use and alternative cleaning equipment is suggested to guide decision-making. Costs and benefits of cleaning methods have not been adequately quantified. Staff estimates that a study of fugitive dust generation and exposures to exhaust emissions and dust could cost \$1.1 million, require two additional staff, and take two to three years. Adding a study of noise exposures and a comparison of leaf blowers to other cleaning equipment could increase study costs to \$1.5 million or more (Appendix H).

Fugitive dust emissions are problematic. The leaf blower is designed to move relatively large materials, which requires enough force to also blow up dust particles. Banning or restricting the use of leaf blowers would reduce fugitive dust emissions, but there are no data on fugitive dust emissions from alternatives, such as vacuums, brooms, and rakes. In addition, without a more complete analysis of potential health impacts, costs and benefits of leaf blower use, and potential health impacts of alternatives, such a recommendation is not warranted.

Some have suggested that part of the problem lies in how leaf blower operators use the tool, that leaf blower operators need to show more courtesy to passersby, shutting off the blower when people are walking by. Often, operators blow dust and debris into the streets, leaving the dust to be resuspended by passing vehicles. Interested stakeholders, including those opposed to leaf blower use, could join together to propose methods for leaf blower use that reduce noise and dust generation, and develop and promote codes of conduct by workers who operate leaf blowers. Those who use leaf blowers professionally would then need to be trained in methods of use that reduce pollution and potential health impacts both for others and for themselves.

I. INTRODUCTION

A. Background

California Senate Concurrent Resolution No. 19 (SCR 19) was introduced by Senator John Burton February 23, 1999, and chaptered May 21, 1999 (Appendix A). The resolution requests the Air Resources Board (ARB) to prepare and submit a report to the Legislature on or before January 1, 2000, “summarizing the potential health and environmental impacts of leaf blowers and including recommendations for alternatives to the use of leaf blowers and alternative leaf blower technology if the state board determines that alternatives are necessary.” The Legislature, via SCR 19, raises questions and concerns about potential health and environmental impacts from leaf blowers, and requests that ARB write the report to help to answer these questions and clarify the debate. The goal of this report, then, is to summarize for the California Legislature existing data on health and environmental impacts of leaf blowers, to identify relevant questions not answered in the literature, and suggest areas for future research.

As per SCR 19, this report includes a comprehensive review of existing studies of the impacts of leaf blowers on leaf blower operators and on the public at large, and of the availability and actual use of protective equipment for leaf blowers. The receptors identified by the resolution are humans and the environment; sources of impacts are exhaust, noise, and dust. Because the Legislature specified that ARB use existing information, staff conducted no new studies. In order to locate existing data, staff searched the published literature, contacted potential resources and experts, and requested data from the public via mail and through a web page devoted to the leaf blower report.

B. History of the Leaf Blower and Local Ordinances

The leaf blower was invented by Japanese engineers in the early 1970s and introduced to the United States as a lawn and garden maintenance tool. Drought conditions in California facilitated acceptance of the leaf blower as the use of water for many garden clean-up tasks was prohibited. By 1990, annual sales were over 800,000 nationwide, and the tool had become a ubiquitous gardening implement (CQS 1999a). In 1998, industry shipments of gasoline-powered handheld and backpack leaf blowers increased 30% over 1997 shipments, to 1,868,160 units nationwide (PPEMA 1999).

Soon after the leaf blower was introduced into the U.S., its use was banned in two California cities, Carmel-by-the-Sea in 1975 and Beverly Hills in 1978, as a noise nuisance (CQS 1999a, Allen 1999b). By 1990, the number of California cities that had banned the use of leaf blowers was up to five. There are currently twenty California cities that have banned leaf blowers, sometimes only within residential neighborhoods and usually targeting gasoline-powered equipment. Another 80 cities have ordinances on the books restricting either usage or noise level or both. Other cities have considered and rejected leaf blower bans. Nationwide, two states,

Arizona and New Jersey, have considered laws at the state level, and five other states have at least one city with a leaf blower ordinance (IME 1999).

Many owners of professional landscaping companies and professional gardeners believe that the leaf blower is an essential, time- and water-saving tool that has enabled them to offer services at a much lower cost than if they had to use rakes, brooms, and water to clean up the landscape (CLCA 1999). A professional landscaper argues that the customer demands a certain level of garden clean-up, regardless of the tool used (Nakamura 1999). The issues continue to be debated in various public forums, with each side making claims for the efficiency or esthetics of leaf blower use versus rakes and brooms. Leaf blower sales continue to be strong, however, despite the increase in usage restrictions by cities.

C. Environmental Concerns

The issues usually mentioned by those who object to leaf blowers are health impacts from noise, air pollution, and dust (Orange County Grand Jury 1999). The Los Angeles Times Garden Editor, Robert Smaus (1997), argues against using a leaf blower to remove dead plant material, asserting that it should be left in place to contribute to soil health through decomposition. Municipalities regulate leaf blowers most often as public nuisances in response to citizen complaints (for example, City of Los Angeles 1999). Two reports were located that address environmental concerns: an Orange County Grand Jury report (1999), and a series of reports written by the City Manager of Palo Alto (1999a, 1998a, 1998b). The purpose of the City of Palo Alto reports is to develop recommendations to the City Council on amending its existing ordinance. The Orange County Grand Jury took action to make recommendations that would “improve the quality of life in Orange County,” and recommended that cities, school districts, community college districts, and the County stop using gasoline-powered leaf blowers in their maintenance and clean-up operations. The major findings of each are similar (Table 1).

Table 1. Major Findings of the Orange County Grand Jury and City of Palo Alto

Orange County Grand Jury Report (1999)	City of Palo Alto City Manager’s Report (1999a)
(1) Toxic exhaust fumes and emissions are created by gas-powered leaf blowers.	(1) Gasoline-powered leaf blowers produce fuel emissions that add to air pollution.
(2) The high-velocity air jets used in blowing leaves whip up dust and pollutants. The particulate matter (PM) swept into the air by blowing leaves is composed of dust, fecal matter, pesticides, fungi, chemicals, fertilizers, spores, and street dirt which consists of lead and organic and elemental carbon.	(2) Leaf blowers (gasoline and electric) blow pollutants including dust, animal droppings, and pesticides into the air adding to pollutant problems.

(3) Blower engines generate high noise levels. Gasoline-powered leaf blower noise is a danger to the health of the blower operator and an annoyance to the non-consenting citizens in the area of usage.

(3) Leaf blowers (gasoline and electric) do produce noise levels that are offensive and bothersome to some individuals.

As will be discussed in more detail later in this report, the findings in these two reports about exhaust emissions and noise are substantiated in the scientific literature. The report's findings regarding dust emissions, however, were not documented or based on scientific analysis of actual emissions, but were based on common sense knowledge. The City of Palo Alto continued to examine the issue, at the behest of council members, and reported revised recommendations for the use of leaf blowers in Palo Alto in September (City of Palo Alto 1999b) and January 2000 (City of Palo Alto 2000). The City of Palo Alto subsequently voted to ban the use of fuel-powered leaf blowers throughout the city as of July 1, 2001 (Zinko 2000).

D. Health and Environmental Impacts

SCR 19 asks ARB to summarize potential health and environmental impacts of leaf blowers, and thus our first task is to determine what information and analysis would comprise a summary of health and environmental impacts. The methodology followed for this report is dependent both on the objectives of SCR 19 and on the available data. As staff discovered, in some areas, such as exhaust emissions, we know much; in other areas, such as fugitive dust emissions, we know very little. For both fugitive dust and noise, there are few or no data specifically on leaf blower impacts. For all hazards, there have been no dose-response studies related to emissions from leaf blowers and we do not know how many people are affected by those emissions. Therefore, staff determined to provide the Legislature with a report that has elements of both impact and risk assessments, each of which is described below.

1. Life-cycle Impact Assessment

Life-cycle impact assessment is the examination of potential and actual environmental and human health effects related to the use of resources and environmental releases (Fava et al. 1993). A product's life-cycle is divided into the stages of raw materials acquisition, manufacturing, distribution/transportation, use/maintenance, recycling, and waste management (Fava et al. 1991). In this case, the relevant stage of the life-cycle is use/maintenance. Life-cycle impact assessment tends to focus on relative emission loadings and resources use and does not directly or quantitatively measure or predict potential effects or identify a causal association with any effect. Identification of the significance and uncertainty of data and analyses are important (Barnthouse 1997).

2. Risk Assessment

A traditional risk assessment, on the other hand, seeks to directly and quantitatively measure or predict causal effects. A risk assessment evaluates the toxic properties of a chemical or other hazard, and the conditions of human exposure, in order to characterize the nature of effects and determine the likelihood of adverse impacts (NRC 1983). The four components of a risk assessment are:

Hazard identification: Determine the identities and quantities of chemicals present, the types of hazards they may produce, and the conditions under which exposure occurs.

Dose-response assessment: Describe the quantitative relationship between the amount of exposure to a substance (dose) and the incidence of adverse effects (response).

Exposure assessment: Identify the nature and size of the population exposed to the substance and the magnitude and duration of their exposure.

Risk characterization: Integrate the data and analyses of the first three components to determine the likelihood that humans (or other species) will experience any of the various adverse effects associated with the substance.

The goal of risk assessment is the quantitative characterization of the risk, i.e., the likelihood that a certain number of individuals will die or experience another adverse endpoint, such as injury or disease. A risk assessment is ideally followed up by risk management, which is the process of identifying, evaluating, selecting, and implementing actions to reduce risk to human health and ecosystems (Omenn et al. 1997). While a risk assessment appears to be preferable because it allows us to assign an absolute value to the adverse impacts, a quantitative assessment is difficult, if not impossible, to perform when data are limited.

E. Public Involvement

To facilitate public involvement in the process of preparing the leaf blower report, staff mailed notices using existing mailing lists for small off-road engines and other interested parties, posted a leaf blower report website, met with interested parties, and held two public workshops, in June and September, 1999. In addition to face-to-face meetings and workshops, staff contacted interested parties through numerous telephone calls and e-mails. A list of persons contacted for this report is found in Appendix B. Letters and documents submitted to the Air Resources Board as of December 15, 1999, are listed in Appendix K. The vast majority of those contacted were very helpful, opening their files and spending time answering questions. ARB staff were provided with manufacturer brochures; unpublished data; old, hard-to-find reports and letters; and given briefings and demonstrations. Many reports have been posted on the Internet, for downloading at no cost, which considerably simplified the task of tracking down significant works and greatly reduced the cost of obtaining the reports.

F. Overview of this Report

The main body of this report comprises four additional sections, followed by the references cited and appendices. Section II describes the hazards, as identified in SCR 19, from leaf blowers. Hazardous components of exhaust emissions, fugitive dust emissions, and noise are covered in turn, along with who is exposed to each hazard and how society has sought to control exposure to those hazards through laws. Section III reviews health effects of each of the hazards, with exhaust emissions subdivided into particulate matter, carbon monoxide, ozone, and toxic constituents of burned and unburned fuel. Health effects from fugitive dust are covered in the subsection on particulate matter. Section IV discusses the potential health and environmental impacts of leaf blowers, synthesizing the information presented in Sections II and III. Section V discusses recommendations. Additional information, including a discussion of research needs to make progress toward answering some of the questions raised by this report, a description of engine technologies that could reduce exhaust emissions and alternatives to gasoline-powered leaf blowers, and a complete bibliography of materials received and consulted but not cited in the report, is found in the appendix.

II. DESCRIPTION OF THE HAZARDS

This section of the report describes the three potential hazards identified by SCR 19 as resulting from leaf blowers. This report examines the three hazards that have been of most concern of the public and the Legislature. Hazard identification is the first step in an impact or risk assessment. In this section, then, each of the three identified hazards are examined in turn, exhaust emissions, dust emissions, and noise. For each, the hazard is described and quantified, and the number of people potentially exposed to the hazard is discussed. For exhaust emissions, the number of people potentially impacted is as high as the population of the state, differing within air basins. Fugitive dust emissions impact a varying number of people, depending on one's proximity to the source, the size of the particles, and the amount of time since the source resuspended the particles. Finally, in this section we also discuss laws that control the particular hazard.

A. Exhaust Emissions

Exhaust emissions are those emissions generated from the incomplete combustion of fuel in an engine. The engines that power leaf blower equipment are predominantly two-stroke, less than 25 horsepower (hp) engines. This section describes the two-stroke engine technology prevalent in leaf blower equipment and associated emissions, reviews the leaf blower population and emission inventory data approved by the Board in 1998, and describes federal, state, and local controls on small off-road engines.

1. Characterization of Technology

Small, two-stroke gasoline engines have traditionally powered leaf blowers, and most still are today.¹ The two-stroke engine has several attributes that are advantageous for applications such as leaf blowers. Two-stroke engines are lightweight in comparison to the power they generate, and operate in any position, allowing for great flexibility in equipment applications. Multi-positional operation is made possible by mixing the lubricating oil with the fuel; the engine is, thus, properly lubricated when operated at a steep angle or even upside down.

A major disadvantage of two-stroke engines is high exhaust emissions. Typical two-stroke designs feed more of the fuel/oil mixture than is necessary into the combustion chamber. Through a process known as scavenging, the incoming fuel enters the combustion chamber as the exhaust is leaving. This timing overlap of intake and exhaust port opening can result in as much as 30% of the fuel/oil mixture being exhausted unburned. Thus, exhaust emissions consist of both unburned fuel and products of incomplete combustion. The major pollutants from a two-stroke engine are, therefore, oil-based particulates, a mixture of hydrocarbons, and carbon monoxide. A two-stroke engine forms relatively little oxides of nitrogen emissions, because the extra fuel absorbs the heat and keeps peak combustion temperatures low.

¹Unless otherwise referenced, this section makes use of material in the ARB's Small Off Road Engine staff report and attachments, identified as MSC 98-02; 1998a.

Hydrocarbon emissions, in general, combine with nitrogen oxide emissions from other combustion sources to produce ozone in the atmosphere. Thus ozone, although not directly emitted, is an additional hazard from leaf blower exhaust. In addition, some of the hydrocarbons in fuel and combustion by-products are themselves toxic air contaminants, such as benzene, 1,3-butadiene, acetaldehyde, and formaldehyde (ARB 1997). The major sources of benzene emissions are gasoline fugitive emissions and motor vehicle exhaust; about 25% of benzene emissions are attributed to off-road mobile sources. Most 1,3-butadiene emissions are from incomplete combustion of gasoline and diesel fuels from mobile sources (about 96%). Sources of acetaldehyde include emissions from combustion processes and photochemical oxidation. The ARB has estimated that acetaldehyde emissions from off-road motor vehicles comprise about 27% of the total emissions. Finally, formaldehyde is a product of incomplete combustion and is also formed by photochemical oxidation; mobile sources appear to contribute a relatively small percentage of the total direct emissions of formaldehyde. Data do not exist to allow reliable estimation of toxic air contaminant emissions from small, two-stroke engine exhaust.

A small percentage of blowers utilize four-stroke engines. These blowers are typically "walk-behind" models, used to clean large parking lots and industrial facilities, rather than lawns and driveways. Overall, the engines used in these blowers emit significantly lower emissions than their two-stroke counterparts, with significantly lower levels of hydrocarbons and particulate matter. These four-stroke blower engines have a significantly lower population than the traditional two-stroke blowers and only peripherally fit the definition or commonly-accepted meaning of the term "leaf blower." They are mentioned here only for completeness, but are not otherwise separately addressed in this report.

2. Exhaust Emissions

a. Leaf Blower Population

The best estimates available indicate that there are approximately 410,000 gasoline-powered blowers in use in the state today. Less than 5,000 of those use four-stroke engines; the remainder (99%) utilize two-stroke engines. These data have been developed from information gathered through the development and implementation of ARB's small off-road engine regulation. Since the small off-road engine regulation does not apply to blowers powered by electric motors, data regarding the number of electric blowers are not as extensive. However, information shared by the handheld power equipment industry indicates that approximately 60 percent of blowers sold are electric. This would indicate that there are approximately 600,000 electric blowers in California. It must be stressed that the majority of the blower population being electric does not imply that the majority of usage accrues to electric blowers. In fact, electric blowers are more likely to be used by homeowners for occasional use, whereas virtually all professional gardeners use engine-powered blowers.

b. Emission Inventory

California's emission inventory is an estimate of the amount and types of criteria pollutants and ozone precursors emitted by all sources of air pollution. The emission inventory method and inputs for small off-road engines, with power ratings of less than 25 hp, were approved by the Board in 1998 (ARB 1998b) (Table 2). Exhaust emissions from leaf blowers contribute from one to nine percent of the small-off road emissions, depending on the type of pollutant, based on the 2000 emissions data. Exhaust emission standards for small off-road engines, which will be implemented beginning in 2000, will result in lower emissions in the future. By 2010, for example, hydrocarbon emissions are expected to shrink by 40% statewide, while CO declines by 35% and PM10 drops 90%. The reductions reflect the replacement of today's blowers with cleaner blowers meeting the 2000 standards.

Table 2. Statewide Inventory of Leaf Blower Exhaust Emissions (tons per day)

	Leaf blowers 2000	Leaf blowers 2010	All Lawn & Garden, 2000	All Small Off- Road, 2000
Hydrocarbons, reactive	7.1	4.2	50.24	80.07
Carbon Monoxide (CO)	16.6	9.8	434.99	1046.19
Fine Particulate Matter (PM10)	0.2	0.02	1.05	3.17

3. Regulating Exhaust Emissions

a. State Regulations

The California Clean Air Act, codified in the Health and Safety Code Sections 43013 and 43018, was passed in 1988 and grants the ARB authority to regulate off-road mobile source categories, including leaf blowers. The federal Clean Air Act requires states to meet national ambient air quality standards (Appendix C) under a schedule established in the Clean Air Act Amendments of 1990. Because many air basins in California do not meet some of these standards, the State regularly prepares and submits to the U.S. EPA a plan that specifies measures it will adopt into law to meet the national standards. Other feasible measures not specified in the state implementation plan may also be adopted as needed.

In December 1990, the Board approved emission control regulations for new small off-road engines used in leaf blowers and other applications. The regulations took effect in 1995, and include exhaust emission standards, emissions test procedures, and provisions for warranty and production compliance programs. In March of 1998, the ARB amended the standards to be implemented with the 2000 model year (ARB 1998a). Table 3 illustrates how the standards compare with uncontrolled engines for leaf blower engines. Note that there was no particulate

matter standard for 1995-1999 model year leaf blowers, but that a standard will be imposed beginning with the 2000 model year.

Among other features of the small off-road engine regulations is a requirement that production engines be tested to ensure compliance. Examination of the certification data confirms that manufacturers have been complying with the emissions regulations; in fact, engines that have been identified as being used in blowers tend to emit hydrocarbons at levels that are 10 to 40 percent below the existing limits. This performance is consistent with engines used in string trimmers, edgers, and other handheld-type equipment, which are, in many cases, the same engine models used in leaf blowers.

Table 3
Exhaust Emissions Per Engine for Leaf Blowers
(grams per brake-horsepower-hour, g/bhp-hr)

	Uncontrolled Emissions	1995-1999 Standards²	2000 and later Standards
HC+NO _x	283 + 1.0	180 + 4.0	54 ³
CO	908	600	400
PM	3.6	--- ⁴	1.5

b. Federal Regulations

Although the federal regulations for mobile sources have traditionally followed the ARB's efforts, the U.S. EPA has taken advantage of some recent developments in two-stroke engine technology. Specifically, compression wave technology has been applied to two-stroke engines, making possible much lower engine emissions. Bolstered by this information, the U.S. EPA (1999a) has proposed standards for blowers and other similar equipment that would be more stringent than the ARB standards. ARB plans a general review of off-road engine technology by 2001, and will consider the implications of this new technology in more detail then. A short description is included in Appendix I.

c. South Coast AQMD Emissions Credit Program

²Applicable to engines of 20-50 cc displacement, used by the vast majority of leaf blowers.

³For yr 2000, the HC + NO_x standards have been combined.

⁴There was no particulate standard for this time period.

The South Coast Air Quality Management District (SCAQMD), an extreme non-attainment area for ozone, has promulgated Rule 1623 - Credits for Clean Lawn and Garden Equipment. Rule 1623 provides mobile source emission reduction credits for those who voluntarily replace old high-polluting lawn and garden equipment with new low- or zero-emission equipment or who sell new low- or zero-emission equipment without replacement. The intent of the rule is to accelerate the retirement of old high-polluting equipment and increase the use of new low- or zero-emission equipment. In 1990, volatile organic carbon emissions from lawn and garden equipment in the South Coast Air Basin were 22 tons per day (SCAQMD 1996). To date, no entity has applied for or received credits under Rule 1623 (V. Yardemian, pers. com.)

4. Summary

Exhaust emissions from leaf blowers consist of the following specific pollutants of concern: hydrocarbons from both burned and unburned fuel, and which combine with other gases in the atmosphere to form ozone; carbon monoxide; fine particulate matter; and other toxic air contaminants, including benzene, 1,3-butadiene, acetaldehyde, and formaldehyde. Exhaust emissions from these engines, while high compared to on-road mobile sources on a per engine basis, are a small part of the overall emission inventory. Emissions have only been controlled since 1995, with more stringent standards taking effect in 2000. The exhaust emissions from leaf blowers are consistent with the exhaust emissions of other, similar off-road equipment powered by small, two-stroke engines, such as string trimmers. Manufacturers have developed several different methods to comply with the standards and have done an acceptable job certifying and producing engines that are below the regulated limits. Electric-powered models that are exhaust-free are also available.

B. Fugitive Dust Emissions

“Blown dust” is the second of the hazards from leaf blowers specified in SCR 19. For the purposes of this report, we will use the term “fugitive dust,” which is consistent with the terminology used by the ARB. This section, in addition to defining fugitive dust emissions, characterizes fugitive dust resuspended by leaf blowers by comparing previous estimates of emission factors (amount emitted per hour per leaf blower) and emissions inventory (amount resuspended per day by all leaf blowers statewide) to a current estimate, developed for this report. In addition, the potential composition of leaf blower dust and fugitive dust controls at the state and local levels are described.

1. Definition of Fugitive Dust Emissions

From the Glossary of Air Pollution Terms, available on the ARB's website,⁵ the following definitions are useful:

Fugitive Dust: Dust particles that are introduced into the air through certain activities such as soil cultivation, or vehicles operating on open fields or dirt roadways; a subset of fugitive emissions.

Fugitive Emissions: Emissions not caught by a capture system (often due to equipment leaks, evaporative processes, and windblown disturbances).

Particulate Matter (PM): Any material, except uncombined water, that exists in the solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine particle combustion products.

Fugitive dust is a subset of particulate matter, which is a complex mixture of large to small particles that are directly emitted or formed in the air. Current control efforts focus on PM small enough to be inhaled, generally those particles smaller than 10 micrometers (μm). So-called coarse particles are those larger than $2.5 \mu\text{m}$ in diameter, and are directly emitted from activities that disturb the soil, including construction, mining, agriculture, travel on roads, and landfill operations, plus windblown dust, pollen, spores, sea salts, and rubber from brake and tire wear. Those with diameters smaller than $2.5 \mu\text{m}$ are called fine particles. Fine particles remain suspended in the air for long periods and can travel great distances. They are formed mostly from combustion sources, such as vehicles, boilers, furnaces, and fires, with a small dust component. Fine particles can be directly emitted as soot or formed in the atmosphere as combustion products react with gases from other sources (Finlayson-Pitts & Pitts 1986).

Dust emissions from leaf blowers are not part of the inventory of fugitive dust sources. ARB, therefore, does not have official data on the quantity of fugitive dust resuspended by leaf blowers. No data on the amount and size distributions of resuspended dust from leaf blower activities have been collected, although estimates have been made. ARB evaluated three previous estimates (McGuire 1991, Botsford et al. 1996, Covell 1998) and developed a proposed methodology for estimating fugitive dust emissions from leaf blowers. The estimate presented below begins with the assumptions and calculations contained in the study conducted for the SCAQMD by AeroVironment (Botsford et al. 1996). Additional methodologies and data have been reviewed and derived from the U.S. EPA document commonly termed AP-42, and reports by the Midwest Research Institute; University of California, Riverside; and the Desert Research Institute.

⁵<http://arbis.arb.ca.gov/html/gloss.htm>

2. Calculating Leaf Blower Emissions

There are more than 400,000 gasoline-powered leaf blowers, plus approximately 600,000 electric leaf blowers, that are operated an estimated 114,000 hours per day in California. The fundamental premise in the calculations below is that leaf blowers are designed to move relatively large materials such as leaves and other debris, and hence can also be expected to entrain into the air much smaller particles, especially those below 30 μm diameter, which are termed total suspended particulate (PM_{tsp}). Subsets of PM_{tsp} include PM₁₀, particulates with diameters less than or equal to 10 μm , and PM_{2.5}, particulates with diameters less than or equal to 2.5 μm . Particles below 30 μm are not visible to the naked eye. Note that PM₁₀ includes PM_{2.5} particles, and PM_{tsp} includes PM₁₀ and PM_{2.5} particles.

a. Generation of Fugitive Dust by Leaf Blowers

The leaf blower moves debris such as leaves by pushing relatively large volumes of air, typically between 300-700 cubic feet per minute, at a high wind speed, typically 150 to 280 miles per hour (hurricane wind speed is >117 mph). A typical surface is covered with a layer of dust that is spread, probably non-uniformly, along the surface being cleaned. While the intent of a leaf blower operator may not be to move dust, the high wind speed and volume result in small particles being blown into the air. In order to calculate how much fugitive dust is generated by the action of a blower, we assume that this layer of dust can be represented by a single average number, the silt loading. This silt loading value, when combined with the amount of ground cleaned per unit time and the estimated PM weight fractions, produces estimates of fugitive dust emissions from leaf blowers.

Staff have located no fugitive dust measurement studies on leaf blowers, but have found previous calculations of fugitive dust estimates from leaf blowers. Based on a review of those estimates, staff applied the latest knowledge and research in related fields in order to derive a second-order approximation. This section presents the best estimates using existing data, while recognizing that estimates are only approximations. Variables that would affect fugitive dust emissions, and for which ARB has little or no empirical data, include, for example:

- (1) the specific surface types on which leaf blowers are used;
- (2) the percentage of use on each specific surface type;
- (3) effects of moisture, humidity, and temperature;
- (4) silt loading values for surfaces other than paved roadways, shoulders, curbs, and gutters and in different areas of the state; and
- (5) measurements of the amount of surface cleaned per unit time by the average operator.

Other variables are not expected to greatly influence fugitive dust emissions; the hurricane-force winds generated by leaf blowers are expected to overcome such influences, for example, as the roughness of relatively flat surfaces and the effect of particle static charge.

b. Size Segregation of Particulate Matter

PM emissions can be subdivided into the following three categories, operator emissions, local emissions, and regional emissions. They are differentiated as follows:

1) Operator emissions. PM₁₀ emissions approximate emissions to which the operator is exposed. The larger of these particles, between approximately 10 and 30 μm , have relatively short settling times, on the order of minutes to a couple of hours, maximum (Finlayson-Pitts & Pitts 1986, Gillies et al. 1996, Seinfeld & Pandis 1998). These would be emissions to which both the leaf blower operator and passersby would be exposed.

2) Local emissions. PM₁₀ emissions will be used to estimate "local" PM emissions. PM₁₀, which includes particles at or below 10 μm , may remain suspended for hours to days in the atmosphere (Finlayson-Pitts & Pitts 1986, Gillies et al. 1996, Seinfeld & Pandis 1998). These are emissions to which persons in the near-downwind-vicinity would be exposed, for example, residents whose lawns are being serviced and their neighbors, persons in commercial buildings whose landscapes are being maintained or serviced, and persons within a few blocks of the source.

3) Regional emissions. PM_{2.5} emissions may remain suspended for as long as a week or more (Finlayson-Pitts & Pitts 1986, Gillies, et al. 1996, Seinfeld & Pandis 1998). These particles are sized at or below 2.5 μm , and hence can be considered as contributors to regional PM emissions over a county or air basin because of their long residence time.

c. Calculation Assumptions and Limitations

The method presented uses the following assumptions.

1) Methods used for estimating wind blown dust for paved roads can be applied to estimating fugitive dust emissions from leaf blowers. That is, one can use an "AP-42" type (U.S. EPA 1997) of approach that calculates dust emissions based on the silt loading of the surfaces in question.

2) The typical leaf blower generates sufficient wind speed to cause sidewalk/roadway dust, in particular, particles 30 μm or less in aerodynamic diameter, to become airborne. The AeroVironment study (Botsford et al. 1996) assumed that nozzle air velocities ranged from 120 to 180 mph, and calculated that wind speed at the ground would range from 24 mph to 90 mph, sufficient to raise dust and equivalent, at the middle to high end speeds, to gale-force winds.

3) Currently available paved road, roadside shoulder, and gutter silt loadings (Venkatram & Fitz 1998) can be used to calculate emissions from leaf blowers, as there are no data on silt loadings on other surfaces. Observations and communications with landscapers indicate that leaf blowers are most commonly used to clean hardscape surfaces, such as sidewalks, after lawns and

flower beds have been trimmed and cuttings left on hardscapes. Debris is then frequently blown into the roadway before being collected for disposal.

4) The size fractions for particles for paved road dust can be used to calculate emissions from leaf blowers (G. Muleski, pers. comm.). The ratios of particle size multipliers, or “k” factors, are used to estimate the weight fraction of windblown dust for leaf blower usage. The “k” factor is a dimensionless value that represents the percentage of the total dust loading that is of a certain size fraction (MRI 1997).

5) Silt loading values and usage are assumed to be the same for residential and commercial leaf blower use. In an earlier draft, ARB staff had proposed different silt loading values for residential and commercial leaf blowers; comments were received that indicated that heavier-duty commercial leaf blowers were used in the same way in both residential and commercial settings. In addition, data on nozzle air speeds indicate that most electric leaf blowers, targeted at homeowners, have air speeds at or above 120 mph, the lowest air speed considered in the AeroVironment report (Botsford et al. 1996) as capable of raising dust.

6) The weight of total suspended particulates is equivalent to 100% of the silt loading, the weight fraction that comprises PM10 is 19% of the total, and the weight fraction comprising PM2.5 is 9% of the total (U.S. EPA 1997, MRI 1997, G. Muleski, pers. com). A recent study, however, found that 50-70% of the mass of PM_{tsp} of paved road dust at three southern California locations is present in the PM10 fraction (Miguel et al. 1999), so more data would be helpful.

A final limitation is the recognition that emissions inventories are estimates of the unknown and unknowable actual emissions inventory. An earlier draft of this report was criticized as providing only estimates of emissions, and not actual emissions, when in fact all emissions inventories are based on models developed through scientific research on how the chemicals behave in the atmosphere, limited testing to determine emission factors, and industry-provided data on the population and usage of each particular source of air pollution. Each generation of emission inventories is an improvement over the one previous as assumptions are examined, tested, and modified. As discussed earlier, the estimate in this report builds on previous estimates.

d. Calculation Methodology

The proposed emissions estimation methodology uses measured silt loadings (Venkatram & Fitz 1998) and size fraction multipliers for PM10 and PM2.5 (U.S. EPA 1997, MRI 1997, G. Muleski, pers. com.).

$$EF_{\text{size}} = (sL) (Q) (f_{\text{size}})$$

where:

EF_{size} = PM30, or PM10, or PM2.5 emission factors;

sL = silt loading fraction, from ARB (1998b);

Q = amount of ground cleaned per unit time, estimated to be 1,600 m²/hr, corresponding to a forward speed of 1 mph, with the operator sweeping the blower in a one meter arc;
 f_{size} = fraction of PM₁₀ dust loading that comprises PM₁₀ (0.19) or PM_{2.5} (0.09).

Silt loading values are the critical parameter in the calculation. ARB has chosen, for this emissions estimate, to use recent data from a study conducted for the ARB by a team at the University of California, Riverside (Venkatram & Fitz 1998) (Table 4). As data were collected only in Riverside County, it is not known how representative they are of other areas of the state or of substrates cleaned by leaf blowers. The data are, however, the most complete we have to date. Because the data are not normally distributed, the median and 95% percentile samples for silt loading are used to represent the data set in calculations.

Table 4
Silt Loading Values, Riverside County
(grams per square meter, g/m²)

Roadway Type	Material Loading, Median	Silt Loading, Median (95%)	Range of Silt Loading Values
Paved Road	108.44	0.16 (6.34)	0.003-107.596
Roadway Shoulders	481.08	3.33 (15.73)	0.107-23.804
Curbs and Gutters	144.92	3.39 (132.94)	0.97-556.65

3. Characterization of Fugitive Dust Emissions

This section includes results from this present analysis, as well as results from previous estimates prepared by the ARB and others for comparison.

a. Emission Factors - This Study

Possible emission factors have been calculated for leaf blower use on paved roadways, roadway shoulders, and curbs and gutters (Table 5). Two emission factors are presented for each surface and particle size, based on the median and 95th percentile of the empirical silt loading data. The resulting range for PM₁₀ is from 48.6 to 1030.6 g/hr for PM₁₀, for example, depending on the surface cleaned. Cleaning of curbs and gutters generates the highest emission factors, whereas paved roadways and shoulders are lower. As discussed before, staff have no data on which to base emission factors for sidewalks, driveways, lawns, or flower beds.

**Table 5. Leaf Blower Estimated Emission Factors, This Study
(grams per hour, g/hr)**

Emission Factor	Paved Roadway, Median (95%)	Shoulders, Median (95%)	Curbs/Gutters, Median (95%)
Total Suspended Particulate	256.0 (10,144.0)	5,328 (25,168)	5,424 (212,704)
PM10	48.6 (1,927.4)	1,012.3 (4,781.9)	1,030.6 (40,413.8)
PM2.5	23.0 (913.0)	479.5 (2,265.0)	488.2 (19,143.4)

b. Statewide Emissions Inventory - This Study

Three potential statewide emissions inventory values (Table 6), in tons per day (tpd), have been calculated by multiplying the median emissions factors, shown above, by the hours of operation for each of three different substrates: paved roadways, paved shoulders, and paved curbs/gutters, based on the Riverside data. From the statewide emissions inventory, the total number of hours of operation in the year 2000 are estimated to be 113,740 hr/day, or 97,302 hr/day for gasoline-powered leaf blowers plus 16,438 hr/day for electric leaf blowers.⁶

**Table 6. Leaf Blower Emissions,
Possible Statewide Values, This Study
(tons per day, tpd)**

Emissions Inventory	Paved Roadway, Median	Shoulders, Median	Curbs/Gutters, Median
Total Suspended Particulates	32.1	667.4	679.4
PM10	6.1	126.8	129.1
PM2.5	2.9	60.1	61.2

The goal in developing an emissions inventory is to derive one statewide emissions inventory number for each category of particulate sizes, which can then be subdivided by air basin or air district. Ideally, ARB would have developed emissions factors for each surface cleaned by leaf blowers, and apportioned the emissions based on the percentage of hours spent cleaning each surface annually. Table 6, however, presents an array of values because staff have no data on the percentage of time spent cleaning various surfaces. For comparison, the 1996 statewide PM10

⁶On a per-unit basis, electric blowers are assumed to be used 10 hr/yr.

estimated emission inventory was 2,400 tpd; estimates for paved road dust, unpaved road dust, and fugitive windblown dust were 400, 610, and 310 tpd, respectively. Based on the estimates in Table 6, then, PM10 emissions impacts from leaf blower use could range from insignificant (0.25%) to significant (5.4%), on a statewide basis. Additional study is required to refine the analysis and develop a statewide emission inventory.

c. Previous Emissions Estimates: ARB, 1991

The ARB's Technical Support Division, in a July 9, 1991 response to a request from Richard G. Johnson, Chief of the Air Quality Management Division at the Sacramento Metropolitan Air Quality Management District, prepared a leaf blower emissions estimate in grams per hour of dust (McGuire 1991). PM10 emissions were reported as being 1,180 g/hr, or 2.6 lb/hr, which is the same order of magnitude as the present study's calculated emission factors for roadway shoulders and curbs/gutters (Table 5). If this emission factor is combined with current statewide hours-of-operation data of 113,740 hr/day of leaf blower usage, this would produce an emission inventory of 147.8 tpd of PM10, similar to the present study's inventory for shoulders and curbs/gutters (Table 6).

d. Previous Emissions Estimates: SMAQMD

Sacramento Metropolitan Air Quality Metropolitan District (SMAQMD) staff (Covell 1998) estimated that "Dust Emissions (leaf blowers only)" are 3.2 tpd in Sacramento County. The memo included commercial and residential leaf blower populations (1,750 commercial and 15,750 residential), and hours of use (275 hr/yr for commercial and 10 hr/yr for residential). Using these values one can calculate the assumed g/hr emission factor for particulate matter. The resulting emission factor is 1,680 g/hr, or 3.7 lb/hr. The resulting statewide emission inventory is 210.4 tpd, higher than this study's estimates (Tables 5 & 6).

e. Previous Emissions Estimates: AeroVironment

The South Coast AQMD commissioned AeroVironment to determine emission factors and preliminary emission inventories for sources of fugitive dust previously uninventoried; leaf blowers were one of the categories examined (Botsford et al. 1996). The study focused on PM10, and did not include field measurements. The study assumed that each leaf blower was used, at most, one day per week to clean 92.9 m² (1000 ft²) of ground. Silt loading was assumed to be 1.42 g/m². Combining these two values yields an emission factor of 5.5 g/hr. With an estimated 60,000 leaf blowers in the South Coast Air Basin, AeroVironment calculated an emission inventory of 8.6 tpd, just for the South Coast AQMD, more than double the basin-wide inventory calculated for the Sacramento Metropolitan AQMD (above). The obvious difference between this estimate and the others summarized herein is the assumption that each leaf blower is used for no more than one day per week and is used to clean an area equivalent to only one front yard (20 ft by 50 ft); as commercial gardeners could not make a living cleaning one front yard once per week, this figure is obviously much too low. It is, however, coincidentally similar to the present study's estimate for paved roadways (Table 6).

4. Particulate Composition

Substances such as fecal material, fertilizers, fungal spores, pesticides, herbicides, pollen, and other biological substances have been alleged to make up the dust resuspended by leaf blower usage (Orange County Grand Jury 1999), and thus staff looked for data on the composition of particulate matter. Little information is available. Suspended paved road dust is a major contributor to airborne particulate matter in Los Angeles and other cities (Miguel et al. 1999). Staff considered, therefore, size-segregated chemical speciation profiles for paved road dust to chemically characterize leaf blower PM emissions. The chemical speciation profiles for paved road dust show small percentages of the toxic metals arsenic, chromium, lead, and mercury. In addition to soil particles, paved road dust emissions may contain contributions from tire and brake wear particles. Paved road dust chemical speciation, however, characterizes the dust by elemental composition, and was not useful in estimating health impacts for this assessment. ARB's chemical speciation profile for paved road dust is presented in Appendix D for information.

Recently, however, researchers published a study on allergens in paved road dust and airborne particles (Miguel et al. 1999). The authors found that biologic materials from at least 20 different source materials known to be capable of causing or exacerbating allergic disease in humans are found in paved road dust, including pollens and pollen fragments, animal dander, and molds. Allergen concentrations in the air are increased above the levels that would otherwise occur in the absence of suspension by passing traffic. The authors conclude that paved road dust is a ubiquitous mixed source of allergenic material, resuspended by passing traffic, and to which virtually the entire population is exposed. The applicability of this study to particulate matter resuspension by leaf blower usage is unknown, but it is likely that leaf blowers would be as effective at resuspending paved road dust as automobiles. Information on the characteristics of other sources of resuspended particulates, for example lawns and gardens, is unfortunately lacking.

5. Regulating Fugitive Dust Emissions

Fugitive dust emissions are generally regulated as a nuisance, although PM₁₀ and PM_{2.5} are specifically addressed through the state planning process as criteria air pollutants. There are no explicit federal, state, or local regulations governing leaf blower fugitive dust emissions.

a. State and Federal PM10 and PM2.5 Standards

The California and Federal ambient air quality standards for PM10 and PM2.5 are located in Appendix C. Any state that has air basins not in attainment with the standards must submit a plan to U.S. EPA on how they will achieve compliance. For California, most of the state violates the PM10 standard; attainment status has not yet been determined for the new PM2.5 standard (promulgated July 18, 1997 and under challenge in the courts). California, and its air districts, is therefore required to control sources of PM10, including fugitive dust.

b. Local District Regulations

Many air districts have a fugitive dust control rule that prohibits activities that generate dust beyond the property line of an operation. For example, the SCAQMD Rule 403 states: "A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or undisturbed surface area such that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source." In addition, rules may place limits on the amount of PM10 that can be detected downwind of an operation that generates fugitive dust; for SCAQMD that limit is $50 \mu\text{g}/\text{m}^3$ [SCAQMD Rule 403]. The Mojave AQMD limits PM emissions to $100 \mu\text{g}/\text{m}^3$ [Mojave AQMD Rule 403]. Others, such as the San Joaquin Unified APCD, define and limit visible emissions (40% opacity) from activities that generate fugitive dust emissions [SJUAPCD Rule 8020]. Finally, another approach is to simply request individuals take reasonable precautions to prevent visible particulate matter emissions from moving beyond the property from which the emissions originate [Great Basin Unified APCD Rule 401].

6. Summary

Data on fugitive dust indicate that the PM10 emissions impacts from dust suspended by leaf blowers are small, but probably significant. Previous emission estimates range from less than 1% to 5% of the statewide PM10 inventory. The ARB previously estimated statewide fugitive dust emissions to be about 5 percent of the total, the Sacramento Metropolitan AQMD estimated leaf blower fugitive dust emissions to be about 2 percent of the Sacramento county PM10 air burden, and AeroVironment estimated dust attributed to leaf blowers in the South Coast Air Basin to be less than 1% of all fugitive dust sources. Dust emissions attributable to leaf blowers are not part of the inventory of fugitive dust sources. ARB, therefore, does not have official data on the quantity of fugitive dust resuspended by leaf blowers. A more definitive estimate of leaf blower fugitive dust emissions will require research to verify appropriate calculation parameters, determine representative silt loadings, measure actual fugitive dust emissions through source testing, and identify the chemical composition of leaf blower-generated fugitive dust.

C. Noise Emissions

The third of the hazards from leaf blowers identified in SCR 19 is noise. This section defines noise, describes the physical properties of sound and how sound loudness is measured, discusses noise sources, the numbers of Californians potentially exposed to noise, and how noise is regulated at the federal, state, and local levels, and addresses specific sound loudness and quality from leaf blowers. In addition, the incidence of the use of hearing protection, and other personal protective equipment, by leaf blower operators is described.

1. Defining Noise

Noise is the general term for any loud, unmusical, disagreeable, or unwanted sound. In addition to damaging hearing, noise causes other adverse health impacts, including interference with communication, rest and sleep disturbance, changes in performance and behavior, annoyance, and other psychological and physiological changes that may lead to poor health (Berglund & Lindvall 1995). In this report, noise will be used to refer both to unwanted sounds and sounds that damage hearing. The two characteristics, although related, do not always occur together.

The effects of sound on the ear are determined by its quality, which consists of the duration, intensity, frequency, and overtone structure, and the psychoacoustic variables of pitch, loudness, and tone quality or timbre, of the sound. Long duration, high intensity sounds are the most damaging and usually perceived as the most annoying. High frequency sounds, up to the limit of hearing, tend to be more annoying and potentially more hazardous than low frequency sounds. Intermittent sounds appear to be less damaging than continuous noise because the ear appears to be able to recover, or heal, during intervening quiet periods. Random, intermittent sounds, however, may be more annoying, although not necessarily hazardous, because of their unpredictability (Suter 1991).

The context of the sound is also important. While certain sounds may be desirable to some people, for example, music at an outdoor party, others may consider them noise, for example, those trying to sleep. Even desirable sounds, such as loud music, may cause damage to hearing and would be considered noise in this context. Thus, not only do loudness, pitch, and impulsiveness of sound determine whether the sound is noise, but also the time of day, duration, control (or lack thereof), and even one's personality determine whether sounds are unwanted or not.

The physical and psychoacoustic characteristics of sound, and thus noise, are described in more detail in Appendix E. The discussion is focused on information necessary for the reader to understand how sound is measured, and clarify measures of leaf blower sound. The interested reader is referred for more information to any physics or acoustic reference book, or the works referred to herein.

2. Measuring the Loudness of Sound

The weakest intensity of sound a health human ear can detect has an amplitude of 20 millionths of a Pascal⁷ (20 μPa). The loudest sound the human ear can tolerate, the threshold of pain, has an amplitude ten million times larger, or 200,000,000 μPa . The range of sound intensity between the faintest and the loudest audible sounds is so large that sound pressures are expressed using a logarithmically compressed scale, termed the decibel (dB) scale. The decibel is simply a unit of comparison between two sound pressures. In most cases, the reference sound pressure is the acoustical zero, or the lower limit of hearing. The decibel scale converts sound pressure levels (SPL) to a logarithmic scale, relative to 20 μPa (Figure 1).

$$\text{SPL, dB} = 10 \log_{10} (P^2/P_0^2)$$

Where P is the pressure fluctuation in Pascals,
P₀ is the reference pressure; usually 20 μPa .

Thus, from this relationship, each doubling of sound pressure levels results in an increase of 6 dB. From the relationship between sound intensity and distance (Appendix E), we find also that doubling the distance between the speaker (source) and listener (receiver), drops the level of the sound by approximately 6 dB. Sound pressure levels are not directly additive, however, but must first be expressed as mean square pressures before adding (Berglund & Lindvall 1995). The equation is as follows:

$$\text{SPL} = 10 \log_{10} [10^{\text{SPL}_1/10} + 10^{\text{SPL}_2/10} + \dots + 10^{\text{SPL}_x/10}]$$

For example, if two sound sources have SPLs of 80 dB and 90 dB, then the resulting sound pressure is 90.4 dB. Adding two sounds with the same SPL, for example 90 dB, increases the total SPL by 3 dB, to 93 dB.

a. Loudness Description

Sound pressure level, however, does not completely describe loudness, which is a subjective perception of sound intensity. Loudness increases with intensity, but is also dependent on frequency. Thus the human ear may not perceive a six dB increase as twice as loud. In general, people are more sensitive to sounds in the middle of the range of hearing, from around 200 Hz to 5000 Hz. Fletcher and Munson (1933) first established the 1000-Hz tone as the standard sound against which other tones would be judged for loudness. Later, Stevens (1955) proposed that the unit of loudness be termed the sone, and that one sone be ascribed to a 1000-Hz tone set at a SPL

⁷Other units used to represent an equivalent sound pressure include 0.0002 μbar , 0.0002 dyne/cm², and 20 $\mu\text{N/m}^2$.

of 40 dB under specified listening conditions. On the sone scale, a sound twice as loud as one sone would be two sones, four times as loud would be four sones, and so on.

Equal loudness contours, identified in units of phons, demonstrate how the SPL, in dB, of a tone must be varied to maintain the perception of constant loudness. Ideally, sound measurement meters would give a reading equal to loudness in phons, but because phons are based on human perception, and perception process will vary from individual to individual, this has not been practical until recently (Berglund & Lindvall 1995). Loudness is still measured in decibels, however, following past practices. Various filters have been devised to approximate the frequency characteristics of the human ear, by weighting sound pressure level measurements as a function of frequency. Several weighting systems have been developed, but the one in most common use is the A-weighted filter, with sound pressure levels commonly expressed as dBA. Loudness levels range from about 20 dB (24-hr average) in very quiet rural areas, to between 50 and 70 dB during the daytime in cities. Additional examples of typical loudness measures are illustrated in Figure 1.

Perceived Sound Level	Sound Level		Examples	Leaf Blower Reference
	dB	μPa		
PAINFULLY LOUD	160	2×10^9	fireworks at 3 feet	
	150		jet at takeoff	
UNCOMFORTABLY LOUD	140	2×10^8	threshold of pain	OSHA limit for impulse noise
	130		power drill	
	120	2×10^7	thunder	
	110		auto horn at 1 meter	90-105 dB leaf blower at operators ear
VERY LOUD	100	2×10^6	snowmobile	90 dB OSHA permissible exposure limit
	90		diesel truck, food blender	
MODERATELY LOUD	80	2×10^5	garbage disposal	
	70		vacuum cleaner	62-75 dB Leaf blower at 50 feet
	60	2×10^4	ordinary conversation	
QUIET	50		average home	
	40	2×10^3	library	
VERY QUIET	30		quiet conversation	
	20	2×10^2	soft whisper	
BARELY AUDIBLE	10		rustling leaves	
	0	2×10^1	threshold of hearing	

dB= decibels
 μPa = micro Pascals

Fig. I. Comparison of sound levels in the environment

b. Sound Level Measurement

The ANSI B175 Accredited Standard Committee, a group that includes government officials, Underwriters Laboratories, leaf blower manufacturers, and trade associations, and which is accredited by the American National Standards Institute, Inc. (ANSI), developed a method for measuring the sound levels from leaf blowers (Appendix F). The purpose of the standard method is to establish sound level labeling requirements for leaf blowers applicable to noise received by bystanders. The standard also includes requirements for safety precautions to be included in manuals for use by operators. The ANSI standard specifies a test area in a field in which natural ground cover does not exceed three inches in height and which is free of any large reflecting surfaces for a minimum of 100 ft from the blower. The sound level meter must be set for slow response and the A-weighting network. Once the blower is adjusted and running properly, the receiver (microphone) is set up 50 ft from the operator and 4 ft above ground. Sound level readings are taken in a circle every 45 degrees for a total of eight readings, as either the operator rotates or the microphone is moved. The eight readings are then averaged and reported to the nearest decibel.

In wide use, the method has been criticized as sometimes generating unreproducible results. Typical comments expressed in meetings with ARB staff were to the effect that the manufacturer-reported sound levels for leaf blowers can be significantly different than those obtained by some third party testers. The standard has been revised (Dunaway 1999) and approved February 11, 2000, which may address the issue of reproducibility. Other comments about the method criticize the fundamental requirements for testing in an open field, with no reflecting surface for 100 ft, and the receiver 50 ft away, as being unrealistic and unrepresentative of real-world use on residential properties (Allen 1999a). A standardized method, however, usually does not reflect real-world conditions, but rather is useful for comparing sound levels from different blowers tested under the same conditions. The complexity and precision required by the method does appear to render it unsuitable as a field enforcement standard (Zwerling 1999).

While the ANSI method yields sound level exposures for a bystander, the noise level exposure for the operator is measured using an audiodosimeter. For occupational exposures, a dosimeter can report the noise dose as a percentage relative to the permissible exposure level of 90 dBA (8 CCR General Industry Safety Orders, Article 105, Appendix A; 29 CFR 1910.25). The eight-hour time-weighted-average sound level experienced by the worker is then calculated from the dose, using a formula specified in regulations. Additional details can be found in the OSHA and Cal/OSHA Technical Manuals.⁸

⁸OSHA's Technical Manual is available on their website (www.osha.gov) and noise measurement is in Section III, Chapter 5. Cal/OSHA's manual is available from Cal/OSHA.

3. Noise in California

a. Noise Sources

By all accounts, noise exposure is increasing both as the number of sources increases and as existing sources get noisier (Berglund & Lindvall 1995). We drive our cars more and take more airplane trips, increasing noise from what have been the two major sources of noise for at least the last two decades; sales of engine-powered lawn and garden equipment continue to increase; and movie theaters and video arcades use noise to increase excitement (Consumer Reports 1999, PPEMA 1999, U.S. EPA 1981). The major sources of noise are transportation, from road, air, and rail traffic, which impact the most people of all noise sources; industrial machinery and facilities; construction; building services and maintenance activities; domestic noise from one's neighbors; and self-inflicted noise from leisure activities, which may qualify as domestic noise to one's neighbors (Berglund & Lindvall 1995).

b. Numbers of People Potentially Exposed: the Public

It is not possible to state with any certainty how many people in California are exposed to noise from leaf blowers. Indeed, the most recent nationwide estimate of the number of people exposed to noise from various sources dates from 1981. In that study, the U.S. EPA estimated that 730,000 people were exposed to noise from leaf blowers above the day-night average sound level of 45 dBA (U.S. EPA 1981). The use of leaf blowers has grown tremendously since 1980, however, and thus these numbers cannot be reliably scaled for an estimate of the number of Californians exposed to leaf blower noise today.

As California's population has grown almost 41% since 1970 (CDF 1998, CDF 1999), population density, and thus noise exposure, has increased. California classifies counties as being metropolitan or non-metropolitan, based on the Bureau of the Census categorization of standard metropolitan statistical areas as containing or being close to a large city. As of January 1, 1999, the thirty-four metropolitan counties comprise 96.7% of California's population, or about 32.67 million people. The population of Californians who live in non-metropolitan counties, while small at 3.3% of the total, or 1.11 million people, has increased faster than the population in metropolitan counties (47.1% increase versus 40.5% increase, 1970-1999) and thus even noise exposures in the lowest populated counties have likely increased over the past thirty years.

Unfortunately, without a comprehensive and current survey of noise exposures in California, it is not possible to determine, from available data, how many Californians are exposed to noise, and in particular exposed to noise from leaf blowers. The only conclusion is that the number of people affected by noise is likely increasing as population density increases even in non-metropolitan areas of the state. How many people are exposed to, and annoyed by, noise from leaf blowers is a question for future research.

c. Numbers of People Potentially Exposed: the Operator

In southern California, about 80% of lawn and landscape contracting firms use leaf blowers (Anon 1999), thus one can assume that most gardeners are exposed to the noise from leaf blowers, either as an operator or from working in close proximity to the operator. From the California database of employees covered by unemployment insurance, in the fourth quarter of 1998 there were 59,489 workers reported by 6790 firms, in the SIC Code 0782, Lawn and Garden Services (M. Rippey, pers. com). This number is assumed to be the lower bound of those exposed, as there are an unknown number of self-employed gardeners, who may not report their earnings or be covered by unemployment insurance. Future research could test the hypothesis that all lawn and garden service workers are exposed, as operators or from working in close proximity, to the noise from leaf blowers.

4. Regulating Noise

a. Federal Law

The Noise Control Act of 1972 established a statutory mandated national policy “to promote an environment for all Americans free from noise that jeopardizes their public health and welfare.” The Office of Noise Abatement and Control was established within the U.S. EPA to carry out the mandates of the Noise Control Act. The Office of Noise Abatement and Control published public health and welfare criteria; sponsored an international conference; examined dose-response relationships for noise and its effects; identified safe levels of noise; promulgated noise regulations; funded research; and assisted state and local offices of noise control; until funding for the office was removed in 1981-1982 (Suter 1991; Shapiro 1991). In its almost ten years of operation, U.S. EPA produced several documents that are still relevant and were consulted from this report.

The hearing of workers is protected by regulations promulgated under the Occupational Safety and Health Act of 1970. As California employers fall under California’s equivalent program, hearing protection law will be covered below under state law.

b. State Law

California enacted the Noise Control Act of 1973 to “establish a means for effective coordination of state activities in noise control and to take such action as will be necessary...” [HSC 46000(g)]; the office was established within the California Department of Health Services. One of the primary functions of the office was to provide assistance to local governmental entities that develop and implement noise abatement procedures, and several guidelines were written. Funding for the office, however, ended beginning in the 1993-1994 fiscal year; no relevant reports or guidelines were located for this report.

California’s counterpart to OSHA, the Cal/OSHA, has a General Industry Safety Order [8 CCR Article 105 5095-5100] for the control of noise exposure that is very similar to the federal

OSHA regulations. When sound level exposure exceeds 85 dBA for an 8-hour time-weighted average, employers are required to provide a hearing conservation program at no cost to employees. The hearing conservation program includes audiometric testing of hearing, provision of hearing protectors, training, and record keeping. Employers are required to provide employees with hearing protection when noise exposure exceeds 90 dBA in an eight-hour work day; as noise levels increase, the allowable exposure duration also decreases. The permitted duration for an employee exposed to 103 dBA, for example, is one hour and nineteen minutes in a work day [8 CCR 5096 (a)(b)]. Employers are allowed to use personal protective equipment to reduce sound level exposures if administrative or engineering controls are not feasible or fail to reduce sound levels within permissible levels.

c. Local Ordinances

In contrast to the low level of activity on noise control at the federal and state levels, local California cities and counties have been very active in regulating and enforcing noise standards. About twenty cities have banned the use of gasoline-powered, or gasoline- and electric-powered leaf blowers, from use within their city limits (City of Palo Alto 1999a). Including the recent Los Angeles ban on use within 500 ft of residences, about 13% of Californians live in cities that ban the use of leaf blowers, and six of the ten largest California cities have ordinances that restrict or ban leaf blowers. All together, about one hundred California cities have ordinances that restrict either leaf blowers specifically or all gardening equipment generally, including the cities with bans on leaf blower use (IME 1999).

The restrictions on leaf blowers fall into four basic categories, with many cities employing a combination of approaches: time of day/day of week, noise levels, specific areas, and educational (City of Palo Alto 1999a). Time of day/day of week ordinances are the most common and are used to control when leaf blowers can be operated. Typically, hours of use are restricted to times between 7:00 a.m. and 7:00 p.m., and days of use are either Monday through Friday or Monday through Saturday, and sometimes including Sunday, with shorter hours on the weekend, based on the assumption that leaf blower noise is most offensive during the evening and night time hours, and on the weekend. There may be exceptions for homeowners doing their own yard work and for work in commercial areas. Time of day/day of week ordinances are relatively easy to enforce. A problem with these ordinances, however, is that they ignore the needs for quiet during the day of babies, young children, and their caretakers; day-sleepers; the ill; the retired; and a growing population of those who work in a home office.

Some cities regulate leaf blower use based on noise levels recorded at a specified distance from the operator. Palos Verdes Estates and Davis, for example, set the noise level at 70 dBA at 50 ft, and Newport Beach and San Diego have a 65 dBA at 50 ft restriction. Davis allows single-family homeowners to avoid the restriction if the leaf blower is operated for less than ten minutes. Palos Verdes Estates requires blowers to be tested and certified by the city. Otherwise, a noise level restriction is very difficult to enforce as the enforcement officer must be trained in the use of sound level meters, carry the meter, and record the sound level before the operator turns off the

leaf blower or moves on. These rules target the control of noise from blowers, and could protect those who are home during the day, if they could be effectively enforced.

Recognizing that leaf blowers are often perceived as most offensive when used in residential areas, many cities stipulate usage restrictions only in residential areas, or within a certain distance of residential areas. The residential use distance restrictions prohibiting the use of leaf blowers range from 100 ft, in Foster City, to 500 ft, in Los Angeles. This type of ordinance protects those who are at home and in need of quiet during the day, but does not address issues of those who work and recreate in commercial or other non-residential areas.

Cities sometimes couple area restrictions with user guidelines, such as prohibitions on blowing debris onto adjacent properties, and require operators be educated on the proper use of leaf blowers so as to minimize noise levels and environmental issues. These educational approaches are generally not oriented towards enforcement, but seek to change operator behavior. Educational approaches are often endorsed by landscapers and manufacturers, who believe that much of the discord over leaf blower usage originates with the few gardeners who use them incorrectly or inconsiderately. For example, an organization calling itself LINK, or Landscapers Involved With Neighborhoods and Kids, promotes educating operators to use their leaf blowers at half-throttle within 150 ft of homes (LINK 1999).

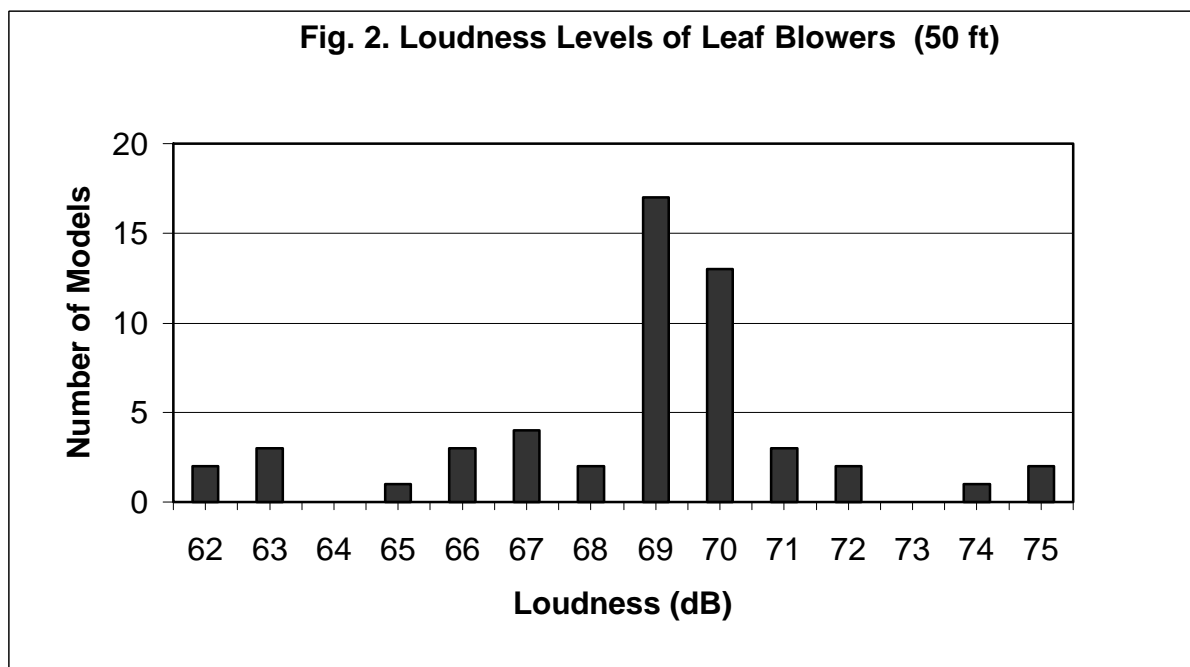
5. Noise From Leaf Blowers

In a survey of Southern Californian gardeners by a consumer products manufacturer (Anon 1999), the top two ranked attributes of a desirable leaf blower were, in order, “powerful” and “quiet.” Important features were identified as “backpack mounted,” “noise below legal limits,” and “variable speed.” When asked what they dislike about their leaf blowers, the most commonly cited problem was “noise.” Taken together, these answers suggest that loud noise from leaf blowers is not only an issue for the public, but is also a major issue of concern for the gardeners who use them, at least in Southern California. On the other hand, a major manufacturer has indicated that low noise does not even show up in their survey of desirable leaf blower features (Will 1999b), so perhaps low noise is only a concern of California gardeners.

a. Bystander noise exposure

Manufacturer-reported noise levels from leaf blowers are summarized in Appendix G; all reported noise levels are assumed to represent bystander exposure, with the receiver 50 ft from the blower, unless otherwise noted. The reported levels are based on statements in promotional literature or personal communications with manufacturers; some manufacturers did not report the sound levels of most of their models in materials available to the ARB. For backpack and hand held blowers, sound levels range from 62 dBA to 75 dBA, with more than half registering between 69 and 70 dBA (Figure 2). Bearing in mind the logarithmic decibel scale, the difference in a leaf blower at 62 dBA and one at 75 dBA, a 13 dBA range, represents more than a quadrupling of the sound pressure level, and would be perceived by a listener as two to three

times as loud. The rule of thumb is that when a sound level increases by ten dB, the subjective perception is that loudness has doubled (MPCA 1987).



There are presently two gasoline-powered backpack and three hand held electric leaf blowers that are reported by their manufacturers to be very quiet. Maruyama and Toro have the two quietest backpack blowers, and Poulan/Weedeater, Stihl, and Toro have produced the quietest hand held blowers. Echo, Inc., which sells slightly under one-third of the total number of backpack blowers, has a model rated at 65 dB, the PB-46LN. In 1996, the most popular Echo backpack leaf blower, based on sales, was the Echo PB-400E, which is also one of the noisiest at 74 dBA. By 1999, however, the quieter PB-46LN had surpassed the PB-400E in sales (Will, L., pers. com.).

b. Operator Noise Exposure

Data on noise levels at the leaf blower operator's ear are limited. The League for the Hard of Hearing (1999) publishes a fact sheet in which the noise level of a leaf blower is listed as 110 dBA. Clark (1991) reported that one model by Weedeater emitted a maximum level of 110-112 dBA and an equivalent A-weighted sound level (L_{eq}) of 103.6 dBA. This leaf blower model, however, is no longer available and these data may not be comparable to today's leaf blowers. Other than Clark's report, no other published report could be located, but unpublished data were found.

Schulze and Lucchesi (1997), in an unpublished conference presentation, reported the range and average sound pressure level from four leaf blowers. The four leaf blowers were

unidentified models from Craftsman, Weedeater, and Shop Vac.⁹ The authors reported that 3 ft from the leaf blower the sound pressure levels ranged from 80 to 96 dBA, with an average value of 88 dBA, and concluded that leaf blower noise did not violate the OSHA permissible noise exposure limit. Sound pressure levels, however, were not measured at the operator's ear, and thus usefulness of the data is limited. In addition, whether or not the OSHA noise exposure limits are violated depends on the amount of time the listener is exposed, as the action level is an eight-hour time-weighted average. At least one of the leaf blowers had an SPL above the Permissible Exposure Limit of 90; at 96 dBA, the operator would be restricted to a 3 hr, 29 minute daily exposure without hearing protection.

The Portable Power Equipment Manufacturers Association (Hall 1999) conveyed limited, blinded data to the ARB on operator exposures. With no information as to data collection methods (some pages were marked "ISO 7182"), manufacturers, models, or maximum and minimum sound levels, these data are of limited quality. Reported operator sound levels, some of which were identified as "full open throttle" or "full load," ranged from 91.5 dBA to 106 dBA.

A consultant with James, Anderson & Associates, Inc. (Hager 1999), provided ARB with data collected as a part of comprehensive noise exposure studies by the firm (Table 7). As with the PPEMA data, ARB was not given the make or models of leaf blowers tested. Sound levels were recorded in the hearing zone of groundskeepers while they were operating leaf blowers, along with the amount of time the groundskeeper operated the leaf blower in an 8-hr day. Sound levels were measured in dBA per federal OSHA requirements. As shown, duration of use ranged from 15 minutes to 7.6 hours (average 2.1 hr) during the day. Operator exposure ranged from 88.6 to 101.3 dBA. In this data set, only one of the six individuals monitored would have exceeded the protective levels, based on leaf blower use for 7.6 hrs.

⁹ARB was not able to obtain the specific models tested or actual SPLs for each model leaf blower.

**Table 7. Leaf Blower Operator Noise Exposures and Duration of Use
(Hagar 1999)**

Average SPL, dBA	Minimum SPL, dBA	Maximum SPL, dBA	Duration of Leaf Blower use (hr)
99.5	96.4	101.3	0.75
92.0	N/R	N/R	1.0
101.2	N/R	101.9	2.3
101.3	98.3	105.7	7.6
95.9	92.0	97.0	0.25
88.6	85.0	90.4	0.5

N/R = not reported

Eric Zwerling of the Rutgers Noise Technical Assistance Center, along with Les Blomberg, Executive Director of the Noise Pollution Clearinghouse, recently conducted studies of operator exposure and the sound quality of leaf blowers (Zwerling 1999). While the data are still being analyzed, preliminary results were made available to the ARB. Three backpack and one handheld leaf blowers were tested using ANSI B175.2-1996 test method for the bystander exposure and using personal dosimetry for operator exposures (Table 8). All equipment used for tests was certified and calibrated. Zwerling and Blomberg used a 3 dB exchange rate for the operator dosimetry, as recommended by NIOSH, but noted that the data can be reasonably compared to data derived with the OSHA mandated 5 dB exchange rate because of the steady sound emissions of the leaf blowers. Because of this, the OSHA permissible exposure durations, which are based on the 5 dB exchange rate, are noted in Table 8. The difference is most important for the worker, who is allowed, for example, a 1 hr exposure (unprotected) at 105 dB by OSHA, but only 4 min, 43 sec exposure (unprotected) under the more conservative NIOSH-recommended 3 dB exchange rate.

**Table 8. Sound Levels of Some Leaf Blowers,
E. Zwierling & L. Blomberg**

Make/Model	Type	Condition	Bystander Exposure, dB	Operator Exposure,* Leq	OSHA Permissible Exposure Duration (approx)
Stihl BR 400	Backpack	New	73.89	105.7, 105.8, 105.5	52 min
Stihl BR 400	Backpack	Used	74.5, 74.63	103.3, 102.9	1 hr, 19 min
Kioritz DM9	Backpack	Used	76.0	102.0	1 hr, 31 min
Stihl BR 75	Handheld	New	68.4	98.4, 97.9	2 hr, 38 min

*Samples ranged from 5-10 minutes; each reported value is a distinct sample. The microphone was attached to the cap above the operator's ear.

Finally, the *Echo Power Blower Operator's Manual* advises operators to wear hearing protection whenever the unit is used. The user is instructed that "OSHA requires the use of hearing protection if this unit is used 2 hours per day or more." This statement indicates that the operator may be exposed to an SPL of 100 dBA or more during use.

6. Use of Hearing Protectors and Other Personal Protection Gear

When this study was initiated, there were no studies found that documented the incidence of personal protective equipment usage among operators of leaf blowers. Hearing protectors are widely available, and some manufacturers provide an inexpensive foam ear plug set with the purchase. More expensive custom molded ear plugs and ear muffs provide better protection than the moldable foam ear plugs, but again no data were available on usage. Two studies did examine the incidence of usage of hearing protection in other industries. In one study of 524 industrial workers, although 80.5% were provided with hearing protection devices, only 5.1% wore them regularly (Maisarah & Said 1993). In another study of metal assembly workers who worked in a plant where the average noise level was 89 dBA, only 39% of the men reported wearing hearing protection always or almost always (Talbot et al. 1990).

By the end of September 1999, however, three studies were delivered to the ARB that included information on the use of hearing protection by leaf blower operators. Two of the studies consisted of direct observations of operators; the third was a survey that asked people who hire gardeners to recall the use of personal protection gear by their gardeners. Following are summaries of each of the studies.

a. Zero Air Pollution Study (1999)

The goal of this study was to “observe 100 yard maintenance workers to determine the percentage of workers who followed the safety instruction while operating gas powered leaf blowers.” Workers were observed from August to October, 1997 in the western portions of the City of Los Angeles, including the San Fernando Valley. Of 100 leaf blower operators observed, none wore hearing protection, one (1%) wore breathing protection (dust mask), and 22 (22%) wore eye protection of some kind. Of the workers observed, 27 (27%) were interviewed; seven of those claimed hearing impairment as a result of using leaf blowers and two claimed to have breathing problems which they attributed to using leaf blowers. Ten of those interviewed (37%) said they were aware of manufacturers’ safety instruction but did not feel it was necessary to follow the instructions. The remaining 17 (63%) were unaware of manufacturers’ safety instructions.

b. Citizens for a Quieter Sacramento Study (1999b)

The goal of this study, as for the Zero Air Pollution study, was to determine the percentage of leaf blower operators who wear personal protective equipment when using blowers. A total of 64 observations were made during August and September 1999; 12 in Sacramento, 47 in the Los Angeles area, and 5 in other cities. Most (88%) of the observations were of blowers being used on residential properties. Of the 64 observations, there were four (6%) individuals observed wearing hearing protection, 41 (64%) were not wearing hearing protection, and in the remaining cases the observer could not tell whether or not hearing protection was used. Eye protection use was lower, only 3 (5%) operators were wearing glasses, but breathing protection incidence was higher, seven (11%) wore dusk masks. Observations were also made of the incidence of personal protection of other workers, when the crew was larger than one person. Of the 38 observations of other workers, two (5%) were using hearing protection, two (5%) were using eye protection, and two (5%) wore dusk masks.

c. Survey99 Report (Wolfberg 1999)

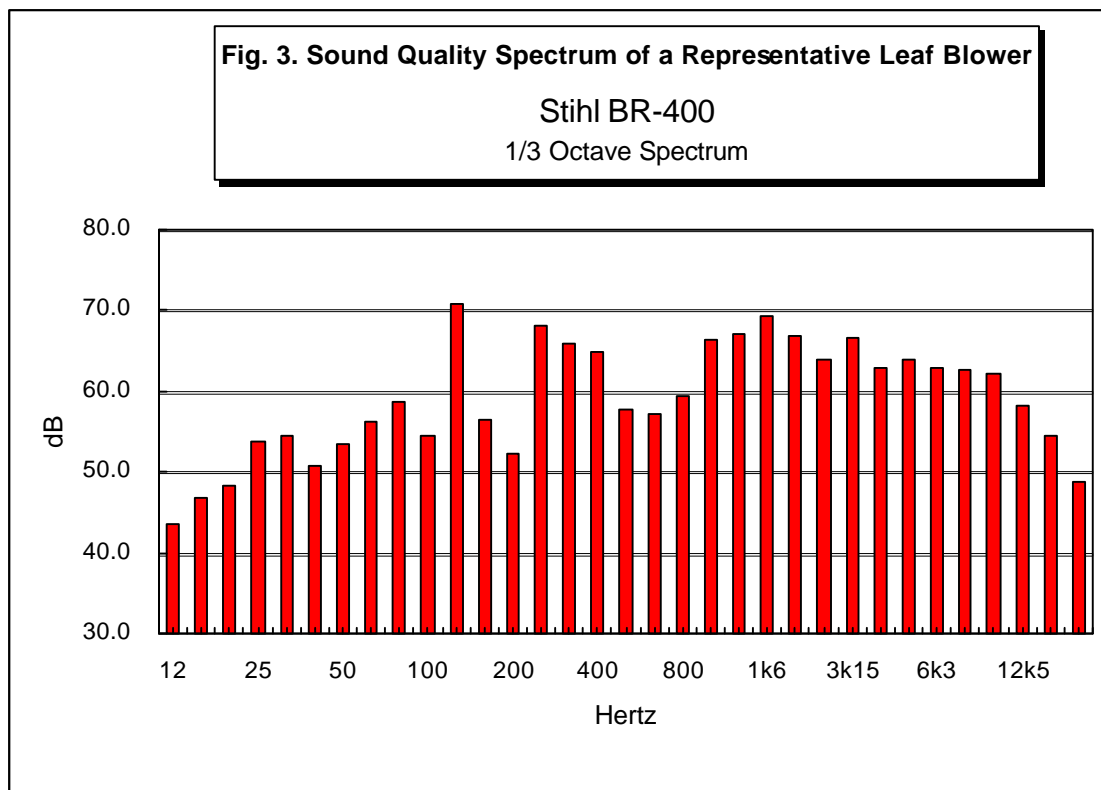
The third study provided to the ARB was authored by Mrs. Diane Wolfberg, Chair of the Zero Air Pollution Education Committee and Mr. George Wolfberg. Although the authors are members of Zero Air Pollution, the study was distinct from the 1997 study summarized above. The goal of this study was to determine “opinions and perceptions of California residents regarding the use of leaf blowers . . . for residential landscape maintenance.” Mainly residents of Los Angeles were surveyed. Survey takers asked residents a variety of questions related to the use of leaf blowers on residential properties; in addition, respondents were asked about the incidence of personal protective equipment use by leaf blower operators. Because the data are based on recall rather than direct observations, their usefulness is limited. Data are summarized here, nevertheless, for completeness.

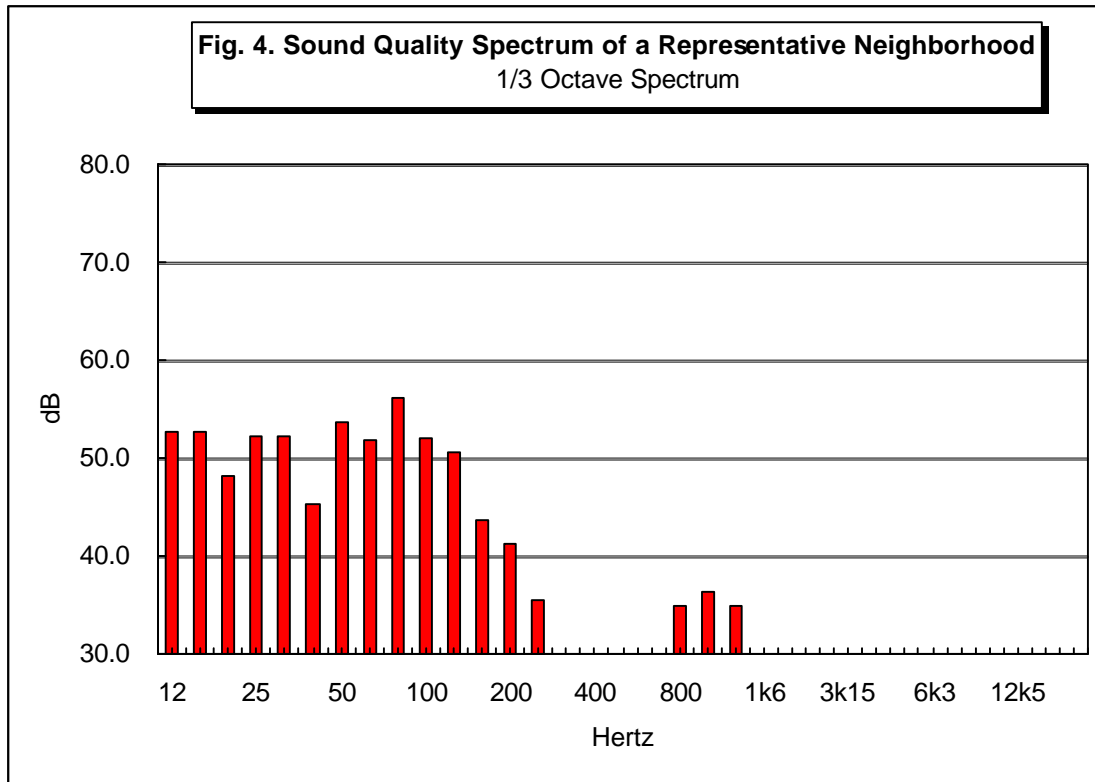
Of respondents who have had leaf blowers used on their properties in the previous 12 months, 53% reported that leaf blower operators never use a face mask, 62% never use eye

protection, and 69% never wear hearing protection. On the positive side, however, respondents reported that 13% of operators always wear a face mask, 19% always wear eye protection, and 9% always wear hearing protection. These percentages are much higher than found in the two direct observation studies.

7. Sound Quality

As discussed earlier, the perceived loudness of noise is dependent on both sound pressure level and frequency, which is termed the sound quality. One study examined sound quality from leaf blowers (Zwerling 1999). While this study is unpublished and data are still being analyzed, the authors have made data and preliminary findings available to the ARB. Figures 3 and 4 illustrate sample sound spectra from a leaf blower and ambient sound, respectively. As shown in Figure 3, the sound spectrum of the gasoline-powered leaf blower contains a significant amount of high intensity and high frequency emissions. In a quiet residential neighborhood (Figure 4), there are few or no natural sources of sound at these high frequencies. Therefore, the sound emissions of gasoline-powered leaf blowers are not only more intense than the ambient sound levels, their spectra are noticeably different than the spectrum for ambient sounds. The high frequency emissions are, therefore, not masked by other sounds and are more noticeable, perhaps accounting for the high level of annoyance reported by bystanders. These data and their implications for annoyance should be confirmed by further study.





8. Summary

Noise is the general term for any loud, unmusical, disagreeable, or unwanted sound, which has the potential of causing hearing loss and other adverse health impacts. While millions of Californians are likely exposed to noise from leaf blowers as bystanders, given the ubiquity of their use and the increasing density of California cities and towns, there is presently no way of knowing for certain how many are actually exposed, because of the lack of studies. In contrast, it is likely that at least 60,000 lawn and garden workers are daily exposed to the noise from leaf blowers. Many gardeners and landscapers in southern California are aware that noise is an issue and apparently would prefer quieter leaf blowers. Purchases of quieter leaf blowers, based on manufacturer data, are increasing. While little data exist on the noise dose received on an 8-hr time-weighted-average by operators of leaf blowers, data indicate that some operators may be exposed above the OSHA permissible exposure limit. It is unlikely that more than 10% of leaf blower operators, and probably a much lower percentage, regularly wear hearing protective gear, thus exposing them to an increased risk of hearing loss. The sound quality of gasoline-powered leaf blowers may account for the high level of annoyance reported by bystanders.

III. REVIEW OF HEALTH EFFECTS

Leaf blower noise, exhaust and fugitive dust emissions, as discussed in previous sections of this report, are health concerns. The goal of this section is to present information on health effects of identified hazards from leaf blowers; this section does not present exposure information or data tying identified hazards to specific health effects in leaf blower operators or bystanders. The following discussion addresses the health effects of particulate matter, carbon monoxide, unburned fuel, and noise. Particulate matter, carbon monoxide, and unburned fuel are components of exhaust emissions; particulate matter is also the major constituent of fugitive dust. Ozone is a pollutant that is formed in the atmosphere through chemical reactions of hydrocarbons (unburned fuel) and nitrogen oxides in the presence of ultraviolet light. Although not directly emitted, ozone is a pollutant of concern because leaf blowers emit hydrocarbons, which react to form ozone. The health effects of nitrogen oxides are not discussed as these emissions from leaf blowers are relatively low, and any health effects would be negligible.

National Ambient Air Quality Standards have been set by the federal government to protect public health and welfare. In addition, California has State ambient air quality standards. These standards include a margin of safety to protect the population from adverse effects of chronic pollutant exposure. The National Ambient Air Quality Standards and California standards are intended to protect certain sensitive and probable risk groups of the general population (Appendix C).

A. Particulate Matter

Fugitive dust is not a single pollutant, but rather is a mixture of many subclasses of pollutants, collectively termed particulate matter (PM), each containing many different chemical species (U.S. EPA 1996). Particles of 10 μm and smaller are inhalable and able to deposit and remain on airway surfaces. The smaller particles (2.5 μm or less) are able to penetrate deep into the lungs and move into intercellular spaces. The respirable particles owe their negative health impacts, in part, to their long residence time in the lung, which allows chemicals time to interact with body tissues. ARB staff could not locate data on the specific chemical and physical make-up of leaf blower dust, although some data are available on paved road dust, thus only generic effects from the respirable fraction (particles 10 μm and smaller) are addressed.

Many epidemiological studies have shown statistically significant associations of ambient PM levels with a variety of negative human health endpoints, including mortality, hospital admissions, respiratory symptoms and illness measured in community surveys, and changes in pulmonary mechanical function. Associations of both short-term, usually days, and long-term, usually years, PM exposure with most of these endpoints have been consistently observed. Thus, the public health community has a great deal of confidence that PM is significantly associated with negative health outcomes, based on the findings of many studies.

There remains uncertainty, however, regarding the magnitude and variability of risk estimates for PM. Additional areas of uncertainty include the ability to attribute observed health effects to specific PM constituents, the time intervals over which PM health effects are manifested, the extent to which findings in one location can be generalized to other locations, and the nature and magnitude of the overall public health risk imposed by ambient PM exposure. While the existing epidemiology data provide support for the associations mentioned above, understanding of underlying biologic mechanisms is incomplete (U.S. EPA 1996).

B. Carbon Monoxide

A component of exhaust, carbon monoxide (CO) is a colorless, tasteless, odorless, and nonirritating gas that is a product of incomplete combustion of carbon-containing fuels. With exposure to CO, subtle health effects can begin to occur, and exposure to very high levels can result in death. The public health significance of CO in the air largely results from CO being absorbed readily from the lungs into the bloodstream, forming a slowly reversible complex with hemoglobin, known as carboxyhemoglobin. The presence of significant levels of carboxyhemoglobin in the blood reduces availability of oxygen to body tissues (U.S. EPA 1999b).

Symptoms of acute CO poisoning cover a wide range depending on severity of exposure, from headache, dizziness, weakness, and nausea, to vomiting, disorientation, confusion, collapse, coma, and at very high concentrations, death. At lower doses, central nervous system effects, such as decreases in hand-eye coordination and in attention or vigilance in healthy individuals, have been noted (Horvath et al. 1971, Fodor and Winneki 1972, Putz et al. 1976, 1979, as cited in U.S. EPA 1999b). These neurological effects can develop up to three weeks after exposure and can be especially serious in children.

National Ambient Air Quality Standards have been set to protect public health and welfare and are intended to protect certain sensitive and probable risk groups of the general population. The sensitive and probable risk groups for CO include anemics, the elderly, pregnant women, fetuses, young infants, and those suffering from certain blood, cardiovascular, or respiratory diseases. People currently thought to be at greatest risk from exposure to ambient CO levels are those with ischemic heart disease who have stable exercise-induced angina pectoris (cardiac chest pain) (ARB 1992, U.S. EPA 1999b). In one study, high short-term exposures to CO were found in people operating small gas-powered garden equipment (ARB 1992).

C. Unburned Fuel

Some toxic compounds are present in gasoline and are emitted to the air when gasoline evaporates or passes through the engine as unburned fuel (ARB 1997). Benzene, for example, is a component of gasoline. Benzene is a human carcinogen and central nervous system depressant. The major sources of benzene emissions in the atmosphere are from both unburned and burned gasoline. The amount of benzene in gasoline has been reduced in recent years through the

mandated use of California Reformulated Gasoline (ARB undated fact sheet¹⁰). Other toxic compounds that are emitted from vehicle exhaust include formaldehyde, acetaldehyde, and 1,3-butadiene. Acetaldehyde is a probable human carcinogen (Group B2) and acute exposures lead to eye, skin, and respiratory tract irritation. 1,3-Butadiene is classified as a probable human carcinogen, is mildly irritating to the eyes and mucous membranes, and can cause neurological effects at very high levels. Formaldehyde is highly irritating to the eyes and respiratory tract and can induce or exacerbate asthma. It is classified as a probable human carcinogen (Group B1).

D. Ozone

Ozone is a colorless, odorless gas and is the chief component of urban smog. It is by far the state's most persistent and widespread air quality problem. Ozone is formed from the chemical reactions of hydrocarbons and nitrogen dioxide in the presence of sunlight. Leaf blowers emit substantial quantities of hydrocarbons, primarily from unburned fuel, which can react to form ozone. Ozone is a strong irritant and short-term exposures over an hour or two can cause constriction of the airways, coughing, sore throat, and shortness of breath. Ozone exposure may aggravate or worsen existing respiratory diseases, such as emphysema, bronchitis, and asthma. Chronic exposure to ozone can damage deep portions of the lung even after symptoms, such as coughing, disappear. Over time, permanent damage can occur in the lung, leading to reduced lung capacity.

E. Noise

The literature on health effects of noise is extensive. Exposure of adults to excessive noise results in noise-induced hearing loss that shows a dose-response relationship between its incidence, the intensity of exposure, and duration of exposure. Noise-induced stimulation of the autonomic nervous system reportedly results in high blood pressure and cardiovascular disease (AAP 1997). In addition there are psychological effects. The following subsections will first discuss noise-induced hearing loss and physiological stress-related effects. Adverse impacts on sleep and communication, effects of performance and behavior, annoyance, and effects on wildlife and farm animals are also described. These are not perfect divisions between discreet affects: nighttime noises can cause sleep-deprivation, for example, which can lead to stress, elevated blood pressure, and behavioral changes, especially if the effect is repeated and uncontrollable. But first, before discussing effects, the reader should have an understanding of how the ear functions.

¹⁰<http://arbis.arb.ca.gov/cbg/pub/cbgbkgr1.htm>

1. Hearing and the Ear

A detailed discussion of the ear's anatomy and the mechanism by which we hear is beyond the scope of this report, but a basic level of understanding is necessary so that later discussions of damage to hearing will be better understood. For further information, the reader is referred to any basic acoustics or biology text.

The ears are paired sensory organs that serve two functions, to detect sound and to maintain equilibrium; only sound detection will be addressed in this report. The ears are composed of the external ear, middle ear, and the inner ear. With the assistance of the external ear in collecting and focusing sound, vibrations are transmitted to the middle ear via the ear canal and the eardrum. The vibrations of the eardrum are transmitted by the bones of the middle ear to the fluid-filled sensory organ of the inner ear, the cochlea. As the fluid of the inner ear vibrates, the hair cells located in the cochlea bend, stimulating sensory receptors, and leading to nerve impulses being transmitted to the brain via the auditory nerve. The greater the hair cell displacement, the more sensory receptors and neurons are stimulated, resulting in the perception of an increase in sound intensity.

Hearing loss can result from damage or growths in any portion of the ear and the part of the brain that processes the nerve impulses. Damage to the outer and middle ear result in conductive hearing loss, in which case the vibrations can still be perceived and processed if they can be transmitted by another means to the inner ear. Damage to the inner ear and auditory nerve result in sensorineural hearing loss. Sensorineural hearing loss can be temporary, if the body's mechanisms can repair the damage, but cumulative inner ear damage will result in permanent hearing loss. Aging, diseases, certain medications, and noise cause the majority of sensorineural hearing loss, which is not reversible by surgery or medication, and is only partially restored by hearing aids.

2. Noise-Induced Hearing Loss

Roughly 25% of all Americans aged 65 and older suffer from hearing loss. Contrary to common belief, hearing loss is not part of the natural aging process, but is caused by preventable, noise-induced wear and tear on the auditory system (Clark & Bohne 1999). Noise-induced hearing loss develops gradually over years and results from damage to the inner ear. Sensory cells within the cochlea are killed by exposure to excessive noise. These cells do not regenerate but are replaced with scar tissue. After weeks to years of excessive noise, the damage progresses to the point where hearing loss occurs in the high-frequency range and is detectable audiometrically; speech comprehension is not usually affected and so at this level hearing loss is goes unnoticed by the individual. Eventually, with continued exposure, the hearing loss spreads to the lower pitches necessary to understand speech. At this point, the impairment has proceeded to the level of a handicap and is quite noticeable. The damage is not reversible and is only poorly compensated for by hearing aids.

There is considerable variability among individuals in susceptibility to hearing loss. Based on major field studies conducted in the late 1960s and early 1970s, the U.S. EPA suggested that a 24-hour equivalent sound level of 70 dBA would protect 96% of the population, with a slight margin of safety, from a hearing loss of less than five dBA at 4000 Hz (U.S. EPA 1974). This 24-hour, year-round equivalent sound level is based on a forty-year work-place noise level exposure (250 working days per year) of 73 dBA for eight hours and 60 dBA for the remaining 16 hours.

The National Institute for Occupational Safety and Health reviewed the recommended occupational noise standard recently (NIOSH 1996) and reaffirmed its recommended exposure limit of 85 dBA for occupational noise exposure. The report concluded that the excess risk of developing occupational noise-induced hearing loss for a 40-hr lifetime exposure at 85 dBA is 8%. In comparison, the OSHA regulation [29 CFR 1910.95] allowing a 90 dBA permissible exposure limit results in a 25% excess risk of developing hearing loss. The OSHA regulation, however, has not been changed to reflect the recommendation of the National Institute for Occupational Safety and Health.

NIOSH also recommended changing the exchange rate, which is the increment of decibels that requires the halving or doubling of exposure time, from the OSHA mandated 5 dBA to 3 dBA. This would mean that if the worker was permitted to be exposed to 85 dBA unprotected for 8 hr, then a noise exposure level of 88 dBA would be limited to 4 hr per day. The 3-dBA exchange rate is supported by acoustics theory, and by national and international consensus. OSHA, however, continues to mandate a 5 dBA exchange rate in its regulations. In addition, the American Academy of Pediatrics (1997) has asked the National Institute of Occupational Safety and Health to conduct research on exposure of the fetus to noise during pregnancy and recommends that the OSHA consider effects on the fetus when setting occupational noise standards.

3. Non-Auditory Physiological Response

In addition to hearing loss, other physiologic and psychological responses resulting from noise have been noted and are termed non-auditory effects. Noise is assumed to act as a non-specific biological stressor, eliciting a "fight or flight" response that prepares the body for action (Suter 1991). Research has focused on effects of noise on blood pressure and changes in blood chemistry indicative of stress. Despite decades of research, however, the data on effects are inconclusive. While many studies have shown a positive correlation between hearing loss, as a surrogate for noise exposure, and high blood pressure, others have shown no correlation (Suter 1991; Kryter 1994). The National Institutes of Occupational Safety and Health (1996) has called for further research to define a dose-response relationship between noise and non-auditory effects, such as hypertension and psychological stress.

4. Interference with Communication

The inability to communicate can degrade the quality of living directly, by disturbing social and work-related activities, and indirectly, by causing annoyance and stress. The U.S. EPA (1974), in developing its environmental noise levels, determined that prolonged interference with speech was inconsistent with public health and welfare. Noise that interferes with speech can cause effects ranging from slight irritation to a serious safety hazard (Suter 1991), and has been shown to reduce academic performance in children in noisy schools, as reviewed by Kryter (1994). The U.S. EPA, therefore, developed recommended noise levels that are aimed at preventing interference with speech and reduced academic performance. An outdoor yearly average day-night sound level of 55 dBA permits adequate speech communication at about 9-10 ft, and also assures that outdoor noise levels will not cause indoor levels to exceed the recommended level of 45 dBA.

5. Interference with Sleep

It is common experience that sound rouses sleepers. Noise that occurs when one is trying to sleep not only results in repeated awakenings and an inadequate amount of sleep, but is also annoying and can increase stress. Noise that is below the level that awakens, however, also changes the sleep cycle, reduces the amount of “rapid eye movement” sleep, increases body movements, causes cardiovascular responses, and can cause mood changes and performance decreases the next day (Suter 1991). The U.S. EPA recommended an indoor average yearly day-night level of 45 dBA, which translates into a night time average sound level of 35 dBA, to protect most people from sleep disturbance.

An average sound level, however, does not adequately account for peak sound events that can awaken and disturb sleep. Continuous noise has a significantly smaller sleep disturbance effect than intermittent noise. Research has found that subjects in sleep laboratory experiments will gradually reduce the number of awakenings throughout the night in response to noise, but other physiological changes, including a momentary increase in heart rate, indicative of arousal do not change. The question is whether physiological arousal, short of awakening, has a negative health effect. While study results are inconclusive on this issue, it is clear that noise above a certain level, about 55 dBA L_{eq} according to Kryter (1994), will awaken people, even after long periods of repeated exposures. Repeated awakenings reduce feelings of restedness and cause feelings of annoyance, leading to stress responses and associated health disorders.

6. Effects on Performance and Behavior

The working hypothesis in this area has been that noise can cause adverse effects on task performance and behavior at work, in both occupational and non-occupational settings. Results of studies, however, have not always been as predicted. Sometimes noise actually improves performance, and sometimes there are no measurable differences in performance between noisy and quiet conditions (Suter 1991). Kryter (1994) concluded that masking by noise of other

auditory signals is the only inherent auditory variable responsible for observed effects of noise on mental and psychomotor tasks.

The effect of noise on “helping behavior” in the presence and absence of noise is more clear. Mathews and Canon (1975) tested the hypothesis that high noise levels may lead to inattention to the social cues that structure and guide interpersonal behavior. In a laboratory study in which subjects did not know they were being studied, they found that fewer persons were willing to help someone who had “accidentally” dropped materials when background noise levels were 85 dB than when they were 65 dB or 48 dB. In a subsequent field study, similar results were demonstrated with background noise from a lawn mower. Initially, subjects were tested as to their willingness to help a man who had dropped books and papers while walking from his car to a house; in this test, helping behavior was low both in ambient (50 dB) and high (87 dB) noise conditions. When the test was repeated with a cast on the arm of the man who dropped the books, helping behavior was high under ambient noise (80%) and low under high noise (15%) conditions. These and other studies lead to the conclusion (Suter 1991) that even moderate noise levels can increase anxiety, decrease the incidence of helping behavior, and increase the likelihood of hostile behavior.

7. Annoyance and Community Response

Annoyance is a response to noise that has been extensively studied for years. Various U.S. government agencies began investigating the relationships between aircraft noise and its effect on people in the early 1950's. Annoyance is measured as an individual response to survey questions on various environmental factors, including as noise (Suter 1991). The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints, and possibly adverse health effects. Fidell et al. (1991) reviewed and synthesized the relationship between transportation noise and the prevalence of annoyance in communities based on over 30 studies. The relationship is an exponentially increasing function, with less than 10% of respondents reporting themselves to be highly annoyed at noises under an average day-night sound level of 56 dB. Fifty percent responded they were highly annoyed at sound levels approaching 79 dB, and nearly every person was highly annoyed at sound levels above 90 dB.

Suter (1991) concluded that throughout decades of study, community annoyance has been positively correlated with noise exposure level, and that although variables such as ambient noise level, time of day, time of year, location, and socioeconomic status are important, the most important variable is the attitude of the affected residents. Kryter (1994) further elaborates that interference by noise, and the associated annoyance, depends on the activity of an individual when the noise event occurs, and the intensity and duration of the noise. People have different beliefs about noise, which are also important. Those most annoyed share similar beliefs that the noise may be dangerous, is probably preventable, are aware that non-auditory effects are associated with the noise source, state they are sensitive to noise, and believe that the economic benefit represented by the source is not important for the community (Fields 1990).

8. Effects of Noise on Animals

Kryter (1994) reviewed studies on the effects of noise both on wildlife and farm animals. None of these studies examine noise-induced hearing loss, but rather looked at effects of noise on litter size, prevalence of wildlife, and milk production. Most of the studies were conducted to examine the effects of airport noise, including noise from landings and takeoffs and sonic booms near commercial and military airports, and noise from construction activities during laying of pipelines across wilderness areas. Negative impacts on wildlife and farm animals, due to noise, were not supported by the studies. In the airport studies, the absence of human activities in the areas surrounding the high noise exposure zones appeared to be more important than noise, resulting in abundant wildlife. Farm animals exposed to frequent sonic booms showed little or no negative effects, again using such criteria as reproduction, milk production, and growth rate. No study, however, has examined the effects of leaf blower noise on animals.

IV. POTENTIAL HEALTH AND ENVIRONMENTAL IMPACTS OF LEAF BLOWERS

This section of the report synthesizes the information presented in the two previous sections, hazard identification and health effects, and characterizes the potential health impacts of leaf blowers on operators and bystanders. As discussed previously, there are no studies of the health impacts of leaf blowers, and essential information is missing that prevents ARB from preparing a quantitative risk characterization. There is, for example, no information on the quantitative relationship between exposure to hazards from leaf blowers and adverse effects. The size of the exposed population and the magnitude and duration of exposures are also unknown. The goal of this section, then, is to point the discussion in directions dictated by the findings of the two previous sections, and to raise questions about the nature of health impacts that may be experienced by those exposed to the exhaust emissions, fugitive dust, and noise from leaf blowers in both occupational and non-occupational settings.

Leaf-blower operators and bystanders have two different types of exposures to exhaust and fugitive dust emissions: exposures that occur on a regional basis and exposures that occur when one is within a short distance of the leaf blower. Regional exposures are those exposures to air pollution that occur as a result of leaf blowers contributing to the basin-wide inventory of ozone, carbon monoxide, particulates, and toxic air pollutants. While leaf blowers contribute a small percentage to the basin-wide air pollution, they are nonetheless a source of air pollution that can be, and is, controlled through exhaust emission standards.

The second type of exposure is of greater concern. Lawn and landscape contractors, homeowners using a leaf blower, and those in the immediate vicinity of a leaf blower during and shortly after operation, are exposed to potentially high exhaust, fugitive dust, and noise emissions from leaf blowers on a routine basis. While ARB staff have not located conclusive data on how often, how long, and at what concentrations exposures occur, the ARB off-road model assumes that each commercial leaf blower is used for 275 hr/yr, and each residential leaf blower is used for 10 hr/yr. These figures do not tell us, however, how long each leaf blower operator is exposed.

Because of the highly speculative nature of the data on operator and bystander exposure time, staff have been unable to develop estimates of the quantities of chemicals individuals could be exposed to per amount of time. Instead, impacts are presented somewhat qualitatively, with recommendations for appropriate personal protection or controls from hazards that staff have found to be significant.

A. The Leaf Blower Operator

In this section, data are presented that apply to the commercial leaf blower operator, a person who regularly uses the leaf blower in the course of a landscaping or gardening job. Staff assume that a commercial leaf blower operator will use equipment with a higher horsepower than a residential, or homeowner, operator.

1. Exhaust Emissions

The typical leaf blower owned and operated by commercial lawn and landscape contractors, with an average horsepower of three and a load factor of 50% based on the ARB off-road emissions model, produces the estimated average emissions for a one hour usage as shown in Table 9. Actual operator usage apparently ranges from 15 minutes to a full work day (Table 7). To illustrate the magnitude of potential exhaust and fugitive dust emissions, staff have compared the estimated leaf blower emissions to the emissions from one hour of operation of two different types of light duty vehicles, one new and one old. A comparison of emissions from leaf blowers to vehicle engines is relevant to provide some sense of the relative quantities of pollutants.

**Table 9. Commercial Leaf Blower Emissions Compared to Light Duty Vehicle Emissions
3 hp average, 50% load factor, 1999 emissions data**

	Exhaust Emissions, g/hr	Exhaust Emissions, new light duty vehicle,* g/hr	Exhaust Emissions, older light duty vehicle,** g/hr
Hydrocarbons	199.26	0.39	201.9
Carbon Monoxide	423.53	15.97	1310
Particulate Matter	6.43	0.13	0.78
Fugitive Dust	48.6-1031	N/A	N/A

*New light duty vehicle represents vehicles one year old, 1999 or 2000 model year, driven for one hour at 30 mph.

**Older light duty vehicle represents vehicles 1975 model year and older, pre-catalytic vehicle, driven for one hour at 30 mph.

For CO (Table 9), the estimated 423 g emitted by one hour of leaf blower use is approximately 26 times the amount emitted by a new vehicle, but approximately one-third of the CO emissions of an older vehicle. While not implying that the operator will inhale this amount of CO, these data do suggest concern about the relatively large amount of CO emitted directly into the air space surrounding the operator. For particulate matter exhaust emissions, the leaf blower emits eight to 49 times the particulates of a light duty vehicle, primarily because of the large amount of unburned fuel directly released by the two-stroke engine.

Another way to visualize the data is to compare emissions for a given amount of leaf blower operation to miles traveled by car. The Air Resources Board regularly publishes such emissions benchmarks. Thus, for the average 1999 leaf blower and car data presented in Table 9, we calculate that hydrocarbon emissions from one-half hour of leaf blower operation equal about 7,700 miles of driving, at 30 miles per hour average speed. The carbon monoxide emission benchmark is significantly different. For carbon monoxide, one-half hour of leaf blower usage

(Table 9) would be equivalent to about 440 miles of automobile travel at 30 miles per hour average speed.

Exposure data are necessary to determine potential health impacts of the pollutants. Since few exposure data exist, staff have developed a model that estimates potential exposures based on 10 minutes of leaf blower operation and compares those emissions to the amount of still air in which emissions would need to be mixed to avoid a transitory, local exceedance of the ambient air quality standards, which are health-based standards. Details of the model and results are presented in Appendix J.

The exposure scenario suggests that 10 minutes of leaf blower usage could expose the operator to a significant, potentially harmful dose of CO, assuming a worst case exposure, in which there is no dispersion of pollutants out of the immediate area. In this case, the operator could be exposed to potentially harmful amounts of carbon monoxide. The best case would be that all emissions and fugitive dust from the leaf blower would be blown out of the immediate area, resulting in little or no exposure to the operator. Actual exposures would most likely be somewhere in between these two assumptions and would vary greatly with weather conditions, wind, use or nonuse of protective gear, walking speed of the operator, and type of machine used. In addition, for carbon monoxide exposures, whether or not the operator has heart disease would be important in determining potential risk. Exposure studies would need to be conducted to obtain more reliable estimates of operator exposure, and staff recommend further research.

On December 27, 1999, ARB was mailed a redacted copy of a 1995 report on operator exposure levels for several chemicals that are present in handheld gasoline-powered equipment exhaust emissions. The report summarized breathing zone measurements during operation of chain saws, a string trimmer, and a leaf blower, but all data pertaining to equipment other than the leaf blower was blacked-out. The study and its limitations are discussed in some detail in Appendix H, but it is relevant to note here that ARB has received two measurements from one leaf blower of breathing zone concentrations of carbon monoxide, toluene, benzene, 1,3-butadiene, acetaldehyde, and formaldehyde. As reported in the study, concentrations of carbon monoxide, benzene, and 1,3-butadiene were high enough as to reinforce concern over operator exposures for the commercial leaf blower operator.

2. Fugitive Dust

Estimated fugitive dust emissions cannot be compared to light duty vehicle exhaust. The worst case exposure scenario, however, suggests that ten minutes of use of a commercial blower would expose the operator to significant amounts of PM (Appendix J). While leaf blower operators would not be expected to spend significant amounts of time within such a particulate cloud, the day-in-day-out exposure to this much PM₁₀ could result in serious, chronic health consequences in the long-term. Short-term exposures of one to two days to high levels of PM can lead to coughing and minor throat irritation. Long-term exposures have shown statistically significant associations of ambient PM levels with a variety of negative human health outcomes, as discussed previously. These data strongly suggest that professional leaf blower operators, and

those regularly working within the envelope described above, should wear a face mask effective at filtering PM from the air, and further research is warranted.

3. Noise

The potential health impacts of leaf blowers on workers from noise center on noise-induced hearing loss. Two factors contribute to an increased risk of hearing loss in typical career gardeners: the high sound pressure levels emitted by leaf blowers at the level of the operator's ear, and the infrequent use of hearing protection. While we cannot estimate the percentage of workers who will experience noise-induced hearing loss without additional data, these two factors are likely to be responsible for hearing loss in an unknown percentage of workers, although individuals may not notice any hearing loss until many years have passed. In order to reduce potential hearing loss, employers should ensure that employees use hearing protection. State and local health and enforcement agencies should promote hearing protection in campaigns targeted at professional landscapers and gardeners. Hearing loss is gradual, and may become obvious only years after the exposure has ceased.

B. The Public-at-Large

Those who are not working in landscaping and gardening fall into two categories: homeowners doing their own gardening and bystanders. Homeowners who chose to use a leaf blower likely experience relatively low-level exposures which they control. Bystanders may experience low or high exposures, depending on the nature of the exposure. Bystanders, however, almost never have chosen to be exposed to the exhaust, dust, and noise emissions of the leaf blower. Thus their attitude toward the leaf blower is likely very negative and they may be highly annoyed by the exposure.

In addition, staff have received letters, and read testimonials on Internet web-sites, concerning acute symptoms, such as asthma and allergies, exhibited by sensitive individuals to relatively limited exposures. These symptoms have not been evaluated in this report as they are anecdotal and unable to be substantiated. The recent study by Miguel et al. (1999), however, lends support to those who claim that exposure to leaf blower-generated dust causes allergic and asthmatic symptoms. It is also important to acknowledge that some individuals may be very sensitive to the emissions from leaf blowers and unable to tolerate exposures that do not seem to bother other individuals.

In addition to homeowner-leaf blower operators and bystanders who are in the vicinity of leaf blower operation, everyone is exposed to a small degree to air pollution that results from exhaust and dust emissions from leaf blowers. This report does not quantify those exposures, but the ARB does regulate exhaust emissions from leaf blowers, as from most other sources of air pollution. All sources of air pollution need to be reduced in order that Californians can breathe clean air.

1. Exhaust Emissions

The typical leaf blower owned and operated by a homeowner for private residential use is assumed to have an average horsepower of 0.8 and a load factor of 50%, based on the ARB off-road emissions model. Emissions from one hour of operation are compared to exhaust emissions from two different age light duty vehicles (Table 10). There are few data available on the length of time a homeowner runs a leaf blower, but it is likely that the homeowner uses a leaf blower for less than one hour, which would reduce the potential exposures and impacts.

**Table 10. Homeowner Leaf Blower Emissions Compared to Light Duty Vehicle Emissions
0.8 hp average, 50% load factor, 1999 emissions data**

	Exhaust Emissions, g/hr	Exhaust Emissions, new light duty vehicle,* g/hr	Exhaust Emissions, older light duty vehicle,** g/hr
Hydrocarbons	56.73	0.39	201.9
Carbon Monoxide	119.2	15.97	1310
Particulate Matter	1.44	0.13	0.78
Fugitive Dust	48.6-1031	N/A	N/A

*New light duty vehicle represents vehicles one year old, 1999 or 2000 model year, driven for one hour at 30 mph.

**Older light duty vehicle represents vehicles 1975 model year and older, pre-catalytic vehicle, driven for one hour at 30 mph.

As with the heavier-duty commercial leaf blower, CO and particulate matter emissions from the lighter-duty leaf blower are many times higher than emissions of the same pollutants from vehicles (Table 10). CO emissions from a leaf blower that might be used by a typical homeowner are significantly lower than those from a commercial leaf blower (Table 9) and it is likely that homeowners use leaf blowers for much less than one hour at a time. The exposure scenario for homeowner usage (Appendix J) estimates a correspondingly lower potential exposure. The homeowner is, therefore, less likely to be exposed to potentially harmful amounts of carbon monoxide, although sensitive individuals should be cautioned. For all exhaust emissions, exposures are considerably lower in a residential setting than in a commercial setting. In the best case, all emissions and fugitive dust from the leaf blower would be blown out of the operator's immediate area, resulting in little or no exposure. Actual exposures would most likely be somewhere in between these two assumptions and would vary greatly with weather conditions, wind, use or nonuse of protective gear, walking speed of the operator, and type of machine used. Exposure studies would need to be conducted to obtain more reliable estimates of operator exposure, and staff recommend further research.

As discussed in Section IV. A. 1., another way to visualize the data is to compare emissions for a given amount of leaf blower operation to miles traveled by car. The Air Resources Board regularly publishes such emissions benchmarks. Thus, for the average 1999 homeowner-type leaf blower and car data presented in Table 10, we calculate that hydrocarbon emissions from one-half hour of leaf blower operation equal about 2,200 miles of driving, at 30 miles per hour average speed. The carbon monoxide emission benchmark is significantly different. For carbon monoxide, one-half hour of a homeowner-type leaf blower useage (Table 10) would be equivalent to about 110 miles of automobile travel at 30 miles per hour average speed.

2. Fugitive Dust Emissions

For fugitive dust, because the homeowner is likely using leaf blowers for a very short time each week, the potential risk from exposure is much lower than for commercial gardeners. Still, based on estimates in the exposure scenario (Appendix J), staff recommends that even homeowners wear a dust filtering mask when using a leaf blower.

3. Noise

The homeowner who uses a leaf blower for a brief amount of time each week or two is unlikely to experience noise-induced hearing loss. The cumulative exposure to many recreational sources of noise, such as recreational power tool use, lawn care, shooting, boating, concert-going, and other activities that expose one to loud noises, however, is likely to be great enough to impact hearing (Clark 1991). Those who regularly use noisy power equipment should be in the habit of using hearing protection to reduce their overall exposure to potentially damaging noise.

The likelihood of a bystander exposed to leaf blower noise on an irregular basis experiencing hearing loss is low. The potential health impacts from leaf blowers on bystanders that are likely more important include interference with communication, sleep interruption, and annoyance. Each of these impacts may in turn lead to stress responses, although research has not conclusively tied chronic exposures with any particular adverse health outcome. Although interference with communication, sleep interruption, and annoyance may not seem to be serious impacts, they are important health and quality of life issues for many people. At least 100 municipalities in California have restricted or banned the use of leaf blowers within city limits in response to people who object to the loud noise of leaf blowers interrupting their lives.

C. Summary of Potential Health Impacts

Health effects from hazards identified as being generated by leaf blowers ranging from mild to serious, but the appearance of those effects depends on exposures: the dose, or how much of the hazard is received by a person, and the exposure time. Without reasonable estimates of exposures, ARB cannot conclusively determine the health impacts from leaf blowers; the discussion herein clearly is about potential health impacts. The goal is to direct the discussion and raise questions about the nature of potential health impacts for those exposed to the exhaust emissions, fugitive dust, and noise from leaf blowers in both occupational and non-occupational settings.

For the worker, the analysis suggests concern. Bearing in mind that the worker population is most likely young and healthy, and that these workers may not work in this business for all of their working lives, we nonetheless are cautioned by our research. Leaf blower operators may be exposed to potentially hazardous concentrations of CO and PM intermittently throughout their work day, and noise exposures may be high enough that operators are at increased risk of developing hearing loss. While exposures to CO, PM, and noise may not have immediate, acute effects, the potential health impacts are potentially greater for chronic effects. In addition, evidence of significantly elevated concentrations of benzene and 1,3-butadiene in the breathing zone of workers leads to concern about exposures to these two toxic air contaminants.

Potential noise and PM effects should be reduced by the use of appropriate breathing and hearing protective equipment. Employers should be more vigilant in requiring and ensuring their employees wear breathing and hearing protection. Regulatory agencies should conduct educational and enforcement campaigns, in addition to exploring the extent of the use of protective gear. Exposures to CO and other air toxics are more problematic because there is no effective air filter for these air pollutants. More study of CO and other air toxics exposures to leaf blower operators is warranted to determine whether the potential health effects discussed herein are actual effects or not.

Describing the impacts on the public-at-large is more difficult than for workers because people's exposures, and reactions to those exposures, are much more variable. Bystanders are clearly annoyed and stressed by the noise and dust from leaf blowers. They can be interrupted, awakened, and may feel harassed, to the point of taking the time to contact public officials, complain, write letters and set up web sites, form associations, and attend city council meetings. These are actions taken by highly annoyed individuals who believe their health is being negatively impacted. In addition, some sensitive individuals may experience extreme physical reactions, mostly respiratory symptoms, from exposure to the kicked up dust.

On the other hand, others voluntarily purchase and use leaf blowers in their own homes, seemingly immune to the effects that cause other people such problems. While these owner-operators are likely not concerned about the noise and dust, they should still wear protective equipment, for example, eye protection, dust masks, and ear plugs, and their exposures to CO are a potential problem and warrant more study.

V. RECOMMENDATIONS

The Legislature asked ARB to include recommendations for alternatives in the report, if ARB determines alternatives are necessary. This report makes no recommendations for alternatives. Based on the lack of available data, such conclusions are premature at this time. Exhaust standards already in place have significantly reduced exhaust emissions from the engines used on leaf blowers, and manufacturers have reduced CO emissions further than required by the standards. Ultra-low or zero exhaust emitting leaf blowers could further reduce public and worker exposures. At its January 27, 2000, public hearing, the Air Resources Board directed its staff to explore the potential for technological advancement in this area.

For noise, the ARB has no Legislative mandate to control noise emissions, but the evidence seems clear that quieter leaf blowers would reduce worker exposures and protect hearing, and reduce negative impacts on bystanders. In connection with this report, the Air Resources Board received several letters urging that ARB or another state agency set health-based standards for noise and control noise pollution.

A more complete understanding of the noise and the amount and nature of dust resuspended by leaf blower use and alternative cleaning equipment is suggested to guide decision-making. Costs and benefits of cleaning methods have not been adequately quantified. Staff estimates that a study of fugitive dust generation and exposures to exhaust emissions and dust could cost \$1.1 million, require two additional staff, and take two to three years. Adding a study of noise exposures and a comparison of leaf blowers to other cleaning equipment could increase study costs to \$1.5 million or more (Appendix H).

Fugitive dust emissions are problematic. The leaf blower is designed to move relatively large materials, which requires enough force to also blow up dust particles. Banning or restricting the use of leaf blowers would reduce fugitive dust emissions, but there are no data on fugitive dust emissions from alternatives, such as vacuums, brooms, and rakes. In addition, without a more complete analysis of potential health impacts, costs and benefits of leaf blower use, and potential health impacts of alternatives, such a recommendation is not warranted.

Some have suggested that part of the problem lies in how leaf blower operators use the tool, that leaf blower operators need to show more courtesy to passersby, shutting off the blower when people are walking by. Often, operators blow dust and debris into the streets, leaving the dust to be resuspended by passing vehicles. Interested stakeholders, including those opposed to leaf blower use, could join together to propose methods for leaf blower use that reduce noise and dust generation, and develop and promote codes of conduct by workers who operate leaf blowers. Those who use leaf blowers professionally would then need to be trained in methods of use that reduce pollution and potential health impacts both for others and for themselves.

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Leaf Blower's Emissions Dirtier than High-Performance Pick-Up Truck's, Says Edmunds' InsideLine.com

Published: 12/06/2011

Leaf Blower's Emissions Dirtier than High-Performance Pick-Up Truck's, Says Edmunds' InsideLine.com

SANTA MONICA, Calif. — December 6, 2011 — A consumer-grade leaf blower emits more pollutants than a 6,200-pound [2011 Ford F-150 SVT Raptor](#), according to tests conducted by Edmunds' InsideLine.com, the premier online resource for automotive enthusiasts.

The tests found that a Ryobi 4-stroke leaf blower kicked out almost seven times more oxides of nitrogen (NOx) and 13.5 times more carbon monoxide (CO) than the Raptor, which InsideLine.com once dubbed "the ultimate Michigan mudslinger." An Echo 2-stroke leaf blower performed even worse, generating 23 times CO and nearly 300 *times* more non-methane hydrocarbons (NMHC) than the Raptor.

"The hydrocarbon emissions from a half-hour of yard work with the two-stroke leaf blower are about the same as a 3,900-mile drive from Texas to Alaska in a Raptor," said Jason Kavanagh, Engineering Editor at Edmunds.com. "As ridiculous as it may sound, it is more 'green' to ditch your yard equipment and find a way to blow leaves using a Raptor."

The InsideLine.com test also found that the Raptor, which was chosen to represent the extreme heavy-duty end of the light vehicle spectrum, actually *reduced* the amount of hydrocarbons in the air in the test lab. The ambient air measured prior to the test contained 2.821 parts per million (ppm) of total hydrocarbons, and the amount of total hydrocarbons coming out the Raptor's tailpipe measured 2.639 ppm.

InsideLine also tested a subcompact [2012 Fiat 500](#) for comparison and found that the Fiat actually emitted more hydrocarbons and oxides of nitrogen but dispatched less carbon monoxide than the Raptor. But like the Raptor, the 500 tested much cleaner than the leaf blowers.

Edmunds' InsideLine.com FTP 75 Emissions Test Results (in grams per minute)

	Non-Methane Hydrocarbons(NMHC)	Oxides of Nitrogen (NOx)	Carbon Monoxide (CO)
2011 Ford Raptor	0.005	0.005	0.276
2012 Fiat 500	0.016	0.010	0.192
Ryobi 4-stroke leaf blower	0.182	0.031	3.714
Echo 2-stroke leaf blower	1.495	0.010	6.445

To compare the emissions of these vehicles and the leaf blowers, Edmunds' InsideLine.com staff conducted FTP 75 emissions tests — one of the primary yardsticks in the U.S. certification of light-duty vehicle emissions and fuel economy — at the American Automobile Association's (AAA) Automotive Research Center in Diamond Bar, CA. The test simulates 11.04 miles driven over 31.2 minutes and includes idle periods, accelerations, decelerations and cruising. The leaf blowers were adjusted to full speed during the cruise periods defined by the FTP 75 and observed the same designated idling periods.

For more details and video of Edmunds' InsideLine.com's experiment, please visit <http://www.insideline.com/features/photos/emissions-test-car-vs-truck-vs-leaf-blower-gallery.html>.

InsideLine.com's experiment comes just weeks after the Obama administration proposed new Corporate Average Fuel Economy (CAFE) standards for 2017-2025 model year vehicles. For a better understanding on how these proposed changes will affect the automotive marketplace, please visit Edmunds.com's FAQ at <http://www.edmunds.com/fuel-economy/faq-new-corporate-average-fuel-economy-standards.html>.

2016 HOUSE OF DELEGATES ACTIONS

PUBLIC HEALTH AND EDUCATION

- 150 Tobacco Products in Pharmacies and Healthcare Facilities
Introduced by the Committee on Preventive Medicine and Family Health
ADOPTED
- RESOLVED, that the Medical Society of the State of New York support the position that the sale of any tobacco or vaporized nicotine products be prohibited where healthcare is delivered or where prescriptions are filled; and be it further**
- RESOLVED, that the Medical Society of the State of New York submit a copy of this resolution to the American Medical Association for its consideration .**
- 151 NYS DOH Regulation Concerning Operating Room Attire
Introduced by Nassau County Medical Society
SUBSTITUTE RESOLUTION ADOPTED
- RESOLVED, that the Medical Society of the State of New York encourage hospitals to use evidence-based guidelines for perioperative attire and inform the physicians and staff of the policy that the hospital adopted.**
- 152 Banning the Use of Gasoline Powered Leaf Blowers
Introduced by Suffolk County Medical Society
SUBSTITUTE RESOLUTION ADOPTED
- RESOLVED, that the Medical Society of the State of New York call upon the New York State Department of Environmental Conservation and the manufacturers of the gas leaf blowers develop guidelines that would dramatically reduce the toxic emissions and noise level of gas leaf blowers; and be it further**
- RESOLVED, that the Medical Society of the State of New York also encourage that New York State and other governmental entities promote the use of non-polluting alternatives to gas leaf blowers; and be it further**
- RESOLVED, that a copy of this resolution be transmitted to the American Medical Association for consideration at its House of Delegates.**
- 153 Banning the Distribution of Plastic Carryout Bags in Retail Sales
Introduced by Suffolk County Medical Society
SUBSTITUTE RESOLUTION NOT ADOPTED
- RESOLVED, that the Medical Society of the State of New York support legislation/regulation that would prohibit the use of plastic carryout bags in retail stores.**



ENVIRONMENT

California Weighs Tougher Emissions Rules For Gas-Powered Garden Equipment

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Queue

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Transcript

February 28, 2017 · 5:34 PM ET

Heard on All Things Considered

DAVID GORN



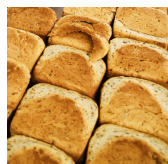
California is looking into ways to reduce the use of gas-powered lawn and gardening equipment because they will soon surpass cars as the biggest polluters in the state.

stoncelli/Getty Images/iStockphoto

Those gas-powered leaf blowers, hedge trimmers and mowers you hear in your neighborhood aren't just annoying — they make a lot of pollution, too.

In California, they're about to pass cars as the worst air polluters, spewing out formaldehyde, benzene and particulate matter. According to Michael Benjamin at the California Air Resources Board, in just three years' time, the biggest single ozone polluter in the state is going to be all this gardening equipment.

"We expect that ozone-contributing pollutants from small off-road engines will exceed those same emissions from cars around the 2020 time frame," Benjamin says.



THE SALT

What's The Environmental Footprint Of A Loaf Of Bread? Now We Know

It sounds hard to believe: More pollution from leaf blowers than cars. But in California and across the country, regulations on car exhaust have gotten tighter and tighter over the years, substantially reducing their ozone-damaging emissions. Not so with small gas engines, Benjamin says. And with 16 million of them cranking up across California, all that pollution adds up.

"Unless ARB adopts more stringent controls, emissions from this category are going to really become much more significant relative to cars," he says.

Some states and regional air-quality districts do have incentive programs in place to try to get homeowners to switch from gas to electric machinery.

But California — which currently goes by federal standards for its emissions regulations of small off-road gas engines — is considering requiring tougher emissions standards for small gas engines and to offer major incentives for landscaping businesses to change over to electric.



ENVIRONMENT

As Obama Clean Power Plan Fades, States Craft Strategies To Move Beyond It

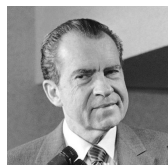
David Clegern of the California Air Resources Board says he is unaware of any other states pursuing programs other than exchanges for residential lawn and garden

equipment or of other states lobbying the federal Environmental Protection Agency to adopt more stringent standards.

Making the switch

At an expansive backyard in western Los Angeles, one business is already starting to make appeals to landscapers with electric equipment. Dan Mabe runs American Green Zone Alliance, and he's trying to reach small, mostly-Latino landscape crews. Here, he has a lawn full of equipment spread out for landscaper Noe Bautista and his workers to test.

Bautista has tried to get his crew to wear face masks, but most young Latino workers won't use them — partly because, he says, there's really no way to keep out those fumes.



ENVIRONMENT

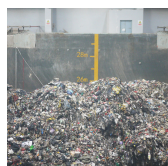
How The EPA Became A Victim Of Its Own Success

"You can feel the gas smell right away. You have a headache right away with all that smoke," he says.

Mabe says this is more than an air quality issue. And it even goes beyond the respiratory problems of many gardening workers.

"You can call it environmental justice. It was a demographic that wasn't really being addressed," Mabe says.

As head of this crew, Bautista, for one, is ponying up the cash now and making the switch — not only for health reasons — but since electric equipment means no more buying gas, he thinks he may even save a little money.

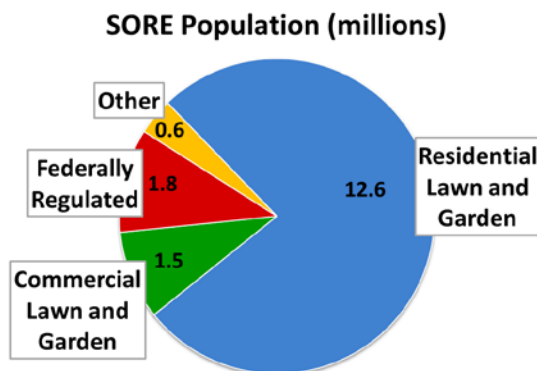


PARALLELS

The Burning Problem Of China's Garbage

Small engines in California

Small off-road engines (SORE) are spark-ignition engines rated at or below 19 kilowatts. Engines in this category are primarily used for lawn, garden, and other outdoor power equipment. The population of small engines in California (16.5 million) is greater than that of light-duty passenger cars (13.7 million) and is comprised of 76% residential lawn and garden equipment, 9% commercial lawn and garden equipment, 11% federally regulated construction/farming equipment, and 4% other equipment types (e.g. generators utility carts).

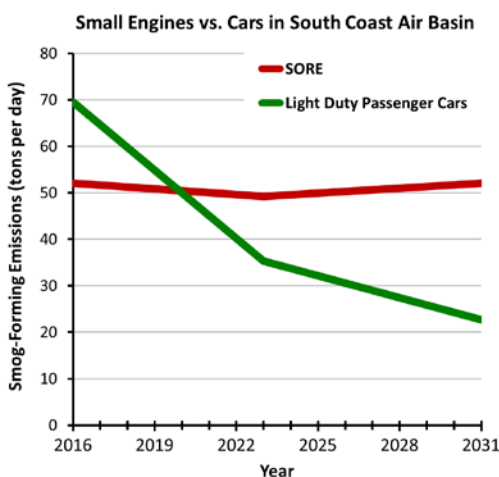


Emissions are significant

Today, operating the best-selling commercial lawn mower for one hour emits as much smog-forming pollution as driving the best-selling 2016 passenger car, a Toyota Camry, about 300 miles – approximately the distance from Los Angeles to Las Vegas. For the best-selling commercial leaf blower, one hour of operation emits smog-forming pollution comparable to driving a 2016 Toyota Camry about 1100 miles, or approximately the distance from Los Angeles to Denver.

The need for additional controls

The California Air Resources Board (ARB) adopted emissions standards for small engines in 1990 and was the first agency in the world to control emissions from these engines. Due to the regulations put in place by ARB, small engines are 40-80% cleaner today than they were before the program began. In the early 2020s, however, total smog-forming emissions from small engines are projected to exceed those from passenger cars in the South Coast Air Basin because passenger car emissions will continue to decrease. By 2031, small engine emissions will be more than twice those from passenger cars.



ARB actions to reduce emissions

Because of California's ongoing air quality challenges, additional emissions reductions are needed from small engines. In 2020, ARB will consider new emission standards to achieve additional reductions from small engines to help California meet its goal of reducing smog-forming pollutant emissions from mobile sources by 80 percent in 2031. Significant emission reductions will be achieved through a combination of regulatory and incentive approaches, and a major shift to zero-emission electric equipment will be needed to meet the 80 percent reduction goal.

For more information please contact the Air Resources Board's Public Information Office at (916) 322-2990, or (800) 242-4450 toll-free (USA only).

Impacts of Leaf Blowers and Gas-Powered Landscape Maintenance (and what you can do about it)

The US landscape maintenance industry depends on gas-powered equipment – 2-stroke engines (eg, leaf blowers, edgers, trimmers) and 4-stroke engines (mowers). They generate deafening noise and clouds of toxic, carcinogenic air pollution around our neighborhoods, schools, and public spaces. Leaf blowers are often used in ways that violate industry guidelines (eg, simultaneous use of multiple machines) and state environmental protection laws. These practices come with high costs for our health and environment.

- The 2-stroke engines of blowers, trimmers, and edgers burn an oil-gas mixture that generates high levels of ozone-forming chemicals and fine particulate matter (PM) at ground level where they are easily inhaled. A head-to-head study showed that just 30 minutes of leaf blower operation produced as much pollution as a 6,200 lb Ford Raptor truck driven 3,900 miles – the distance from Texas to Alaska! [1]
- Ozone and fine PM are well known causes / contributors to early death, heart attack, stroke, congestive heart failure, asthma, chronic obstructive pulmonary disease, cancer, [2-7] and other serious health conditions, including possibly childhood autism [8]. Even short term exposure can be harmful. Workers, children, seniors, and people with chronic illness, are at greatest risk.
- Noise from leaf blowers ranges from 95–115 decibels at the ear of the operator [9-10]. These levels are orders of magnitude (decibels are on a logarithmic scale) beyond those deemed safe for workers or those in close proximity [11-13]. Health effects range from agitation to heart disease [14]. A recent study estimates more than 100 million Americans are at risk for noise-related health problems at a cost of \$3.9 billion/year [15].
- Every year lawn and garden equipment consumes 1.6 billion gallons of gasoline [16], generates tens of millions of tons of carbon dioxide, spills at least 17 million gallons of gasoline into the ground and storm drains [17], and adds millions of pounds of toxic and non-recyclable waste to our landfills.
- The high velocity air jets of leaf blowers – 150-280 mph – can destroy nests and habitats, desiccate pollen, sap, other natural plant substances, and injure or destroy birds, small mammals, and beneficial insects. High chronic noise levels decrease biodiversity in affected areas [18].
- Instead of nurturing our landscapes, leaf blowers damage plants, remove beneficial topsoil and mulch, desiccate and compact soil, diminish plant health and contribute to the spread of invasives. This increases dependence on use of fertilizers, herbicides and pesticides.

The good news is there are alternatives. Landscape companies are emerging in locations around the country to provide clean, quiet, healthy landscape maintenance. Innovative products and approaches are being developed and communities are starting to take action. We need to do more. **Join us. Become part of the movement.**

Actions You Can Take

- **Use quieter, greener, healthier alternatives - lithium battery powered equipment, manual tools.** Insist that your contractor do the same.
- **Find a Quiet Landscaper** who uses quiet, zero emissions equipment by contacting your local landscape professional association or the [Ecological Landscaping Alliance](#).
- **Start a Green Zone** and become certified by the [American Green Zone Alliance](#).
- **Speak to town officials and others** about the noise and air pollution caused by gas-powered leaf blowers and other equipment. **Distribute this fact sheet.**
- **Contact us at info@quietcommunities.org** with your stories or questions.

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A HEALTHY BREATHING ENVIRONMENT FOR EVERY BAY AREA RESIDENT

Commercial Lawn & Garden Equipment Exchange Program

To reduce air pollution, the Bay Area Air Quality Management District's (Air District) Commercial Lawn & Garden Equipment Exchange Program provides funding for the exchange of new, battery-powered, zero-emission electric lawn and garden equipment after turning in operable gasoline-powered lawn and garden equipment for scrapping. This replacement program provides real emission benefits by exchanging conventional, high-polluting, gasoline-powered commercial lawn and garden equipment with zero-emission equipment.

Eligible Participants (Initially School Districts and Municipal Agencies in Alameda & Contra Costa Counties)








This exchange project will replace commercial lawn and garden equipment in Alameda and Contra Costa Counties. Funding for this project was made available through a mediation process that required that penalties be paid to improve air quality in Alameda and Contra Costa Counties, near and where an air pollution infraction occurred.

Among the equipment targeted are lawn mowers, leaf blowers, sweepers, chainsaws, line trimmers, and hedge trimmers. In addition to funding the purchase of equipment, funds will be available for the purchase of two batteries for each piece of electric equipment and one battery charger. The gasoline-powered lawn and garden equipment, to be replaced by battery-powered equipment, must be scrapped at a licensed metal recycling facility.)

The current round of funding is only for school districts and municipal agencies in Alameda and Contra Costa Counties. Applications are being accepted on a first-come, first-served basis until all available funds have been exhausted. The application must be accompanied by a Letter of Commitment or a Board Resolution in support of the proposal. Among the eligible equipment that can be funded under

s solicitation are commercial lawn and garden products manufactured by Green Station, Mean
een Products, Stihl, and TMC, as well as other commercial grade, battery-powered lawn and garden
uipment.)

llowing are documents that you will assist you in learning more about the program and submitting an
plication:

- Application (/~/media/files/strategic-incentives/lawn-and-garden/nfwf-application-draft-final-pdf.pdf?la=en)  (415 Kb PDF, 4 pgs, revised 07/08/15) – Complete this form and submit to Air District (see instructions at bottom of form)
- Application Letter of Commitment (/~/media/files/strategic-incentives/lawn-and-garden/commercial-lawn-and-garden-letter-of-commitmenttemplate-pdf.pdf?la=en)  (179 Kb PDF, 1 pg, revised 12/31/15)
- Commercial Lawn and Garden Equipment Exchange Webinar Presentation (/~/media/files/strategic-incentives/lawn-and-garden/webinar-presentation-commercial-lawn-and-garden-equipment-exchange-pdf.pdf?la=en)  (226 Kb PDF, 9 pgs, revised 12/31/15)
- Vendor Information
- Contact Information (/~/media/files/strategic-incentives/lawn-and-garden/td_contact_info-pdf.pdf?la=en)  (201 Kb PDF, 1 pg, revised 07/08/15)
- Greenworks (/~/media/files/strategic-incentives/lawn-and-garden/greenworks_price032015-pdf.pdf?la=en)  (261 Kb PDF, 4 pgs, revised 07/08/15)
- Mean Green (/~/media/files/strategic-incentives/lawn-and-garden/mean-green-retail-price-jan-2015-pdf.pdf?la=en)  (204 Kb PDF, 3 pgs, revised 07/08/15)
- Stihl (/~/media/files/strategic-incentives/lawn-and-garden/stihl-equipment-list-pdf.pdf?la=en)  (223 Kb PDF, 1 pg, revised 07/08/15)
- TMC (/~/media/files/strategic-incentives/lawn-and-garden/bpbl24vspecsheetpricing032715-pdf.pdf?la=en)  (894 Kb PDF, 2 pgs, revised 07/08/15)

If you have questions about the program you can contact:

Michael Kent, Contra Costa County – (925) 313-6587 or
Michael.Kent@hsd.cccounty.us
Brenda Rueda-Yamashita, Alameda County – (510) 577-7081 or
Brenda.Yamashita@acgov.org

375 Beale Street, Suite 600
San Francisco, CA 94105
415.749.5000 | 1.800.HELP AIR

Lawn Equipment

([/#printfriendly](#)) ([/#email](#)) ([/#facebook](#)) ([/#twitter](#))
 (<https://www.addtoany.com/share#url=http%3A%2F%2Fwww.aqmd.gov%2Fhome%2Fprograms%2Fcommunity%2Fcommunity-detail%3Ftitle%3DLawn-equipment&title=Lawn%20Equipment>)

- OVERVIEW
- LAWN MOWER
- LEAF BLOWER

OVERVIEW

The South Coast Air Quality Management District (SCAQMD) has two annual programs that help clean the air through the exchange of lawn and garden equipment:

- The public can turn in an old, operable gasoline-powered lawn mower and purchase a new cordless electric lawnmower that produces zero emissions at reduced cost.
- Commercial landscapers and gardeners operating within the South Coast Air Basin can exchange an old, noisy, high-polluting backpack leaf blowers for new backpack blowers that have significantly reduced emission and noise levels.

All the gas mowers and leaf blowers that are turned in for this program are scrapped and the metal recycled. To date, SCAQMD has scrapped more than 55,000 highly polluting gasoline mowers, removing almost 114 tons of smog-forming pollutants from the Southland's air. Similarly, the total number of old, polluting leaf blowers that have been scrapped exceeds 13,000.

NEW! ELECTRIC LAWN MOWER REBATE PROGRAM

Thank you for your interest in Mowing Down Air Pollution!

The Electric Lawn Mower Program has been redesigned to be available year-round as a rebate to provide the public with the opportunity to purchase a cordless, battery-electric lawnmower from a variety of eligible manufacturers. For additional information on the Electric Lawn Mower Rebate Program, please click here (</home/programs/community/electric-lawn-mower-rebate-program>). Para información en español oprime aquí ([/home/programs/community/electric-lawn-mower-rebate-program-\(spanish\)](/home/programs/community/electric-lawn-mower-rebate-program-(spanish))).

Consumers can purchase their new mower from a local retailer or online distributor. The Program will provide after-purchase rebates for \$150, \$200 or \$250, depending on the retail cost of the new electric mower (excluding delivery and sales tax). Residents of SCAQMD's four-county jurisdiction would be eligible to participate in the Program.

NEW! Please Note: If you do not have access to a computer, printer or email we can mail you a copy of the Lawn Mower Rebate Application Form and Scrapper Verification Form. You would complete these forms, include a copy of your sales receipt and mail these documents to: SCAQMD, Lawn Mower Rebate Program, 21865 Copley Dr., Diamond Bar, CA 91765. Please call 888-425-6247 (Tuesday-Friday) if you require assistance.

LEAF BLOWER COMMERCIAL LEAF BLOWER EXCHANGE PROGRAM

NEW! Registration for the 2017 Commercial Leaf Blower Exchange Program will close on Thursday, August 10. Exchange events will be held on August 14 - 31 at various locations throughout our 4-county region. For the City of Los Angeles, two exchange events (</docs/default-source/Lawn-Equipment/leaf-blower-exchange-2017---la.pdf?sfvrsn=6>) (PDF, 149KB) will be held in Van Nuys on August 15th and in North Hollywood on August 21st.

For additional information, please click here (</docs/default-source/Lawn-Equipment/leafblower-brochure.pdf?sfvrsn=30>) for the Leaf Blower Exchange Program flyer (</docs/default-source/Lawn-Equipment/leafblower-brochure.pdf?sfvrsn=30>) (PDF, 164KB). For the Spanish version of the flyer, please click here (</docs/default-source/Lawn-Equipment/leaf-blower-brochure---spanish.pdf?sfvrsn=6>) (PDF, 148KB).

This year we will be offering the following leaf blowers as part of the exchange program. Eligible participants include professional gardeners and landscapers, school districts, cities and county governments and other local agencies.

Leaf Blower Make	Model	Cost to Consumer

DeWalt	DCBL790X1 Hand-held, battery-powered leaf blower/7.5 Ah lithium-ion battery/standard charger	\$150 with trade-in of a working gasoline-powered back-pack leaf blower Page 256
DeWalt	DCBL590X2 Back-pack, battery powered leaf blower/two 7.5 Ah lithium-ion batteries/standard charger	\$250 with trade-in of a working gasoline-powered back-pack leaf blower
STIHL	BR500 (gasoline-powered) Back-pack leaf blower	\$250 with trade-in of a working gasoline-powered back-pack leaf blower
STIHL	BGA 85, Hand-held, battery-powered leaf blower/AP300 advanced lithium-ion battery/AL300 quick charger	\$200 with trade-in of a working gasoline-powered back-pack leaf blower
STIHL	BGA 100, Back-pack, battery powered leaf blower/AR900 backpack battery/AL500 high-speed charger	\$500 with trade-in of a working gasoline-powered back-pack leaf blower

For additional information of commercial leaf blower specifications, please click here (</docs/default-source/Lawn-Equipment/commercial-leaf-blower-specifications.pdf?sfvrsn=6>) (PDF, 73KB).

To add your name to a list serve please visit www.aqmd.gov/sign-up (<http://www.aqmd.gov/sign-up>), enter your email address and select Leaf Blower Exchange Program.

Pre-registration will be required to secure your preferred leaf blower. For more information you can call 888-425-6247 (Tuesday-Friday) or email leafblower@aqmd.gov (<mailto:leafblower@aqmd.gov>)

OVERVIEW

SCAQMD sponsors an annual Leaf Blower Exchange Program that helps clean the air through the exchange of backpack leaf blowers. Commercial landscapers and gardeners operating within the South Coast Air Basin can exchange old, noisy, high-polluting backpack leaf blowers for new low-emission/low-noise backpack leaf blowers available at a discounted price.

Since the Leaf Blower Exchange Program began in 2006, 12,000 old leaf blowers have been replaced, reducing 138,729 pounds of hydrocarbon and NOx emissions per year. The Program has also reduced smog-forming pollutants by 88,282 pounds per year in the Southland. All old leaf blowers that are retired through this program are scrapped and recycled.

Trending

[SCAQMD Rule Book \(/home/regulations/rules/scaqmd-rule-book\)](/home/regulations/rules/scaqmd-rule-book)

[Proposed Rules \(/home/regulations/rules/proposed-rules\)](/home/regulations/rules/proposed-rules)

[AQ-SPEC Sensor Conference 2017 \(/aq-spec/conference-2017\)](/aq-spec/conference-2017)

[Rules \(/home/regulations/rules\)](/home/regulations/rules)

[Air Quality \(/home/tools/air-quality\)](/home/tools/air-quality)

Related Topics

Related Programs

[Non-Toxic Dry Cleaners \(/home/programs/community/community-detail?title=non-toxic-dry-cleaners\)](/home/programs/community/community-detail?title=non-toxic-dry-cleaners)

[Old Vehicle Scrapping \(/home/programs/community/community-detail?title=ovs\)](/home/programs/community/community-detail?title=ovs)

[Participation \(/home/programs/community/community-detail?title=participation\)](/home/programs/community/community-detail?title=participation)

[Clean Air Choices Links \(/home/programs/community/community-detail?title=clean-air-choices-links\)](/home/programs/community/community-detail?title=clean-air-choices-links)

[Green Painter's Guide \(/home/programs/community/community-detail?title=green-painter\)](/home/programs/community/community-detail?title=green-painter)

[Wood Stove & Fireplace Change-Out Incentive Program \(/home/programs/community/community-detail?title=wood-device-incentive-program\)](/home/programs/community/community-detail?title=wood-device-incentive-program)

More Information

Contact

Staff has completed a general comparison of leaf blowers commercially sold by a national hardware chain and the noise generated by each, as shown in the following Table 4:

Model Number	Type	Size	Noise Level	Meets Code?
PB580T	Back Pack / Gas	215 MPH, 510 CFM	70.0 dB	Yes/No ¹
PB7704	Back Pack / Gas	234 MPH, 756 CFM	70.0 dB	Yes/No ¹
RYO8420A	Back Pack / Gas	185 MPH, 510 CFM	73.4 dB	Yes/No ¹
PB755ST	Back Pack / Gas	233 MPH, 651 CFM	74.0 dB	Yes/No ¹
BHX2500CA	Hand Held / Gas	145 MPH, 356 CFM	67.0 dB	Yes/No ²
LB1M16	Hand Held / Gas	155 MPH, 1250 CFM	77.0 dB	No
S1988	Hand Held / Gas	150 MPH, 460 CFM	77.1 dB	No
WG509	Electric	210 MPH, 350 CFM	50.0 dB	Yes
GW24072	Electric	235 MPH, 380 CFM	60.0 dB	Yes/No ²
51585 (#4)	Electric	160 MPH, 155 CFM ³	63.5 dB	Yes/No ²
LB6004	Electric	145 MPH, 600 CFM	64.0 dB	Yes/No ²
LB5302 (#1)	Electric	110 MPH, 530 CFM ⁴	64.0 dB	Yes/No ²
UT42100B	Electric	150 MPH, 233 CFM	65.0 dB	Yes/No ²
LSWV36	Electric	120 MPH, 90 CFM	65.0 dB	Yes/No ²
P2105 (#5)	Electric	120 MPH, 120 CFM ⁵	67.0 dB	Yes/No ²
51618 (#3)	Electric	225 MPH, 330 CFM ⁶	67.0 dB	Yes/No ²
51619 (#2)	Electric	250 MPH, 350 CFM ⁷	68.0 dB	Yes/No ²

Table 4 – Leaf Blower Noise Levels

Based on staff's cursory review of the various models of leaf blowers commercially sold by Home Depot, very few leaf blowers operated with a noise level at or below 58 dB, the adjusted maximum noise level allowed in low density residential zones from 7AM to 6PM. If leaf blower operations is limited to 5 minutes per hour, the adjusted maximum noise level increases to 61 dB, and if leaf blower operations is limited to 2 minutes per hour, the adjusted maximum noise level increases to 65 dB, which would allow for use of many more electrical/battery-powered leaf blowers.

¹ Adjusted Maximum of 78 dB is allowed in Industrial Zones only from 7AM to 6PM; this product could be used in that Zone only

² Adjusted Maximum of 68 dB is allowed in High Density Residential Zones and Commercial Zones from 7AM to 6PM, and would also be allowed in Industrial Zones, but not Low Density Residential Zones which has adjusted maximum of 58 dB allowed.

³ This model is the fourth highest rated and popular blower sold at Home Depot.

⁴ This model is the highest rated and popular blower sold at Home Depot.

⁵ This model is the fifth highest rated and popular blower sold at Home Depot.

⁶ This model is the third highest rated and popular blower sold at Home Depot.

⁷ This model is the second highest rated and popular blower sold at Home Depot.



TOWN OF PORTOLA VALLEY STAFF REPORT

TO: Town Council

FROM: Jeremy Dennis, Town Manager

DATE: February 28, 2018

RE: Utility Users Tax – 2018 Ballot Measure

RECOMMENDATION

Staff recommends that the Town Council adopt the attached resolution (Attachment A) calling a special election for June 5, 2018 to place a ballot measure temporarily reducing the tax rate for the general fund portion of the Utility Users' Tax (UUT).

DISCUSSION

The Portola Valley Municipal Code levies a 7.5 percent Utility Users Tax on telephone, gas, water and electricity. This UUT contains two components: 5.5 percent of the tax is classified as a general purpose tax and deposited into the General Fund account and 2 percent of the tax is a special tax earmarked for open space purposes.

Historically, the Town has conducted an election every four years to obtain voter authorization to reduce the UUT levied on telephone, gas, water and electricity from 5.5 percent to 4.5 percent. On January 10, 2018, the Town Council considered several proposals to reduce the UUT on a longer term basis. After hearing from the Finance Committee and the public, the Council directed staff to prepare a ballot measure reducing the UUT from 5.5 percent to 4.5 percent. This reduction will only affect the general purpose portion of the UUT.

On January 24, 2017, staff brought the resolution to the Council for discussion. At that meeting Vice Mayor Wengert moved to continue the item to permit more outreach with the Finance Committee. Subsequently, the Mayor and Vice Mayor met with the Chair of the Finance Committee to discuss additional options, of which the below was crafted:

- The UUT shall be reduced from 5.5 to 4.5 percent for 5 years.
- Any time after July 1, 2020, the Town Council shall have the option to review and adjust the rate downward. Any decrease period shall not exceed a 12-month

period. Upon expiration of the decrease period, the rate shall automatically revert back to 4.5% without voter approval or Council action.

- If the Council elects, it may terminate or shorten any reduction period upon a majority vote.
- Unless approved by a subsequent ballot measure in November of 2022 (for enactment on July 1, 2023), the rate will revert to 5.5%.

The Finance Committee reviewed the above ballot measure language and supported its transmittal to the Town Council for review.

The ballot measure is drafted as:

“Temporary Tax Reduction: Shall the ordinance be adopted to amend Chapter 3.32 of the Portola Valley Municipal Code to reduce the general purpose Utility Users Tax levied on telephone, gas, water and electricity, from 5.5 percent to 4.5 percent, for a period of five years with authority given to the Town Council to further reduce the tax rate by resolution?”

Since Council last discussed this item the League of Cities has circulated a memorandum to all Town Managers regarding a new tax initiative that may qualify for the November ballot (AG 17-0050). (Attachment B.) If this initiative qualifies and is approved by the voters it would have significant impact on the Town’s ability to pass future taxes. The initiative would eliminate all general taxes (which currently require a majority vote to pass) and instead require all taxes be passed with a 2/3 vote of the people (and placed on the ballot with a 2/3 vote of the Council). The initiative would also require towns to specify in the ballot measure how the taxes will be spent. (It is not clear whether a tax to fund general governmental services, such as the UUT general tax, would still be lawful.) Finally, the initiative would be retroactive to January 1, 2018. The League of Cities strongly opposes this measure as an extreme incursion into local government financing.

While it does not appear that this initiative would impact the current UUT measure, if passed, it could limit the Town’s ability to pass future finance measures.

SCHEDULE

The Town Council must adopt a resolution ordering and calling a special election. The next election date is scheduled for June 5, 2018. The Town Clerk must deliver the Resolution to the County Registrar of Voters by March 9.

FISCAL IMPACT

The 2017-18 budget reserved \$13,000 for a June 2018 ballot.

ATTACHMENTS

- A. Resolution Calling Special Election to Place Ballot Measure to Reduce UUT on a Temporary Basis
- B. League of Cities memorandum re AG 17-0050

RESOLUTION NO. _____ - 2018

RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF PORTOLA VALLEY CALLING AND GIVING NOTICE OF THE HOLDING OF A SPECIAL ELECTION TO BE HELD ON JUNE 5, 2018 FOR THE PURPOSE OF SUBMITTING TO THE VOTERS OF THE TOWN OF PORTOLA VALLEY A BALLOT MEASURE TEMPORARILY REDUCING THE UTILITY USERS TAX RATE

WHEREAS, in 2006, the voters of the Town of Portola Valley (“Town”) voted to temporarily reduce the Utility Users Tax (“UUT”) levied on telephone, gas, water and electricity, set forth in Chapter 3.32 of the Portola Valley Municipal Code, from 5.5 percent to 4.5 percent until June 30, 2010;

WHEREAS, in 2009, the voters of the Town voted to extend the temporary reduction in the UUT for another four years until June 30, 2014;

WHEREAS, in 2013, the voters of the Town voted to further extend the temporary reduction in the UUT for another four years until June 30, 2018;

WHEREAS, the fiscal state of the Town is healthy and it is anticipated to remain that way for quite some time; and

WHEREAS, the Town desires to submit to the voters of the Town a ballot measure to authorize the extension of the reduced 4.5 percent UUT on an additional five year basis.

NOW, THEREFORE, the Town Council of the Town of Portola Valley does **RESOLVE** as follows:

1. A special election is hereby called and ordered to be held in the Town of Portola Valley, State of California, on June 5, 2018, for the purpose of submitting to the qualified voters of the Town the following ballot measure, sponsored by the Town Council pursuant to Section 9222 of the Elections Code:

Temporary Tax Reduction: Shall the ordinance be adopted to amend Chapter 3.32 of the Portola Valley Municipal Code to reduce the general purpose Utility Users Tax levied on telephone, gas, water and electricity, from 5.5 percent to 4.5 percent, for a period of five years with authority given to the Town Council to further reduce the tax rate by resolution?	YES
	NO

2. The full text of the ordinance to be adopted if the ballot measure set forth in Section 2 above is approved by the voters is attached hereto as Exhibit A and shall appear in the Voter Information Pamphlet.

3. If, at the election, the ballot measure set forth in Section 1 above is approved by the voters, Chapter 3.32 [Telephone, Gas, Water and Electricity Users' Tax] of the Portola Valley Municipal Code shall be amended as set forth in the ordinance attached hereto as Exhibit A. Pursuant to Election Code Section 9223, the Town Clerk of the Town of Portola Valley shall cause the attached ordinance to be printed and shall make a copy of the ordinance for any voter upon request.

4. Pursuant to Elections Code Section 10400, the special election is hereby ordered consolidated with the statewide primary election conducted by the County of San Mateo, which will be held on June 5, 2018. The elections hereby consolidated shall be held in all respects as if there were only one election, and only one form of ballot shall be used.

5. Pursuant to Elections Code Section 10403, the Town Council hereby requests the Board of Supervisors of the County of San Mateo to make available the services of the Registrar of Voters for the purpose of providing the usual services necessary to conduct a consolidated municipal election, including the provision of elections supplies and voter pamphlets. The Town Council recognizes that additional costs may be incurred by the County by reason of these services and agrees to reimburse the County for these costs.

6. The election on this measure shall be held, voting precincts (if applicable) designated, ballots printed, vote centers opened and closed, ballots counted and returned, returns canvassed, the returns made, and a result ascertained and determined, and all other proceedings conducted in connection with the election, under the regulations of the Registrar of Voters of the County of San Mateo, in accordance with the provisions of the law governing municipal elections in general law cities.

7. Ballots for said election shall be provided in the form and to the number provided by law. On said ballots, in addition to any other printed matter which may be required by law, two voting spaces shall be set off to the right of the ballot measure, in the manner provided by law, one having the word "YES" printed before it and the other having the word "NO" printed before it.

8. Direct arguments for and against the measure shall not exceed 300 words, shall be filed with the Town Clerk no later than 5:00 p.m. on March 16, 2018, and shall otherwise be in accordance with Section 9280 *et. seq.* of the Elections Code.

9. The Town Attorney shall be directed to provide an impartial analysis not to exceed 500 words of this measure in accordance with Elections Code Section 9280 and to submit that to the Town Clerk for transmittal to the Registrar of Voters no later than 5:00 p.m. on March 26, 2018.

10. Rebuttal arguments are permitted in accordance with Sections 9220 and 9285 of the Elections Code. Rebuttal arguments shall not exceed 250 words and shall be filed with the Town Clerk no later than 5:00 p.m. on March 26, 2018.

11. The Town Clerk is authorized, instructed and directed to procure and furnish any and all official ballots, notices, printed matter and all supplies and equipment that may be necessary in order to properly and lawfully conduct the election.

12. If, at the election, a majority of the votes cast on the measure are in favor of the measure, then the measure shall be deemed to have been accepted and approved by the voters upon the date that the vote is declared by the Town Council and shall go into effect 10 days after that date, pursuant to Section 9217 of the Elections Code.

PASSED AND ADOPTED this 28th day of February 2018.

By: _____
Mayor

ATTEST:

Town Clerk

Exhibit A**ORIDINANCE NO. 2018-_____****ORDINANCE OF THE TOWN OF PORTOLA VALLEY AMENDING SECTION 3.32.075 [REDUCTION IN GENERAL TAX] OF CHAPTER 3.32 [TELEPHONE, GAS, WATER AND ELECTRICITY USERS TAX] OF TITLE 3 [REVENUE AND FINANCE] OF THE PORTOLA VALLEY MUNICIPAL CODE**

WHEREAS, the citizens of the Town of Portola Valley wish to maintain the reduced 4.5 percent Utility User Tax imposed on all users of telecommunications, gas, water and electricity for an additional five years while providing the Town Council authority to further reduce the tax rate in the Council's discretion.

NOW, THEREFORE, the citizens of the Town of Portola Valley do **ORDAIN** as follows:

1. Amendment of Code. Section 3.32.075 [Reduction in General Tax] of Chapter 3.32 [Telephone, Gas, Water and Electricity Users' Tax] of Title 3 [Revenue and Finance] of the Portola Valley Municipal Code is hereby amended to read as follows:

3.32.075 Temporary Reduction in General Tax and Reinstatement of Tax Without Election

A. The five and one-half percent general taxes imposed on telephone users set forth in Section 3.32.040, electricity users set forth in Section 3.32.050, gas users set forth in Section 3.32.060, and water users set forth in Section 3.32.070 are each reduced to four and one-half percent for a period of ~~four~~ five years from July 1, ~~2014~~2018 through June 30, ~~2018~~ 2023. On July 1, 2023, the tax rate shall automatically revert back to five and one-half percent without voter approval or Town Council action.

B. Beginning on July 1, 2020, the Town Council may in its absolute discretion, by resolution and upon a majority vote of the Council, temporarily further reduce the tax percentage in Sections [3.32.040](#) through [3.32.070](#) for a period not to exceed twelve (12) months. The Tax Administrator shall implement the temporary tax reduction by giving sixty (60) day written notice to all affected service suppliers as required by Public Utilities Code Section [799](#). At the end of the temporary tax percentage reduction period, the four and one-half percent (4.5 %) rate specified in Section 3.32.075 shall be automatically reinstated without

further notice or action by the City Council. No further temporary reduction period authorized under this Section shall apply past June 30, 2023.

C. Nothing herein shall prohibit the Town Council from adopting consecutive temporary tax percentage reductions, as provided herein, or from rescinding previously approved temporary tax percentage reductions.

D. As stated in Government Code Section 9611, the enactment of a temporary tax percentage reduction by the Town Council shall not constitute a repeal of one (1) or more of the original provisions of this chapter. Upon the expiration of the time of the temporary tax percentage reduction, the original provisions of this chapter shall have the same force and effect as if the temporary tax percentage reduction had not been enacted. Nothing herein is intended to constitute a decrease in a tax, or an increase in a tax requiring election approval under California Constitution Article XIII C; and to the extent that any aspect of a temporary tax percentage reduction is found to invoke such a requirement, the entire temporary tax percentage reduction shall be deemed null and void ab initio, and there shall be no entitlement to such tax reduction for any service user.

2. Environmental Review. This ordinance is not a project for the purpose of the California Environmental Quality Act.

3. Effective Date; Posting. The effective date of this ordinance shall be 10 days after the date the Town Council declares the results of the election at which the ballot measure regarding this ordinance is adopted by a majority vote of the electors voting on the measure.

Effective Date: _____, 2018

ATTEST AS TO DATE:

Town Clerk

APPROVED AS TO FORM:

Town Attorney



1400 K Street, Suite 400 • Sacramento, California 95814
Phone: 916.658.8200 Fax: 916.658.8240
www.cacities.org

Tax Fairness, Transparency and Accountability Act of 2018

Summary:

This measure ([AG 1700-50 Amd #1](#)), currently under circulation for signatures and proposed for the November ballot, would drastically limit local revenue authority, while making comparatively minor modifications to state authority. For cities and other local agencies, it applies retroactively and voids any local measure approved by local voters on or after January 1, 2018, but prior to the effective date of this act, that does not comply with the provisions of the act, and:

Restricting Local Tax Authority:

- a) Eliminates local authority to impose a tax for general purposes by majority vote and instead requires all local proposed tax increases subject to a two-thirds vote. This proposal also requires two-thirds approval of all members of the local legislative body before a tax can be placed on the ballot.
- b) Requires a two-thirds vote to “extend” a tax to new territory, a new class of payor, or expanded base. For cities, this would limit all future annexations by requiring a separate two-thirds vote of the affected residents prior to applying any existing city tax. Other limitations may apply to a local interpretation that an existing local tax applies to a business or product.
- c) Expands the definition of a tax to include payments voluntarily made in exchange for a benefit received, which may cover local franchise fees.
- d) Prohibits any tax to be placed on the ballot unless it either specifically identifies by binding and enforceable limitation how it can be spent, with any change requiring reapproval by the electorate, or states in a separate stand-alone segment of the ballot that the tax revenue is intended for “unrestricted revenue purposes.”
- e) Requires tax measures to be consolidated with the regularly scheduled general election for members of the governing body, unless an emergency is declared by a unanimous vote of the governing body.
- f) Expands the application of this act to include actions and “legal authority” that may be “enforced” or “implemented” by a local government.
- g) Requires a tax imposed by initiative to also be subject to a two-thirds vote, to address concerns over the *Upland* decision.
- h) Clarifies a levy, charge, or exaction retained by and payable to a non-governmental entity is a tax, if the local agency limits in any way the use of the proceeds, to address concerns over the *Schmeer* decision.

- i) Exempts existing school bond (55% vote) construction authority from the application of the bill.

Restricting Local Fee Authority:

Restricts the ability of a local government to impose fees or charges, other than those subject to Prop. 218, by:

- a) Prohibiting a fee or charge from being imposed, increased or extended unless approved by two-thirds vote of the legislative body.
- b) Authorizing a referendum on decisions of a legislative body to impose, increase or extend a fee or charge triggered by petitions signed by 5% of affected voters.
- c) Requiring a fee or charge proposed by initiative to be subject to a two-thirds vote of the electorate.
- d) Narrows the legal threshold from “reasonable” to “actual” costs for fees applied to local services, permits, licenses, etc. Further, the measure authorizes new avenues to challenge “actual” costs by enabling a payor to also second-guess in court whether they are “reasonable.” Opens up further litigation and debate by replacing the existing standard that fees and charges bear a “fair and reasonable relationship to the payors burdens and benefits” with a more rigorous “proportional to the costs created by the payor” standard.
- e) Increases the legal burden of proof for local agencies from “preponderance of evidence” (more likely than not) to “clear and convincing evidence” (high probability) to establish that a levy, charge or other exaction is: (1) not a tax, (2) the amount is no more than necessary to cover the actual costs, and (3) the revenue is not being used for other than its stated purpose.

Provisions Applicable to State Actions:

- a) Requires a tax contained in a regulation adopted by a state agency must be approved by two-third vote of the Legislature (unless the Legislature adopted a state tax that authorized the action of the state agency). This change is responsive to the recent *Chamber of Commerce* decision on cap and trade revenues.
- b) Unlike the retroactive provisions that apply to local government, the application of this Act to the state is only prospective.
- c) Requires a fee contained in a regulation adopted by a state agency to be approved by majority vote of the Legislature.
- d) Imposes the same burden of proof changes applied to local governments.

Background: This initiative is sponsored by the California Business Roundtable, an organization that claims membership from some of the state’s largest companies

including, Wells Fargo, Albertsons, KB Home, Blackstone Group, Chevron, Farmers Insurance, Granite Construction and others. <http://www.cbrt.org/members/>.

The initiative contains over three pages of findings and statements maintaining that the state's tax burden is high compared to other states, including state revenue growth of 68 percent since 2009. Concerns are also raised over employee pensions increasing costs and other issues affecting the economy and business climate.

One paragraph among the three pages declares one of the purposes of the measure is to overturn "loopholes" created by *Cannabis Coalition v. City of Upland* (concern that voters could enact special taxes via initiative by majority vote); *Chamber of Commerce v. Air Resources Board* (a recent case lost by the Chamber which alleged that the state Cap and Trade Program was an illegal tax) and *Schmeer v. Los Angeles* (which held that a locally imposed-grocer retained bag fee was not a tax). This measure, however, has much broader impacts than such fixes.

#12

There are no written materials for Council Liaison Committee and Regional Agencies Reports

#13

There are no written materials for Town Manager Report

TOWN COUNCIL WEEKLY DIGEST

Friday – January 26, 2018

1. Agenda (Action) – Town Council – Wednesday, January 24, 2018
2. Agenda – Open Space Acquisition Advisory Committee – Tuesday, January 30, 2018
3. Monthly Meeting Schedule for February 2018
4. Invitation from Peninsula Volunteers, Inc. - Meals on Wheels “March for Meals Community Champions Breakfast – Wednesday, March 21, 2018

Attached Separates (Council Only)

(placed in your town hall mailbox)

1. None



TOWN OF PORTOLA VALLEY

7:00 PM – Regular Meeting of the Town Council
 Wednesday, January 24, 2018
 Historic Schoolhouse
 765 Portola Road, Portola Valley, CA 94028

REGULAR MEETING AGENDA

7:00 PM - CALL TO ORDER AND ROLL CALL

Councilmember Hughes, Councilmember Derwin, Councilmember Aalfs, Vice Mayor Wengert and Mayor Richards

All Present

ORAL COMMUNICATIONS

Persons wishing to address the Town Council on any subject may do so now. Please note however, that the Council is not able to undertake extended discussion or action tonight on items not on the agenda.

1. **PRESENTATION** - Garrett Kuramoto, Library Manager for Portola Valley & Woodside with San Mateo County Library 2016-2017 Annual Report

Manager Kuramoto presented, reporting on new programs and achievements of 2016-2017

CONSENT AGENDA

The following items listed on the Consent Agenda are considered routine and approved by one roll call motion. The Mayor or any member of the Town Council or of the public may request that any item listed under the Consent Agenda be removed and action taken separately.

2. **Approval of Minutes** – January 10, 2018

Approved 4-0-1 Councilmember Derwin abstained

3. **Approval of Warrant List** – January 24, 2018

4. **Recommendation by Town Attorney** – Updating the Designated Positions and Disclosure Obligations in the Town's Conflict of Interest Code

(a) A Resolution of the Town Council of the Town of Portola Valley Designating Public Officials and Employees and their Disclosure Categories for the Town's Conflict of Interest Code (Resolution No. 2750-2018)

5. **Recommendation by Public Works Director** – Acceptance of the Spring Down Pond Restoration – Project #2017-PW05

(a) Adoption of a Resolution of the Town Council of the Town of Portola Valley to Accept the Completed Spring Down Pond Restoration Project #2017-PW05 in the Town of Portola Valley, CA and Authorizing Final Payment to "O. Nelson & Son, Inc." Concerning Such Work, and Directing the Town Clerk to File a Notice of Completion (Resolution No. 2751-2018)

Mayor Richards reported that at the Conservation Committee met and discussed the possibility of naming the Spring Down Pond, holding a contest on Earth Day

6. **Appointment by Mayor** – Commissions and Committees Membership Appointments for 2018

Councilmember Hughes noted the 97 volunteers and how vital they are in aiding the Town accomplish its goals.

Items 3 & 4 Approved 5-0

REGULAR AGENDA

STAFF REPORTS AND RECOMMENDATIONS

7. **Microgrid Study Session**

Councilmember Aalfs presented the proposed project and its requirements. Further analysis and cost estimates will return to the Council at a March meeting

8. **Recommendation by Town Manager** – Adoption of a Resolution Calling an Election to Vote on Ballot Measure to Authorize Reduction of Utility Users Tax from 5.5 Percent to 4.5 Percent
- (a) Adoption of a Resolution of the Town Council of the Town of Portola Valley Calling and Giving Notice of the Holding of a Special Election to be Held on June 5, 2018 for the Purpose of Submitting to the Voters of the Town of Portola Valley a Ballot Measure Reducing the Utility Users Tax Rate (Resolution No.____)

Item pulled from the agenda. A subcommittee will be formed to further analyze this subject and return to the Council with its findings at a near future meeting

9. **Recommendation by Town Attorney** – Settlement of Lawsuit and Approval of Easement Agreement: *Blue Oaks Homeowners Association v. Cynthia Dorrell et al*

Council approved settlement 5-0

10. **Recommendation by Mayor** – Amendment No. 2 to the Town Manager Employment Agreement
- (a) Adoption of a Resolution of the Town Council of the Town of Portola Valley Approving Amendment No. 2 to the Town Manager Employment Agreement (Resolution No. 2752-2018)

Approved 5-0

11. **Appointment by Mayor** – Council Liaison Appointments for 2018

Approved as amended 5-0

12. COUNCIL LIAISON COMMITTEE AND REGIONAL AGENCIES REPORTS

Council arising out of liaison appointments to both in-town and regional committees and initiatives. *There are no written materials and the Town Council does not take action under this agenda item.*

Councilmember Hughes -

Attended the 1/17 Planning Commission meeting. Attended a Portola Valley School tour with Councilmember Aalfs, met with Town Manager Dennis for an ALPR preview and attended a meeting with PG&E to discuss the 20A Rule

Councilmember Derwin -

Attended C/CAG Resource Management and Climate Protection Committee (RMCP), C/CAG Admin meeting with Town Manager, ASCC and a Housing Endowment and Regional Trust (HEART) Board meeting

Councilmember Aalfs -

Attended the 1/16 Trails & Paths Committee meeting

Vice Mayor Wengert -

Visited a project on 3343 Alpine Road and attended the first ad-hoc committee on expanding membership of the San Francisco Roundtable

Mayor Richards -

Attended San Mateo County Emergency Services Council and Conservation Committee meetings

13. Town Manager Report

ALPRs are installed and operational. There was follow up with participants of the various pedestrian/traffic gatherings, relative to the Circulation Study. A ad has been published in the Almanac regarding the Planning Commission review of proposed regulations for commercial cannabis. There will be a Finance Committee meeting on February 12. Town Manager and Councilmember Derwin will attend a Home for All meeting on January 26. The Planning and Building Director recruitment will close at the end of the month. Larry Strain will attend a March Council meeting to discuss the Town Center Master Plan findings. The Cultural Arts Committee will hold a youth photo show on March 10th.

WRITTEN COMMUNICATIONS

14. **Town Council Digest** – January 12, 2018 - **None**

15. **Town Council Digest** – January 19, 2018 - **None**

ADJOURNMENT: 9:05 pm



**Town of Portola Valley
Open Space Acquisition Advisory Committee
Tuesday, January 30, 2018, 7:00 pm
Historic Schoolhouse
765 Portola Road, Portola Valley, CA 94028**

AGENDA

1. Call to Order
2. Oral Communications
3. Approval of October 26, 2017 minutes *(to be distributed at the meeting)*
4. Nominate a new Chair
5. Old Business
 - Spring Down Pond: review of progress (Gary, Nona)
6. New Business (All)
 - Discuss Goals for the coming year
7. Adjournment

Town of Portola Valley

Town Hall: 765 Portola Road, Portola Valley, CA 94028 Tel: (650) 851-1700 Fax: (650) 851-4677

FEBRUARY 2018 MEETING SCHEDULE

Note: **Unless otherwise noted below and on the agenda, all meetings take place in the Historic Schoolhouse**, located at 765 Portola Road, Portola Valley, CA

TOWN COUNCIL – 7:00 PM (Meets 2nd & 4th Wednesdays)

Wednesday, February 14, 2018

Wednesday, February 28, 2018

PLANNING COMMISSION – 7:00 PM (Meets 1st & 3rd Wednesdays)

Council Liaison – Craig Hughes (for months January, February, March)

Wednesday, February 7, 2018

Wednesday, February 21, 2018

ARCHITECTURAL & SITE CONTROL COMMISSION - 7:00 PM (Meets 2nd & 4th Mondays)

Council Liaison – Maryann Derwin (for months January, February, March)

Monday, February 12, 2018

Monday, February 26, 2018

BICYCLE, PEDESTRIAN & TRAFFIC SAFETY COMMITTEE – 8:15 AM (Meets 1st Wednesday of every month)

Council Liaison – Craig Hughes

Wednesday, February 7, 2018

CABLE & UTILITIES UNDERGROUNDING COMMITTEE

Council Liaison – Craig Hughes

As announced

CONSERVATION COMMITTEE – 7:30 PM (Meets 4th Tuesday)

Council Liaison – John Richards

Tuesday, February 27, 2018

CULTURAL ARTS COMMITTEE – (Meets 2nd Thursday of every month)

Council Liaison – John Richards

Thursday, February 8, 2018

EMERGENCY PREPAREDNESS COMMITTEE – 8:00 AM (Meets 2nd Thursday of every month) in the EOC / Conference Room at Town Hall

Council Liaison – John Richards

Thursday, February 8, 2018

FINANCE COMMITTEE

Council Liaison – Ann Wengert

As announced

GEOLOGIC SAFETY COMMITTEE – 7:30 PM

Council Liaison – Jeff Aalfs

As announced

HISTORIC RESOURCES COMMITTEE

Council Liaison – Jeff Aalfs

As announced

NATURE AND SCIENCE COMMITTEE – 5:00 PM (Meets 2nd Thursday of alternate even numbered months)

Council Liaison – Jeff Aalfs

Thursday, February 8, 2018

OPEN SPACE ACQUISITION ADVISORY COMMITTEE

Council Liaison – Craig Hughes

As announced

PARKS & RECREATION COMMITTEE – 7:30 PM (Meets 1st Monday of every month)

Council Liaison – Ann Wengert

Monday, February 5, 2018

PUBLIC WORKS COMMITTEE

Council Liaison – Jeff Aalfs

As announced

SUSTAINABILITY & ENVIRONMENTAL RESOURCES COMMITTEE – 10:30 AM (Meets 3rd

Monday of every month) in the EOC/Conference Room at Town Hall

Council Liaison – Ann Wengert

TRAILS & PATHS COMMITTEE – 8:15 AM (3RD Tuesday of every month, or as needed)

Council Liaison – Jeff Aalfs

Tuesday, February 20, 2018 – 8:15 AM



January 17, 2018

Ms. Sharon Hanlon
Town Clerk of Portola Valley

Dear Ms. Hanlon:

We would like to invite you to PVI *Meals on Wheels* “March for Meals – Community Champions Breakfast.” This year I am writing you on behalf of the 1000+ seniors we serve in San Mateo County to invite you to participate in the 16th annual March for Meals. As a prominent figure in Portola Valley you are in an excellent position to help Peninsula Volunteers, Inc. (PVI) Meals on Wheels raise awareness for the growing number of seniors facing hunger and isolation, both serious problems currently impacting our community and the nation at large.

We would like to invite you to PVI Meals on Wheels “March for Meals – Community Champions Breakfast.” This year marks the 41st anniversary of PVI Meals on Wheels service to residents of San Mateo County. We hope you will join us for this annual celebration.

- Date:** Wednesday, March 21, 2018
- Location:** Peninsula Volunteers, Inc. Little House Auditorium
800 Middle Avenue, Menlo Park, CA 94025
- Schedule:** 8:00 AM – Sign-in and Continental Breakfast
8:30 AM – Program Overview
8:45 AM – Remarks by Mayors and Community Champions

PVI has been offering unique programs for older adults since 1947. Among our major programs is *Meals on Wheels*, which delivers more than 100,000 meals annually to homebound seniors and disabled adults residing in San Mateo County!

Every year, PVI *Meals on Wheels* participates in “March for Meals” an annual effort to recruit volunteers and increase public awareness of senior hunger in our community. In 2017, more than 2,900 Community Champions (mayors, council members, supervisors, funders) participated in this program nationally.

We would be honored if you could participate in the March for Meals campaign by helping to deliver meals to our senior clients during the month of March 2018. In doing so, you can connect with your constituents in our community and help PVI Meals on Wheels gain much-needed visibility for this cause.

If you are interested in joining PVI Meals on Wheels for March for Meals, please contact us at your earliest convenience. I would be delighted to answer any questions that you may have and can be reached at 650-323-2022 or mbaker-venturini@penvol.org. Thank you for your serious consideration of our request. I look forward to hearing from you.

Sincerely,

Marilyn Baker-Venturini
Director, *PVI Meals on Wheels*

TOWN COUNCIL WEEKLY DIGEST

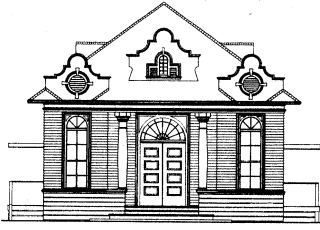
Friday – February 2, 2018

1. Agenda – Parks & Recreation Committee – Monday, February 5, 2018
2. Agenda – Bicycle, Pedestrian & Traffic Safety Committee – Wednesday, February 7, 2018
3. Agenda – Planning Commission – Wednesday, February 7, 2018
4. Agenda – Emergency Preparedness Committee – Thursday, February 8, 2018
5. Agenda – Cultural Arts Committee – Thursday, February 8, 2018
6. Agenda – Nature & Science Committee – Thursday, February 8, 2018
7. Invitation – Council of Cities Dinner Meeting – Friday, February 23, 2018
8. Invitation from Michael Gross, Joint Venture Silicon Valley – [2018 State of the Valley Conference](#)
9. Western City Magazine – [February 2018](#)

Attached Separates (Council Only)

(placed in your town hall mailbox)

1. None



**Town of Portola Valley
Parks & Recreation Committee Meeting
Monday, February 5, 2018 – 7:30 pm
Historic Schoolhouse
765 Portola Road, Portola Valley, CA**

AGENDA

1. Call to Order
2. Oral Communications (*5 minutes*)
Persons wishing to address the Committee on any subject, not on the agenda, may do so now. Please note however, the Committee is not able to undertake extended discussion or action tonight on items not on the agenda. *Two minutes per person.*
3. Approval of Minutes: December 4, 2017
4. Welcome New PARC Members
5. Discuss PARC Committee Duties & Assignments
 - Secretary
 - Other Committee Liaisons
6. Mission and Planning Review and Finalize to share with Town and Other Committees
7. 2018 Event Planning Recommendations & Discussion
8. Adjournment

Next Meeting – March 5, 2018



TOWN OF PORTOLA VALLEY
Bicycle, Pedestrian and Traffic Safety
Committee Meeting
Wednesday, February 7, 2018 – 8:15 AM
Historic Schoolhouse
765 Portola Road, Portola Valley, CA

MEETING AGENDA

1. Roll Call
2. Oral Communications
3. Approve minutes of January 10, 2018 Special Meeting
4. Sheriff's Report –
 - 1) Accidents and Citations
5. Public Works Report:
 - 1)
6. Ongoing Committee Business for 2018
 - 1) Pedestrian safety Subcommittee activity
 - 2) Proposal for "Pop-up" events
 - 3) Windy Hill Parking monitoring – Winter activity on Portola Road
 - 4) Roster and Council Liaison
7. Outreach 2018:
 - 1) Earth Day, Picnic and other Town events
8. Matters Arising
9. Time & Date for March 2018 meeting:

Propose Thursday, March 8, 2018, 7:30 pm evening meeting
10. Adjournment



TOWN OF PORTOLA VALLEY

7:00 PM – Regular Meeting of the Planning Commission
 Wednesday, February 7, 2018
 Historic Schoolhouse
 765 Portola Road, Portola Valley, CA 94028

REGULAR MEETING AGENDA

7:00 PM - CALL TO ORDER AND ROLL CALL

Commissioners Gilbert, Hasko, Taylor, Vice-Chair Goulden, Chair Targ

ORAL COMMUNICATIONS

Persons wishing to address the Planning Commission on any subject may do so now. Please note however, that the Planning Commission is not able to undertake extended discussion or action tonight on items not on the agenda.

OLD BUSINESS

1. Recommendation to Town Council on Proposed Ordinance adding Chapter 18.39 [Cannabis Land Uses] and amending Section 8.12.010 [Definition of Nuisance] of the Portola Valley Municipal Code (Staff: C. Silver and J. Dennis)

NEW BUSINESS

2. Review of Modification to the Town's Ground Movement Potential Map, File # PLN_GMM 3-2017, 380 Escobar Road, Freccia/Giblin (Staff: A. Cassidy)

COMMISSION, STAFF, COMMITTEE REPORTS AND RECOMMENDATIONS

3. News Digest: Planning Issues of the Day

APPROVAL OF MINUTES

4. Planning Commission Meeting of January 17, 2018

ADJOURNMENT

ASSISTANCE FOR PEOPLE WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Planning Department at (650) 851-1700. Notification 48 hours prior to the meeting will enable the Town to make reasonable arrangements to ensure accessibility to this meeting.

AVAILABILITY OF INFORMATION

Any writing or documents provided to a majority of the Town Council or Commissions regarding any item on this agenda will be made available for public inspection at Town Hall located 765 Portola Road, Portola Valley, CA during normal business hours.

Copies of all agenda reports and supporting data are available for viewing and inspection at Town Hall and at the Portola Valley Library located adjacent to Town Hall.

PUBLIC HEARINGS

Public Hearings provide the general public and interested parties an opportunity to provide testimony on these items. If you challenge any proposed action(s) in court, you may be limited to raising only issues you or someone else raised at the Public Hearing(s) described in this agenda, or in written correspondence delivered to the Planning Commission at, or prior to, the Public Hearing(s).



TOWN OF PORTOLA VALLEY
Regular Meeting of the
Emergency Preparedness Committee
Thursday, February 8, 2018 - 8:00 AM
EOC / Town Hall Conference Room
765 Portola Road, Portola Valley, CA 94028

MEETING AGENDA

1. 8:00 Call to order
 - Members: Mark Bercow, Dave Howes, Anne Kopf-Sill, Dale Pfau, Chris Raanes, Ray Rothrock, Craig Taylor, Bud Trapp
 - Potential Guests: Jeremy Dennis/Town Manager, Brandi de Garmeaux, Ali Taghavi, John Richards/Town Council, Dan Ghiorso and Selena Brown WFPD, Christina Corpus/Sheriff's Office, Gary Nielsen/Police Commissioner, Chuck Nile/Red Cross, Stuart Young/former EPC member, Lorrie Duval/Neighborhood Watch, Mark Dahlen, Doug Keyston/Woodside Emergency Preparedness Committee
2. 8:01 Oral Communications
3. 8:03 Approve minutes
 - Motion; Approve minutes for January 11, 2018 meeting
4. 8:05 Review draft goals for 2018 (attachment)
5. 8:25 Annual Report to Town Council
6. 8:35 CERPP/WFPD Report (Brown/Ghiorso)
7. 8:40 Town Report (de Garmeaux/Taghavi)
8. 8:45 Committee Reports
 - Medical Subcommittee Report (none)
 - Communications Subcommittee Report (Rothrock)
9. 8:55 Next meeting is March 8, 2018
 - Quorum check (Anne will not be here)
10. 9:00 Adjourn



TOWN OF PORTOLA VALLEY
Cultural Arts Committee Meeting
Thursday, February 8, 2018 - 1:00 PM
Historic Schoolhouse
765 Portola Road, Portola Valley, CA

MEETING AGENDA

1. Call to Order
2. Oral Communications
3. Approval of Minutes – January 11, 2018
4. Old Business:
 - Update on plan for Sequoias
 - Speaker series planning
5. New Business:
 - Spring Phot show
6. Adjournment



Town of Portola Valley
Nature and Science Committee Meeting
Thursday, February 8, 2018 – 5:00 PM
Historic Schoolhouse
765 Portola Road, Portola Valley, CA 94028

REGULAR MEETING AGENDA

1. Call to Order
2. Roll Call: Committee members Michael Bray, Andy Browne, Jen Buja, Bonnie Crater, Andrew Pierce, Yvonne Tryce, and Council Liaison
3. Oral Communications
4. Review and Approve the December 14, 2017 minutes
5. Old Business: None
6. New Business: None
7. Standing Events:
 - Flight Night
 - Star Party
 - May Activity – Ecology Day
8. Other Business:
9. Adjournment

Date & Time of Next Regular Meeting: Thursday, April 12, 2018, 5 PM



Meeting Announcement & Agenda For Friday, February 23, 2018

Everyone is encouraged to attend these monthly meetings. This is a great opportunity to meet colleagues from other cities, work together on solutions for our county, get to know how other cities handle issues, make friends and helpful connections, and learn what's going on with the "big" issues we seldom have time to discuss at council meetings.

Location	Schedule
<p align="center">BiRite Foodservice Distributors Training Room 123 South Hill Drive Brisbane, CA Brisbane City Clerk, Ingrid Padilla 415-515-4707 (Mobile)</p>	<p>6:00 pm Social Time 6:30 pm Business Meeting 7:00 pm Dinner 7:15 pm Program 8:30 pm Adjourn</p>

Please contact Chair Diane Papan if you wish to bring up an item for group discussion or give a committee report. Telephone (415) 377-4462 or email dpapan@cityofsanmateo.org

Buffet Style Dinner:

- | | |
|-----------------------------------|--------------------------------|
| -Spice Rubbed Tri-Tip | -Spinach and Sliced Pear Salad |
| -Chili-Lime Chicken with Cilantro | - Assorted Desserts |
| -Roasted Potatoes | -Wine, Soft Drinks & Water |
| -Vegetable Medley | |

Cost: \$50 per person.

Please make check payable to City of Brisbane and mail to: City Clerk, 50 Park Place, Brisbane, CA 94005

Please RSVP by 5pm on Tuesday, February 20, 2017 to Brisbane City Clerk Ingrid Padilla.
Email ipadilla@brisbaneca.org or call (415) 508-2113

Guest Speaker & Topics

Bill Barulich, CEO of BiRite Foodservice Distributors

- Leadership and Innovation in the Foodservice Industry

Mark Church, San Mateo County's Chief Elections Officer and Assessor-County Clerk-Recorder

- Senate Bill 450- the California Voter's Choice Act



6:30 pm

Call to Order by Chair Diane Papan

Roll Call and Introduction of Mayors, Council Members and Guests

Business Meeting

Approval of Minutes of Previous Meeting and Treasurer's Report

Committee Reports

Old Business

New Business

Announcements

7:15 pm

Welcome and Introductions by City of Brisbane Mayor W. Clarke Conway

Bill Barulich, CEO of BiRite Foodservice Distributors

- Leadership and Innovation in the Foodservice Industry

Mark Church, San Mateo County's Chief Elections Officer and Assessor-County Clerk-Recorder

- Senate Bill 450- the California Voter's Choice Act
- Q&A

8:30 pm

Meeting Adjourned

GUEST SPEAKERS

Bill Barulich, BiRite Foodservice Distributors CEO



Bill's leadership is instrumental in the continuation of BiRite's family-based business values and objectives. With over forty years of experience within the company, Bill works hard to give BiRite a successful future.

Bill Barulich, CEO of BiRite Foodservice Distributors, the 12th largest family owned Bay Area business, was named one of the Most Admired CEOs in 2017 for his outstanding business and community leadership by the San Francisco Business Times. Under Barulich's leadership, BiRite Foodservice Distributors' sales have exceeded \$310 million. In 2017, BiRite was also ranked as Silicon Valley Business Journal and San Francisco Business Times #28 "Healthiest Employers" to work for in Silicon Valley.

Headquartered in Brisbane, California, BiRite Foodservice Distributors is a complete foodservice resource. Since 1966, BiRite has been synonymous with quality, efficiency, innovation and customer service.

Sources: <http://birite.com/wp-content/uploads/2017/10/October2017Luminary-ilovepdf-compressed.pdf> & <http://birite.com>

Mark Church, SMC's Chief Elections Officer & Assessor-County Clerk-Recorder



Mark Church was elected San Mateo County's Chief Elections Officer and Assessor-County Clerk-Recorder in 2010 and assumed office on January 3, 2011, succeeding Warren Slocum. His experience as a mayor and county supervisor combined with his legal background make him uniquely qualified to manage the diverse operations of the office. He offers a legacy of leadership, professional experience and knowledge. Mark Church has made a commitment to ensure that the office continues its tradition of excellence and operates at a maximum level of efficiency and productivity.

Mark Church is a third-generation Californian, born and raised in San Mateo County. He graduated magna cum laude from the University of the Pacific, with a bachelor's degree in business administration, and holds a juris doctor degree from McGeorge School of Law. In 1982 he established the law firm of Church and Associates, in Millbrae.

Church served on the San Mateo County Board of Supervisors from 2000 – 2010 representing District 1. He won his June 2008 re-election campaign with 84 percent of votes cast – the highest margin of victory in that election for a contested supervisorial race anywhere in California.

In his role as a county supervisor, he worked to make local government efficient, transparent, and accountable. He is proud of his efforts to reduce traffic congestion and increase housing opportunities for seniors, the disabled and working families. He championed children and family issues such as strengthening protection for victims of domestic violence and increasing access to preschool and affordable, quality child care. He also led the effort to develop innovative, forward thinking programs to protect the environment and encourage local investment in alternative-energy and carbon-reducing technology.

Prior to his election to the Board of Supervisors, Mark Church served on the Millbrae City Council and has the distinction of receiving the highest vote ever cast for a council candidate in the city's history. Church served as mayor from 1997-1998, during the year-long celebration of the city's 50th anniversary.

Mark Church is the son of Marvin Church, a former Millbrae mayor and city councilman (1958-1966), who went on to serve as San Mateo County Clerk-Recorder and Chief Elections Officer for two decades (1967-1987).

Source: http://www.smcare.org/care/markchurch_bio.asp

**DIRECTIONS TO BIRITE FOODSERVICE DISTRIBUTORS
123 SOUTH HILL DRIVE (TRAINING ROOM), BRISBANE, CA 94005**

For Questions: Please Call Brisbane City Clerk Ingrid Padilla at (Mobile) 415-515-4707

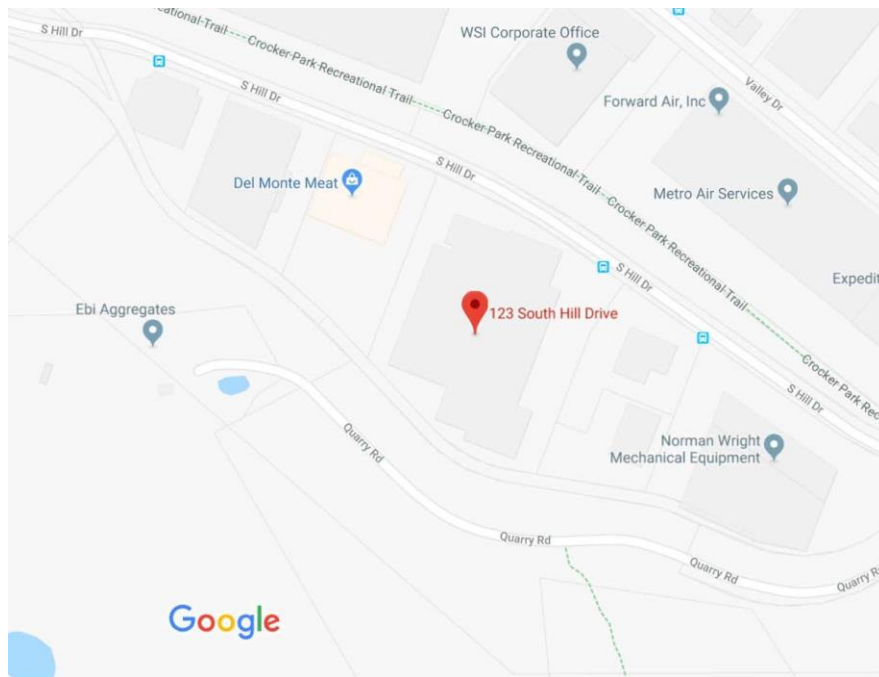


Image capture: Oct 2017 © 2018 Google

Directions From 101 North

From US-101 N, Take exit 426A to merge onto Bayshore Blvd toward Cow Palace
Merge onto Bayshore Blvd
Use the left 2 lanes to turn left onto Valley Drive
Turn left onto S Hill Drive
Arrive at 123 S. Hill Drive –BiRite Foodservice Distributors
Turn left into Parking lot

Directions From 101 South

From US-101 S, Take exit 429B toward Cow Palace/Third Street
Keep right at the fork, follow signs for Bayshore Boulevard S and merge onto Bayshore Blvd
Turn right onto Guadalupe Canyon Pkwy
Turn left onto N. Hill Drive and continue for another 0.9 miles
Arrive at 123 S. Hill Drive –BiRite Foodservice Distributor Offices
Turn left into Parking lot

TOWN COUNCIL WEEKLY DIGEST

Friday – February 9, 2018

1. Agenda (Special) – Sustainability & Environmental Resources Committee – Monday, February 12, 2018
2. Agenda – Finance Committee – Monday, February 12, 2018
3. Agenda – Architectural Site & Control Commission – Monday, February 12, 2018
4. Town Hall Closure in observance of Presidents' Day – Monday, February 19, 2018

Attached Separates (Council Only) *(placed in your town hall mailbox)*

1. LABOR Newsletter – February 2018



TOWN OF PORTOLA VALLEY
Special Sustainability & Environmental Resources
Committee Meeting
Monday, February 12, 2018 10:30AM to 12:30 PM
Town Hall – Conference Room
765 Portola Road, Portola Valley, CA 94028

MEETING AGENDA

- 1. Call To Order**
- 2. Oral Communications**
- 3. Approval of Minutes – December 18, 2017**
- 4. Update from CalWater**
- 5. Old Business:**
 - a. Leafblowers**
 - b. Updates from Maryann**
 - c. Updates from Brandi**
- 6. New Business:**
 - a. Sub-Committee Organization & Plan**
 - b. Earth Fair 2018**
- 7. Set Date and Topics for Next Meeting**
- 8. Announcements**
- 9. Adjournment**

**TOWN OF PORTOLA VALLEY*****Finance Committee*****Monday, February 12, 2018 – 5:30 PM****Town Hall Conference Room****765 Portola Road, Portola Valley, CA**

MEETING AGENDA

1. Call to Order
2. Roll Call
3. Oral Communication
4. Approval of minutes from October 31, 2017 meeting
5. Elect new Committee Chair for 2018 and identify candidates for 5th member
6. New Business:
 - Audit Review of FY 2016-17 (Grace Zhang, Maze & Associates)
 - Plans to Develop 5-Year Capital Plan and Cash Reserve Policy
7. Old Business:
 - Pending General Fund UUT ballot measure – discussions with Town Council
 - Implementation of Investment Fund and Initial Funding and Trade Ticket (includes discussion of Form 700 – Economic Interests for members)
8. Improving Committee Effectiveness/Service and Annual Report to Town Council
9. Adjournment



TOWN OF PORTOLA VALLEY

Meetings of the Architectural Site Control Commission (ASCC)

Monday, February 12, 2018

7:00 PM – Regular ASCC Meeting

Historic Schoolhouse

765 Portola Road, Portola Valley, CA 94028

REGULAR MEETING AGENDA

7:00 PM - CALL TO ORDER AND ROLL CALL

Commissioners Breen, Koch, Wilson, Vice Chair Sill and Chair Ross

ORAL COMMUNICATIONS

Persons wishing to address the Architectural and Site Control Commission on any subject may do so now. Please note however, that the Architectural and Site Control Commission is not able to undertake extended discussion or action tonight on items not on the agenda.

NEW BUSINESS

1. Architectural Review for an Addition and Remodel, 155 Grove Drive, Reimund Residence, File # PLAN_ARCH 44-2017. (Staff: A. Cassidy)
2. Architectural Review for an Addition and Remodel, 171 Trinity Lane, Allen/Corwin Residence, File # PLAN_ARCH 45-2017. (Staff: A. Cassidy)

COMMISSION, STAFF, COMMITTEE REPORTS AND RECOMMENDATIONS

3. Annual Election of ASCC Chair and Vice Chair
4. News Digest: Planning Issues of the Day

APPROVAL OF MINUTES

5. ASCC Meeting of January 22, 2018

ADJOURNMENT

AVAILABILITY OF INFORMATION

For more information on the projects to be considered by the ASCC at the Special Field and Regular meetings, as well as the scope of reviews and actions tentatively anticipated, please contact Carol Borck in the Planning Department at Portola Valley Town Hall, 650-851-1700 ex. 211. Further, the start times for other than the first Special Field meeting are tentative and dependent on the actual time needed for the preceding Special Field meeting.

Any writing or documents provided to a majority of the Town Council or Commissions regarding any item on this agenda will be made available for public inspection at Town Hall located 765 Portola Road, Portola Valley, CA during normal business hours. Copies of all agenda reports and supporting data are available for viewing and inspection at Town Hall.

ASSISTANCE FOR PEOPLE WITH DISABILITIES

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PUBLIC HEARINGS

Public Hearings provide the general public and interested parties an opportunity to provide testimony on these items. If you challenge any proposed action(s) in court, you may be limited to raising only issues you or someone else raised at the Public Hearing(s) described in this agenda, or in written correspondence delivered to the Architectural and Site Control Commission at, or prior to, the Public Hearing(s).

PORTOLA VALLEY TOWN HALL



WILL BE CLOSED
Monday,
February 19, 2018

**In observance of Presidents'
Day**

In Case of Emergency: Sheriff's Office: 911

TOWN COUNCIL WEEKLY DIGEST

Friday – February 16, 2018

1. Agenda (Cancellation) – Sustainability & Environmental Resources Committee – Monday, February 19, 2018
2. Agenda – Trails & Paths Committee – Tuesday, February 20, 2018
3. Agenda – Planning Commission – Wednesday, February 21, 2018
4. Agenda – Cable & Utilities Undergrounding Committee – Friday, September 23, 2018
5. Invitation to attend the Redwood City Lunar New Year Celebration – Saturday, February 24, 2018
6. Invitation to attend Assemblymember Marc Berman's Open House – Thursday, February 22, 2018
7. [San Mateo County Mosquito & Vector Control District – February 2018 District Newsletter](#)

Attached Separates (Council Only)
(placed in your town hall mailbox)

1. Invitation to the San Mateo County 19th Annual Sustainability and Green Building Awards - Thursday, March 29, 2018
2. Letter from Hon. Donald Ayoob, 2018-2019 Grand Jury Judge for San Mateo County - Request for Nominees to serve on the 2018-2019 Grand Jury



TOWN OF PORTOLA VALLEY
Sustainability & Environmental Resources
Committee Meeting
Monday, February 19, 2018 10:30AM to 12:30 PM
NOTICE OF CANCELLATION

**SUSTAINABILITY & ENVIRONMENTAL
RESOURCES COMMITTEE**

MEETING CANCELLATION NOTICE

The regular meeting of the Sustainability & Environmental Resources Committee, scheduled for Monday, February 19, 2018, has been canceled.



TOWN OF PORTOLA VALLEY
Trails and Paths Committee
Tuesday, February 20, 2018 8:15 AM
Historic Schoolhouse at Town Center
765 Portola Road, Portola Valley, CA

MEETING AGENDA

1. **Call to Order**
2. **Oral Communications**
3. **Approval of Minutes – January 16, 2018**
4. **Old Business**
 - a. **Monthly Trail Conditions, Work, and Budget Update:** (Discussion)
 - Veronica and Ranch Signage
 - Seasonal (equestrian) trail closure conditions
 - b. **Trail Conditions Audit:** Project update (Additional discussion)
5. **New Business**
 - a. **Site Development Plans:** 105 Santa Maria Drive (Discussion, as filed and applicable)
 - b. **Committee Leadership Roles:** (Discussion and Recommendation)
 - c. **Committee Annual Report and Plan:** (Discussion)
 - d. **Conservation Committee Update:** (Discussion)
 - e. **Accolades:** (Discussion, if any applicable)
6. **Other Business**
7. **Adjournment**

Enclosures:

Minutes from January 16, 2018
Trail Work Map & Memo – January 2018
Financial Review – January 2018



TOWN OF PORTOLA VALLEY

7:00 PM – Regular Meeting of the Planning Commission
 Wednesday, February 21, 2018
 Historic Schoolhouse
 765 Portola Road, Portola Valley, CA 94028

REGULAR MEETING AGENDA

7:00 PM - CALL TO ORDER AND ROLL CALL

Commissioners Gilbert, Hasko, Taylor, Vice-Chair Goulden, Chair Targ

ORAL COMMUNICATIONS

Persons wishing to address the Planning Commission on any subject may do so now. Please note however, that the Planning Commission is not able to undertake extended discussion or action tonight on items not on the agenda.

OLD BUSINESS

1. Recommendation to Town Council on Proposed Ordinance adding Chapter 18.39 [Cannabis Land Uses] and amending Section 8.12.010 [Definition of Nuisance] of the Portola Valley Municipal Code (continued from February 7, 2018 meeting) (Staff: C. Silver and J. Dennis)

COMMISSION, STAFF, COMMITTEE REPORTS AND RECOMMENDATIONS

2. News Digest: Planning Issues of the Day

APPROVAL OF MINUTES

3. Planning Commission Meeting of February 7, 2018

ADJOURNMENT

ASSISTANCE FOR PEOPLE WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Planning Department at (650) 851-1700. Notification 48 hours prior to the meeting will enable the Town to make reasonable arrangements to ensure accessibility to this meeting.

AVAILABILITY OF INFORMATION

Any writing or documents provided to a majority of the Town Council or Commissions regarding any item on this agenda will be made available for public inspection at Town Hall located 765 Portola Road, Portola Valley, CA during normal business hours.

Copies of all agenda reports and supporting data are available for viewing and inspection at Town Hall and at the Portola Valley Library located adjacent to Town Hall.

PUBLIC HEARINGS

Public Hearings provide the general public and interested parties an opportunity to provide testimony on these items. If you challenge any proposed action(s) in court, you may be limited to raising only issues you or someone else raised at the Public Hearing(s) described in this agenda, or in written correspondence delivered to the Planning Commission at, or prior to, the Public Hearing(s).



TOWN OF PORTOLA VALLEY
Cable & Undergrounding Committee
Friday, February 23, 2018 – 8:15 AM
Historic School House
765 Portola Road, Portola Valley, CA

MEETING AGENDA

1. Call meeting to order
2. Minutes: Approval of June 2017 minutes
3. Communications from Members of the Public
4. Old Business
 - Status of Rule 20A project dispute with PG&E
5. New Business
 - The future of SAMCAT – should Portola Valley be a member
 - Committee organization for 2018
6. Adjournment:

The Committee meets on an as-needed basis. Therefore, there is no scheduled next meeting.



February 8, 2018

Hon. Mayor & Councilmembers

Re: Redwood City Lunar New Year Celebration

On behalf of Redwood City International, the San Mateo County History Museum, and the City of Redwood City, I would like to extend an invitation to join us to celebrate the Lunar New Year on Saturday, February 24, 2018, 11:00 AM – 4:00 PM at Courthouse Square (2200 Broadway) in Redwood City.

The day will include arts and crafts for the kids, free admission to the museum, lion dance performances by the Shaolin Culture Center and the Far East Lion Dance Association, martial arts demonstrations by the California Kung Fu and Tai Chi Institute and the Shaolin Culture Center, a taiko performance by the Shinnyo-en USA Taiko, entertainment from Sing Tao Chinese Entertainment, and more.

Our opening lion dance is at 11:00, with official recognition and comments at 11:15. If you are able to join us, please be at Courthouse Square by 11:00, near the stage, so that we may recognize you - it is also a great place to see the lion dance!

This year, we will be welcoming the Year of the Dog. The Dog is the 11th animal that was in line to see Buddha. Those born in the Year of the Dog will likely enjoy a very good year and will have a great year where life plans and investments start to pay off in a big way, especially if they have led a fairly honest and fair life over the last ten years, and as they say, you will reap what you sow, and this is not just in their personal life but also from a business aspect.

The Lunar New Year is one of the most important holidays in Asian heritage, often celebrated with big family gatherings, gift giving, the eating of symbolic foods, and displays of festive decorations - all focused on bringing good luck for the New Year and celebrating the imminent arrival of spring.

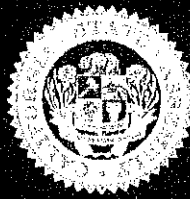
I hope that you will be able to join us for this community celebration. If you have any questions, please feel free to contact me at 650-483-7412, or jgee@redwoodcity.org.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Jeff Gee".

朱健文

Jeff Gee, Councilmember
City of Redwood City



ASSEMBLY MEMBER

Marc Berman

DISTRICT 24

You are cordially invited to a
District Office Open House



**THURSDAY
FEBRUARY 22
4-6 PM**

**5050 El Camino Real, Suite 117
Los Altos, CA**

BRING YOUR IDEAS, QUESTIONS AND
CONCERNS AFFECTING THE COMMUNITY

The District Office is located between Distel Circle and Distel Drive. Parking is available in the front, rear, and underground.

DISTRICT OFFICE:

5050 El Camino Real, Suite 117
Los Altos, CA 94022
Tel: (650) 691-2121
Fax: (650) 691-2120

WEBSITE:

www.assembly.ca.gov/berman

FACEBOOK:

@AsmMarcBerman

TWITTER:

@AsmMarcBerman

TOWN COUNCIL WEEKLY DIGEST

Friday – February 23, 2018

1. Agenda – Architectural Site & Control Commission – Monday, February 26, 2018
2. Agenda – Conservation Committee – Tuesday, February 27, 2018
3. Letter from residents Burt and Belinda Brent re: Leaf blower use in Portola Valley
4. Invitation to Mosquito Awareness Week Open House – Thursday, April 26, 2018

Attached Separates (Council Only)
(placed in your town hall mailbox)

1. None



TOWN OF PORTOLA VALLEY

Meetings of the Architectural Site Control Commission (ASCC)

Monday, February 26, 2018

7:00 PM – Regular ASCC Meeting

Special Field Meeting (time and place as listed herein)

Historic Schoolhouse

765 Portola Road, Portola Valley, CA 94028

SPECIAL ASCC FIELD MEETING

4:00 PM - CALL TO ORDER

207 Westridge Drive – Preliminary Architectural Review and Site Development Permit for a New Residence, Accessory Dwelling Unit (ADU), Pool, and Landscaping.

REGULAR MEETING AGENDA

7:00 PM - CALL TO ORDER AND ROLL CALL

Commissioners Breen, Ross, Wilson, Vice Chair Koch and Chair Sill

ORAL COMMUNICATIONS

Persons wishing to address the Architectural and Site Control Commission on any subject may do so now. Please note however, that the Architectural and Site Control Commission is not able to undertake extended discussion or action tonight on items not on the agenda.

OLD BUSINESS

1. Review of Updates to the Outdoor Lighting Ordinance and Lighting Design Guidelines. (Staff: A. Cassidy)

NEW BUSINESS

1. Architectural Review for New Driveway Entry Gate, 145 Deer Meadow Lane, Foust Residence, File # PLN_ARCH 1-2018. (Staff: C. Richardson)
2. Architectural Review for an Addition and Remodel, 380 Escobar Road, Freccia/Giblin Residence, File # PLN_ARCH 46-2017. (Staff: A. Cassidy)
3. Preliminary Architectural Review and Site Development Permit for a New Residence, Accessory Dwelling Unit (ADU), Pool, and Landscaping, 207 Westridge Drive, Wang/Mallard Residence, File # PLN_ARCH 47-207. (Staff: C. Richardson)

COMMISSION, STAFF, COMMITTEE REPORTS AND RECOMMENDATIONS

4. News Digest: Planning Issues of the Day

APPROVAL OF MINUTES

5. ASCC Meeting of February 12, 2018

ADJOURNMENT

AVAILABILITY OF INFORMATION

For more information on the projects to be considered by the ASCC at the Special Field and Regular meetings, as well as the scope of reviews and actions tentatively anticipated, please contact Carol Borck in the Planning Department at Portola Valley Town Hall, 650-851-1700 ex. 211. Further, the start times for other than the first Special Field meeting are tentative and dependent on the actual time needed for the preceding Special Field meeting.

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**TOWN OF PORTOLA VALLEY
Conservation Committee Meeting
Tuesday, February 27, 2018 –7:30 PM
Historic Schoolhouse
765 Portola Road, Portola Valley, CA**

REGULAR MEETING AGENDA

1. Call Meeting to Order
2. Oral Communications
 - A. Town Facebook page
3. Approval of January 23, 2018 minutes
4. Current Site Visits:
 - A. CalWater Station on Golden Oak
 - B. Add to boilerplate? See appendix
5. Tree Permits:
 - A. Add to approval document? See appendix
6. Old Business
 - A. Simon and Jordana Morgan Jasper Ridge proposal
 - B. Oversight of Significant Town Owned Open Space properties update all for Council presentation
 1. Comprehensive Plan
 2. Springdown Preserve
 1. Comprehensive care calendar
 2. Goats
 3. Naming pond
 3. Frog Pond – last report January ‘18
 4. Ford Field – last report August ‘17
 5. Town Center – last report September ‘17
 1. Oak Grove
 6. Rossotti’s Field and ROW – first report pending
 - C. Tip of the Month - Magill
 - D. What’s blooming now – Plunder
 - E. Kudos of the month – Murphy
 - F. BYH - DeStaebler
 - G. Committee/Town cooperation
 1. Public Works
 2. Sustainability and Environmental Resources Committee
 1. Garden Tour Sunday April 15, 2018
 - a. Owner’s preview? Saturday April 14, 2018
 3. Trails - Bourne
 4. Open space - Chiariello
 - H. Weed seedling info sheet photos labeled – Plunder will be ready for approval at February meeting
 - I. Broom Pull - Sunday March 4, 2018
 - J. Earth Fair Saturday, April 28, 2018
 1. Table
 2. Springdown Preserve guided tours

K. Rodenticide

1. Turn in Day October (sooner?)
2. Timetable for decreased Town use

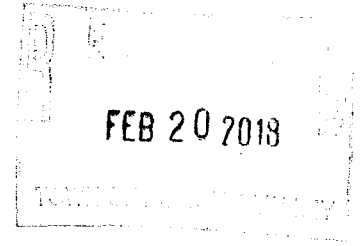
7. New Business

- A. Holden Court process
- B. Conservation Committee private website for our data

8. Adjournment

Next meeting 3/27/18, 7:30 pm, Old Schoolhouse

Burt Brent MD
Belinda Price Brent PhD
341 Grove Drive
Portola Valley, CA 94028
650 851-1155



Town Council
Portola Valley, CA

Dear Council Members,

We just finished a three-month clean-up in our section of Corte Madera Creek and our surrounding property. The Creek is especially a problem on the Ormandale property across from us. You might like to address that issue at some time, as it is really a mess.

In light of our current major clean-up, we would like to express, again, the awesome task we have in our Town to keep it natural, safe from fire and floods; to keep it sustainable for future generations.

We just purchased a new leaf blower, as we wore out the old one. This one is gas-powered, 61 dbI, and has a muffler. One cannot hear it inside our house. It is powerful but efficient. We cannot use an electric leaf blower when cleaning out our portion of the Creek—for obvious reasons.

Please make your decisions for using leaf blowers in Portola Valley based on facts and objective reality over emotions and feelings.

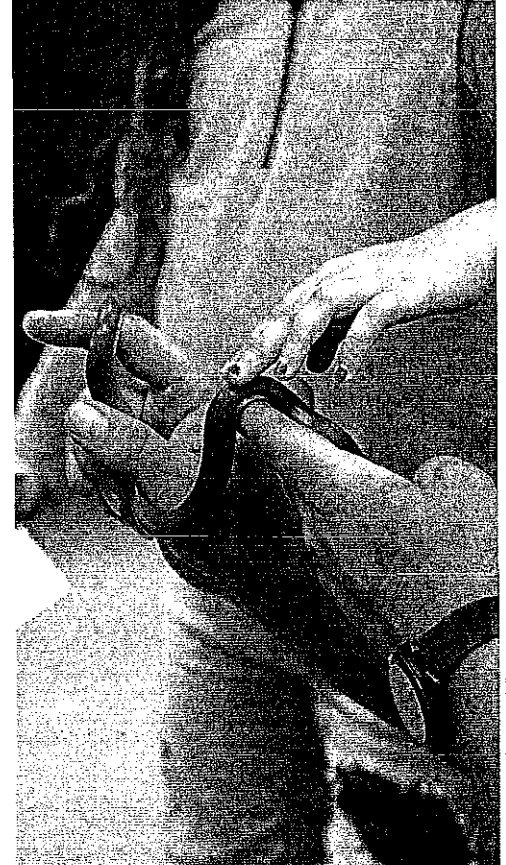
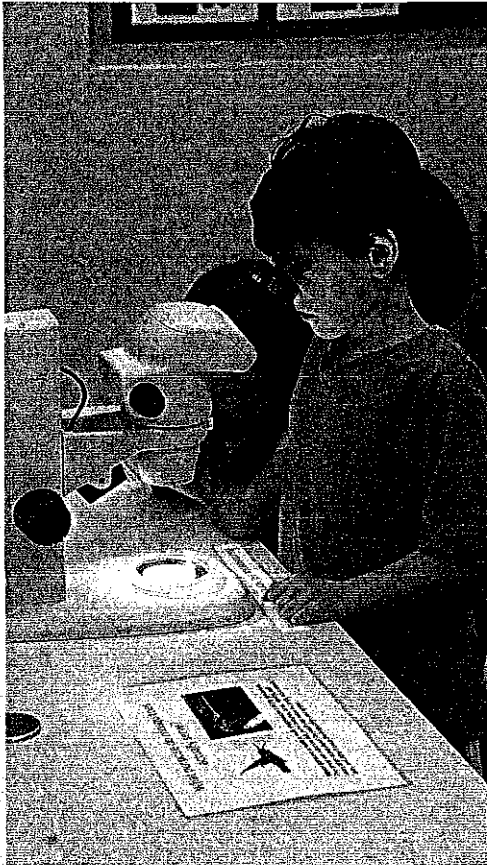
We would appreciate that. So will our gardeners as well as other gardeners in Portola Valley. And that is a fact!

Cordially,

Burt and Belinda Brent

Mosquito Awareness Week

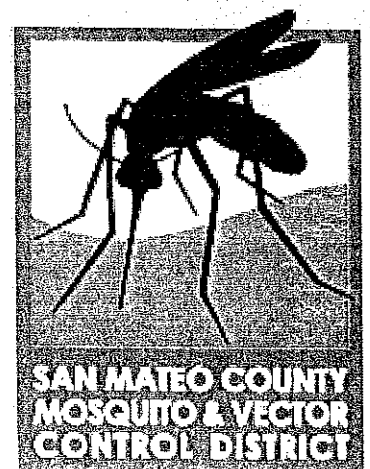
Open House



Thursday, April 26th 2018, 4pm - 7pm*
1351 Rollins Rd. in Burlingame

- Children's activities
- Demonstrations and tours
- Insect displays
- Meet the staff

* groups welcome 12pm-4pm by reservation



**SAN MATEO COUNTY
MOSQUITO & VECTOR
CONTROL DISTRICT**