



**Mountain View
Whisman
School District**

SCHOOL SITES

Bubb

Cooper

Crittenden

Graham

Huff

Landels

Mistral

Monta Loma

Slater

Google Childrens Center

Theuerkauf

Whisman

German International School of Silicon Valley/YCIS

ROOF ASSESSMENTS

Western Roofing Service

APPENDIX D

MVWSD MASTER FACILITIES PLAN

November 2019

Mountain View Whisman School District

Roof Assessment



Benjamin Bubbs ES
 525 Hans Ave.
 Mountain View, CA 94040

Prepared By:
 Western Roofing Service
 15002 Wicks Blvd.
 San Leandro, CA 94577

Roof Area: Buildings 1, 2, 3, 4, 5, 6 Dimensional Asphalt Shingle Roofing

Roof System Overview	
Substrate	Wood
Insulation	N/A
Cover board	N/A
Field Assembly	Dimensional Asphalt Shingles
Base Flashing Assembly	N/A
Surfacing	N/A
Condition	Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	15 - 20yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 25 - 30 years.

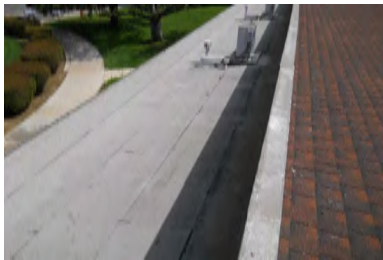
Roof Area: Buildings 1, 2, 3, 4, 5, 6 Built-up Roofing

Roof System Overview	
Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Hot Asphalt Applied Built-up Roofing
Base Flashing Assembly	Hot Asphalt Applied Built-up Roofing
Surfacing	Mineral Surfaced Cap Sheet
Condition	Fair - Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	5 - 10yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Existing roof system condition assessment and observations are based on the opinion and professional expertise of Western Roofing Service. Roof manufacturer of record and age is unknown.



Roof Overview - Building 1



Roof Overview - Building 1



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Roof Overview - Building 2



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Through roof penetrations do not appear to have proper low slope roof jack. Recommend installing proper roof jack and storm collar.



Typical Deficiency - Pipe jacks are missing band clamps and sealant. Recommend installing stainless steel band clamps, sealant, and install storm collar.



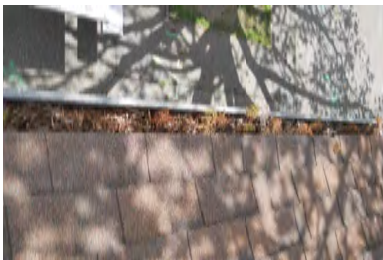
Typical Deficiency - BUR at gravel stop edge metal has split at joints. Recommend removing loose material to expose adequate tie-in of existing striping plies, prime and re-flash per industry standards.



Roof Overview - Building 3 (Building 4&5 Similar)



Roof Overview - Building 3 (Building 4&5 Similar)



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Pipe jacks are missing sealant and or flexible self- adhered flashing tape. Recommend sealing, and install storm collar.



Typical Deficiency - Pipe jacks are damaged. Recommend installing new GSM roof jack and storm collar.



Typical Deficiency - Detailing at through roof penetrations show signs of cracking and delamination. Recommend touch up of mastic at penetrations and application of acrylic or silicone coating to preserve and maintain repair.



Typical Deficiency - Shingles are missing. Recommend replacing as needed.



Typical Deficiency - Pipe jacks are missing band clamps and sealant. Recommend installing stainless steel band clamps, apply sealant, and install storm collar.



Typical Deficiency - Pipe jack is in need of replacement. Recommend installing new roof jack and storm collar. Recommend LB to be removed if abandoned.



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Roof Overview - Building 6



Typical Deficiency - Pipe jacks are missing band clamps and sealant. Recommend installing stainless steel band clamps, apply sealant, and install storm collar.



Typical Deficiency - Conduit penetrations do not appear to have proper roof jack. Recommend installing proper roof jack and storm collar.



Typical Deficiency - Hip and ridge shingles are missing. Recommend replacing as needed.

Condition Overview Roof Area: Buildings 1, 2, 3, 4, 5, 6 Dimensional Asphalt Shingle Roofing

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Several through roof pipe penetrations have been improperly flashed. Missing hip, ridge, and field shingles throughout. Missing pipe clamps and storm collars.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Replace missing shingles as needed.

Install new pipe flashings with storm collars as needed.

Install stainless steel band clamps and storm collars as needed.

Long Term Recommendations

None at this time.

Condition Overview Roof Area: Buildings 1, 2, 3, 4, 5, 6 Built-up Roofing

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Improperly flashed through roof pipe penetrations. Cracking and delamination of mineral surfaced cap sheet at gravel stop joints. Cracking and delamination of mastics at base flashing curb penetrations, and through roof pipe penetrations.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Install new pipe flashings with storm collars as needed.

Repair splits in mineral surfaced cap sheet at gravel stop.

Touch up of mastic at penetrations and apply acrylic or silicone coating to preserve repair.

Long Term Recommendations

None at this time.

Budget Estimates

Annual Roof/Gutter Cleaning and Inspection	\$13,500 - \$14,850
Deficiency Repairs	\$13,500 - \$14,850

Mountain View Whisman School District

Roof Assessment



Cooper School
 33 Eunice Ave.
 Mountain View, CA 94040

Prepared By:
 Western Roofing Service
 15002 Wicks Blvd.
 San Leandro, CA 94577

Roof Area: Building 1 - Poly Urethane Foam Roofing

Roof System Overview	
Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Poly Urethane Foam Roofing
Base Flashing Assembly	Poly Urethane Foam Roofing
Surfacing	Coating
Condition	Poor
Approximate Age	15 - 20yrs.
Estimated Useable Life Remaining	0 - 5yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Buildings 2, 3 - Built-up Roofing

Roof System Overview	
Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Hot Asphalt Applied Built-up Roofing
Base Flashing Assembly	Hot Asphalt Applied Built-up Roofing
Surfacing	Gravel
Condition	Fair - Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	5 - 10yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Existing roof system condition assessment and observations are based on the opinion and professional expertise of Western Roofing Service. Roof manufacturer of record and age unknown.



Roof Overview - Building 1



Roof Overview - Building 1



Typical Deficiency - Debris have accumulated at field of roof. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Pipe jack at through roof penetration is damaged. Recommend repairing as needed.



Typical Deficiency - Coating has begun to delaminate from perimeter coping cap. Recommend touch up as needed.



Typical Deficiency - Coating has begun to delaminate from foam roofing. Recommend touch up as needed.



Roof Overview - Building 2 (Building 3 Similar)



Typical Deficiency - Debris have accumulated at field of roof. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Sealant at coping seams has begun to fail. Recommend removal and replacement of sealant as needed.

Condition Overview Roof Area: Building 1 - Poly Urethane Foam Roofing

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Open pipe penetration. Blistered coating at coping and field of roofing.

Immediate Recommendations:

- Remove all debris from field of roof, drain assemblies, gutters, and waterways.
- Repair pipe penetration.
- Repair damaged coating.

Long Term Recommendations

Tear off foam roofing to wood substrate and install new BUR roof system.

Condition Overview Roof Area: Buildings 2, 3 - Built-up Roofing

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Open seams at coping metal.

Immediate Recommendations:

- Remove all debris from field of roof, drain assemblies, gutters, and waterways.
- Seal open coping seams.

Long Term Recommendations

None at this time.

Budget Estimates

Annual Roof/Gutter Cleaning and Inspection	\$9,500 - \$10,450
Deficiency Repairs	\$12,000 - \$13,200
BUR Re-roof	\$288,000 - \$316,800

Mountain View Whisman School District Roof Assessment



Crittenden MS
1701 Rock Street
Mountain View, CA 94043

Prepared By:
Western Roofing Service
15002 Wicks Blvd.
San Leandro, CA 94577

Roof Area: Building 100, 200, 300, 500, 700, 800, 900, 1000 - Dimensional Asphalt Shingles

Roof System Overview

Substrate	Wood
Insulation	N/A
Cover board	N/A
Field Assembly	Dimensional Asphalt Shingles
Base Flashing Assembly	N/A
Surfacing	N/A
Condition	Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	15 - 20yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 25 - 30 years.

Roof Area: Building Canopies 300, 500, 700, 800, 900, 1000 - Built-up Roofing

Roof System Overview

Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Hot Asphalt Applied Built-up Roofing
Base Flashing Assembly	Hot Asphalt Applied Built-up Roofing
Surfacing	Mineral Surfaced Cap Sheet
Condition	Poor
Approximate Age	15 - 20yrs.
Estimated Useable Life Remaining	0 - 5yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 100, 800, 900 - Built-up Roofing

Roof System Overview

Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Hot Asphalt Applied Built-up Roofing
Base Flashing Assembly	Hot Asphalt Applied Built-up Roofing
Surfacing	Mineral Surfaced Cap Sheet
Condition	Fair - Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	5 - 10yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 400, 600 - Single-ply Roofing

Roof System Overview

Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Single-Ply Roofing
Base Flashing Assembly	Single-Ply Roofing
Surfacing	N/A
Condition	Good
Approximate Age	0 - 5yrs.
Estimated Useable Life Remaining	15 - 20yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 1100 - Built-up Roofing

Roof System Overview

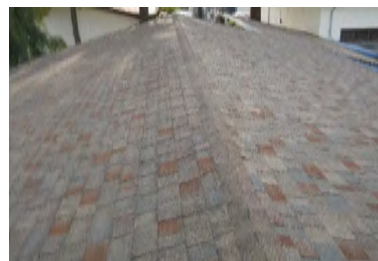
Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Hot Asphalt Applied Built-up Roofing
Base Flashing Assembly	Hot Asphalt Applied Built-up Roofing
Surfacing	Gravel
Condition	Poor
Approximate Age	15 - 20yrs.
Estimated Useable Life Remaining	0 - 5yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 1100 - Concrete S Tile

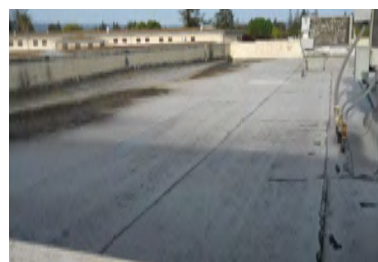
Roof System Overview

Substrate	Wood
Insulation	N/A
Cover board	N/A
Field Assembly	Concrete S Tile
Base Flashing Assembly	N/A
Surfacing	N/A
Condition	Fair - Good
Approximate Age	15 - 20yrs.
Estimated Useable Life Remaining	10 - 15yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 25 - 30 years.

Existing roof system condition assessment and observations are based on the opinion and professional expertise of Western Roofing Service. Roof manufacturer of record and age unknown.



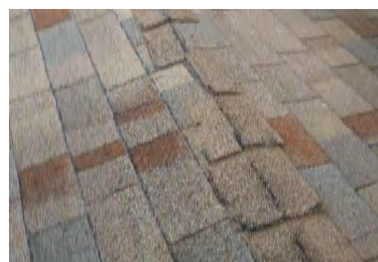
Roof Overview - Building 100



Roof Overview - Building 100



Typical Deficiency - Gutter brackets have been face fastened through asphalt shingle. Recommend removal and repositioning bracket. Repair asphalt shingles as needed.



Typical Deficiency - Hip and ridge shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Asphalt shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Typical Deficiency - Sealant at coping seams has begun to fail. Recommend removal and replacement of sealant as needed.



Typical Deficiency - Observed fastener penetrating through finished built-up roofing. Recommend removal and patch.



Typical Deficiency - Base flashing at mechanical curb has not been properly skirt flashed. Recommend installation of GSM skirt flashing.



Typical Deficiency - Sealant at lead pipe jacks has begun to pull away from through roof penetration. Recommend replacing sealant as needed, installing stainless steel band clamps, and storm collar.



Typical Deficiency - Observed exposed lath and underlayment at roof to wall transition. Recommend stucco patch and as needed sealing to protect underlayment and minimize water intrusion behind stucco.



Typical Deficiency - Through wall scuppers should have debris screens. Recommend installation of gutter screens to promote positive drainage.



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Gutter brackets have been face fastened through asphalt shingle. Recommend removal and repositioning bracket. Repair asphalt shingles as needed.



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Typical Deficiency - Through roof penetration does not appear to have proper roof jack. Recommend installing proper roof jack and storm collar.



Typical Deficiency - Hip and ridge shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Gutter brackets have been face fastened through asphalt shingle. Recommend removal and repositioning bracket. Repair asphalt shingles as needed.



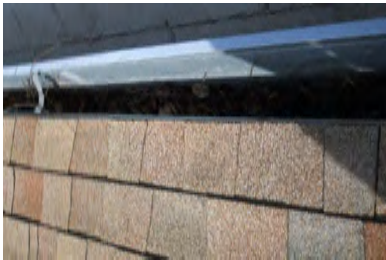
Typical Deficiency - Missing leader pipe. Recommend installation of leader pipe to divert water to lower roof.



Typical Deficiency - Asphalt shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Gutter straps need to be re-fastened.



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Roof Overview - Building 600



Roof Overview - Building 600



Roof Overview - Building 700



Roof Overview - Building 700



Typical Deficiency - Asphalt shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Gutter brackets have been face fastened through asphalt shingle. Recommend removal and repositioning bracket. Repair asphalt shingles as needed.
Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Pipe jack sealant has begun to pull away from through roof pipe penetration. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Roof Overview - Building 800



Roof Overview - Building 800



Roof Overview - Building 800



Typical Deficiency - Gutter brackets have been face fastened through asphalt shingle. Recommend removal and repositioning bracket. Repair asphalt shingles as needed.



Typical Deficiency - Pipe jack is open. Recommend removal and replacement and installation of storm collar.



Typical Deficiency - Hip and ridge shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Missing leader pipe. Recommend installation of leader pipe to divert water to lower roof.



Typical Deficiency - Roof to wall counter flashing is open. Recommend removal and replacement as necessary to achieve water tight application.



Typical Deficiency - Observed fastener penetrating through finished asphalt shingle roofing. Recommend removal and repair as needed.



Typical Deficiency - Mechanical duct work seams damaged and deteriorated. Recommend replacement of damaged duct by licensed mechanical contractor and coating with acceptable silicone or acrylic coating.



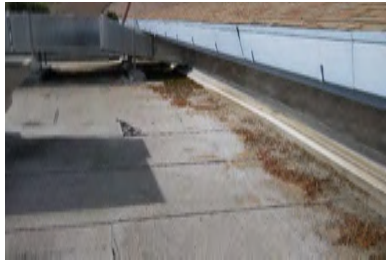
Typical Deficiency - Through wall scuppers should have debris screens. Recommend installation of gutter screens to promote positive drainage.



Typical Deficiency - Sealant at low slope roof jack needs to be replaced. Recommend re-seal and install storm collar.



Typical Deficiency - Sealant at coping seams has begun to fail. Recommend removal and replacement of sealant as needed.



Typical Deficiency - Observed accumulation of debris at field of roof. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Roof Overview - Building 900



Typical Deficiency - Gutter brackets have been face fastened through asphalt shingle. Recommend removal and repositioning bracket. Repair asphalt shingles as needed.



Typical Deficiency - Sealant at steep slope roof jack needs to be replaced. Recommend re-seal and install storm collar.



Roof Overview - Building 1000



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Typical Deficiency - Hip and ridge shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



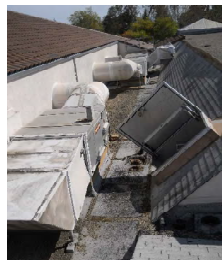
Typical Deficiency - Damaged gutter seam.
Recommend repair as needed.



Typical Deficiency - Missing leader pipe.
Recommend installation of leader pipe to
divert water to lower roof.



Roof Overview - Building 1100



Roof Overview - Building 1100



Roof Overview - Building 1100



Typical Deficiency - Missing concrete S tile.
Recommend replacement of all missing and
or damaged tiles.



Typical Deficiency - Base flashings show signs
of deterioration and cracking. Recommend
application of silicone or acrylic coating to
maximize usable life of existing built-up roof
system.



Typical Deficiency - Mechanical duct work
damaged and deteriorated. Recommend
replacement of damaged duct by licensed
mechanical contractor and coating with
acceptable silicone or acrylic coating.

Condition Overview Roof Area: Building 100, 200, 300, 500, 700, 800, 900, 1000 - Dimensional Asphalt Shingles
Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Several through roof pipe penetrations have been improperly flashed. Missing hip, ridge, and field shingles throughout. Missing pipe clamps and storm collars. Improperly fastened gutter straps through existing roofing. Incomplete stucco wall finishes.

Immediate Recommendations:
Remove all debris from field of roof, drain assemblies, gutters, and waterways.
Replace missing shingles as needed.
Repair improperly fastened gutter straps.
Complete roof to wall stucco work.
Install new pipe flashings with storm collars as needed.
Install stainless steel band clamps and storm collars as needed.
Long Term Recommendations
None at this time.

Condition Overview Roof Area: Building Canopies 300, 500, 700, 800, 900, 1000 - Built-up Roofing
Existing roof system is performing as designed, but nearing end of usable life. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing.
Immediate Recommendations:
Remove all debris from field of roof, drain assemblies, gutters, and waterways.
Long Term Recommendations
Recommend tear off of existing roofing and installation of new BUR roof system.

Condition Overview Roof Area: Building 100, 800, 900 - Built-up Roofing
Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Sealant at coping seams has begun to fail. Observed fasteners penetrating through finished roof system. Missing skirt flashings around mechanical unit penetrations. Missing scupper screens. delamination of sealants around through roof penetrations.

Immediate Recommendations:
Remove all debris from field of roof, drain assemblies, gutters, and waterways.
Replace sealants at pipe flashings and install storm collars as needed.
Replace sealants at coping cap seams.
Install missing skirt flashings.
Install scupper screens.
Long Term Recommendations
None at this time.

Condition Overview Roof Area: Building 200, 600 - Single Ply Roofing
Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing.
Immediate Recommendations:
Remove all debris from field of roof, drain assemblies, gutters, and waterways.
Long Term Recommendations
None at this time.

Condition Overview Roof Area: Building 1100 - Built-up Roofing
Existing roof system is performing as designed, but nearing end of usable life. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Delamination of sealants around through roof penetrations. Mechanical duct needs to be repaired and or replaced by licensed contractor.
Immediate Recommendations:
Remove all debris from field of roof, drain assemblies, gutters, and waterways.
Long Term Recommendations
Recommend tear off of existing roofing and installation of new BUR roof system. Recommend additional evaluation of mechanical duct for repair and or replacement.

Condition Overview Roof Area: Building 1100 - Concrete S Tile
Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Missing tiles.
Immediate Recommendations:
Remove all debris from field of roof, drain assemblies, gutters, and waterways.
Replace missing tiles as needed.
Long Term Recommendations
None at this time.

Budget Estimates:

Annual Roof/Gutter Cleaning and Inspection	\$23,000 - \$25,300
Deficiency Repairs	\$75,000 - \$82,500
Re-Roof	\$437,000 - \$480,700

Mountain View Whisman School District

Roof Assessment



Graham MS
1175 Castro Street
Mountain View, CA 94040

Prepared By:
Western Roofing Service
15002 Wicks Blvd.
San Leandro, CA 94577

Roof Area: Building 2, 3, 4, 5, 6, 8, 11 - Dimensional Asphalt Shingles

Roof System Overview

Substrate	Wood
Insulation	N/A
Cover board	N/A
Field Assembly	Dimensional Asphalt Shingles
Base Flashing Assembly	N/A
Surfacing	N/A
Condition	Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	15 - 20yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 25 - 30 years.

Roof Area: Building 12, 13 - 3 Tab Asphalt Shingles

Roof System Overview

Substrate	Wood
Insulation	N/A
Cover board	N/A
Field Assembly	3 Tab Asphalt Shingles
Base Flashing Assembly	N/A
Surfacing	N/A
Condition	Poor - Fair
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	5 - 10yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 1, 2, 3, 4, 5, 6, 7A, 8, 9 - Built-up Roofing

Roof System Overview

Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Hot Asphalt Applied Built-up Roofing
Base Flashing Assembly	Hot Asphalt Applied Built-up Roofing
Surfacing	Mineral Surfaced Cap Sheet
Condition	Fair - Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	5 - 10yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 12 - Built-up Roofing**Roof System Overview**

Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Hot Asphalt Applied Built-up Roofing
Base Flashing Assembly	Hot Asphalt Applied Built-up Roofing
Surfacing	Gravel
Condition	Fair - Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	5 - 10yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 7B, 14, 17 - Standing Seam Metal Roofing**Roof System Overview**

Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Standing Seam Metal Roofing
Base Flashing Assembly	N/A
Surfacing	N/A
Condition	Good
Approximate Age	0 - 5yrs.
Estimated Useable Life Remaining	25 - 30yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 25 - 30 years.

Roof Area: Building 7B, 14 - Single-ply Roofing**Roof System Overview**

Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Single-Ply Roofing
Base Flashing Assembly	Single-Ply Roofing
Surfacing	N/A
Condition	Good
Approximate Age	0 - 5yrs.
Estimated Useable Life Remaining	15 - 20yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 13 - Single-ply Roofing**Roof System Overview**

Substrate	Wood
Insulation	Unknown
Cover board	Unknown
Field Assembly	Single-Ply Roofing
Base Flashing Assembly	Single-Ply Roofing
Surfacing	N/A
Condition	Fair - Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	5 - 10yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 15 - 20 years.

Roof Area: Building 1, 9 - Clay S Tile**Roof System Overview**

Substrate	Wood
Insulation	N/A
Cover board	N/A
Field Assembly	Clay S Tile
Base Flashing Assembly	N/A
Surfacing	N/A
Condition	Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	15 - 20yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 25 - 30 years.

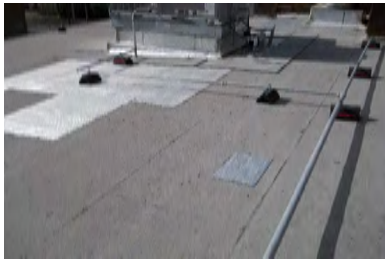
Roof Area: Building 10 - Clay Barrel Tile**Roof System Overview**

Substrate	Wood
Insulation	N/A
Cover board	N/A
Field Assembly	Clay Barrel Tile
Base Flashing Assembly	N/A
Surfacing	N/A
Condition	Good
Approximate Age	10 - 15yrs.
Estimated Useable Life Remaining	15 - 20yrs. +/- (With Annual Maintenance) **Projections are based on industry standard lifespan of 25 - 30 years.

Existing roof system condition assessment and observations are based on the opinion and professional expertise of Western Roofing Service. Roof manufacturer of record and age unknown.



Roof Overview - Building 1



Roof Overview - Building 1



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



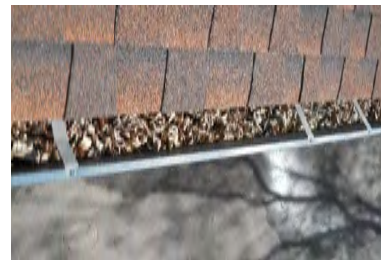
Roof Overview - Building 2 (Buildings 3, 4, and 8 Similar)



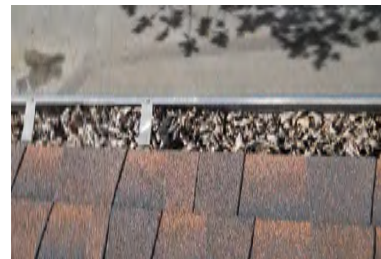
Roof Overview - Building 2 (Buildings 3, 4, and 8 Similar)



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



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Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Typical Deficiency - Asphalt shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Roof Overview - Building 5 (Buildings 6 Similar)



Roof Overview - Building 5 (Buildings 6 Similar)



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Roof Overview - Building 7A



Roof Overview - Building 7A



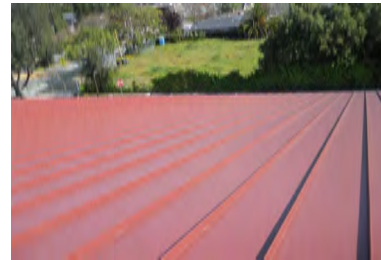
Typical Deficiency - Observed accumulation of debris at field of roof. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Roof Overview - Building 7B



Roof Overview - Building 7B



Roof Overview - Building 9



Typical Deficiency - Roof to wall transition has been improperly detailed. Recommend removing shingles and installing proper counterflashing assembly, roofing and wall finishes by others.



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Roof Overview - Building 10



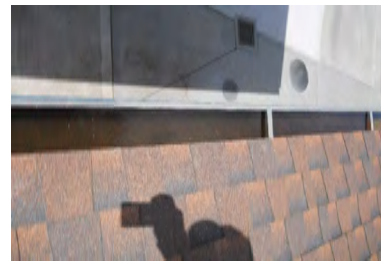
Roof Overview - Building 11



Typical Deficiency - Gutters are full of debris. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Asphalt shingles are damaged and missing. Recommend replacing as needed.



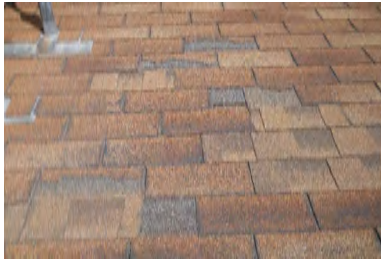
Typical Deficiency - Missing drop outlet and leader pipe. Recommend installation of drop outlet and leader pipe for drainage.



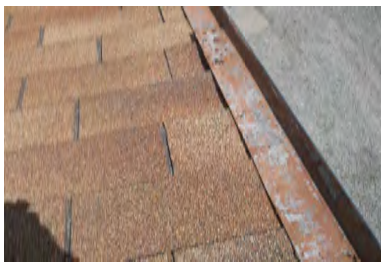
Roof Overview - Building 12



Roof Overview - Building 12



Typical Deficiency - Asphalt shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Edge metal has been fastened directly through existing shingle roofing. Recommend metal removal, replacement, and roof repairs as needed.



Typical Deficiency - Pipe jacks are missing sealant. Recommend application of flexible flashing self-adhered tape and or sealant, and install storm collar.



Roof Overview - Building 13



Roof Overview - Building 13



Typical Deficiency - Asphalt shingles are damaged and missing. Recommend replacing as needed.



Typical Deficiency - Observed accumulation of debris at field of roof. Recommend clearing debris from all gutters, drains, waterways, and field of roof to promote positive drainage.



Typical Deficiency - Observed fastener penetrating through finished asphalt shingle roofing. Recommend removal and repair as needed.



Typical Deficiency - Observed fastener penetrating through finished asphalt shingle roofing. Recommend removal and repair as needed.



Roof Overview - Building 14



Roof Overview - Building 17

Condition Overview Roof Area: Building 2, 3, 4, 5, 6, 8, 11 - Dimensional Asphalt Shingles

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Missing hip, ridge, and field shingles throughout. Missing pipe clamps and storm collars.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Replace missing shingles as needed.

Install stainless steel band clamps and storm collars as needed.

Long Term Recommendations

None at this time.

Condition Overview Roof Area: Building 12, 13 - 3 Tab Asphalt Shingles

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Missing hip, ridge, and field shingles throughout. Missing pipe clamps and storm collars. Fasteners backing out, through finished roof system.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Replace missing shingles as needed.

Install stainless steel band clamps and storm collars as needed.

Repair and patch shingles at exposed fasteners.

Long Term Recommendations

Remove existing 3 tab shingles and re-roof with standard asphalt dimensional shingle.

Condition Overview Roof Area: Building 1, 2, 3, 4, 5, 6, 7A, 8, 9 - Built-up Roofing

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing. Missing pipe clamps and storm collars.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Install stainless steel band clamps and storm collars as needed.

Long Term Recommendations

None at this time.

Condition Overview Roof Area: Building 12 - Built-up Roofing

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Long Term Recommendations

None at this time.

Budget Estimates:

Annual Roof/Gutter Cleaning and Inspection	\$23,000 - \$25,300
Deficiency Repairs	\$15,500 - \$17,050
Re-Roof	\$203,000 - \$223,300

Condition Overview Roof Area: Building 7B, 14, 17 - Standing Seam Metal Roofing

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Long Term Recommendations

None at this time.

Condition Overview Roof Area: Building 7B, 14 - Single-Ply Roofing

Existing roof system is performing as designed, but nearing end of usable life. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Long Term Recommendations

None at this time.

Condition Overview Roof Area: Building 13 - Single-Ply Roofing

Existing roof system is performing as designed, but nearing end of usable life. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Long Term Recommendations

None at this time.

Condition Overview Roof Area: Building 1, 9 - Clay S Tile

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Long Term Recommendations

None at this time.

Condition Overview Roof Area: Building 10 - Clay Barrel Tile

Existing roof system is performing as designed. Observed accumulation of debris at waterways, gutters, drain assemblies, and field of roofing.

Immediate Recommendations:

Remove all debris from field of roof, drain assemblies, gutters, and waterways.

Long Term Recommendations

None at this time.