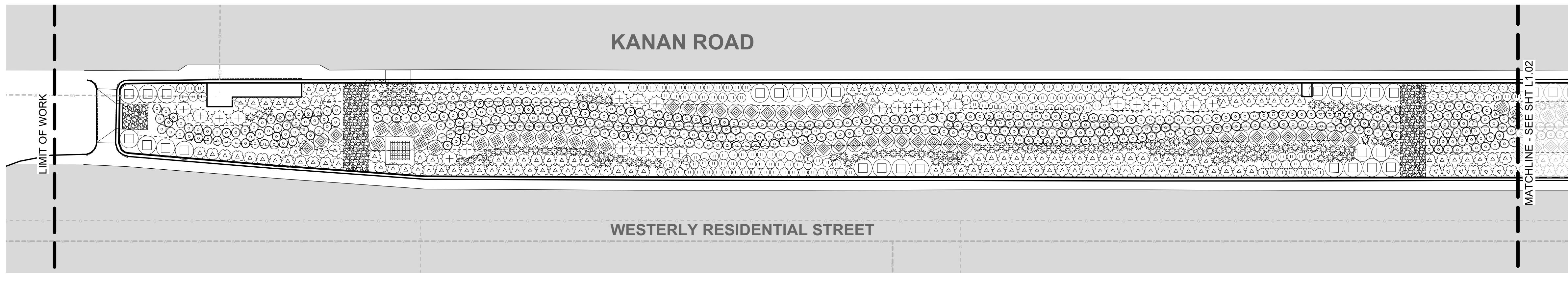


**KANAN ROAD - EAST**

PLAN VIEW "B"

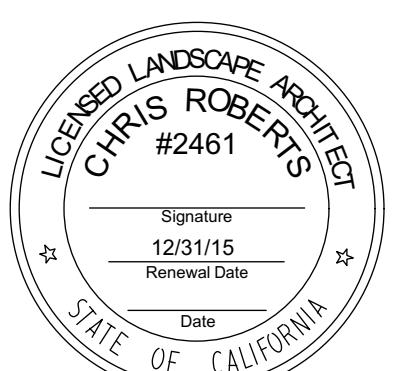


**KANAN ROAD - WEST**

PLAN VIEW "A"

**PLANT SCHEDULE**

SYM	QTY	LATIN NAME	COMMON NAME	SIZE	SPACING	WUCOLS
cloud	350	Achillea millefolium	Common Yarrow	PLUG 128	2' O.C.	LOW
triangle	2	Arctostaphylos 'John Dourley'	John Dourley Manzanita	5 GAL	5' O.C.	LOW
circle	844	Carex praegracilis	California Field Sage	PLUG 72	18" O.C.	MOD
sun	38	Deschampsia caespitosa	Tufted Hair Grass	1 GAL	3' O.C.	MOD
star	352	Elymus triticoides	Creeping Wild Rye	PLUG 72	18" O.C.	LOW
circle with dot	308	Erigeron glaucus 'Ron's Pink'	Sea Breeze Fleabane	RP FLATS	18" O.C.	MOD
circle with swirl	92	Iris douglasiana	Douglas Iris	4" POT	2'6" O.C.	MOD
square	58	Muhlenbergia rigens	Deer Grass	1 GAL	3' O.C.	MOD



SAVE DATE: 12/17/14 BERG

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			DATE

Pacific Coast Land Design, Inc.  
Landscape Architecture • Urban Design • Environmental Planning  
3639 Harbor Blvd., Suite #107, Ventura, CA 93001  
Phone: (805) 644-9697 Fax: (805) 644-9742

CHRIS ROBERTS  
LANDSCAPE ARCHITECT  
LIC. # 2461  
RENEWAL DATE: 12/31/15  
Landscape Architecture • Urban Design • Environmental Planning  
3639 Harbor Blvd., Suite #107, Ventura, CA 93001  
Phone: (805) 644-9697 Fax: (805) 644-9742

PCLCD JOB# PLAN DATE

423 12/17/2014

EB, MZ  
DESIGNED

PROJECT MANAGER

DATE

EB

DRAWN

DEPUTY DIRECTOR

DATE

MZ

CHECKED

DISTRICT DIRECTOR

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CHRIS ROBERTS  
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SPEC. NO.  
WFXX-XX

PROJ. NO.

40540

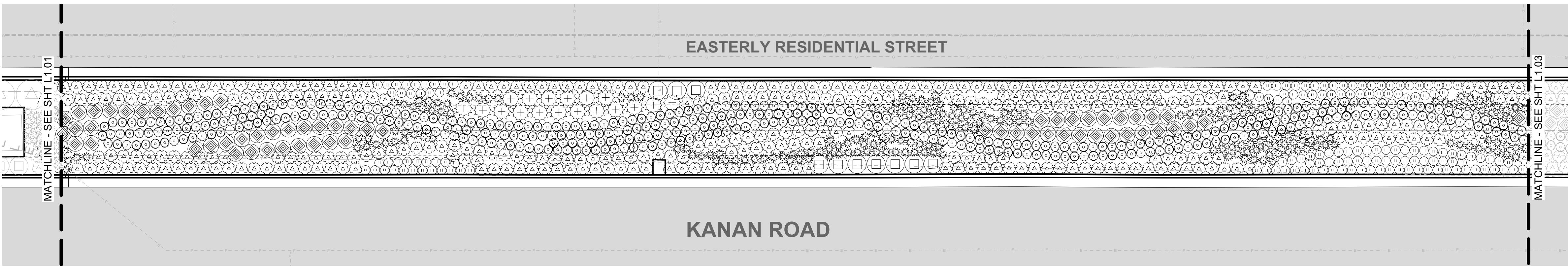
OAK PARK GREEN STREETS URBAN RETROFIT  
PLANTING PLAN

**PLANTING NOTES:**

- SEE SPECIFICATIONS FOR PREPARATION OF PLANTING AREAS INCLUDING VEGETATIVE SUPPORT MATERIAL (VSM) AND FILTRATION MEDIA.
- VILLA MOISTURE BARRIER 0.060 MIL MOISTURE BARRIERS OR APPROVED EQUAL SHALL BE INSTALLED AT PARKWAY PLANTERS. MOISTURE BARRIER IN PARKWAY PLANTERS SHALL BE A MINIMUM 36" DEPTH AND CONTINUOUS ALONG EDGE OF CURB 1" FROM EDGE OF PAVEMENT.
- BACKFILL PER CY FOR CONTAINER PLANTS TO BE SIMILAR TO VSM WITH EXPANDED QUANTITIES OF ORGANIC COMPOST AND CLEAN TOPSOIL. MIX SHALL BE:  
40% SAND  
25% COMPOST  
35% TOPSOIL
- DO NOT RAISE OR LOWER GRADE WITHIN DRIPLINE OF EXISTING TREES TO REMAIN. NO ROTOTILLING WITHIN 5' OF EXISTING TREE TRUNKS.
- CONTRACTOR TO SUBMIT PHOTO(S) OF ALL PLANT MATERIAL FOR COUNTY AND LANDSCAPE ARCHITECT APPROVAL 2 WEEKS PRIOR TO DELIVERY TO THE SITE. ALL PLANT MATERIAL SHALL BE SELECTED AT THE NURSERY BY THE COUNTY REPRESENTATIVE.
- UPON COMPLETION OF ESTABLISHMENT PERIOD, CONTRACTOR SHALL SUBMIT TURN-OVER SHEET ATTACHED TO SPECIFICATIONS TO THE COUNTY REPRESENTATIVE.

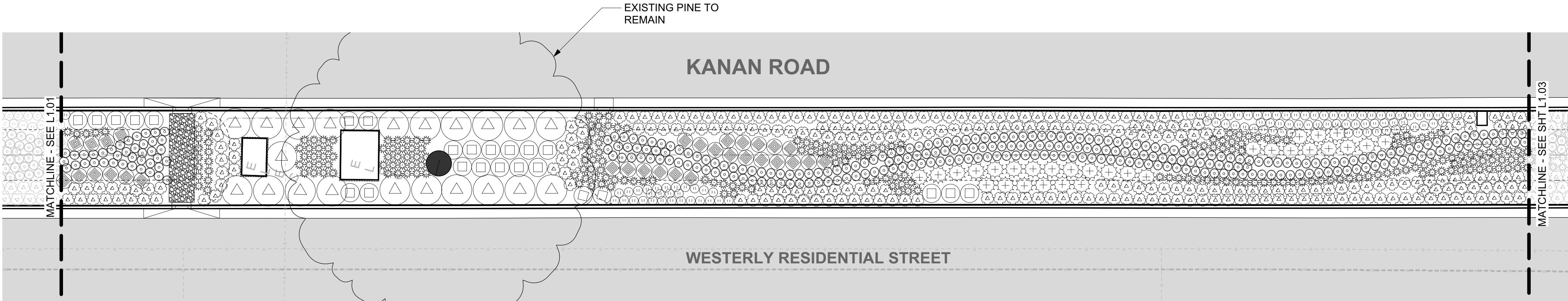
**PRELIMINARY**

12  
OF  
19  
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**KANAN ROAD - EAST**

PLAN VIEW "A"

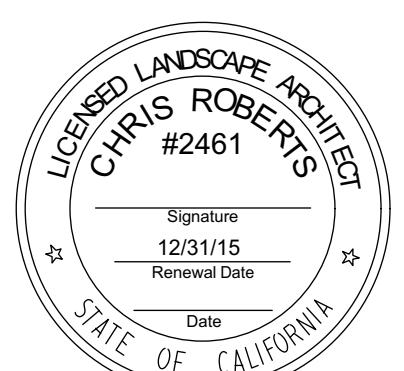


**KANAN ROAD - WEST**

PLAN VIEW "B"

**PLANT SCHEDULE**

SYM	QTY	LATIN NAME	COMMON NAME	SIZE	SPACING	WUCOLS
Ⓐ	613	Achillea millefolium	Common Yarrow	PLUG 128	2' O.C.	LOW
△	21	Arctostaphylos 'John Dourley'	John Dourley Manzanita	5 GAL	5' O.C.	LOW
◎	678	Carex praegracilis	California Field Sage	PLUG 72	18" O.C.	MOD
✿	48	Deschampsia caespitosa	Tufted Hair Grass	1 GAL	3' O.C.	MOD
✿	436	Elymus triticoides	Creeping Wild Rye	PLUG 72	18" O.C.	LOW
◎	246	Erigeron glaucus 'Ron's Pink'	Sea Breeze Fleabane	RP FLATS	18" O.C.	MOD
✿	93	Iris douglasiana	Douglas Iris	4" POT	2'6" O.C.	MOD
□	35	Muhlenbergia rigens	Deer Grass	1 GAL	3' O.C.	MOD



SAVE DATE: 12/17/14 BERG

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CHRIS ROBERTS  
LANDSCAPE ARCHITECT  
LIC. # 2461  
RENEWAL DATE: 12/31/15

EB, MZ  
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MZ  
CHECKED

PROJECT MANAGER DATE  
DEPUTY DIRECTOR DATE  
DISTRICT DIRECTOR DATE

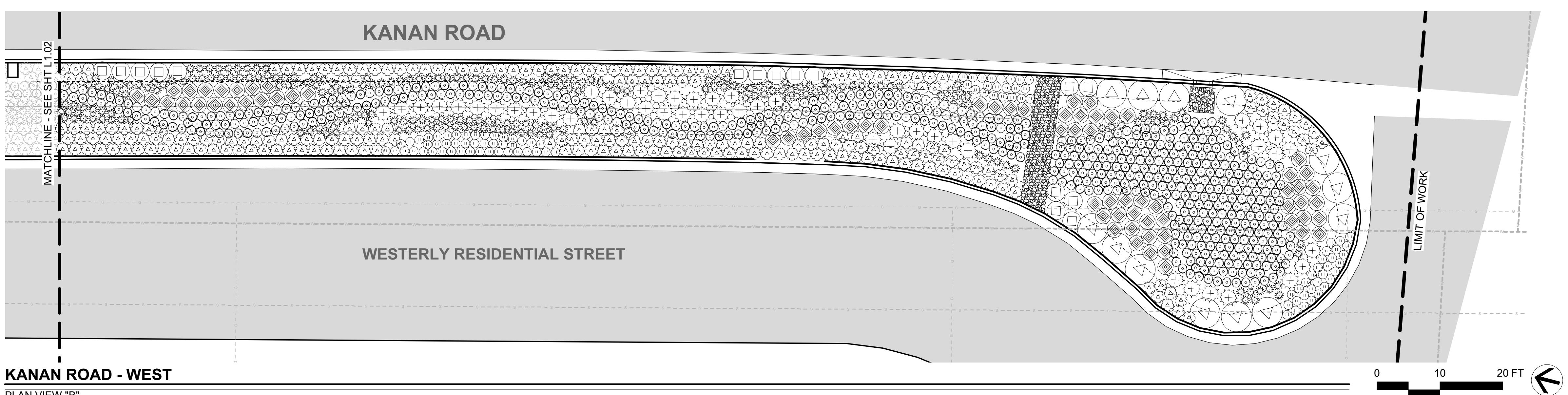
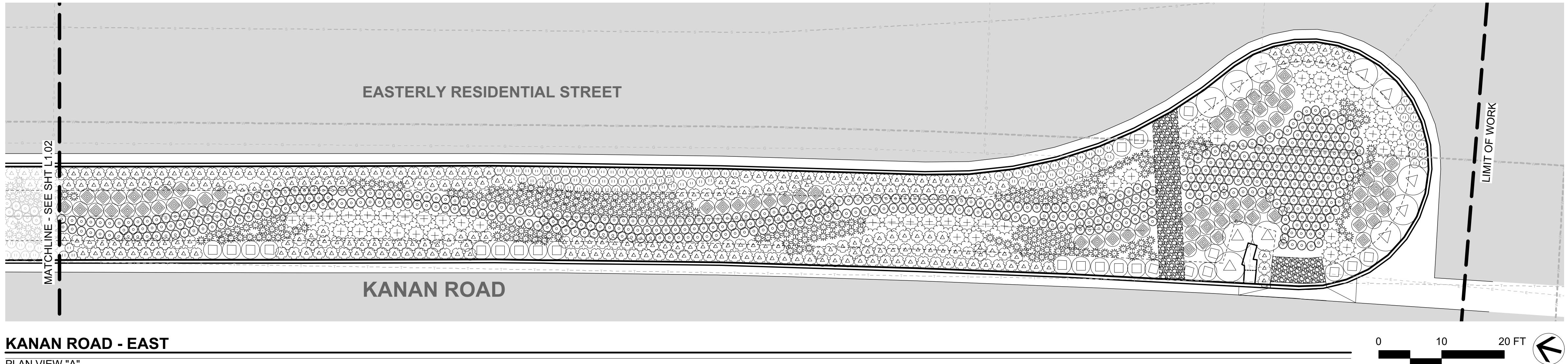
SPEC. NO.  
WFXX-XX  
PROJ. NO.  
40540

COUNTY OF VENTURA  
PUBLIC WORKS AGENCY  
WATERSHED PROTECTION DISTRICT

13  
OF 19  
DRAWING NO.  
X-X-XXXX

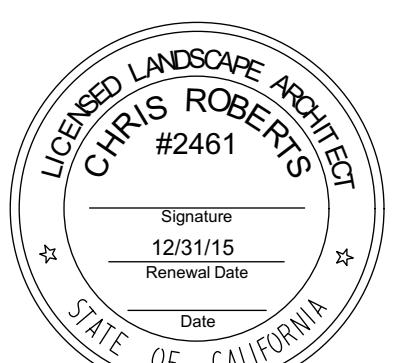
OAK PARK GREEN STREETS URBAN RETROFIT  
PLANTING PLAN

**PRELIMINARY**



#### PLANT SCHEDULE

SYM	QTY	LATIN NAME	COMMON NAME	SIZE	SPACING	WUCOLS
cloud	506	Achillea millefolium	Common Yarrow	PLUG 128	2' O.C.	LOW
triangle	24	Arctostaphylos 'John Dourley'	John Dourley Manzanita	5 GAL	5' O.C.	LOW
circle	1071	Carex praegracilis	California Field Sage	PLUG 72	18" O.C.	MOD
sun	95	Deschampsia caespitosa	Tufted Hair Grass	1 GAL	3' O.C.	MOD
star	459	Elymus triticoides	Creeping Wild Rye	PLUG 72	18" O.C.	LOW
circle with dot	209	Erigeron glaucus 'Ron's Pink'	Sea Breeze Fleabane	RP FLATS	18" O.C.	MOD
iris	147	Iris douglasiana	Douglas Iris	4" POT	2'6" O.C.	MOD
square	40	Muhlenbergia rigens	Deer Grass	1 GAL	3' O.C.	MOD



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DESIGNED  
EB  
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MZ  
CHECKED

PROJECT MANAGER DATE  
DEPUTY DIRECTOR DATE  
DISTRICT DIRECTOR DATE

SPEC. NO.  
WFXX-XX  
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40540

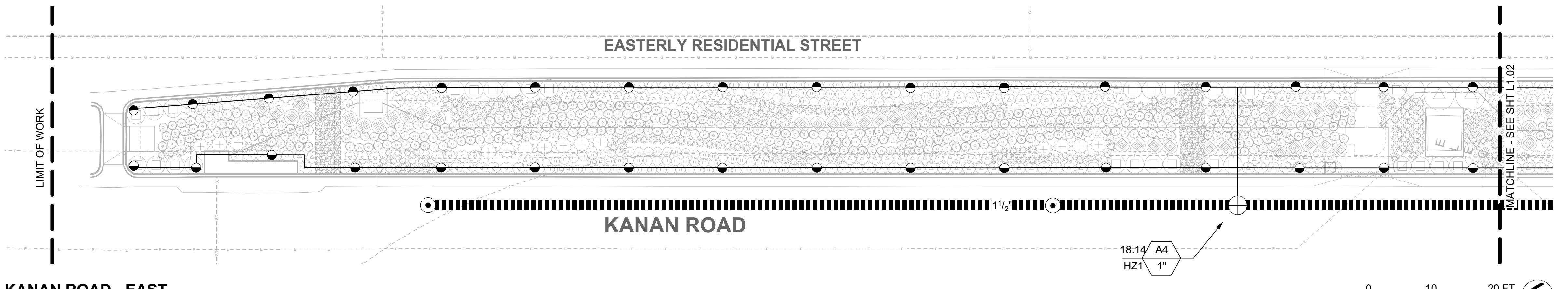
CHRISTIAN ROBERTS  
PUBLIC WORKS AGENCY  
WATERSHED PROTECTION DISTRICT

PRELIMINARY

OAK PARK GREEN STREETS URBAN RETROFIT

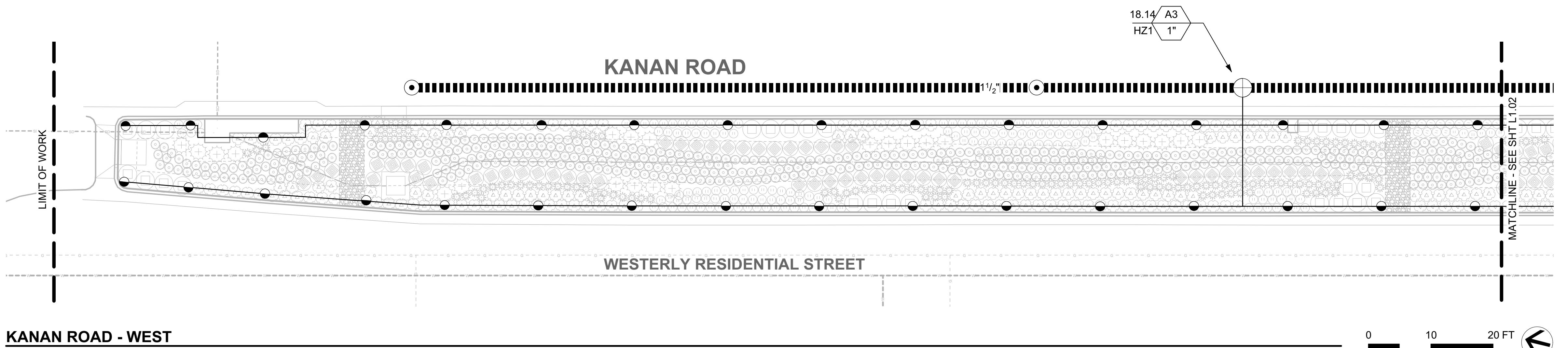
PLANTING PLAN

14  
OF 19  
DRAWING NO. X-X-XXXX



**KANAN ROAD - EAST**

PLAN VIEW "A"



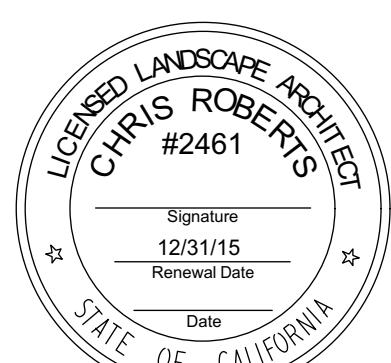
**KANAN ROAD - WEST**

PLAN VIEW "B"

GPM	SIZE
1-8	3/4"
8-12	1"
12-22	1 1/4"
22-30	1 1/2"
30+	2"

EXISTING IRRIGATION EQUIPMENT TO REMAIN	
	BACKFLOW PREVENTER AND ENCLOSURE
	ELECTRIC METER
	WATER METER
	CONTROLLER
	MAINLINE AND SLEEVE

IRRIGATION SCHEDULE (CONTRACTOR TO INSTALL MANUFACTURER LISTED EQUIPMENT OR APPROVED EQUAL)							
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL	GPM	RADIUS	PSI	DETAIL / SHEET #
	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP1000 90-210	.19 - .43	8' - 15'	40	A / L3.1
	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP2000 90-210	.40 - .86	13' - 21'	40	A / L3.1
	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP2000 360	1.47	13' - 21'	40	A / L3.1
	POP-UP SPRAY BODY (NON-POTABLE) GATE VALVE	RAINBIRD OR APPROVED EQUAL	RD-1812-P45-NP				A / L3.1
	REMOTE CONTROL VALVE	NIUBCO OR APPROVED EQUAL	T-113-K (LINE SIZE)				C / L3.1
	QUICK COUPLER	RAINBIRD OR APPROVED EQUAL	100-EFB-CP (INSTALL INCLUDED PURPLE HANDLE COVER)				B / L3.1
	PULL BOX	NA	33-DNP				F / L3.1
	MAIN LINE	WESTERN LASCO OR APPROVED EQUAL	SEE SPECIFICATIONS				E / L3.1
	LATERAL LINE	WESTERN LASCO OR APPROVED EQUAL	SCHEDULE 40 PVC, PURPLE-ALL MAINLINE 1 1/2" UNLESS NOTED				D / L3.1
			SCHEDULE 40 PVC, PURPLE - SIZE PER PLAN				D / L3.1



SAVE DATE: 12/17/14 BERG

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CHRIS ROBERTS LANDSCAPE ARCHITECT	LIC. # 2461
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Phone: (805) 644-9697 Fax: (805) 644-9742	
PCLD JOB# PLAN DATE	

CHRIS ROBERTS LANDSCAPE ARCHITECT	EB, MZ DESIGNED
RENEWAL DATE: 12/31/15	PROJECT MANAGER DATE
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	MZ
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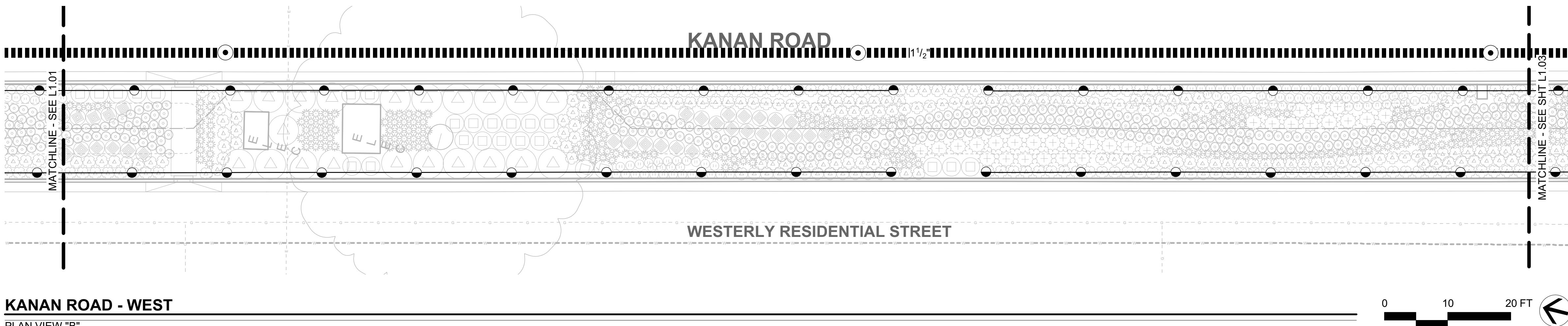
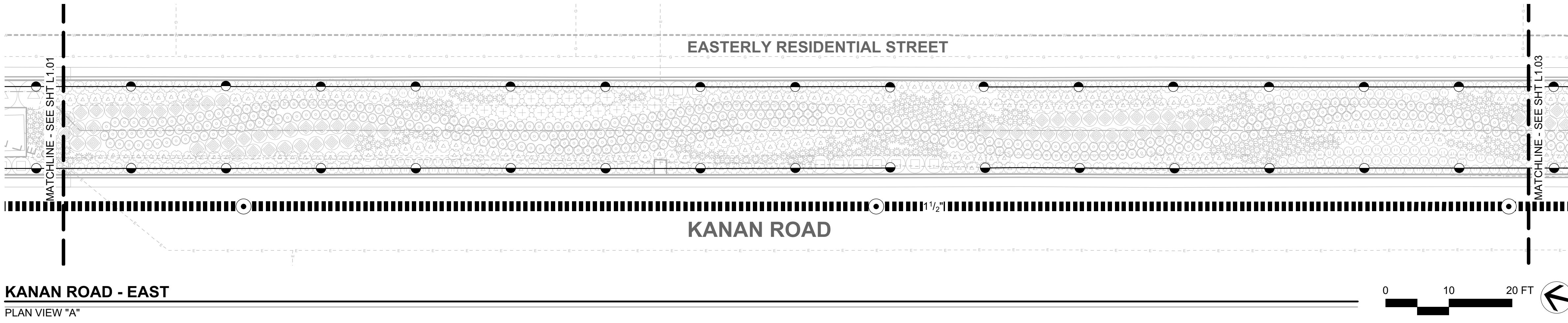
COUNTY OF VENTURA PUBLIC WORKS AGENCY WATERSHED PROTECTION DISTRICT	
SPEC. NO. WFXX-XX	
PROJ. NO. 40540	

OAK PARK GREEN STREETS URBAN RETROFIT IRRIGATION PLAN	15 OF 19 DRAWING NO X-X-XXXX
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#### IRRIGATION NOTES:

- STATIC WATER PRESSURE IS XX PSI AT P.O.C. 'A'. THE WATER PURVEYOR IS CALLEGUAS MUNICIPAL WATER DISTRICT. FOR PROJECT INFORMATION, CONTACT: \_\_\_\_\_.
- IRRIGATION DRAWINGS ARE DIAGRAMMATIC. LOCATE NEW PIPELINES, VALVES AND EQUIPMENT IN PLANTING AREAS WHEREVER POSSIBLE.
- ALL RECYCLED WATER PIPING SHALL USE PURPLE COLORED AND STENCILED PIPE, PURPLE RECYCLED WATER WARNING TAPE CONTINUOUSLY APPLIED TO THE PIPE, OR MARKED PLASTIC ENCASEMENT. ALL MARKING SHALL INCLUDE THE FOLLOWING OR SIMILAR WORDS: "CAUTION: RECYCLED WATER-DO NOT DRINK".
- WARNING TAPE OR PIPE ENCASEMENT INSTALLED SHALL BE AS MANUFACTURED BY T. CHRISTY ENTERPRISES, RENCOR OR EQUAL.
- INSTALL VALVES, METERS AND APPURTENANCES IN PURPLE COLORED VALVE BOXES WITH PURPLE LIDS. THE VALVE BOX LID SHALL HAVE THE FOLLOWING WARNINGS MOLDED OR HOT-STAMPED UPON IT: "RECYCLED WATER", OR USE WARNING LABEL BY T. CHRISTY ENTERPRISES 3800 OR EQUAL.
- ALL POP-UP SPRINKLER HEADS SHALL HAVE AN EXPOSED SURFACE COLORED PURPLE TO ASSOCIATE THEM WITH RECYCLED WATER USE. THE EXPOSED SURFACE MAY BE COLORED PURPLE THROUGH THE USE OF: (1) DYED PLASTIC OR RUBBER, OR (2) WEATHERPROOF PAINT.
- INSTALL WARNING TAGS AS MANUFACTURED BY T. CHRISTY ENTERPRISES 3150 OR EQUIVALENT TO ALL SUCH CONTROL VALVES, GATE VALVES, QUICK COUPLER VALVES, CONTROLLERS, METERS, ETC. TAGS SHALL BE WEATHERPROOF PLASTIC, 3-INCH BY 4-INCH, PURPLE IN COLOR WITH THE WORDS "WARNING: RECYCLED WATER-DO NOT DRINK" IMPRINTED ON ONE SIDE AND "AVISO: AGUA IMPURA-NO TOMAR" ON THE OTHER SIDE, OR SIMILAR AS APPROVED BY THE DISTRICT ENGINEER. IMPRINTING SHALL BE PERMANENT AND BLACK IN COLOR.
- EXISTING MAINLINE UNDER STREET PAVING, IF IT IS SIZED PER PLAN AND PASSES PRESSURE TESTING, NEED NOT BE REPLACED. HOWEVER, TAGS SHALL BE PLACED AT EACH END OF THE PIPE WITH THE FOLLOWING INSCRIPTION: "THIS PIPE, ALTHOUGH NOT COLORED PURPLE, IS PART OF A RECYCLED WATER IRRIGATION SYSTEM. ALL WHITE PVC PIPE IS HIDDEN UNDER PAVED SURFACES AND COMPLETELY OUT OF PUBLIC VIEW".
- REPORT STATIC MAINLINE PRESSURE TO LANDSCAPE ARCHITECT OF RECORD AND COUNTY REPRESENTATIVE PRIOR TO STARTING CONSTRUCTION.
- PVC SHALL BE LAID WITH CONNECTIONS HORIZONTAL, NOT VERTICAL.
- SCHEDULE 40 OR ABOVE ONLY ON PVC, NO CLASS 200.
- PIPE SIZES ARE 3/4" UNLESS OTHERWISE LABELED. CHANGES IN PIPE SIZING LOCATED AT FARDEST DOWNSTREAM PIPE SEGMENT PER SIZE.
- PRESSURE TEST ON ALL MAINLINES 4 HOURS AT 150 PSI. CALL INSPECTOR 24 HOURS PRIOR TO TEST.
- PROVIDE UNIQUELY COLORED TRACE WIRE TAPE TO BOTTOM OF MAINLINE. TRACE WIRE TO BE CAPPED IN MASTER VALVE BOX AND AT END OF MAINLINE IN LAST VALVE BOX.
- PROVIDE ONE ADDITIONAL VALVE WIRE EXTENDED TO THE END OF EACH MAINLINE RUN.
- CONTRACTOR TO PULL NEW CONTROL WIRES IN EASTERN PARKWAY FROM EXISTING CONTROLLER AND EXTEND TO NEW VALVE AND END OF LINE AS SHOWN. IN WESTERN PARKWAY, CONTRACTOR TO USE EXISTING WIRES IN SLEEVE UNDER KANAN ROAD AND SPLICE NEW WIRES IN PULL BOX AND EXTEND TO NEW VALVE AND END OF LINE AS SHOWN.
- WATER LINE SLEEVES SHALL ALLOW FOR IRRIGATION PIPES AND COUPLERS TO EASILY SLIDE THROUGH SLEEVING. EXTEND NEW SLEEVE 18" BEYOND EDGES OF PAVING.
- ALL STATION VALVES AND VALVE BOXES SHALL BE APPROVED FOR RECYCLED WATER.
- THE CONTRACTOR SHALL ALLOW FOR MINOR RELOCATION OF POP-UP SPRINKLER HEADS AT NO CHARGE TO THE CITY.
- NO IRRIGATION LINES SHALL BE PLACED UNDER ROOTBALLS OF EXISTING OR PROPOSED PLANTS. TRENCHING WITHIN 6 FEET OF EXISTING TREE TRUNKS SHALL BE BY HAND. ROOTS 2" OR LARGER SHALL BE CUT ACCORDING TO ISA STANDARDS IF THEIR REMOVAL IS NECESSARY TO INSTALL PIPES OR ROOT BARRIERS AT THE DIRECTION OF COUNTY REPRESENTATIVE.
- EXISTING MAINLINE WITHIN PLANTING AREAS MUST BE CUT AND DISPOSED OF.
- THE IRRIGATION SYSTEM SHALL BE FULLY OPERATIONAL BY THE BEGINNING OF THE PLANTING ESTABLISHMENT PERIOD.

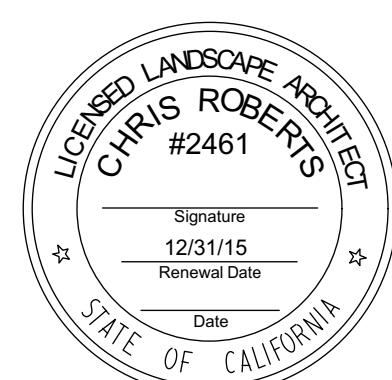
**PRELIMINARY**



LATERAL PIPE SIZING	
GPM	SIZE
1-8	3/4"
8-12	1"
12-22	1 1/4"
22-30	1 1/2"
30+	2"

EXISTING IRRIGATION EQUIPMENT TO REMAIN	
SYMBOL	DESCRIPTION
	BACKFLOW PREVENTER AND ENCLOSURE
	ELECTRIC METER
	WATER METER
	CONTROLLER
	MAINLINE AND SLEEVE

IRRIGATION SCHEDULE (CONTRACTOR TO INSTALL MANUFACTURER LISTED EQUIPMENT OR APPROVED EQUAL)							
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL	GPM	RADIUS	PSI	DETAIL / SHEET #
	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP1000 90-210	.19 - .43	8' - 15'	40	A / L3.1
	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP2000 90-210	.40 - .86	13' - 21'	40	A / L3.1
	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP2000 360	1.47	13' - 21'	40	A / L3.1
	POP-UP SPRAY BODY (NON-POTABLE) GATE VALVE	RAINBIRD OR APPROVED EQUAL	RD-1812-P45-NP				A / L3.1
	REMOTE CONTROL VALVE	RAINBIRD OR APPROVED EQUAL	T-113-K (LINE SIZE)				C / L3.1
	QUICK COUPLER	RAINBIRD OR APPROVED EQUAL	100-EFB-CP (INSTALL INCLUDED PURPLE HANDLE COVER)				B / L3.1
	PULL BOX	NA	33-DNP				F / L3.1
	MAIN LINE	WESTERN LASCO OR APPROVED EQUAL	SEE SPECIFICATIONS				E / L3.1
	LATERAL LINE	WESTERN LASCO OR APPROVED EQUAL	SCHEDULE 40 PVC, PURPLE-ALL MAINLINE 1 1/2" UNLESS NOTED				D / L3.1
			SCHEDULE 40 PVC, PURPLE - SIZE PER PLAN				D / L3.1



SAVE DATE: 12/17/14 BERG

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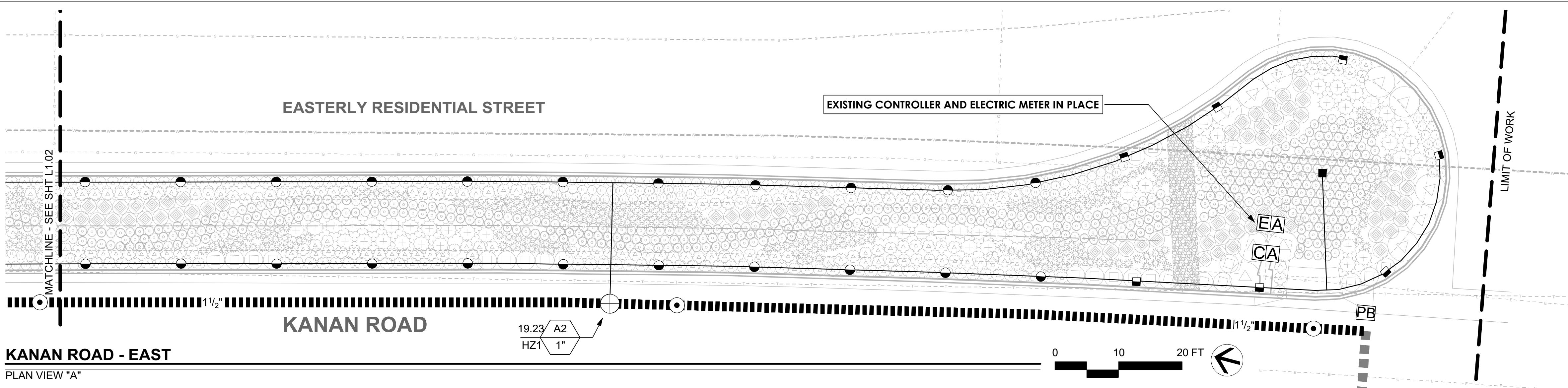
COUNTY OF VENTURA  
PUBLIC WORKS AGENCY  
WATERSHED PROTECTION DISTRICT

SPEC. NO.  
WFXX-XX  
PROJ. NO.  
40540

OAK PARK GREEN STREETS URBAN RETROFIT  
IRRIGATION PLAN

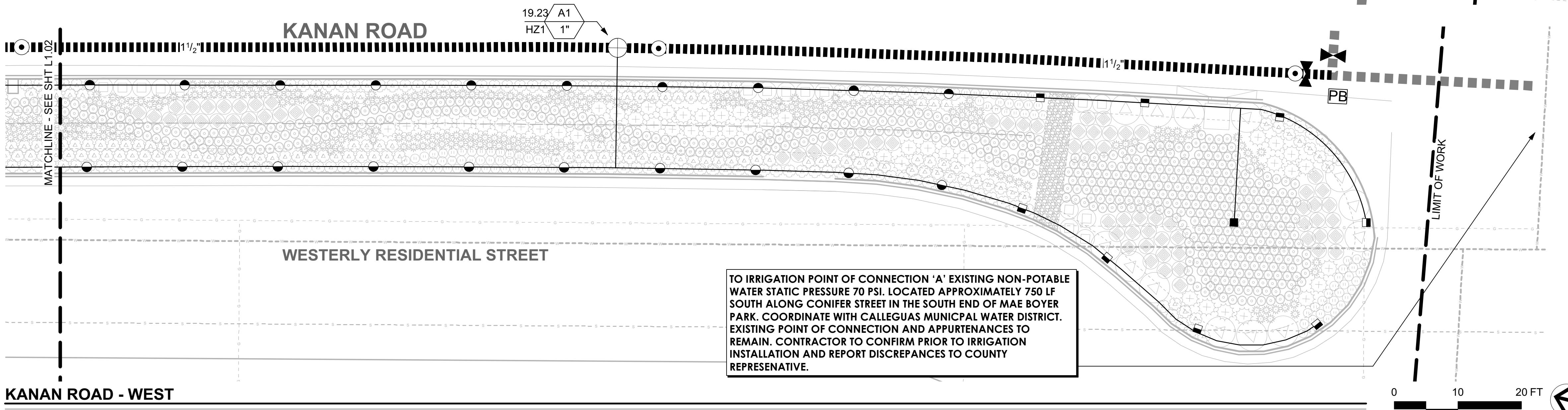
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19  
DRAWING NO  
X-X-XXXX

PRELIMINARY



**KANAN ROAD - EAST**

PLAN VIEW "A"



**KANAN ROAD - WEST**

PLAN VIEW "B"

GPM	SIZE
1-8	3/4"
8-12	1"
12-22	1 1/4"
22-30	1 1/2"
30+	2"

SYMBOL	DESCRIPTION
■	BACKFLOW PREVENTER AND ENCLOSURE
E#	ELECTRIC METER
W#	WATER METER
C#	CONTROLLER
■■■■■	MAINLINE AND SLEEVE

IRRIGATION SCHEDULE (CONTRACTOR TO INSTALL MANUFACTURER LISTED EQUIPMENT OR APPROVED EQUAL)							
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL	GPM	RADIUS	PSI	DETAIL / SHEET #
●	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP1000 90-210	.19 - .43	8' - 15'	40	A / L3.1
●	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP2000 90-210	.40 - .86	13' - 21'	40	A / L3.1
■	ROTATOR ON POP-UP	HUNTER OR APPROVED EQUAL	PROS-12-PRS40-CV-MP2000 360	1.47	13' - 21'	40	A / L3.1
▶	POP-UP SPRAY BODY (NON-POTABLE)	RAINBIRD OR APPROVED EQUAL	RD-1812-P45-NP				A / L3.1
◀	GATE VALVE	NIBCO OR APPROVED EQUAL	T-113-K (LINE SIZE)				C / L3.1
○	REMOTE CONTROL VALVE	RAINBIRD OR APPROVED EQUAL	100-EFB-CP (INSTALL INCLUDED PURPLE HANDLE COVER)				B / L3.1
●	QUICK COUPLER	RAINBIRD OR APPROVED EQUAL	33-DNP				F / L3.1
PB	PULL BOX	NA	SEE SPECIFICATIONS				E / L3.1
■■■■■	MAIN LINE	WESTERN LASCO OR APPROVED EQUAL	SCHEDULE 40 PVC, PURPLE-ALL MAINLINE 1 1/2" UNLESS NOTED				D / L3.1
—	LATERAL LINE	WESTERN LASCO OR APPROVED EQUAL	SCHEDULE 40 PVC, PURPLE - SIZE PER PLAN				D / L3.1



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Phone: (805) 644-9697 Fax: (805) 644-9742 PCLD JOB# PLAN DATE

CHRIS ROBERTS  
LANDSCAPE ARCHITECT  
EB, MZ  
DESIGNED  
EB  
DRAWN  
MZ  
CHECKED

PROJECT MANAGER DATE  
DEPUTY DIRECTOR DATE  
DISTRICT DIRECTOR DATE

CHRIS ROBERTS  
LANDSCAPE ARCHITECT  
EB, MZ  
DESIGNED  
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MZ  
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PROJECT MANAGER DATE  
DEPUTY DIRECTOR DATE  
DISTRICT DIRECTOR DATE

**COUNTY OF VENTURA  
PUBLIC WORKS AGENCY  
WATERSHED PROTECTION DISTRICT**

SPEC. NO.  
WFXX-XX  
PROJ. NO.  
40540

OAK PARK GREEN STREETS URBAN RETROFIT  
IRRIGATION PLAN

17  
OF  
19  
DRAWING NO.  
X-X-XXXX

**PRELIMINARY**

**ATTACHMENT A**  
WATER EFFICIENT WORK SHEET

PROJECT NAME: Oak Park Green Streets  
PROJECT LOCATION: Oak Park, CA  
TOTAL LANDSCAPE AREA: 21,136 sf

**Maximum Applied Water Allowance (MAWA)**

$$MAWA = (ETo) (0.62) [ (0.7 \times LA) + (0.3 \times SLA) ]$$

MAWA = Maximum Applied Water Allowance

ETo = Reference Evapotranspiration (inches per year)

0.62 = Conversion factor (to gallons per square foot)

0.7 = ET Adjustment Factor (ETAF)

LA = Landscaped Area including SLA (sq ft)

0.3 = Additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

SLA - Portion of Landscape Area identified as Special Landscape Area - see Definitions (square feet)

Applicant to fill in boxes below.

51.0	ETo (reference Evapotranspiration from Appendix A (inches per year)
21,136	Landscape Area including Special Landscape Area/SLA (square feet)
0	Portion of Landscape Area identified as Special Landscape Area (square feet)

ETo	ETAF	AREA (s.f.)	Conversion	MAWA
51.0	x	0.7	x 21,136	= 467,826
MAWA for SLA*	x	0.3	x 0	= 0
<b>Total MAWA</b>				<b>467,826 (gallons per year)</b>

**Estimated Total Water Use (ETWU)**

$$ETWU = (ETo) (0.62) [ (PF \times HA) / IE + SLA ]$$

ETWU = Estimated Total Water Use

ETo = Reference Evapotranspiration (inches per year)

0.62 = Conversion factor (to gallons per square foot)

PF = Plant Factor from WUCOLS (see Definitions)

HA = Hydrozone Area - planting area separated to high, moderate, low and very low water use areas (square feet)

IE = Irrigation Efficiency - see Chart \*\* (minimum 0.71)

SLA - Portion of Landscape Area identified as Special Landscape Area - see Definitions (square feet)

ETWU arrived from Hydrozone Table below = 356,439 gallons per year

**HYDROZONE TABLE**

hydrozone	plant water use type	plant factor (PF) (see table B)	hydrozone area (HA) (sq. feet)	PFxHA (sq. ft.)	% of landscape area (LA)	irrigation efficiency (IE)	Hydrozone ETWU
1 (shrubs)	mod	0.4	21,136	8,454	100.00 %	0.75	356,439
<b>Subtotal ETWU</b>							<b>356,439</b>
		<b>TOTAL</b>	<b>21,136</b>		<b>100%</b>		<b>356,439</b>

**Table A - PF (Plant Factor)**

Cool Season Turf*	0.8	
Warm Season Turf**	0.6	
High Water Using Plants	0.8	can be between 0.7 - 0.9
Moderate Water Using Plants	0.5	can be between 0.4 - 0.6
Low Water Using Plants	0.2	can be between 0.1 - 0.3
Very Low water Using Plants	0.1	below 0.1

\* species include tall fescue, ryegrass, bentgrass and kentucky bluegrass

\*\* species include bermudagrass, zoysiagrass, st. augustinegrass

**Table B - IE (Irrigation Efficiency)**

Pop-up spray heads	0.71	"I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE (AB 1881) AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN"
Rotor heads	0.75	
Microspray	0.75	
Bubblers	0.80	
Drip emitters	0.85	
Subsurface irrigation	0.90	

note: adjustment can be made based on exact type of equipment



**ATTACHMENT B.1**  
IRRIGATION SCHEDULE (Peak Summer Schedule)

ETo: Thousand Oaks, CA

jan.	feb.	mar.	april	may	june	july	aug.	sept.	oct.	nov.	dec.	annual
2.2	2.6	3.4	4.5	5.4	5.9	6.7	6.4	5.4	3.9	2.6	2.0	51.0

IRRIGATION SCHEDULE FOR SUMMER (JULY):

valve no.	valve size	flow (GPM)	irr. effcy. (IE)	irr. type	area (sq.ft.)	plant type	precip rate (PR) (in/hr.)	plant factor (PF)	daily runtime (min.)	# of cycles per day	individ. runtimes (min.)	freq. per month	monthly runtime (min.)	total ETWU Gallons
A1	1"	19.23	0.75	rotator	5,338	shrub	0.35	0.4	34	1	34	18	618	11,826
A2	1"	19.23	0.75	rotator	5,450	shrub	0.34	0.4	35	1	35	18	631	12,075
A3	1"	18.14	0.75	rotator	5,160	shrub	0.34	0.4	35	1	35	18	634	11,433
A4	1"	18.14	0.75	rotator	5,187	shrub	0.34	0.4	35	1	35	18	637	11,492

Total Runtime per day: P.O.C. 'A'	2.3 hours
Total Project Runtime per day	2.3 hours

Total July ETWU 46,826

IRRIGATION SCHEDULE FOR SUMMER (MARCH):

jan.	feb.	mar.	april	may	june	july	aug.	sept.	oct.	nov.	dec.	annual
2.2	2.6	3.4	4.5	5.4	5.9	6.7	6.4	5.4	3.9	2.6	2.0	51.0

valve no.	valve size	flow (GPM)	irr. effcy. (IE)	irr. type	area (sq.ft.)	plant type	precip rate (PR) (in/hr.)	plant factor (PF)	daily runtime (min.)	# of cycles per day	individ. runtimes (min.)	freq. per month	monthly runtime (min.)	total ETWU Gallons
A1	1"	19.23	0.75	rotator	5,338	shrub	0.35	0.4	26	1	26	12	314	6,001
A2	1"	19.23	0.75	rotator	5,450	shrub	0.34	0.4	27	1	27	12	320	6,128
A3	1"	18.14	0.75	rotator	5,160	shrub	0.34	0.4	27	1	27	12	322	5,802
A4	1"	18.14	0.75	rotator	5,187	shrub	0.34	0.4	27	1	27	12	323	5,832

Total Runtime per day: P.O.C. 'A'	1.8 hours
Total Project Runtime per day	1.8 hours

Total March ETWU 23,763

**Estimated Total Water Use (ETWU)**

$$ETWU = (ETo) (0.62) [ (PF \times HA) / IE + SLA ]$$

ETWU = Estimated Total Water Use

ETo = Reference Evapotranspiration (inches per year)

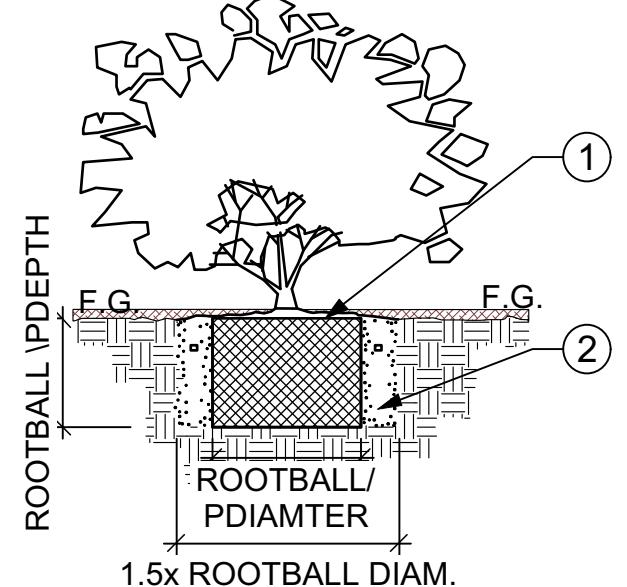
0.62 = Conversion factor (to gallons per square foot)

PF = Plant Factor from WUCOLS (see Definitions)

HA = Hydrozone Area - planting area separated to high, moderate, low and very low water use areas (square feet)

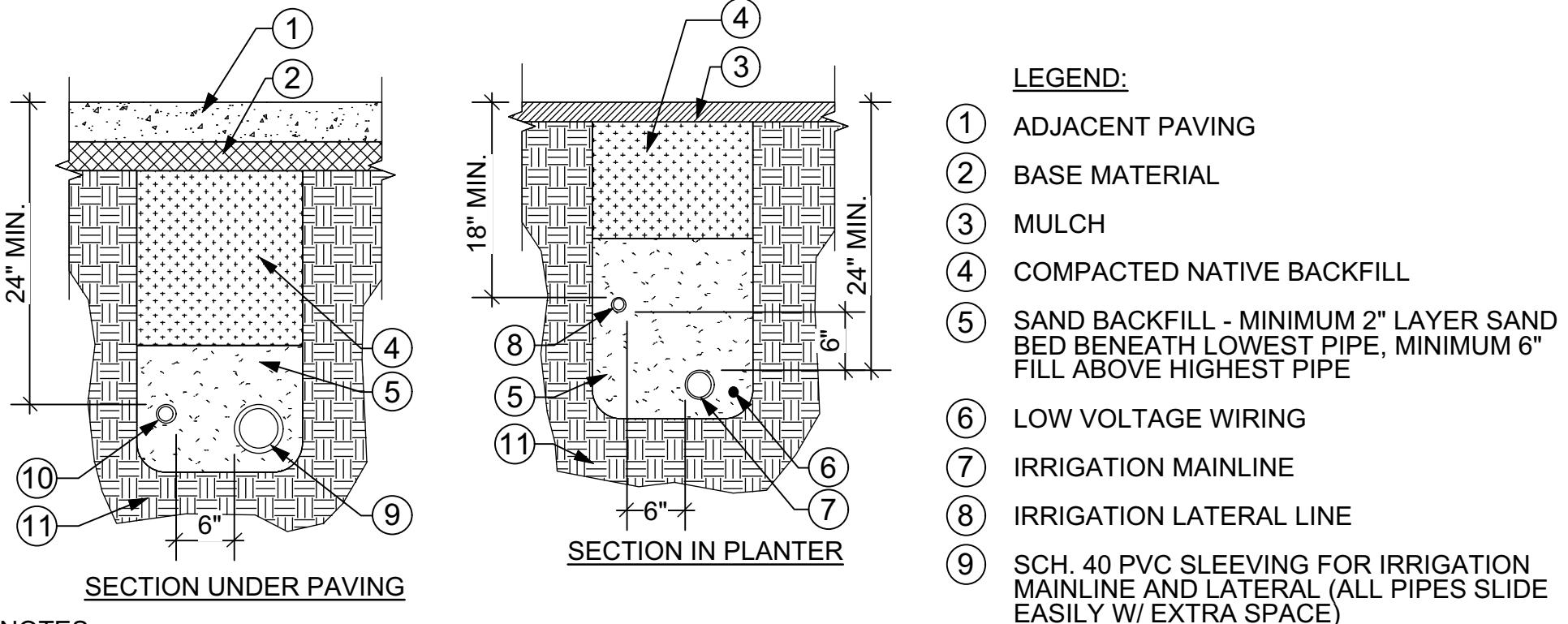
IE = Irrigation Efficiency - see Chart \*\* (minimum 0.71)

SLA - Portion of Landscape Area identified as Special



## **G SHRUB PLANTING SECTION**

LEGEND:



# D TRENCHING SECTION

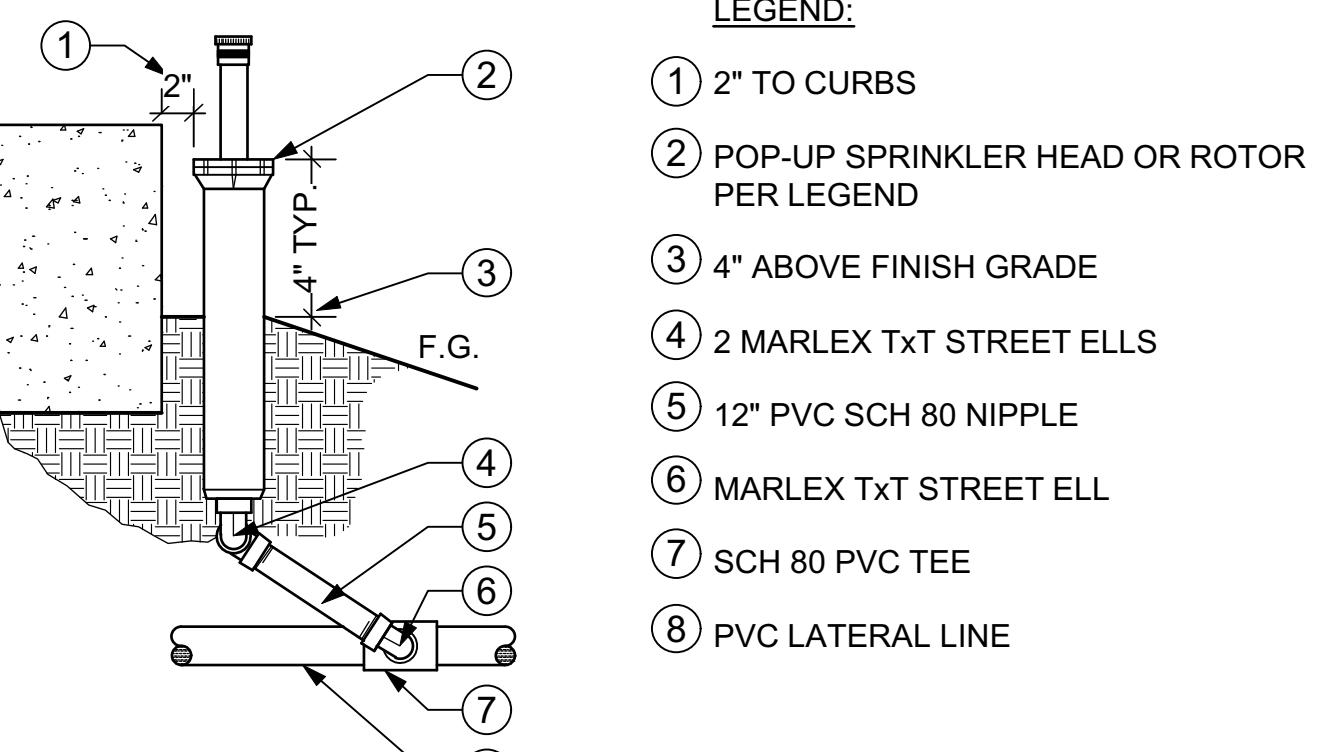
NOTES:

1. EXTEND ALL SLEEVING UNDERNEATH PAVING 12" MINIMUM INTO PLANTERS
2. MAINLINE TRENCHING UNDERNEATH TREE DRIP LINES SHALL INCLUDE ROOT PRUNING. NO ROOT OVER 2" DIAMETER SHALL BE CUT WITHOUT APPROVAL BY THE CITY ARBORIST

EASILY W/ EXTRA SPACE)

(10) ELECTRICAL CONDUIT FOR WIRES (ALLOW EXTRA ROOM FOR WIRE MOVEMENT)

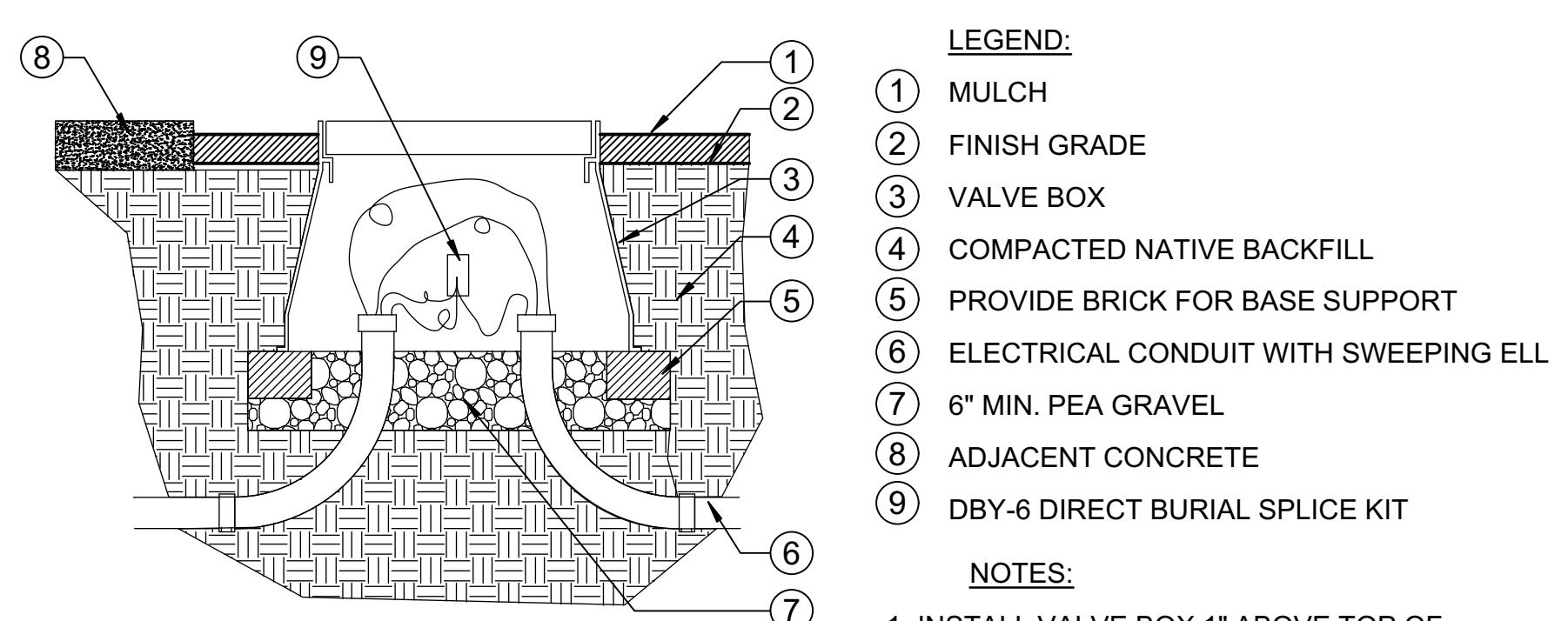
(11) NATIVE SUBGRADE



## A POP-UP SPRINKLER SECTION

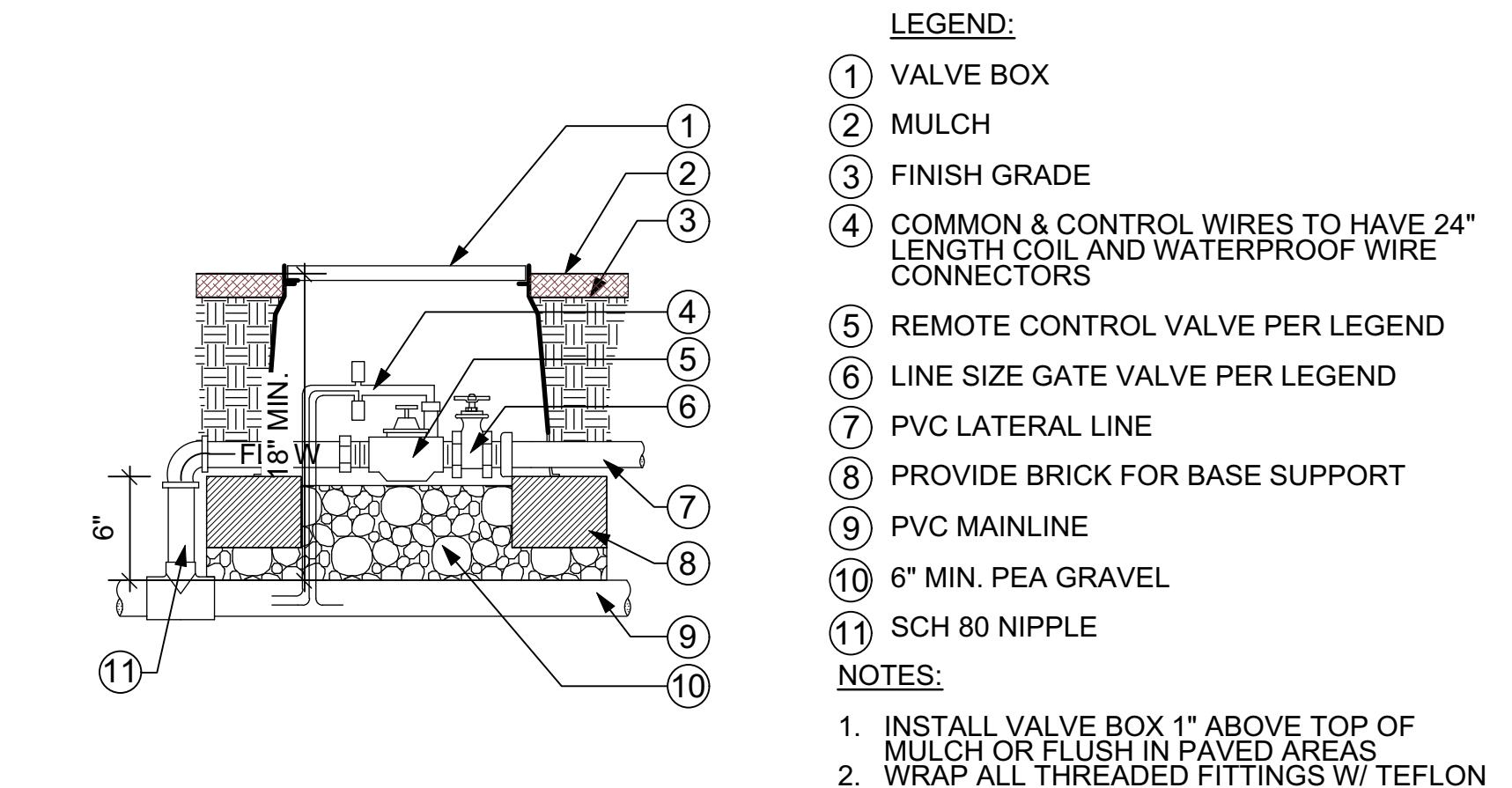
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SCALE: NTS



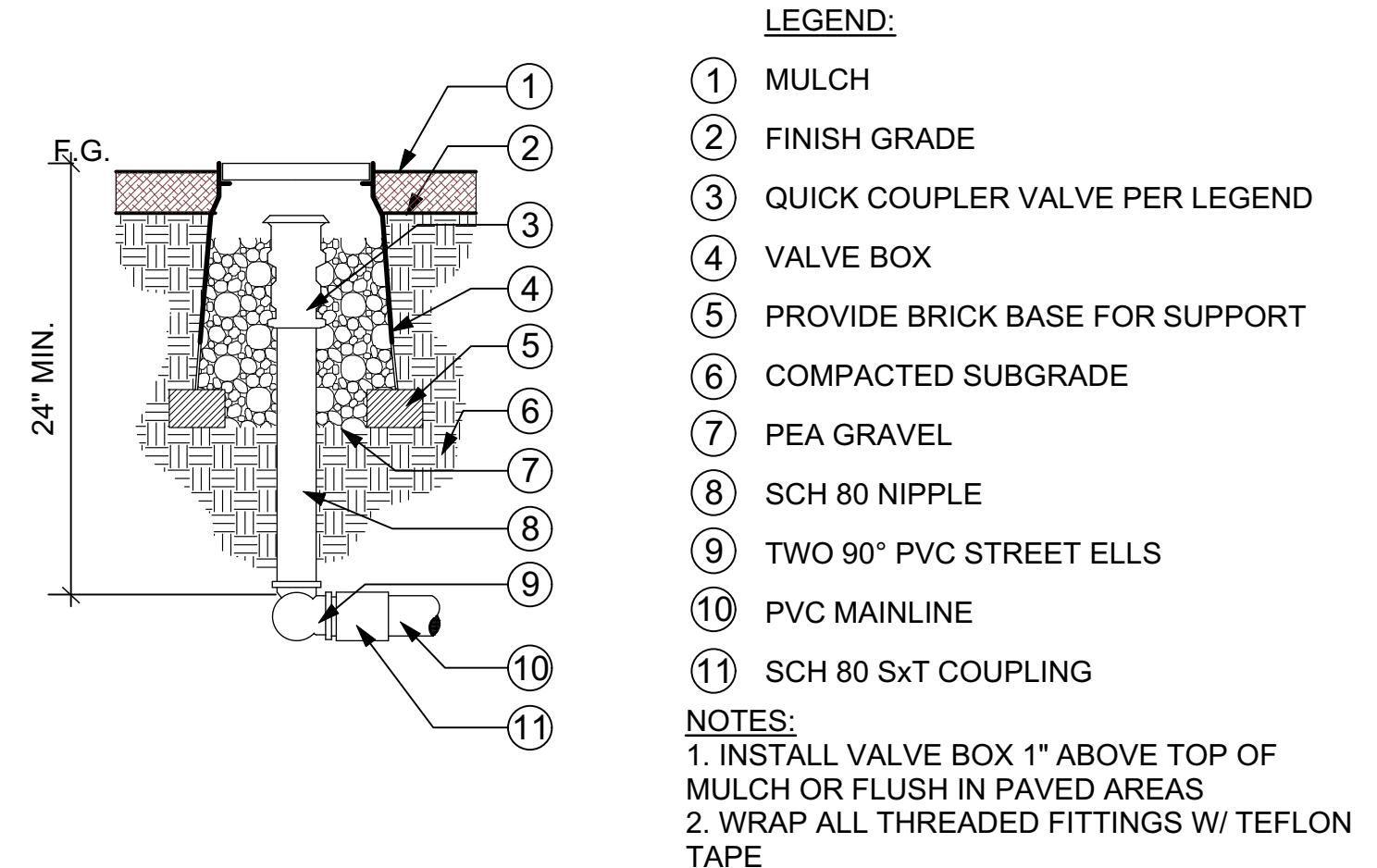
## PULL BOX SECTION

SCALE: NTS



## **B** REMOTE CONTROL VALVE SECTION

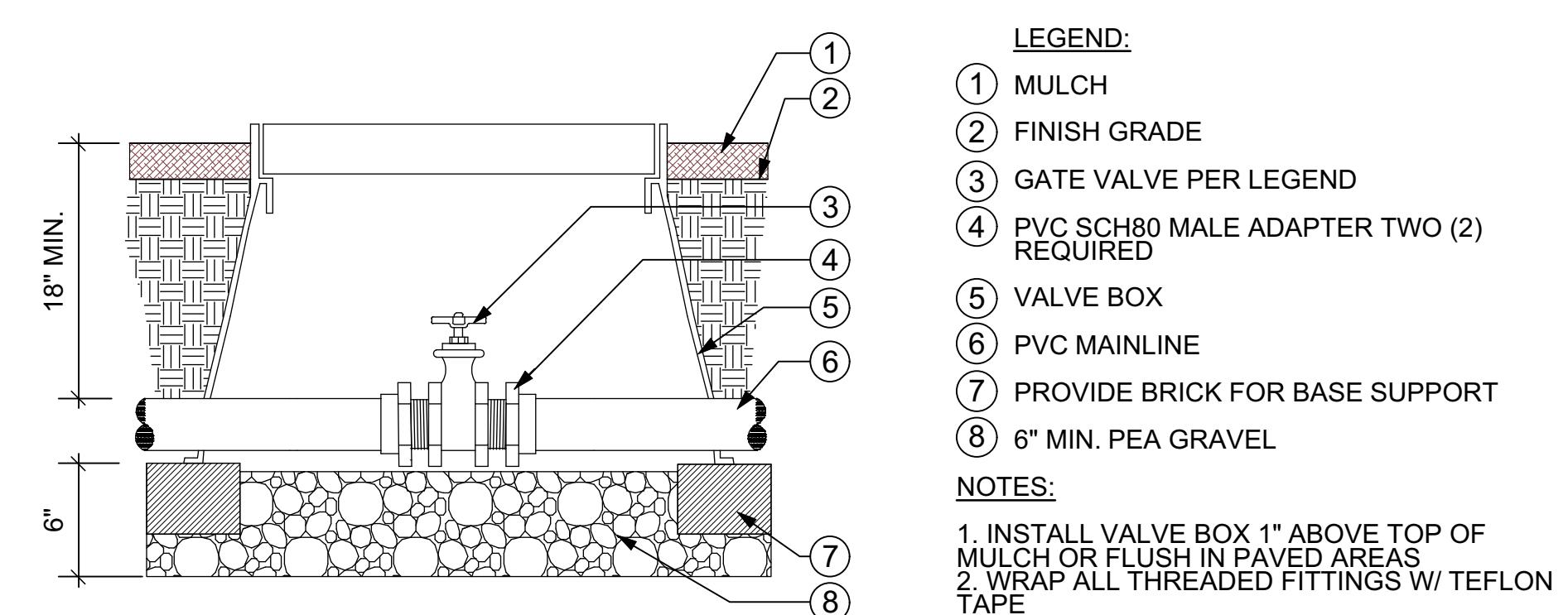
SCALE: NTS



# **F** QUICK COUPLER SECTION

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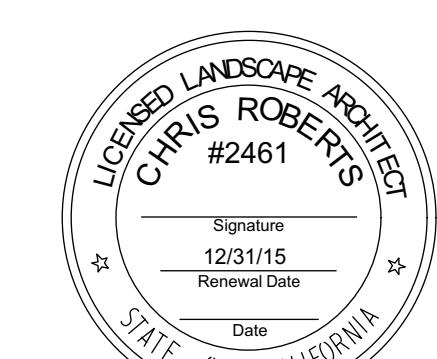
SCALE NTC



## **GATE VALVE**

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SCALE NTC



SAVE DATE: 12/17/14 BERG

D					
C					
B					
A					
	REVISION	DESCRIPTION	APP.	DATE	

CHRIS ROBERTS LANDSCAPE ARCHITECT		EB, MZ DESIGNED	PROJECT MANAGER	DATE
RENEWAL DATE: <u>12/31/15</u>		EB DRAWN	DEPUTY DIRECTOR	DATE
LIC.# <u>2461</u> Planning 93001 <u>423</u> <u>12/17/2014</u> --9742 PCLD JOB# <u>PLAN DATE</u>		MZ CHECKED	DISTRICT DIRECTOR	DATE

COUNTY OF VENTURA  
PUBLIC WORKS AGENCY  
WATERSHED PROTECTION DISTRICT

# OAK PARK GREEN STREETS URBAN RETROFIT

# PRELIMINARY