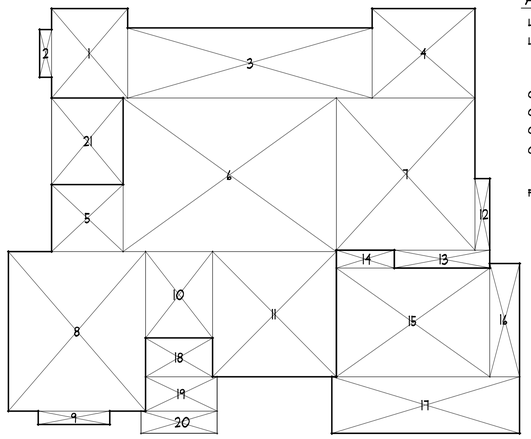
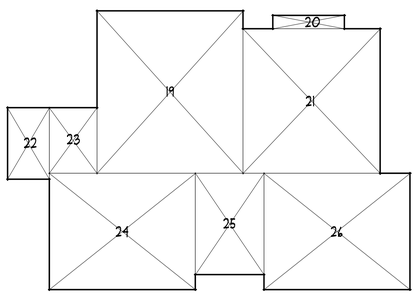


MAIN FLOOR



UPPER FLOOR

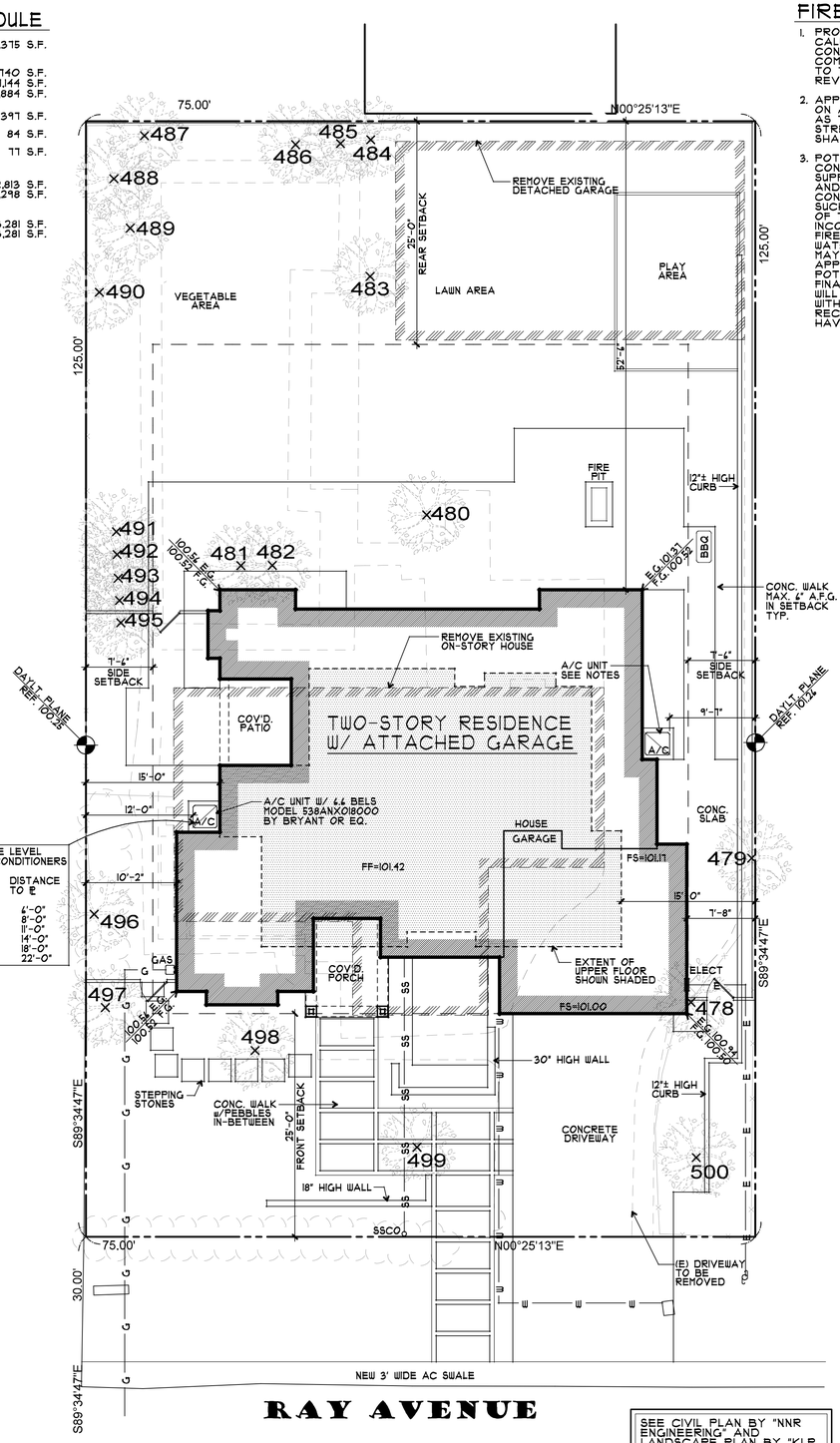
AREA SCHEDULE

LOT AREA	9,375	S.F.
LIVABLE AREA		
MAIN FLOOR	1,740	S.F.
UPPER FLOOR	1,144	S.F.
TOTAL	2,884	S.F.
GARAGE	397	S.F.
COVERED PORCH	84	S.F.
COVERED PATIO	77	S.F.
COVERAGE		
ALLOWED (30%)	2,813	S.F.
PROPOSED	2,298	S.F.
FLOOR AREA		
ALLOWED (35%)	3,281	S.F.
PROPOSED	3,281	S.F.

MAIN FLOOR LIVABLE				
1	8.50	x	10.00	85
2	1.33	x	5.33	7
3	27.33	x	7.83	214
4	11.50	x	10.00	115
5	8.00	x	7.50	60
6	23.83	x	17.17	409
7	15.50	x	17.00	264
8	15.33	x	17.83	273
9	8.00	x	1.50	12
10	7.50	x	9.67	73
11	13.83	x	14.00	194
12	1.67	x	8.00	13
13	10.67	x	2.00	21
		TOTAL		1,740
GARAGE				
14	4.50	x	2.00	13
15	17.17	x	12.17	209
16	3.33	x	12.67	42
17	21.00	x	6.33	133
		TOTAL		397
COVERED PORCH				
18	7.50	x	4.33	32
19	8.00	x	3.83	31
20	8.50	x	2.50	21
		TOTAL		84
COVERED PATIO				
21	8.00	x	9.67	77
UPPER FLOOR LIVABLE				
19	14.33	x	18.17	261
20	8.00	x	1.50	12
21	15.33	x	16.17	248
22	4.67	x	8.00	37
23	5.33	x	1.33	7
24	16.33	x	13.00	212
25	7.67	x	11.33	87
26	16.33	x	13.00	212
		TOTAL		1,144

1/A1 AREA DIAGRAMS

1/8" = 1'-0" 0 2 6 12 20 NORTH



SEE CIVIL PLAN BY "NNR ENGINEERING" AND LANDSCAPE PLAN BY "KLP GARDEN PARTNERSHIP" FOR ADDITIONAL INFORMATION

2/A1 SITE/FLOOR PLAN

1/8" = 1'-0" 0 2 6 12 20 NORTH

MAX. NOISE LEVEL FOR AIR CONDITIONERS	
SOUND RATING (Bels)	DISTANCE TO ℄
6.4	6'-0"
6.6	8'-0"
6.8	11'-0"
7.0	14'-0"
7.2	18'-0"
7.4	22'-0"

FIRE DEPT. COMMENTS:

1. PROVIDE AUTOMATIC FIRE SPRINKLERS, A STATE OF CALIFORNIA LICENSED (C-16) FIRE PROTECTION CONTRACTOR SHALL SUBMIT PLANS, CALCULATIONS, A COMPLETED PERMIT APPLICATION AND APPROPRIATE FEES TO THE SANTA CLARA COUNTY FIRE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO BEGINNING WORK.
2. APPROVED NUMBERS OR ADDRESSES SHALL BE PLACED ON ALL NEW AND EXISTING BUILDINGS IN SUCH A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND.
3. POTABLE WATER SUPPLIES SHALL BE PROTECTED FROM CONTAMINATION CAUSED BY FIRE PROTECTION WATER SUPPLIES. IT IS THE RESPONSIBILITY OF THE APPLICANT AND ANY CONTRACTORS AND SUBCONTRACTORS TO CONTACT THE WATER PURVEYOR SUPPLYING THE SITE OF SUCH PROJECT AND TO COMPLY WITH THE REQUIREMENTS OF THAT PURVEYOR. SUCH REQUIREMENTS SHALL BE INCORPORATED INTO THE DESIGN OF ANY WATER-BASED FIRE PROTECTION SYSTEM(S). AND/OR FIRE SUPPRESSION WATER SUPPLY SYSTEMS OR STORAGE CONTAINERS THAT MAY BE PHYSICALLY CONNECTED IN ANY MANNER TO AN APPLIANCE CAPABLE OF CAUSING CONTAMINATION OF THE POTABLE WATER SUPPLY OF THE PURVEYOR OF RECORD. FINAL APPROVAL OF THE SYSTEMS UNDER CONSIDERATION WILL NOT BE GRANTED BY THIS OFFICE UNTIL COMPLIANCE WITH THE REQUIREMENTS OF THE WATER PURVEYOR OF RECORD ARE DOCUMENTED BY THAT PURVEYOR AS HAVING BEEN MET BY THE APPLICANT(S).

LANDSCAPE NOTES

A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE IN ACCORDANCE WITH THE WATER EFFICIENCY LANDSCAPE ORDINANCE WILL BE REQUIRED TO BE SUBMITTED WITH THE BUILDING PERMIT APPLICATION.

INCLUDE THE FOLLOWING:

A. THE ENTIRE SITE MUST BE INCLUDED IN THE LANDSCAPE PLAN (FRONT, SIDE AND REAR YARDS) AND INCLUDE EXISTING AND NEW LANDSCAPING.

B. PROVIDE A PLANT PALETTE WHICH IDENTIFIES THE SPECIES, COMMON NAME, PLANT SIZE, AND WUCOLS RATING.

C. DELINEATE AND LABEL EACH HYDROZONE BY NUMBER, LETTER OR OTHER METHOD AND IDENTIFY EACH HYDROZONE AS LOW, MODERATE, HIGH WATER, OR MIXED WATER USE. PROVIDE AREA OF EACH HYDROZONE.

D. THE ESTIMATED TOTAL WATER USE WORKSHEET SHOULD CALCULATE THE ESTIMATED WATER USE FOR EACH HYDROZONE, NOT FOR EACH PLANT SPECIES. THE TOTAL AREA OF THE HYDROZONES SHOULD EQUAL THE TOTAL AMOUNT OF LANDSCAPED AREA.

E. THE ESTIMATED TOTAL WATER USE WORKSHEET SHOULD BE REVISED TO MATCH APPENDIX B OF THE WATER EFFICIENT LANDSCAPE ORDINANCE. PLEASE SHOW THE EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) FOR EACH HYDROZONE AND PROVIDE AVERAGE ETAF CALCULATION FOR THE TOTAL AREA.

F. A MINIMUM THREE-INCH (3") LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT IN TURF AREAS. PLEASE PROVIDE A NOTE ON THE PLANS.

G. ON THE COVER SHEET INCLUDE THE STATEMENTS:

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN, SIGNED BY THE LICENSED LANDSCAPE PROFESSIONAL; AND

I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE, SIGNED BY THE APPLICANT AND/OR OWNER.

LANDSCAPE INVENTORY

ITEM #	SIZE DBH	DESCRIPTION	REMOVE	ORDINANCE SIZE
500	38"	FIR	YES	YES
499	18"	SYCAMORE	YES	YES
498	19"	SYCAMORE	YES	YES
497	12"	CYPRESS	YES	NO
496	12"	CYPRESS	YES	NO
495	20"	PRIVOT	YES	YES
494	6"	PRIVOT	YES	NO
493	15"	PRIVOT	YES	NO
492	16"	PRIVOT	YES	YES
491	16"	PRIVOT	YES	YES
490	4"	PLUM	YES	NO
489	6"	PLUM	YES	NO
488	12"	PITTOSPORUM	YES	NO
487	5"	PITTOSPORUM	YES	NO
486	12"	PITTOSPORUM	YES	NO
485	10"	PITTOSPORUM	YES	NO
484	6"	PITTOSPORUM	YES	NO
483	13"	PITTOSPORUM	YES	NO
482	16"	SYCAMORE	YES	YES
481	2"	ORANGE	YES	NO
480	21"	SYCAMORE	YES	YES
479	16"	PRIVOT	YES	YES
478	3"	ORANGE	YES	NO

ZONING COMPLIANCE

	EXISTING		PROPOSED		ALLOWED/REQ'D	
LOT COVERAGE: LAND AREA COVERED BY ALL STRUCTURES THAT ARE OVER 6" HIGH	2,215	S.F.	2,298	S.F.	2,813	S.F.
	23.6%		24.5%		30.0%	
FLOOR AREA: MEASURED TO THE OUTSIDE SURFACES OF EXTERIOR WALLS — 1st FLR.	2,215	S.F.	2,137	S.F.	3,281	S.F.
2nd FLR.	0	S.F.	1,144	S.F.		
TOTAL	2,215	S.F.	3,281	S.F.		
	23.6%		35.0%		35.0%	
SETBACKS: FRONT	24.8	FT.	25	FT.	25	FT.
REAR	63.4	FT.	52.5	FT.	25	FT.
RIGHT SIDE (1ST/2ND)	16.9/NA	FT.	7.7/15	FT.	7.5/15	FT.
LEFT SIDE (1ST/2ND)	9.8/NA	FT.	10.2/15	FT.	7.5/15	FT.
HEIGHT:	14.1	FT	25.2	FT.	27	FT.

SQUARE FOOTAGE BREAKDOWN

	EXISTING		CHANGE IN		TOTAL PROPOSED	
HABITABLE LIVING AREA: INCLUDES HABITABLE BASEMENT AREAS	1,345	S.F.	1,539	S.F.	2,884	S.F.
NON-HABITABLE AREA DOES NOT INCLUDE COVERED PORCHES OR OPEN STRUCTURES	870	S.F.	-473	S.F.	397	S.F.

LOT CALCULATIONS

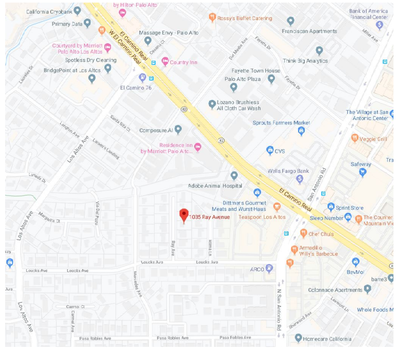
NET LOT AREA:		9,375	S.F.
FRONT YARD HARDSCAPE AREA: HARDSCAPE AREA IN THE FRONT YARD SETBACK SHALL NOT EXCEED 50%		874 S.F.	46.6%
LANDSCAPE BREAKDOWN:	TOTAL HARDSCAPE AREA EXISTING & PROPOSED	4,007	S.F.
	EXISTING SOFTSCAPE (UNDISTURBED) AREA	0	S.F.
	NEW SOFTSCAPE AREA	5,368	S.F.
	SUM OF ALL THREE SHOULD EQUAL THE SITE'S NET LOT AREA		

INDEX OF DRAWINGS

A1	SITE PLAN VICINITY MAP
A2	MAIN FLOOR PLAN
A3	UPPER FLOOR PLAN
A4	ROOF PLAN
A5	EXTERIOR ELEVATIONS
A6	EXTERIOR ELEVATIONS EXISTING ELEVATION BUILDING SECTION
A7	STREETSCAPE BUILDING SECTIONS
A8	CONTEXT MAP
C1	GRADING & DRAINAGE PLAN
C2	CIVIL DETAILS
C3	CIVIL DETAILS
C4	EROSION CONTROL PLAN
L1	IRRIGATION PLAN
L2	PLANTING & LIGHTING PLAN
L3	LANDSCAPE DETAILS

PROJECT INFO

OWNER:	NELSON LUI & NELLIE WONG 810 REMINGTON DRIVE SUNNYVALE, CA 94087
JOB ADDRESS:	1035 RAY AVE LOS ALTOS, CA 94022
BUILDING OCCUPANCY GROUPS:	R-3/U
TYPES OF CONSTRUCTION:	V-B
OCCUPANCY CATEGORY:	II
ZONING:	R1-10
FIRE SPRINKLERS:	YES
A.P.N.:	167-12-021
ARCHITECT:	RH ASSOCIATES, ARCHITECTS 11010 COMBIE RD. STE 210 AUBURN, CA 95602 CONTACT: J. STEVE COLLOM (530) 268-3055 steve.collom@gmail.com
CIVIL ENGINEER:	NNR ENGINEERING 535 WEYBRIDGE DRIVE SAN JOSE, CA 95123 CONTACT: NADIM RAFFOUL (408) 348-1813 nnrengineering@yahoo.com
LAND SURVEYOR:	CHRISTIAN & PLOUFF LAND SURVEYING 101 CHURCH STREET #29 LOS GATOS, CA 95030 CONTACT: KACIE PLOUFF (408) 755-9184 kacie@cplandsurveying.com
ARBORIST:	BAY AREA TREE SPECIALISTS 541 W. CAPITOL EXPRESSWAY PMB 287 SAN JOSE, CA 95136 CONTACT: RICHARD SMITH (408) 446-3469 richard@bayareatreespecialists.com
LANDSCAPE DESIGN:	KLP GARDEN PARTNERSHIP 21904 CORTE MADERA LANE CUPERTINO, CA 95014 CONTACT: KAY LA PLAIN (408) 314-1147 kay@klpgardenpartnership.com
APPLICABLE CODES:	2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA RESIDENTIAL CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA ELECTRICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA ENERGY CODE 2019 CALIFORNIA FIRE CODE 2019 CALIFORNIA GREEN BUILDING CODE
SCOPE OF WORK:	NEW TWO-STORY RESIDENCE WITH ATTACHED GARAGE ON A PARCEL WITH AN EXISTING ONE-STORY RESIDENCE AND DETACHED GARAGE TO BE DEMOLISHED.



3/A1 VICINITY MAP

NO SCALE NORTH

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A PROPOSED RESIDENCE FOR: NELSON LUI & NELLIE WONG
1035 RAY AVE
LOS ALTOS, CALIFORNIA

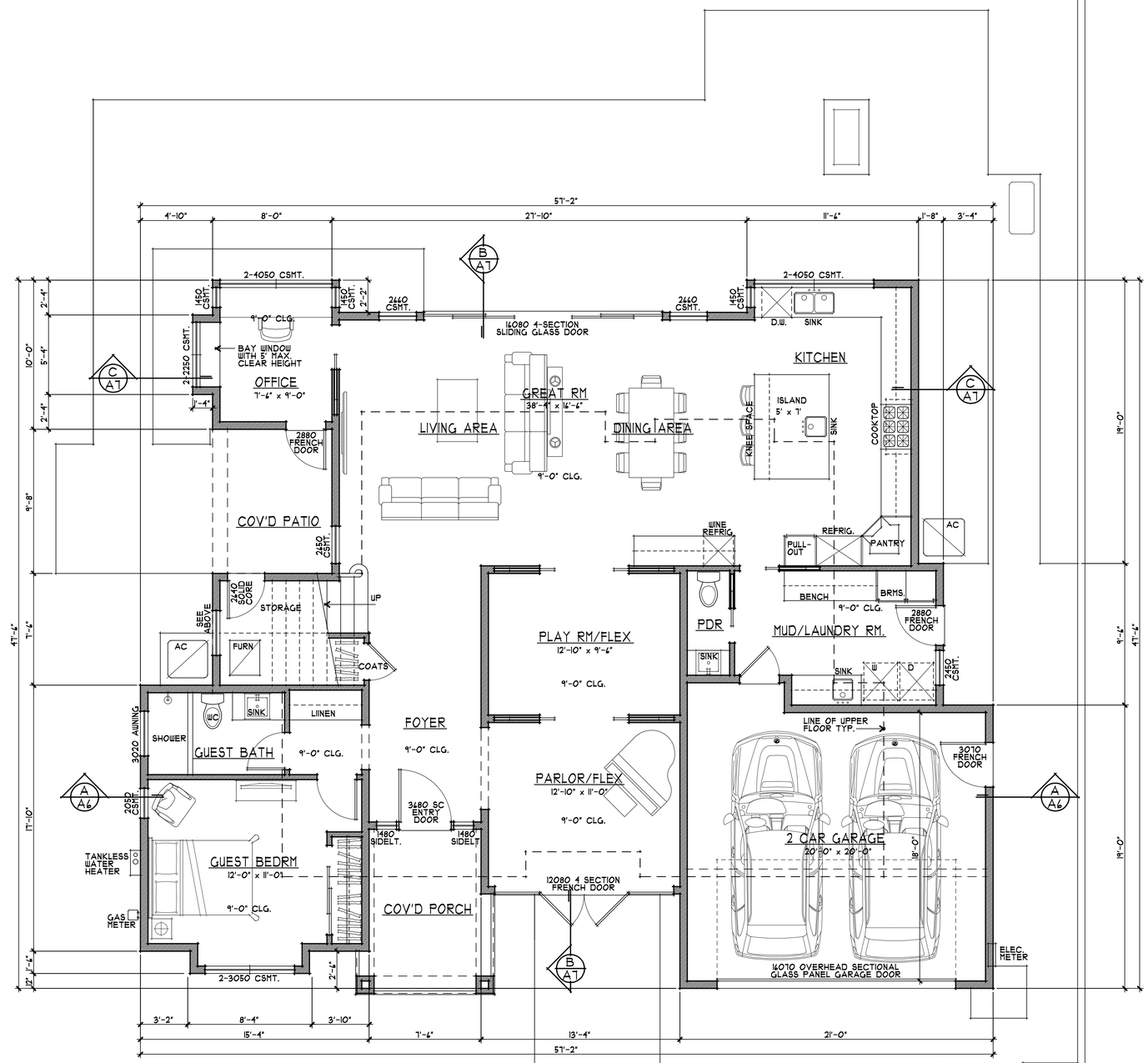
drawings: SITE PLAN

revisions

project number: 2533

date: MAY 2020

sheet number: A1



1 A2 MAIN FLOOR PLAN

1/4" = 1'-0"

0 1 3 6 10

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LOS ALTOS, CALIFORNIA

drawings
MAIN FLOOR PLAN

revisions

project number
2533

date
MAY 2020

sheet number
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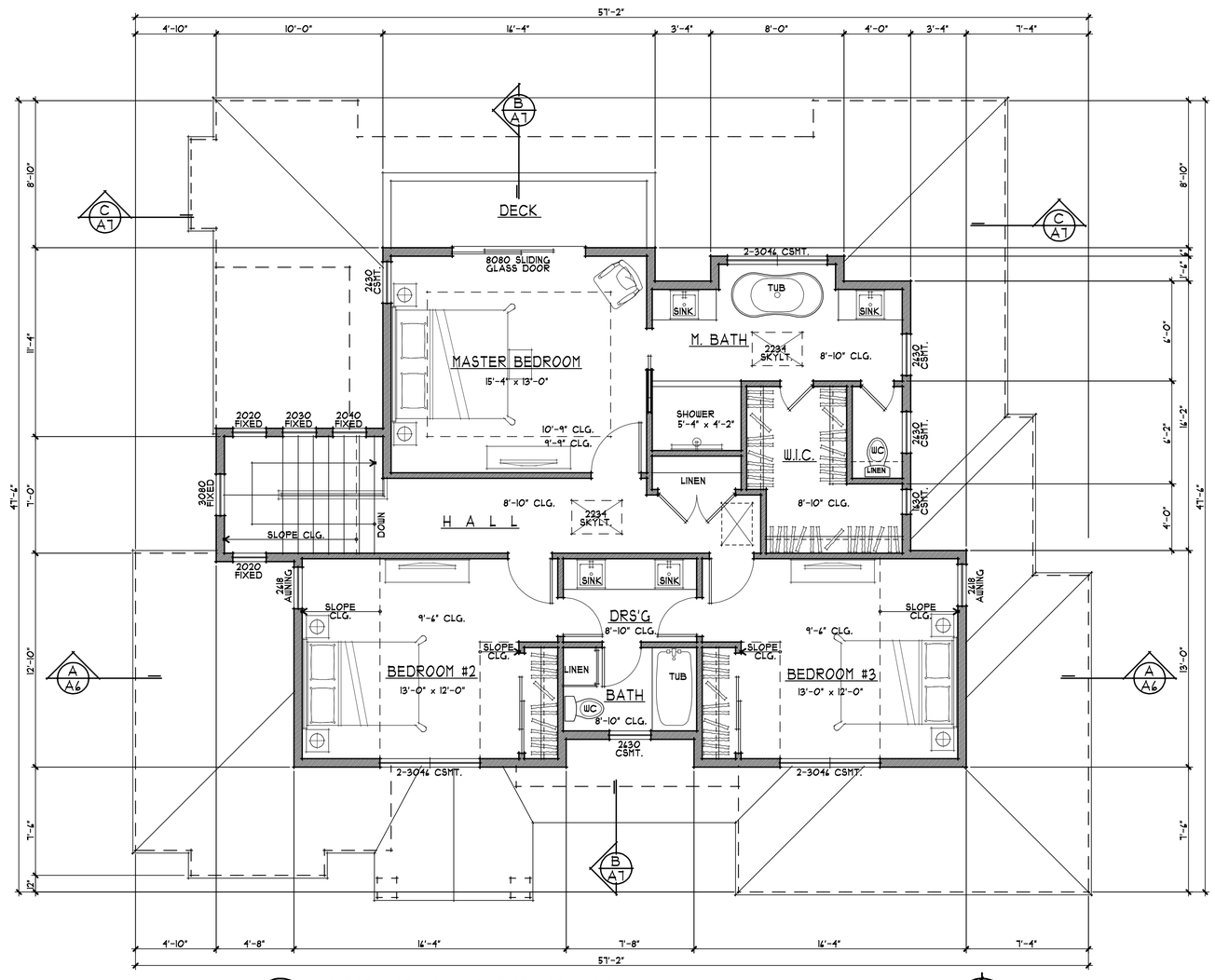

1 A3 UPPER FLOOR PLAN

1/4" = 1'-0"

0 1 3 6 10

NORTH

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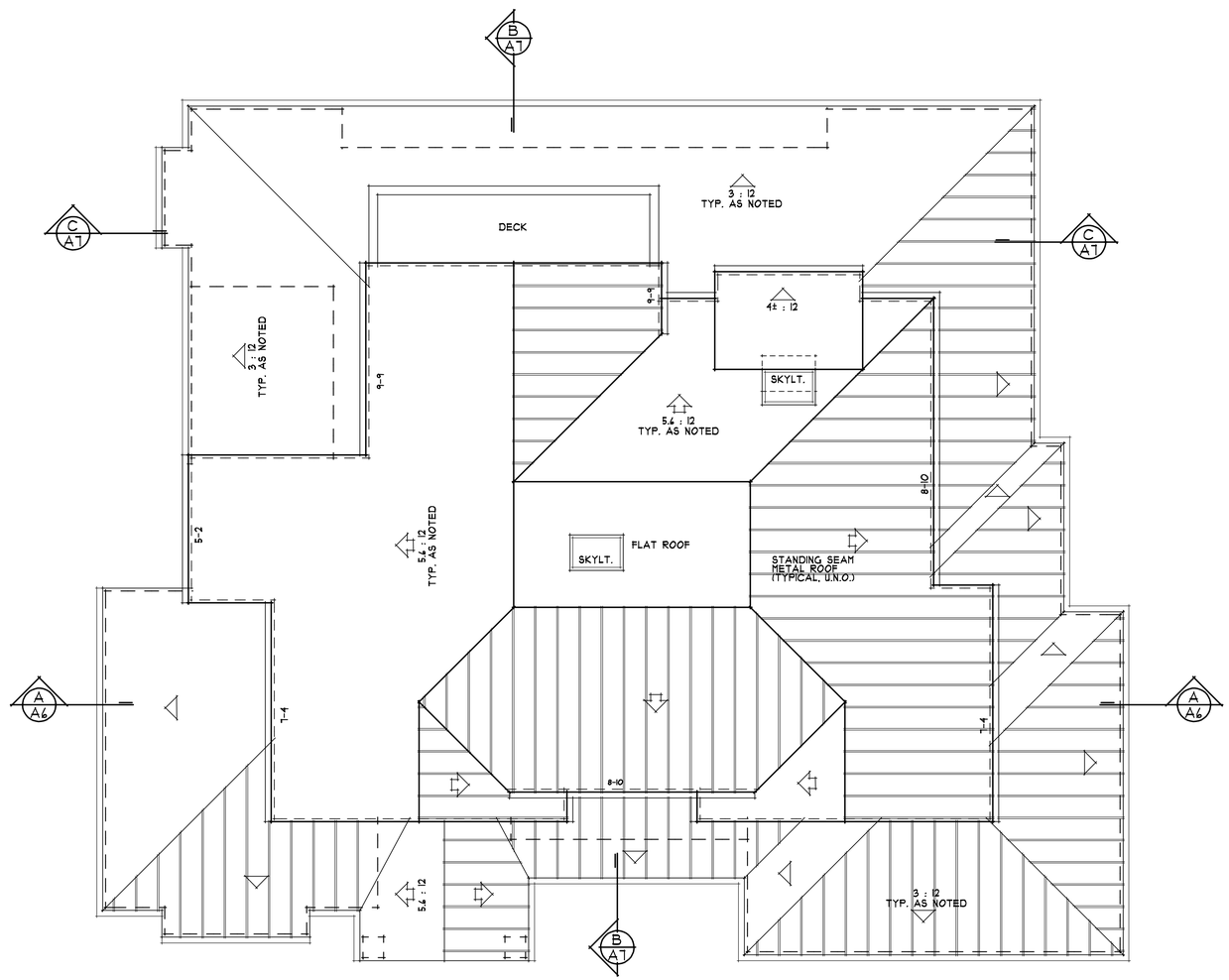

1 A4 ROOF PLAN

1/4" = 1'-0"

0 1 3 6 10

NORTH

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1 A5 RIGHT (SOUTH) ELEVATION

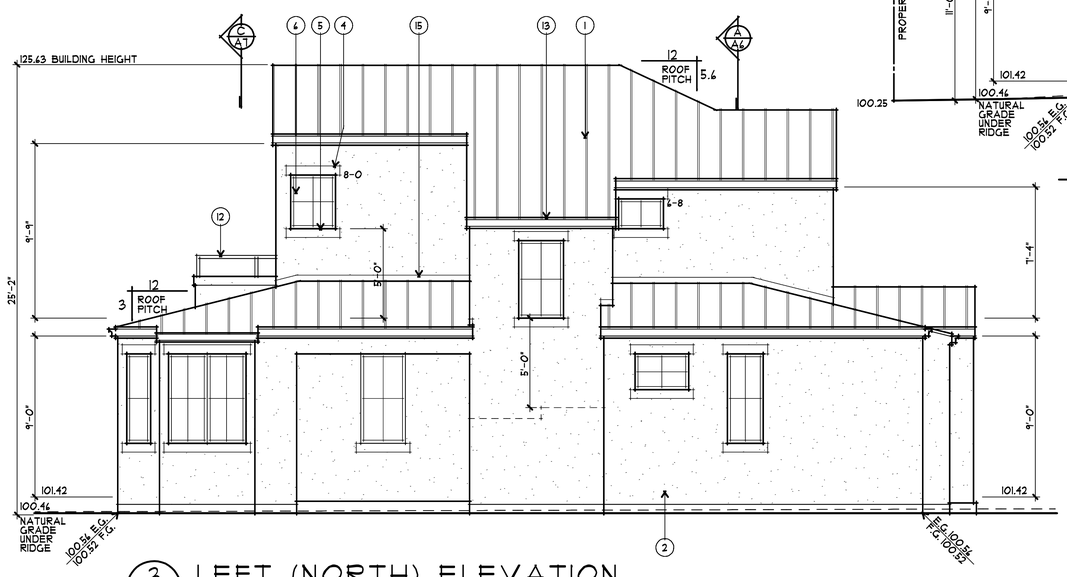
1/4" = 1'-0"

0 1 3 6 10

2 A5 FRONT (WEST) ELEVATION

1/4" = 1'-0"

0 1 3 6 10



3 A5 LEFT (NORTH) ELEVATION

1/4" = 1'-0"

0 1 3 6 10

EXTERIOR FINISH SCHEDULE

LOCATION	KEYNOTE	MATERIAL/COLOR
ROOF	1	STANDING SEAM METAL
WALLS	2	STUCCO (SMOOTH FINISH)
	3	
TRIM	4	PRECAST CONCRETE
	5	PRECAST CONCRETE SLOPED TOP
WINDOWS	6	STEEL FRAME WINDOWS
DOORS	7	WOOD ENTRY DOOR W/ GLASS & SIDELITES
	8	GLASS PANEL OVERHEAD SECTIONAL GARAGE DOOR
	9	STEEL FRAME FRENCH DOOR(S)
	10	STEEL FRAME SLIDING DOOR(S)
	11	STEEL FRAME FRENCH DOOR (FROSTED)
RAILINGS	12	STEEL FRAMED GLASS
GUTTERS & DOWNSPOUTS	13	G.I. OGEE GUTTER W/ G.I. DOWNSPOUTS - PAINT
ATTIC VENT	14	G.I. SCREENED LOUVERED VENT - PAINT
FLASHING	15	G.I. FLASHING - PAINT
SKYLIGHTS	16	CURB MOUNTED OR SELF-FLASHING

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1035 RAY AVE LOS ALTOS, CALIFORNIA

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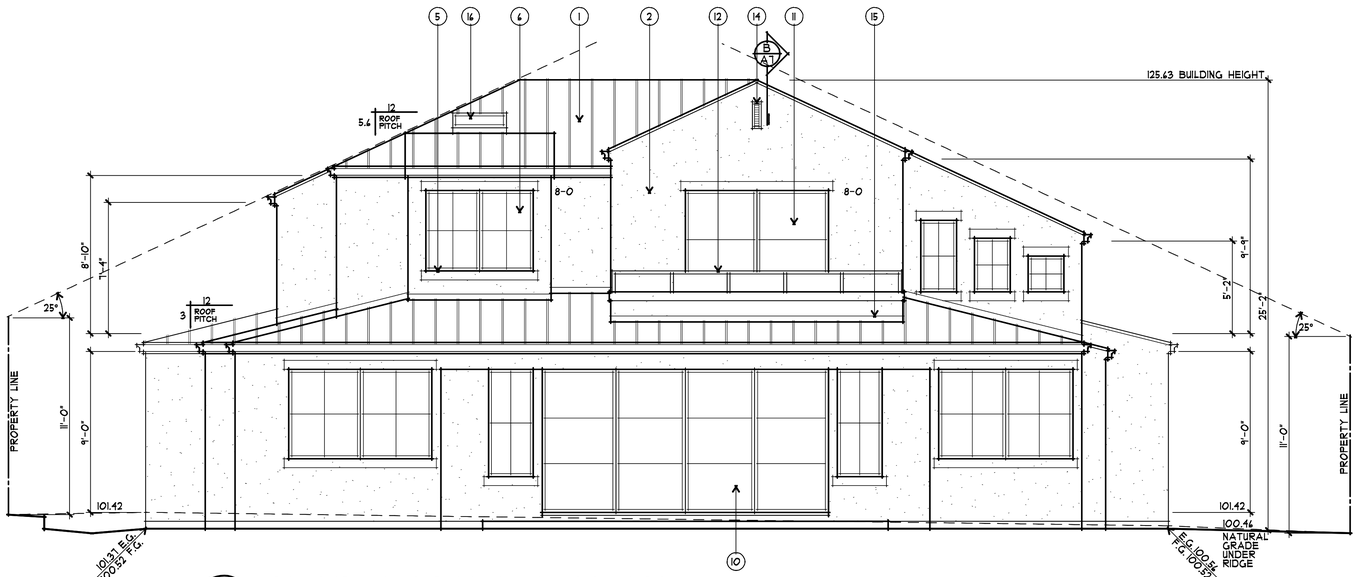
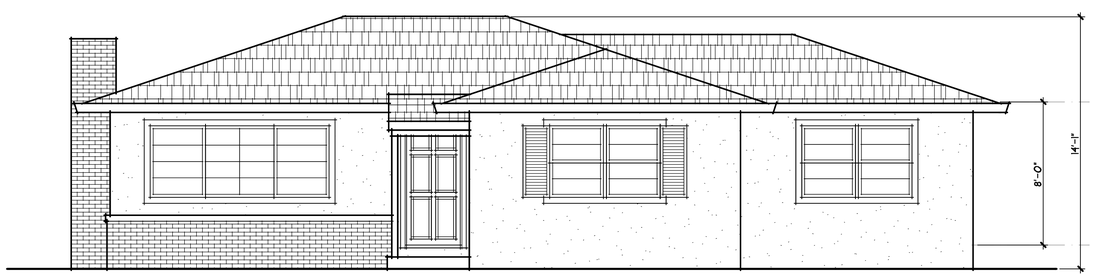


1 A6 REAR (EAST) ELEVATION

1/4" = 1'-0"

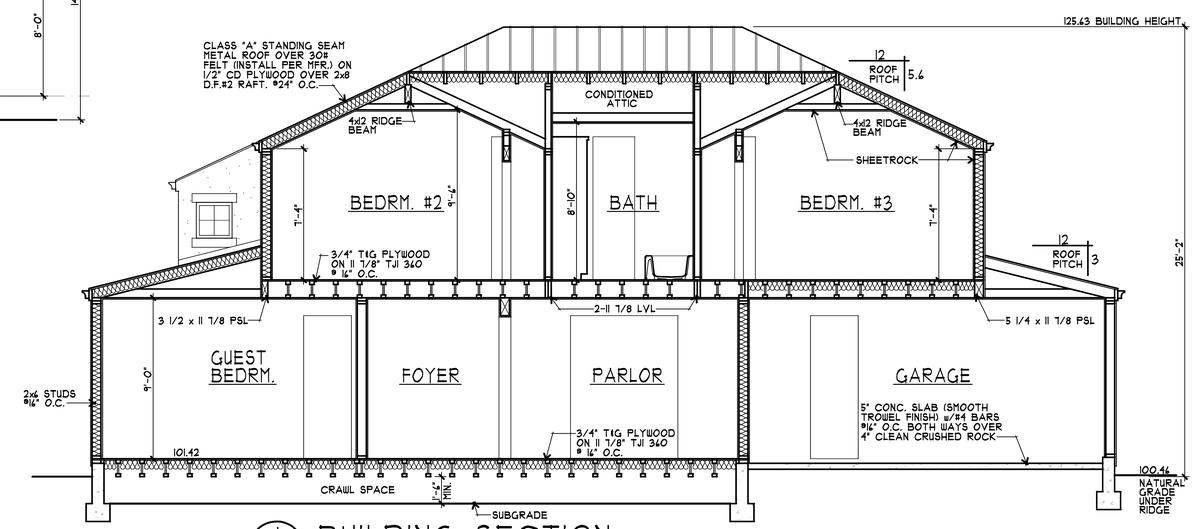
0 1 3 6 10



2 A6 EXISTING FRONT ELEVATION

1/4" = 1'-0"

0 1 3 6 10



A A6 BUILDING SECTION

1/4" = 1'-0"

0 1 3 6 10

EXTERIOR FINISH SCHEDULE

LOCATION	KEYNOTE	MATERIAL/COLOR
ROOF	1	STANDING SEAM METAL
WALLS	2	STUCCO (SMOOTH FINISH)
	3	
TRIM	4	PRECAST CONCRETE
	5	PRECAST CONCRETE SLOPED TOP
WINDOWS	6	STEEL FRAME WINDOWS
DOORS	7	WOOD ENTRY DOOR W/ GLASS & SIDELITES
	8	GLASS PANEL OVERHEAD SECTIONAL GARAGE DOOR
	9	STEEL FRAME FRENCH DOOR(S)
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NELSON LUI & NELLIE WONG

1035 RAY AVE

LOS ALTOS, CALIFORNIA

drawings

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BUILDING SECTION

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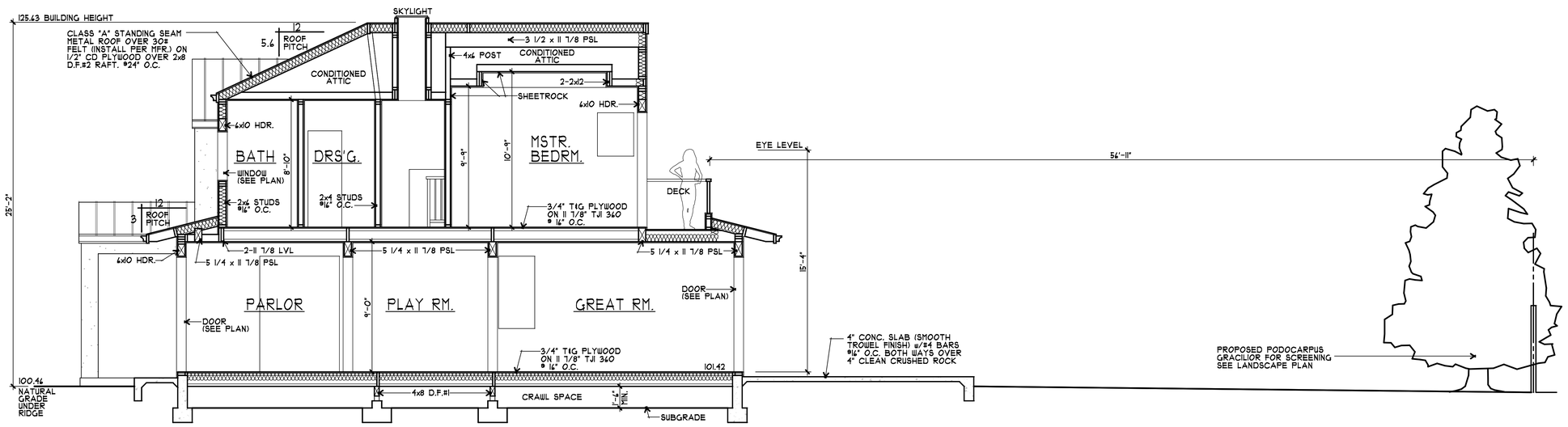
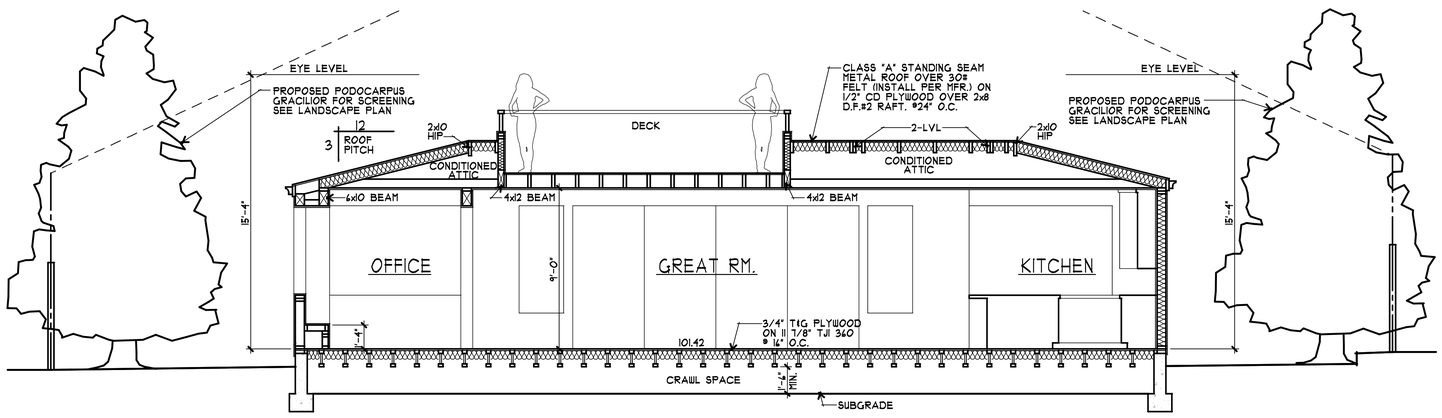
1/A7 STREETSCAPE

1/8" = 1'-0" 0 2 6 12 20



B/A7 BUILDING SECTION

1/4" = 1'-0" 0 1 3 6 10



C/A7 BUILDING SECTION

1/4" = 1'-0" 0 1 3 6 10

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1035 RAY AVE
LOS ALTOS, CALIFORNIA

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1030 RILMA LANE

1045 RAY AVENUE

1055 RAY AVENUE

1 A8 CONTEXT MAP

1" = 40'-0" 0 20 40 80 120

NORTH

1020 RILMA LANE

1027 RAY AVENUE

1019 RAY AVENUE

1052 RAY AVENUE

1044 RAY AVENUE

1034 RAY AVENUE

1024 RAY AVENUE

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A PROPOSED RESIDENCE FOR:

NELSON LUI & NELLIE WONG

1035 RAY AVE

LOS ALTOS, CALIFORNIA

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CONTEXT MAP

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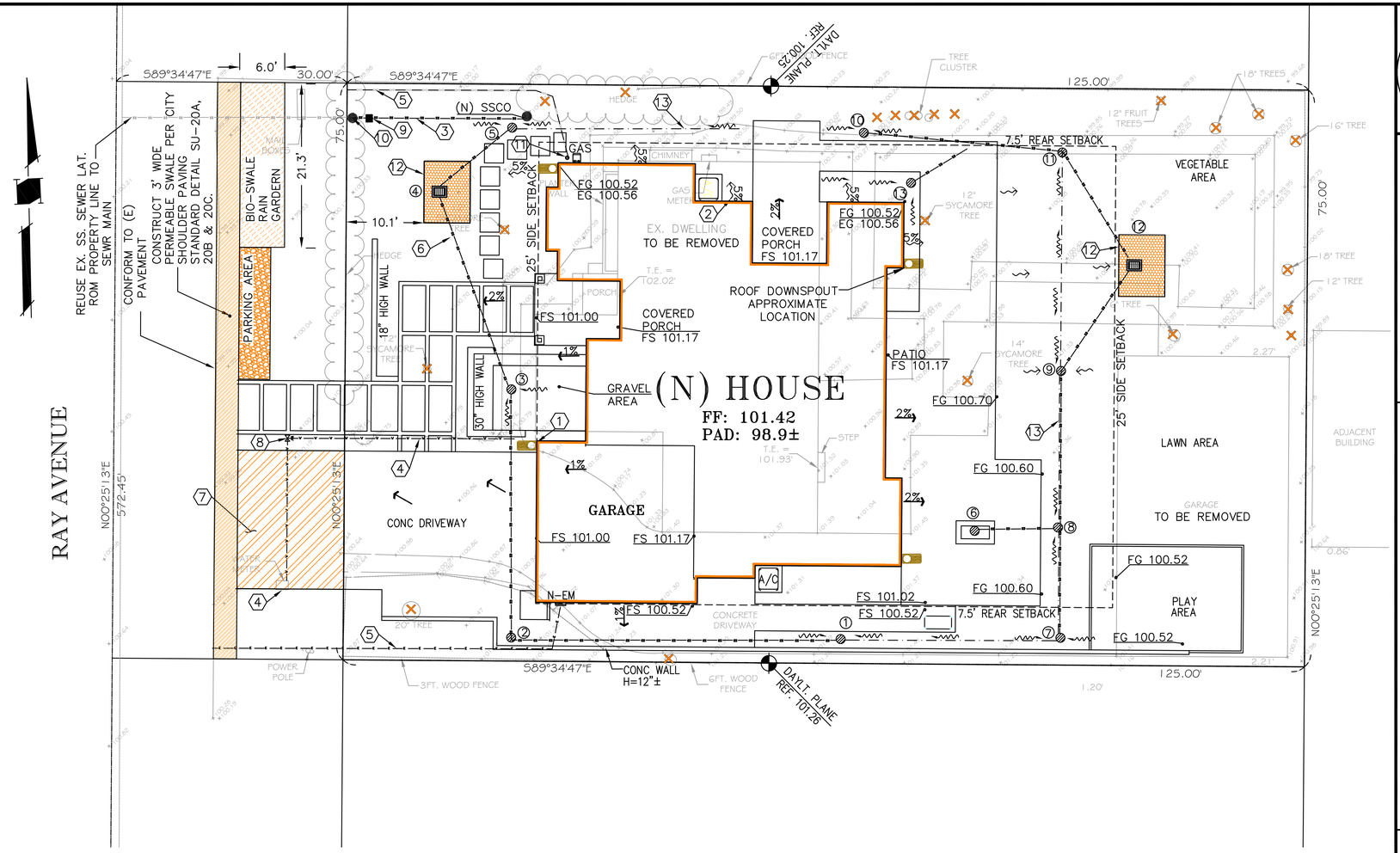
MAY 2020

sheet number
A8

GRADING AND DRAINAGE CONSTRUCTION NOTES:

1. DIRECT ROOF DOWNSPOUT LEADERS TO APPROVED SPLASH BLOCKS (2' LENGTH MIN.). DIRECT AWAY FROM BUILDING FOR POSITIVE FLOW, & TOWARDS PERVIOUS AREA OF THE SITE –TYP. SEE DETAIL ON SHEET C–2.
2. DIRECT SURFACE FLOW DRAINAGE AWAY FROM BUILDING AT 2% SLOPE FOR PAVED AREAS AND SLOPE 5% FOR AT LEAST 10 FEET, FOR NON–PAVED (DIRT & LANDSCAPE) AREAS.
3. 4" SDR–26 SS. LAT. @ 2% MIN.
4. (N) 2" WATER METER AND SERVICE LINE. INSTALL TRAFFIC RATED COVER.
5. APPROXIMATE LOCATION OF JOINT TRENCH INCLUDES: ALL GAS/COMMUNICATIONS LINES AND APPURTENANCES, INCLUDING ALL PUBLIC UTILITY, CATV AND TELEGRAPH SYSTEMS, SHALL BE LOCATED AND INSTALLED UNDERGROUND. FOR TRENCH PAVING, BACKFILL AND PIPING BEDDING SECTIONS SEE CITY STD. DETAIL SU–19 SHOWN ON SHEET C–2.
6. 6" PVC (SDR–35) @ S=0.5% MIN.
7. CONSTRUCT (N) CONCRETE PAVERS DRIVEWAY. "PRIOR TO THE COMMENCEMENT OF ANY WORK DONE IN THE PUBLIC R/W, A PERMIT TO OPEN STREET AND/OR AN ENCROACHMENT PERMIT WILL BE REQUIRED".
8. INSTALL DOUBLE CHECK VALVES PER CALIFORNIA WATER SERVICE.
9. INSTALL (N)"ATMOSPHERIC & LISTED ACCESSIBLE BACK FLOW WATER VALVE".
10. INSTALL (N) SSCO PER CITY STD. DETAIL SS–5.
11. INSTALL GAS SHUTOFF VALVE AT GAS METER PER MUNICIPAL CODE SECTION 12.12.020 ITEM C.
12. GRAVEL BASIN, 6'X8'X4.5' DEEP, SEE DETAIL ON SHEET C–2.
13. EARTH SWALE, SEE DETAIL ON SHEET C–2.



GENERAL NOTES

1. CONTRACTOR SHALL EXERCISE ALL NECESSARY CAUTION TO AVOID DAMAGE TO ANY EXISTING TREES AND SURFACE IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE AND SHALL BEAR FULL RESPONSIBILITY FOR ANY DAMAGE THERETO.
2. EXISTING UNDERGROUND LINES, APPURTENANCES AND FACILITIES WHICH ARE KNOWN TO THE ENGINEER ARE SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL EXERCISE ALL NECESSARY CAUTION TO AVOID DAMAGE TO ANY EXISTING FACILITIES WHICH ARE TO REMAIN IN PLACE, WHETHER OR NOT SUCH FACILITIES ARE SHOWN ON THE PLANS, AND SHALL BEAR FULL RESPONSIBILITY FOR ANY DAMAGE THERETO. NO WARRANTY IS GIVEN AS TO THE COMPLETENESS AND ACCURACY OF SUCH FACILITIES INFORMATION.
3. ALL CONTRACTORS WILL BE RESPONSIBLE FOR VERIFICATION OF THE LOCATION OF ALL EXISTING UTILITIES IN THE FIELD. LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY.
4. CONTRACTOR SHALL CALL UNDERGROUND SERVICES ALERT "USA" CENTER AT 800/642–2444, A TOLL–FREE NUMBER, 48 HOURS IN ADVANCE OF ANY EXCAVATION ACTIVITY SO ALL UNDERGROUND FACILITIES CAN BE LOCATED AND MARKED.
5. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONNEL AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CITY, THE OWNER, AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONJUNCTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE CITY OR THE ENGINEER.
6. IT SHALL BE THE RESPONSIBILITY OF THE VARIOUS CONTRACTORS TO COORDINATE THEIR WORK SO AS TO ELIMINATE CONFLICTS AND TO INSURE COMPLETION OF THE ENTIRE PROJECT WITHIN THE SPECIFIED PERIOD.
7. THE CONTRACTOR SHALL MAINTAIN THE STREET, SIDEWALKS AND ALL OTHER RIGHTS–OF–WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC, SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.

UNDERGROUND NOTES

1. CONTRACTORS SHALL EXPOSE AND VERIFY PIPE MATERIAL, LINE SIZE, LOCATION AND ELEVATION OF EXISTING UTILITIES, INCLUDING SANITARY SEWERS, STORM DRAINS, AND WATER LINES AT ALL TIE–INS AND CROSSINGS PRIOR TO CONSTRUCTING NEW FACILITIES.
2. UNLESS OTHERWISE NOTED, ALL STORM DRAINS, SANITARY SEWERS, MANHOLES AND INLETS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CITY OF LOS ALTOS STANDARD SPECIFICATIONS AND STANDARD PLAN DETAILS AS DESIGNATED AND TO DETAILS AS SHOWN ON THE PLAN.
3. ALL TRENCH EXCAVATION, BACKFILL AND BEDDING FOR STORM DRAINS AND SANITARY SEWERS SHALL CONFORM TO THE CITY OF LOS ALTOS STANDARD SPECIFICATIONS, AND DETAILS.
4. ALL TRENCHES AND EXCAVATIONS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH THE APPLICABLE SECTIONS OF CALIFORNIA AND FEDERAL O.S.H.A. REQUIREMENTS AND OTHER APPLICABLE SAFETY ORDINANCES. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR TRENCH SHORING DESIGN AND INSTALLATION.
5. ALL GAS, ELECTRICAL, TELEPHONE AND CABLE T.V. UTILITIES, WILL BE DESIGNED AND CONSTRUCTED BY OTHERS UNDER SEPARATE CONTRACTS AND PLANS.

SHEET INDEX

GRADING AND DRAINAGE PLAN	C-1
MISC. DETAILS	C-2
CITY STANDARD DETAILS	C-3
EROSION CONTROL PLAN	C-4

BENCHMARK

ASSUMED DATUM = 98.66'

TREE NOTE:

ALL TREE PROTECTION FENCING SHALL BE CHAIN LINK AND A MINIMUM OF FIVE FEET IN HEIGHT WITH POSTS DRIVEN INTO THE GROUND. IT SHALL BE INSTALLED PRIOR TO ISSUANCE OF THE DEMOLITION PERMIT AND SHALL NOT BE REMOVED UNTIL ALL BUILDING CONSTRUCTION HAS BEEN COMPLETED. TYPICAL AS NOTED.

DRAINAGE NOTE

1 AD RIM 100.4± INV 99.1±	5 AD RIM 100.0± INV 98.5±	10 AD RIM 100.0± INV 98.5±
2 AD RIM 100.4± INV 98.7±	6 AD RIM 100.3± INV 99.0±	11 AD RIM 100.0± INV 98.0±
3 AD RIM 100.4± INV 98.4±	7 AD RIM 100.0± INV 98.7±	12 AD RIM 100.0± INV 97.5±
4 CB RIM 100.0± INV 98.0±	8 AD RIM 100.0± INV 98.4±	13 AD RIM 100.0± INV 98.7±
	9 AD RIM 100.0± INV 98.0±	

LEGEND:

AREA DRAIN (CHRISTY BOX V–1) OR EQUAL

CATCH BASIN (CHRISTY BOX V–24) OR EQUAL)

ENCROACHMENT PERMIT

NO PROPOSED CONSTRUCTION WITHIN THE CITY RIGHT–OF–WAY SHALL BEGIN UNTIL CITY REQUIREMENTS FOR THE ISSUANCE OF AN ENCROACHMENT PERMIT, INCLUDING REVIEW OF THE PLANS, HAVE BEEN MET AND AN ENCROACHMENT PERMIT ISSUED.

ANY DAMAGED RIGHT–OF–WAY INFRASTRUCTURES AND OTHERWISE DISPLACED CURB, GUTTER SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE CITY ENGINEER OR HIS DESIGNEE. CONTRACTOR SHALL COORDINATE WITH PUBLIC WORKS, DEPARTMENT AT (650) 947–2780

ABBREVIATION

AD	AREA DRAIN
CO	CLEANOUT
(E)	EXISTING
FG	FINISH GRADE
FL	FLOW LINE
FS	FINISH SLAB
INV	INVERT
(N)	NEW
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
RDS	ROOF DOWNSPOUT
CB	CATCH BASIN

DESCRIPTION / LEGEND

PROPERTY LINE
CENTERLINE
SANITARY SEWER
STORM DRAIN LINE
DRAINAGE FLOW
REMOVE TREE

EARTH WORK NOTE:

THE CONTRACTOR SHALL STRICTLY ADHERE TO THE SOILS ENGINEER'S RECOMMENDATIONS ON STRIPPING AND SITE PREPARATION FOR ALL PERTINENT GRADING, PAVING AND TRENCH BACKFILL ON THIS SITE.

NOTE:

THE QUANTITIES ARE SHOWN FOR THE PURPOSE OF GRADING PERMIT APPROVAL FROM THE CITY OF LOS ALTOS AND ARE NOT TO BE USED FOR PAYMENT TO THE CONTRACTOR . CONTRACTOR SHALL ESTABLISH HIS OWN QUANTITIES.

APPROXIMATE CUT REQUIRED	120± CY
FILL REQUIRED	0± CY

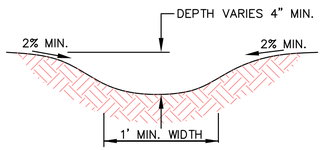
REGISTERED PROFESSIONAL ENGINEER NADIM N. RAFFOUL No. 56027 Exp. 12/31/20 CIVIL STATE OF CALIFORNIA

NNR ENGINEERING
CIVIL ENGINEERS
535 WEYBRIDGE DRIVE
SAN JOSE, CALIFORNIA 95123
(408) 948-7813

1035 RAY AVENUE
LOS ALTOS
APN 167-12-021
SANTA CLARA COUNTY CALIFORNIA

GRADING AND DRAINAGE PLAN

REVISIONS	BY
JOB NO:	
DATE:	4-30-2020
SCALE:	1" =8'
DRAWN BY:	NR
SHEET NO:	C-1
	OF 4 SHEETS



NOTES:

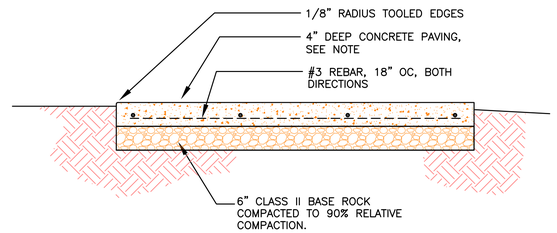
1. LONGITUDINAL SLOPE = 2% MIN.
2. SEE LANDSCAPE PLANS FOR SURFACING

EARTH SWALE DETAIL

N.T.S.

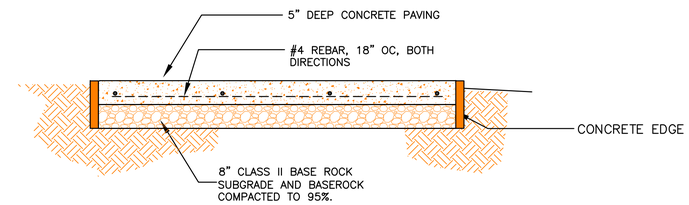
MAINTENANCE NOTES

1. OWNER IS RESPONSIBLE FOR MAINTAINING ALL INLETS, RETENTION SYSTEM AND INFILTRATION DEVICE FROM TRASH, DEBRIS & SEDIMENTS.
2. THE REGULAR CLEARING OF SILT AND DEBRIS IS ESPECIALLY IMPORTANT PRIOR TO EACH RAINY SEASON.



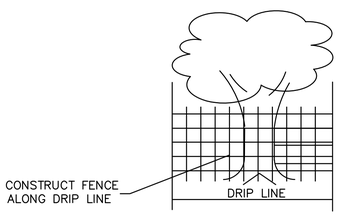
CONCRETE WALKWAY-TYPICAL SECTION

N.T.S.



CONCRETE DRIVEWAY-TYPICAL SECTION

N.T.S.

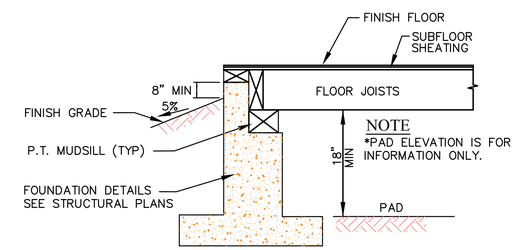


TREE PROTECTION DETAIL

N.T.S.

NOTES:

1. THE DEVELOPER SHALL INSTALL "THE PROTECTION DEVICE" PRIOR TO THE START OF GRADING OR CLEARING WORK.
2. THE CITY RESERVED THE RIGHT TO ISSUE A "STOP WORK" NOTICE IF THE "PROTECTIVE DEVICE" IS NOT INSTALLED.
3. ROLLED CHAIN LINK FENCE ON DRIVEN POST.
4. PLACE WOOD CHIP AROUND TREE AND ALONG DRIP LINE

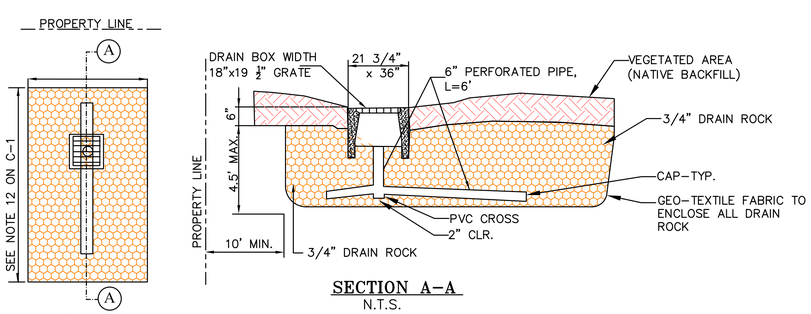


NOTE

*PAD ELEVATION IS FOR INFORMATION ONLY.

EXTERIOR GRADING DETAIL (TYP.)

N.T.S.



PLAN

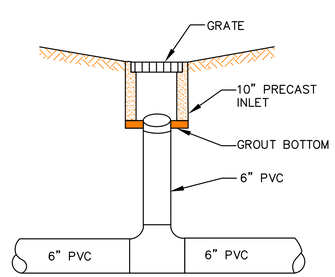
N.T.S.

SECTION A-A

N.T.S.

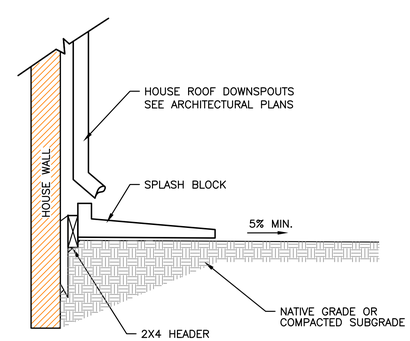
INFILTRATION DEVICE - DETAIL

N.T.S.



AREA DRAIN DETAIL

N.T.S.



ROOF DOWNSPOUT/SPLASH BLOCK

N.T.S.

REGISTERED PROFESSIONAL ENGINEER
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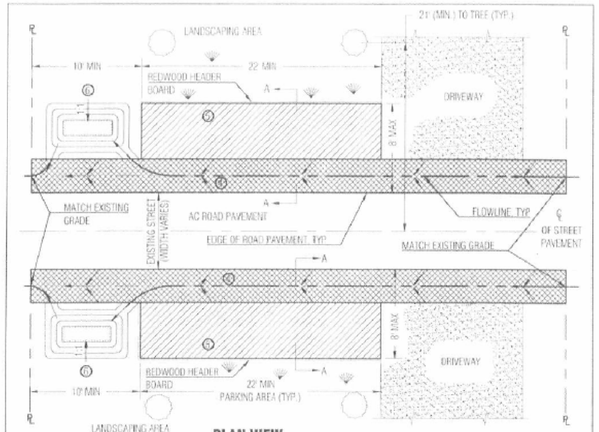
1035 RAY AVENUE
LOS ALTOS
APN 167-12-021
SANTA CLARA COUNTY CALIFORNIA

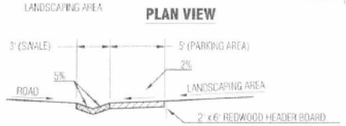
MISC. DETAILS

REVISIONS	BY

JOB NO:
DATE: 4-30-2020
SCALE: N.T.S.
DRAWN BY: NR
SHEET NO:
C-2
OF 4 SHEETS



PLAN VIEW



SECTION A-A

SEE STANDARD DETAIL SU-20B FOR NOTES RELATED TO THE STREET SHOULDER IMPROVEMENT POLICY.

LEGEND:

- AC ASPHALT CONCRETE
- PL PROPERTY LINE
- ℄ CENTERLINE
- EXISTING OR NEW LANDSCAPING
- STREET TREE (NEW OR EXISTING)
- BIOSWALE/RAIN GARDEN
- NEW PERMEABLE SURFACE
- NEW DRAINAGE SWALE
- FLOWPATH
- NOTES, SEE SU-20B

Approved: City Engineer — Date 12/12/18

REVISION		ENGINEERING DIVISION	
Description	Date	STREET SHOULDER IMPROVEMENT POLICY (SHEET 1 OF 3)	SU-20A

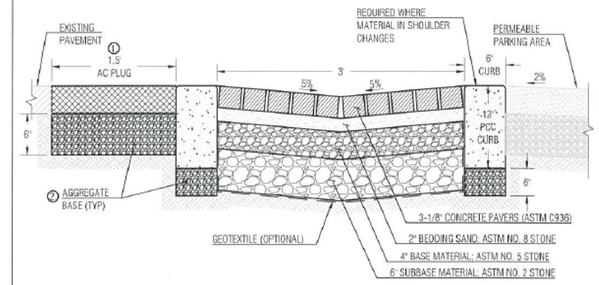
NOTES:

1. IF THE STREET PAVEMENT WIDTH IS 36 FEET OR GREATER, NO SHOULDER IMPROVEMENTS ARE PERMITTED WITH THE EXCEPTION OF LANDSCAPING AND IRRIGATION.
2. POLICY DOES NOT APPLY FOR REPAIRS, RESEALING, AND REPAVING IN KIND OF EXISTING SHOULDERS, NOR DOES IT REQUIRE THAT SHOULDERS MUST BE PAVED.
3. THE SHOULDER OF A NEWLY CONSTRUCTED OR 50% OR GREATER SQUARE FOOTAGE REMODELED RESIDENCE IS REQUIRED TO BE BROUGHT INTO COMPLIANCE WITH THIS POLICY.
4. DRAINAGE SWALE:
   a. 3' WIDE.
   b. MAXIMUM CROSS SLOPE 5%.
   c. DRAINAGE SWALE SHALL BE CONSTRUCTED USING PERMEABLE MATERIALS PER DETAIL SU-20C.
5. PARKING AREA SHALL FEATURE ONE OF THE FOLLOWING MATERIALS:
   a. PERMEABLE CONCRETE PAVERS AND OPEN CELL CONCRETE BLOCKS:
      CONCRETE PAVER BLOCKS (BOTH SOLID AND GRIDDED SYSTEMS) (WITH OPEN CELLS FOR AGGREGATE, GRAVEL, OR GRASS) HAVE BEEN DEVELOPED IN A LARGE VARIETY OF SHAPES, TEXTURES, PATTERNS, AND COLORS. THE CONCRETE PAVERS AND OPEN CELL CONCRETE BLOCKS SHALL BE INSTALLED PER MANUFACTURE'S RECOMMENDATIONS. GAPS OF CONCRETE PAVERS, IF FEATURED BY THE TYPE OF PAVER, SHALL BE FILLED WITH SAND. OPEN CELL CONCRETE BLOCKS VARY IN SIZE BASED ON BLOCK TYPE AND SHALL BE FILLED IN WITH GRAVEL OR GRASS, ALLOWING WATER TO ENTER THE SUBGRADE. CONCRETE PAVERS AND OPEN CELL CONCRETE BLOCKS SHALL BE INSTALLED OVER A SAND BEDDING COURSE (MINIMUM 1" THICK OR PER PAVER MANUFACTURERS RECOMMENDATION). FURTHER WATER RESERVOIR CAPACITY CAN BE ADDED BY INSTALLING OPEN GRADED BASE AND STONE SUBBASE WITH AN OPTIONAL UNDERDRAIN (TO BE ROUTED TO THE BIOSWALE/RAIN GARDEN), WITH GEOTEXTILE ON BOTTOM AND SIDES. TYPICALLY AN EDGE CONSTRAINT IS INSTALLED AT THE PERIMETER OF THE PAVERS OR LOCATIONS SUBJECT TO LATERAL LOADING. SUBGRADE EXCAVATION DEPTH REQUIRED IS 8-12 INCHES, BUT CAN BE GREATER IN DEPTH IF ADDITIONAL RESERVOIR CAPACITY IS DESIRED.
   b. COMPACTED AGGREGATE BASE (AB):
      1-1/2 INCH OR 3/4 INCH CLASS 2 AGGREGATE BASE (6 INCHES THICK ON COMPACTED NATIVE SOIL)
   c. COMPACTED STABILIZED DECOMPOSED GRANITE (DG):
      SMALL SIZED GRANITE AGGREGATE MIXED WITH A STABILIZING AGENT, COMPACTED AND PLACED OVER EXISTING PERMEABLE SURFACES AND 6 INCHES OF AGGREGATE BASE IF SUBGRADE IS LESS SUITABLE. SUBGRADE EXCAVATION REQUIRED IS 8-12 INCHES, BUT CAN BE GREATER IN DEPTH IF ADDITIONAL RESERVOIR CAPACITY IS CONSIDERED. DG LAYER SHALL BE MINIMUM 4 INCHES THICK. GRADE TO DRAIN.
6. BIOSWALE/RAIN GARDEN IN LANDSCAPE AREA DESIGNED TO RECEIVE RUNOFF FROM DRAINAGE SWALE/PARKING AREA. DESIGN AND SHAPE OF BIOSWALE/RAIN GARDEN BY ARCHITECT OR ENGINEER. MINIMUM DEPTH SHALL BE 2.5'. REFER TO THE C.3 STORMWATER HANDBOOK FOR DESIGN PARAMETERS AND SPECIFICATIONS OF SOILS OR PLANTS. AREA SHALL BE DEPENDING ON LENGTH OF FRONTAGE (DISTANCE MEASURED PARALLEL TO EDGE OF ROAD BETWEEN PROPERTY LINES) AS FOLLOWS:
   a. FRONTAGE < 75' — 50 SF MINIMUM
   b. 75' < FRONTAGE < 100' — 100 SF MINIMUM
   c. 100' < FRONTAGE < 150' — 200 SF MINIMUM
   d. FRONTAGE > 150' — 300 SF MINIMUM
7. LOTS LOCATED ALONG SUGGESTED ROUTES TO SCHOOL MAY REQUIRE MODIFICATION TO THIS STANDARD DETAIL AS APPROVED BY THE CITY ENGINEER. OTHER MODIFICATIONS MAY BE MADE AS APPROVED BY THE CITY ENGINEER.

Approved: City Engineer — Date 12/12/18

REVISION		ENGINEERING DIVISION	
Description	Date	STREET SHOULDER IMPROVEMENT POLICY (SHEET 2 OF 3)	SU-20B

PERMEABLE DRAINAGE SWALE



NOTES:

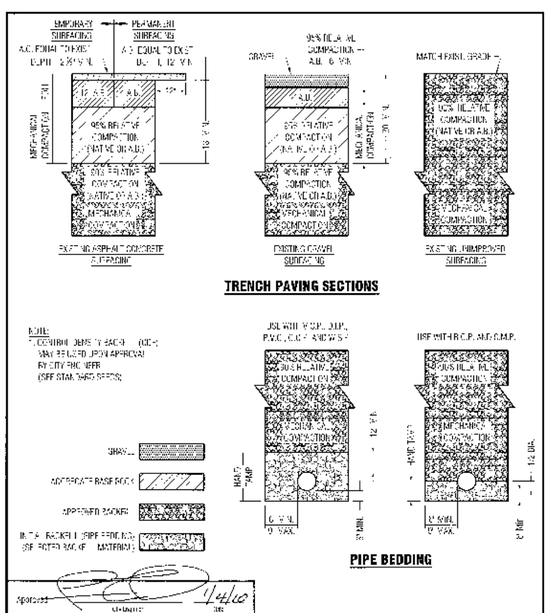
1. AC PLUG SHALL BE 4" THICK OR MATCH EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER.
2. AGGREGATE BASE SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY.
3. INSTALL PAVERS AND ALL BASE MATERIALS PER MANUFACTURERS RECOMMENDATIONS.
4. ALTERNATE DRAINAGE SWALE MAY BE CONSTRUCTED WITH 1-1/2 INCH OR 3/4 INCH COMPACTED CLASS 2 AB (6 INCH THICK ON COMPACTED NATIVE SOIL).

LEGEND:

- CONCRETE PAVERS, OR APPROVED PERMEABLE MATERIAL FROM SU-20B NOTE 5.a.
- BEDDING SAND
- BASE MATERIAL
- SUBBASE MATERIAL
- PCC
- AGGREGATE BASE
- AC PLUG
- EXISTING PAVEMENT
- PERMEABLE PARKING AREA
- NATIVE MATERIAL
- NOTES

Approved: City Engineer — Date 12/12/18

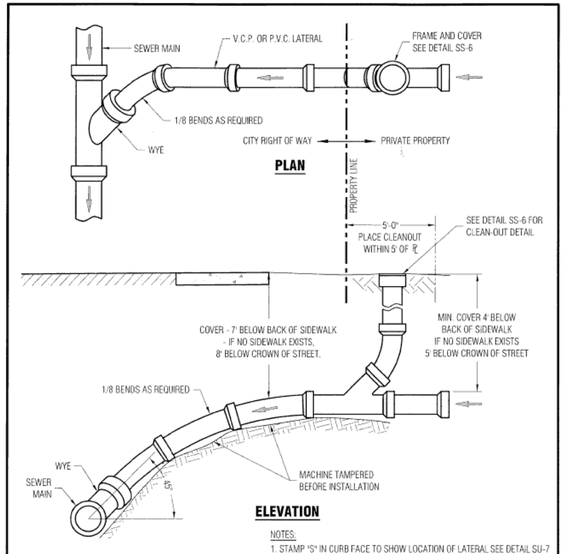
REVISION		ENGINEERING DIVISION	
Description	Date	STREET SHOULDER IMPROVEMENT POLICY (SHEET 3 OF 3)	SU-20C



Approved: City Engineer — Date 1/4/10

REVISION		ENGINEERING DIVISION	
Description	Date	TRENCH PAVING, BACKFILL AND PIPE BEDDING SECTIONS	SU-19

STANDARD DETAILS MAY 2010



NOTES:

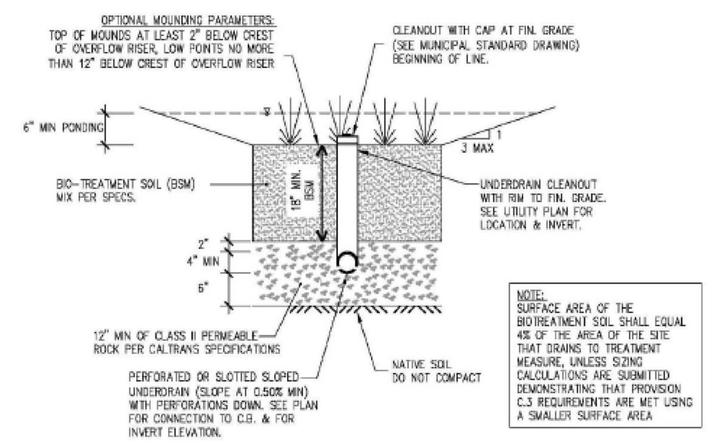
1. STAMP "S" IN CURB FACE TO SHOW LOCATION OF LATERAL SEE DETAIL SU-7
2. MINIMUM SLOPE OF LATERAL SHALL BE 1/4" PER 12"

Approved: City Engineer — Date 1/4/10

REVISION		ENGINEERING DIVISION	
Description	Date	SEWER LATERAL AND SEWER RISER	SS-5

STANDARD DETAILS MAY 2010

C.3 STORMWATER HANDBOOK



NOT TO SCALE

SEE FIGURE 6-3 FOR TYPICAL OVERFLOW

Figure 6-2: Cross Section of a Bioretention Area (with Maximized Infiltration)

REGISTERED PROFESSIONAL ENGINEER — NADIM N. RAFFOUL — No. 56027 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

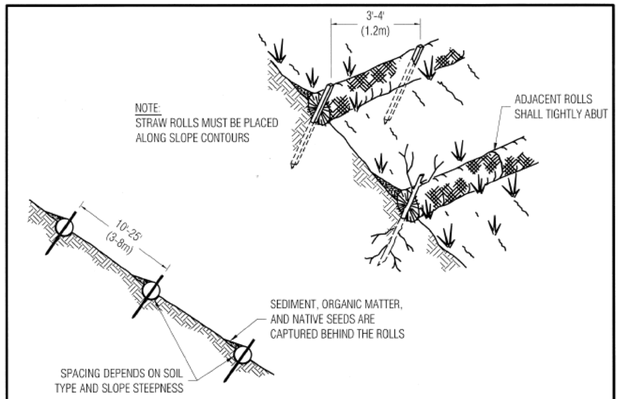
NNR ENGINEERING
CIVIL ENGINEERS
535 WEYBRIDGE DRIVE
SAN JOSE, CALIFORNIA 95123
(408) 948-7893

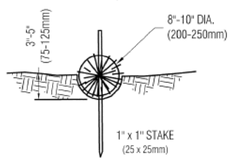
1035 RAY AVENUE
LOS ALTOS
APN 167-12-021
SANTA CLARA COUNTY CALIFORNIA

CITY STANDARD DETAILS

REVISIONS	BY

JOB NO:
DATE: 4-30-2020
SCALE: N.T.S.
DRAWN BY: NR
SHEET NO: C-3
OF 4 SHEETS





NOTES:

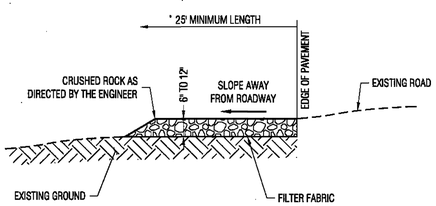
1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL
2. VERTICAL SPACING FOR SLOPE INSTALLATIONS
   1:1 SLOPES = 10 FEET APART
   2:1 SLOPES = 20 FEET APART
   3:1 SLOPES = 30 FEET APART
   4:1 SLOPES = 40 FEET APART
   <4:1 SLOPE = ONE ROW AT LOW POINT
3. REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT TO RUN OFF-SITE AND CAN BE PERMANENTLY STABILIZED

Approved: City Engineer 1/4/10 Date

REVISION		ENGINEERING DIVISION	
Description	Date	STRAW ROLLS	EC-4

CITY OF LOS ALTOS, CALIFORNIA — INCORPORATED DECEMBER 1, 1952

STANDARD DETAILS MAY 2010



NOTES:

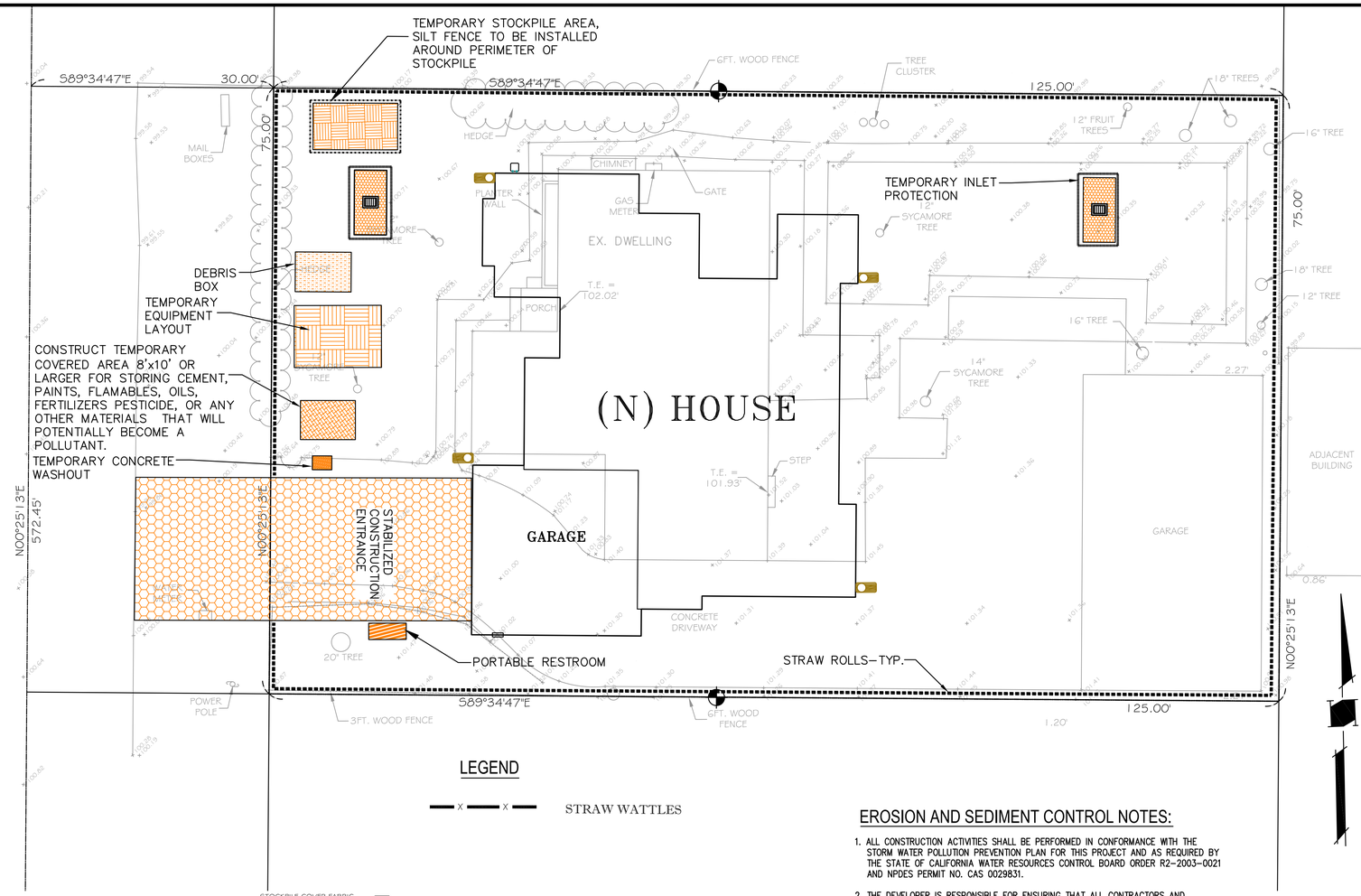
1. PROVIDE A FANNED STABILIZED CONSTRUCTION ENTRANCE TO ACCOMODATE THE TURNING RADIUS OF CONSTRUCTION EQUIPMENT ON AND OFF THE PUBLIC STREET
2. INSTALL STABILZED CONSTRUCTION ENTRANCE ALONG NEW DRIVEWAY CORRIDOR FOR THE FULL PROPOSED WIDTH

Approved: City Engineer 1/4/10 Date

REVISION		ENGINEERING DIVISION	
Description	Date	STABILIZED CONSTRUCTION SITE ENTRANCE	EC-2

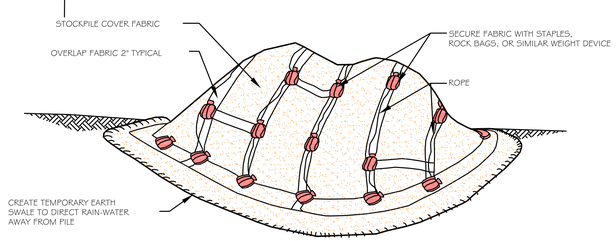
CITY OF LOS ALTOS, CALIFORNIA — INCORPORATED DECEMBER 1, 1952

STANDARD DETAILS MAY 2010

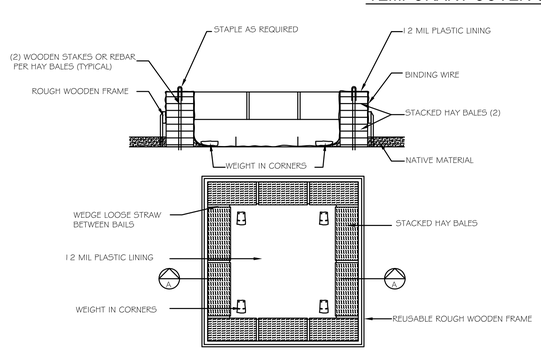


LEGEND

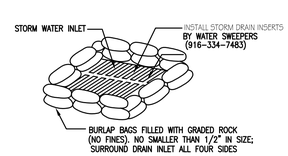
—X—X— STRAW WATTLES



TEMPORARY COVER ON STOCK PILE
NTS



TEMPORARY CONCRETE WASHOUT FACILITY (ABOVE GRADE)
NTS



NOTES:

1. THICKNESS OF FILLED BAGS WHEN LAID SHALL NOT EXCEED 4".
2. ENSURE THERE ARE NO GAPS BETWEEN THE BAGS.
3. REMOVE ACCUMULATED SILT, AND DEBRIS BEFORE IT EXCEEDS 2" THICK ON THE SIDES
4. INSPECT INLET PROTECTION DAILY DURING EXTENDED RAINFALL PERIODS AND BEFORE AND AFTER EACH RAIN EVENT.

BURLAP SACK DRAIN INLET (D.I.) SEDIMENT FILTER DETAIL
NTS

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN CONFORMANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT AND AS REQUIRED BY THE STATE OF CALIFORNIA WATER RESOURCES CONTROL BOARD ORDER R2-2003-0021 AND NPDES PERMIT NO. CAS 0029831.
2. THE DEVELOPER IS RESPONSIBLE FOR ENSURING THAT ALL CONTRACTORS AND SUBCONTRACTORS ARE AWARE OF ALL STORM WATER QUALITY MEASURES AND IMPLEMENT SUCH MEASURES. FAILURE TO COMPLY WITH THE APPROVED CONSTRUCTION BEST MANAGEMENT PRACTICES WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS, AND/OR STOP ORDERS.
3. ANY VEHICLE OR EQUIPMENT WASHING/STEAM CLEANING MUST BE DONE AT AN APPROPRIATELY EQUIPPED FACILITY WHICH DRAINS TO THE SANITARY SEWER. OUTDOOR WASHING MUST BE MANAGED IN SUCH A WAY THAT THERE IS NO DISCHARGE OF SOAPS, SOLVENTS, CLEANING AGENTS OR OTHER POLLUTANTS TO THE STORM DRAINS. WASH WATER SHALL DISCHARGE TO THE SANITARY SEWER, SUBJECT TO REVIEW AND APPROVAL OF THE CITY ENGINEER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LITTER CONTROL AND SWEEPING OF ALL PAVED SURFACES DURING CONSTRUCTION.
5. THE FACILITIES SHOWN ON THIS PLAN ARE DESIGNED TO CONTROL EROSION AND SEDIMENT DURING THE RAINY SEASON, OCTOBER 1 TO APRIL 30. EROSION CONTROL MEASURES ARE TO BE FUNCTIONAL PRIOR TO OCTOBER 1ST OF ANY YEAR GRADING OPERATIONS HAVE LEFT AREAS UNPROTECTED FROM EROSION.
6. ALL ON-SITE STORM DRAINS SHALL BE CLEANED IMMEDIATELY BEFORE THE START OF THE RAINY SEASON BEGINNING ON OCTOBER 1ST EACH YEAR, SUBJECT TO THE REVIEW OF THE BUILDING/ENGINEERING INSPECTOR.
7. IF RAINY WEATHER BECOMES IMMINENT, GRADING OPERATIONS SHALL BE STOPPED AND EROSION CONTROL MEASURES SHALL BE IMPLEMENTED TO PROTECT DISTURBED AREAS.
8. DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF TO ANY STORM DRAIN SYSTEM.
9. CONSTRUCTION ENTRANCES SHALL CONSIST OF A MINIMUM 8" THICK LAYER OF 3"-4" FRACTURED STONE AGGREGATE UNLAID WITH GEOTEXTILE LINER FOR A MINIMUM DISTANCE OF 50 FEET, AND IS TO BE PROVIDED AT EACH VEHICLE ACCESS POINT TO EXISTING PAVED STREETS. THE DEPTH AND LENGTH OF AGGREGATE MAY NEED TO BE ADJUSTED IN THE FIELD TO ENSURE NO TRACKING OF SEDIMENT ONTO EXISTING PAVED STREETS. CONSTRUCTION ENTRANCES SHALL SLOPE AWAY FROM EXISTING PAVED STREETS.
10. INLETS NOT USED IN CONJUNCTION WITH EROSION CONTROL MEASURES ARE TO BE BLOCKED UNLESS THE AREA DRAINED IS UNDISTURBED OR STABILIZED.
11. BORROW AREAS AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTORL MEASURES TO THE SATISFACTION OF THE CITY ENGINEER.
12. NO STRAW BALES OR SILT FENCES SHALL BE USED AS EROSION CONTROL MEASURES. SILT FENCES MAY ONLY BE USED AS A PHYSICAL BARRIER TO PREVENT VEHICULAR AND PEDESTRIAN TRAFFIC FROM USING NON-APPROVED ACCESS POINTS (E.G. – ALONG RIGHT-OF-WAY).
13. ALL DISTURBED AREAS INCLUDING FLAT PADS ARE TO BE TREATED WITH STRAW AND TACKIFIER AT A RATE OF 2 TONS PER ACRE APPROXIMATELY 3 INCHES THICK.

REGISTERED PROFESSIONAL ENGINEER — NADIM N. RAFFOUL — No. 56027 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

NNR ENGINEERING
CIVIL ENGINEERS
835 WEYBRIDGE DRIVE
SAN JOSE, CALIFORNIA 95123
(408) 348-7813

1035 RAY AVENUE
LOS ALTOS
APN 167-12-021
SANTA CLARA COUNTY CALIFORNIA

EROSION CONTROL PLAN

REVISIONS	BY
–	–

JOB NO:
DATE: 4-30-2020
SCALE: 1" =8'
DRAWN BY: NR
SHEET NO:
C-4
OF 4 SHEETS

MAWA EPPT and ETWU Calculations

Project Name:	Lui - Wong Residence
Project Location:	1035 Ray Ave. Los Altos
Total Landscape Area:	3,570.0 sq. ft.
Date:	05/01/2020

MAWA CALCULATION

MAWA = (Eto)(.62)((0.55xLA) + (1-ETAF x SLA)]

MAWA = Maximum Applied Water Allowance (gallons per year)
Eto = Reference Evapotranspiration (inches per year)
.62 = Conversion Factor (to gallons)
0.55 = Et Adjustment Factor (ETAF)
LA = Landscape Area including SLA (square feet)
0.45 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)

Eto =	43
Conversion	0.62
ETAF	0.55
LA =	3,570
SLA =	0

MAWA =	52,346.9	gallons per year
	6,998.3	cubic feet per year

MAWA with EPPT

MAWA = (Eto-Eppt)(.62)((0.55xLA) + (1-ETAF x SLA)]
Eppt= 25% of Annual precipitation

Eto =	43
Eppt=	9.82
ETAF=	0.55
LA =	3,570
SLA =	0

MAWA w/ EPPT =	40,412.9	gallons per year
	5,402.8	cubic feet

ETWU CALCULATION

ETWU = (Eto)(.62)((PF/IE)(LA)

ETWU = Estimated Total Water Use Per Year (gallons)
ETo = Reference Evapotranspiration
PF = Plant Factor from WUCOLS (Region 2, Water Use: H 0.7 - 0.9, M 0.4 - 0.6, L 0.1 - 0.3, VL < 0.1, All Turf 0.8)
LA = Landscape Area (High, Medium, and low water use areas)(square feet)
SLA = Special Landscape Area
.62 = Conversion Factor
IE = Irrigation Efficiency (drip spray and bubblers .81, sub surface .81, spray sprinklers .75
ET Adjustment Factor (ETAF) .55 for Residential and .45 for Non Residential

Reference Evapotranspiration (Eto)	43	Palo Alto, CA

REGULAR LANDSCAPE AREAS

Hydrozone #/ Plant Description	Irrigation Method	Plant Factor (PF)	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (sq. ft)	ETAF x Area	ETWU
1.) High Water Use, Turf	Spray	0.8	0.75	1.066666667	890.0	949.3	25,309.2
2.) Low Water Use, Shrubs	Drip	0.3	0.81	0.37037037	53.0	19.6	523.3
3.)Med Water Use, Trees	Drip	0.4	0.81	0.49382716	112.0	55.3	1,474.5
4.) Low Water Use Shrubs	Drip	0.3	0.81	0.37037037	140.0	51.9	1,382.4
5.) Low Water Use Shrubs	Drip	0.3	0.81	0.37037037	1,065.0	394.4	10,515.9
6.) Low Water Use Shrubs	Drip	0.2	0.81	0.24691358	915.0	225.9	6,023.2
7.) Med. Water Use Shrubs	Drip	0.4	0.81	0.49382716	311.0	153.6	4,094.4
8.) Med. Water Use, Trees	Drip	0.4	0.81	0.49382716	84.0	41.5	1,105.9
					Total sf ft.	Totals	Totals
					3,570.0	1,891.6	50,428.9

SPECIAL LANDSCAPE AREAS

Hydrozone #/ Plant Description	Irrigation Method	Plant Factor (PF)	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (sq. ft)	ETAF x Area	ETWU
				1	0	0	0.0
					Totals	Totals	Totals
					0	0	0.0
						ETWU TOTAL	50,428.9
						MAWA	52,346.9

ETAF CALCULATIONS

Regular Landscape Areas	
Total ETAF x Area	1,891.6
Total Area	3,570.0
Average ETAF	0.52984749
Special Landscape Areas	
Total ETAF x Area	1,891.6
Total Area	3,570.0
Sitewide ETAF	0.52984749

Average ETAF for Regular Landscape Areas must be .55 or below for residential areas, and .45 or below for non residential areas.

IRRIGATION KEY

Main Line	SCH 40 2"
Sleeves	SCH 40 4" or contractor to locate and use existing if possible
Lateral Line	SCh 40 1"
Drip Line: Netafim Techline CV LITE with 18" Emitter spacing and 24" lateral spacing. Provide flush valves at the end of each circuit and air relief valve at the high point of each circuit.	
Rainbird Drip Valve XCS-100-PRF	
Rainbird 1800 series 6" Heads	
Rainbird Valves PEB or PEBS	
Master Shut Off Valve behind meter	
Medium Flow Inline Pressure Regulator 40 PSI	
Rainbird Flow Sensor FS-200-P Note: Provide a clear, unobstructed distance of at least 10xs the pipe's diameter upstream of the sensor and at least 5xs the pipe's diameter downstream of the sensor	
B	FEBCO Backflow Preventer 1" 825Y
C	Rainbird Controller 4 to 22- station ESP-Me
WM	New Irrigation 1" Water Meter
R	Rainbird RSD Series Rain Shut Off
MS	Rainbird SMRT-Y Soil Moisture Sensor

Hydrozone Number — 1 — 898 SF High Water Spray — Water Use And Type

Hydrozone Legend

High Water Use	
Moderate Water Use	
Low Water Use	

Rainbird PEB VALVE

Netafim Dripline

Netafim Flush Valve

Rainbird Drip Valve XCS-100-PRF

Rainbird Controller 22 station ESP-Me

Rainbird Rotors

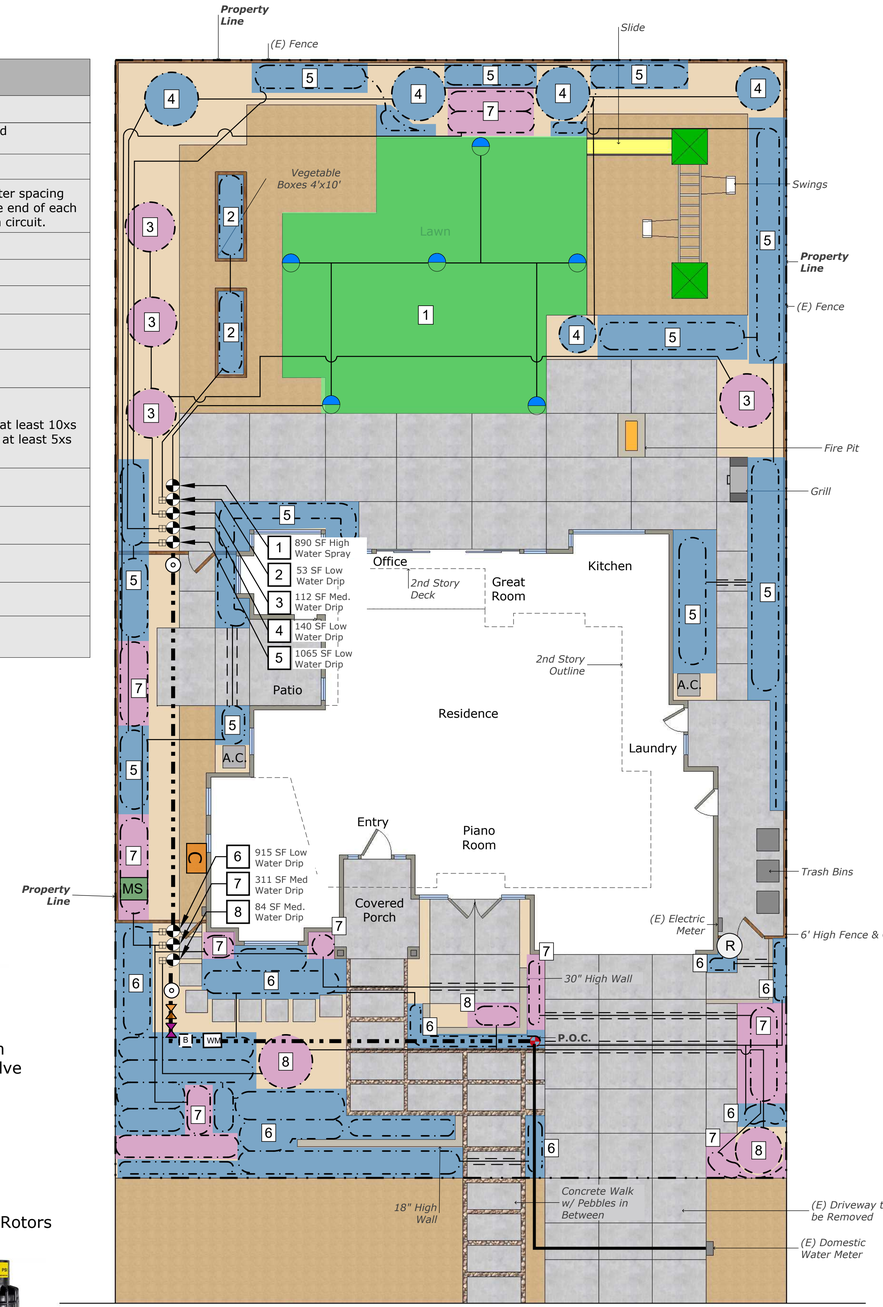
Rainbird Flow Sensor FS-200-P

FEBCO Backflow Preventer 850Y

Pressure Regulator 40 PSI

Rainbird RSD Series Rain Shut Off

Rainbird SMRT-Y Soil Moisture Sensor



Ray Ave.

"I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape and irrigation design plan"

"I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package,"

Karen Aitken

N

SCALE 1/8" = 1'-0"
0 8 16

*** NOTES (E) = Existing**

REVISIONS	BY

Karen Aitken & Associates
Landscape Architecture & Design

KAREN AITKEN & ASSOCIATES
LANDSCAPE ARCHITECTS
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Calif. Reg.#2239 (408) 842-0245
karen@kaa.design

LUI-WONG RESIDENCE
1035 Ray Ave., Los Altos, CA.

IRRIGATION PLAN

LICENSED LANDSCAPE ARCHITECT
KAREN JONES AITKEN
No. 2239
Exp. 8-31-21
STATE OF CALIFORNIA

DATE	05-01-20
SCALE	1/8"=1'-0"
DRAWN	SL & IN
JOB	LUI-WONG

L-1

Acer palmatum
J. Maple Green Leaf 15 Gal.
4-5-5' x 3-4' (Height x Width)
<20' x <20' (At Maturity)
Growth Rate: Slow

Lophostemon confertus
Brisbane Box Tree 24" Box
8-10 'x 2-3' (Height x Width)
30-45' x 25' (At Maturity)
Growth Rate: Slow

Arbutus 'Marina'
Strawberry Tree 24" Box
8-9' x 2-3' (Height x Width)
25-40 ' x 20-30' (At Maturity)
Growth Rate: Moderate

Citrus 'Bearss Lime'
Lime Tree 24" Box
4-5' x 2-2.5' (Height x Width)
15-20 ' x 12-15' (At Maturity)
Growth Rate: Moderate

Citrus Orange 'Valencia' Standard
Valencia Orange Tree 24" Box
4-5' x 2-2.5' (Height x Width)
15-20 ' x 12-15' (At Maturity)
Growth Rate: Moderate

Prunus salicina 'Santa Rosa'
Santa Rosa Plum Tree 24" Box
5-6 'x 2-3' (Height x Width)
20-30' x 10-15' (At Maturity)
Growth Rate: Moderate

Pistacia chinensis
Chinese Pistache 24" Box
8-10' x 2-3' (Height x Width)
<30-60' x 20-40' (At Maturity)
Growth Rate: Moderate

Olea europaea 'Swan Hill'
Fruitless Olive 24" Box
4.5-6' x 3-4' (Height x Width)
<25' x <25' (At Maturity)
Growth Rate: Moderate

Lagerstroemia 'Natchez'
Tuscarora Crape Myrtle 15 Gal.
8-9' x 2-3' (Height x Width)
25' x 12' (At Maturity)
Growth Rate: Moderate

Eriobotrya japonica
Loquat 24" Box
7-9' x 3-4' (Height x Width)
20' x 20' (At Maturity)
Growth Rate: Fast

Plant Legend

Botanical	Common	Quantity	Size	WUCOLS	Remarks
Tree					
Acer palmatum	Japanese Maple	1	15 Gallon	Medium, Extra in Summer	
Arbutus 'Marina'	Marina Strawberry Tree	1	24" Box	Low	
Citrus x Species	Citrus Species	3	24" Box	Medium	Owner's Choice
Eriobotrya japonica	Loquat	1	24" Box	Low	
Lagerstroemia 'Natchez'	Natchez Crape Myrtle	1	15 Gallon	Low	
Lophostemon confertus	Brisbane Box	2	24" Box	Very Low, Low	Tristania Tree
Olea europaea 'Swan Hill'	Swan Hill Fruitless Olive	1	24" Box	Very Low, Medium	Multi-Trunk
Pistacia chinensis	Chinese Pistache	1	24" Box	Low	
Prunus salicina 'Santa Rosa'	Santa Rosa Plum	1	24" Box	Medium, Extra in Summer	
Shrub					
Ceanothus 'Dark Star'	Dark Star Ceanothus	1	5 Gallon	Low	
Coleonema pulchellum 'Compacta'	Dwarf Breath of Heaven	3	1 Gallon	Medium	
Dodonaea viscosa 'Purpurea'	Purple Hop Bush	3	5 Gallon	Very Low, Extra in Summer	
Escallonia X exoniensis 'Frades'	Frades Compact Escallonia	2	1 Gallon	Low	
Lavandula angustifolia 'Hidcote'	Hidcote English Lavender	9	1 Gallon	Low	
Nandina domestica	Nandina, Heavenly Bamboo	1	5 Gallon	Low	
Pittosporum tenuifolium	Blackstem Pittosporum	3	5 Gallon	Medium	
Prunus caroliniana	Carolina Laurel Cherry	32	15 Gallon	Low	
Rhaphiolepis indica 'Clara'	White Indian Hawthorn	6	5 Gallon	Very Low	
Rhaphiolepis umbellata	Yeddo Hawthorn	3	5 Gallon	Low, Medium, Extra in Summer	
Salvia greggii 'Purple'	Purple Autumn Sage	13	1 Gallon	Medium, Extra in Summer	
Salvia leucantha	Mexican Sage	3	5 Gallon	Low	
Thuja occidentalis 'Emerald Green'	Green Pyramid Arborvitae	5	5 Gallon	Medium	
Ground Cover					
Dymondia margaretae	Dymondia, Rock Ditty	8	1 Gallon	Low	
Geranium X cantabrigiense 'Biokovo'	Biokovo Geranium	10	1 Gallon	Low, Extra in Summer	
Trachelospermum jasminoides	Star Jasmine	3	1 Gallon	Low, Medium	Trained to Fence
Verbena 'Homestead Purple'	Homestead Purple Verbena	15	1 Gallon	Very Low, Low	
Vine					
Bougainvillea 'San Diego Red'	San Diego Red Bougainvillea	1	5 Gallon	Medium	
Perennial					
Salvia x sylvestris 'May Night'	May Night Meadow Sage	9	1 Gallon	Low	
Grass					
Chondropetalum elephantinum	Large Cape Rush	3	5 Gallon	Low	
Nassella tenuissima	Mexican Feather Grass	12	5 Gallon	Very Low	

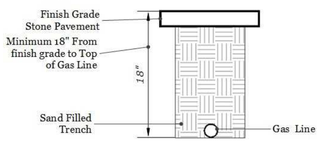
Thuja occidentalis 'Emerald Green'
Golden Pyramid Arborvitae 5 Gal.
4-5' x 1-2' (Height x Width)
10-15'x 3-4' (At Maturity)
Growth Rate: Moderate

Prunus caroliniana
Carolina Laurel Cherry 15 Gal.
7-9' x 1-2' (Height x Width)
25-40-' x 4-6' (At Maturity)
Growth Rate: Moderate to Fast

Pittosporum tenuifolium
Blackstem Pittosporum 5 Gal.
12-16"x 10-14" (Height x Width)
12-16'x 6-8' (At Maturity)
Growth Rate: Moderate

Gas Trench Detail

N.T.S



*** Note Gas line**

Note: Gas Line
1 " Conduit for Gas Line
18" Min.
Below Grade

Contractor to verify & Connect New Gas Line to Existing Gas Line

Ray Ave.

Up-Lights
FX -CC-LED

Wall Lights
MS-LED

Path Lights
FX-CB-LED

Low Voltage Lights- by FX Luminaire

FIXTURE FINISHES: Prefer Copper . . . or . . . Antique Bronze as alternative

- **Path Lights - FX -CB -3LED 4.2 WATT**
- **Tree Up-Lights- FX -CC-LED**
- **Lighting Transformer & Digital Controller FX - LX**
- **Wall Lights MS-1LED 2.0 WATT**

N

SCALE 1/8" = 1'-0"

0 8 16

*** NOTES (E) = Existing**

A minimum three inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas.

REVISIONS	BY

Karen Aitken & Associates
Landscape Architecture & Design

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LANDSCAPE ARCHITECTS
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Calif. Reg.#2239 (408) 842-0245
karen@kaa.design

LUI-WONG RESIDENCE

1035 Ray Ave., Los Altos, CA.

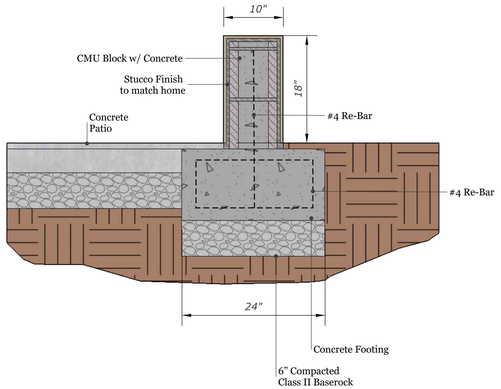
PLANTING & LIGHTNING PLAN

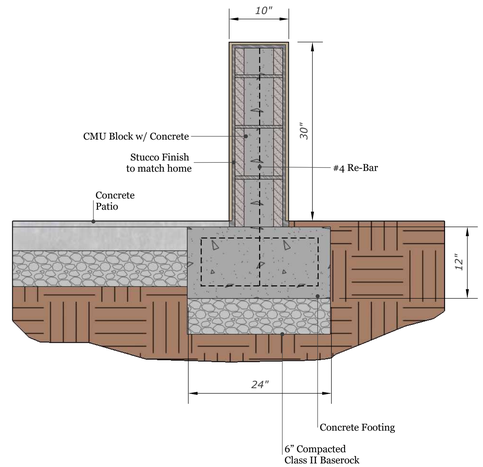
LICENSED LANDSCAPE ARCHITECT
KAREN JONES AITKEN
No. 2239
Exp. 8-31-21
STATE OF CALIFORNIA

DATE	05-01-20
SCALE	1/8"=1'-0"
DRAWN	SL & IN
JOB	LUI-WONG

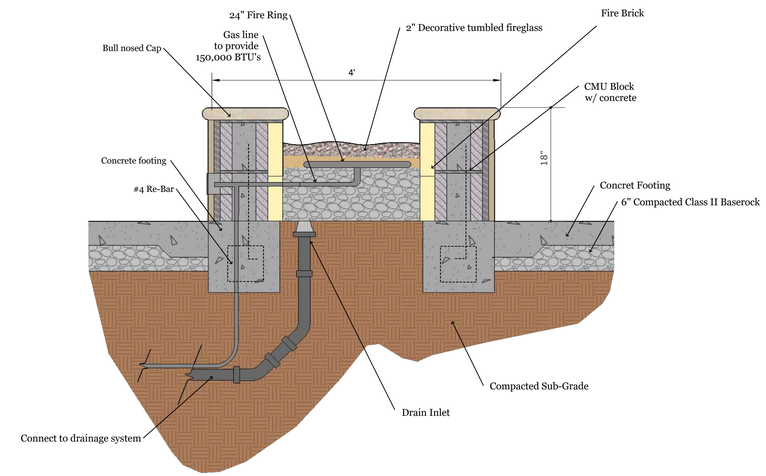
L-2

Courtyard Wall Details

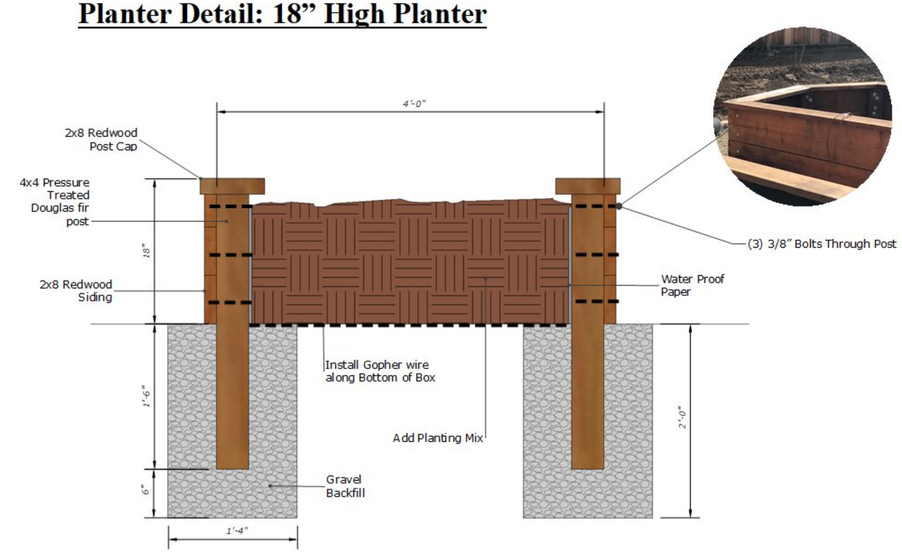




Fire Table Detail



Planter Detail: 18" High Planter



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DETAIL SHEET

LICENSED LANDSCAPE ARCHITECT
KAREN JONES AITKEN
No. 2239
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DATE	05-01-20
SCALE	NTS
DRAWN	IN
JOB	LUI-WONG

L-3