

GATES & ASSOCIATES
 LANDSCAPE ARCHITECTURE
 LAND PLANNING URBAN DESIGN

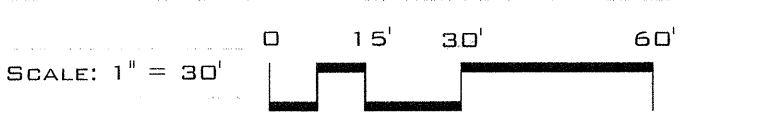
2671 CROW CANYON RD, SAN RAMON, CA. 94583
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 LIVERMORE, CA

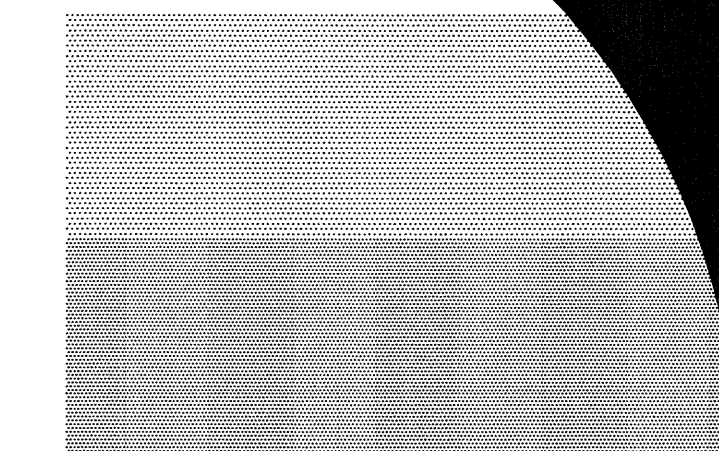
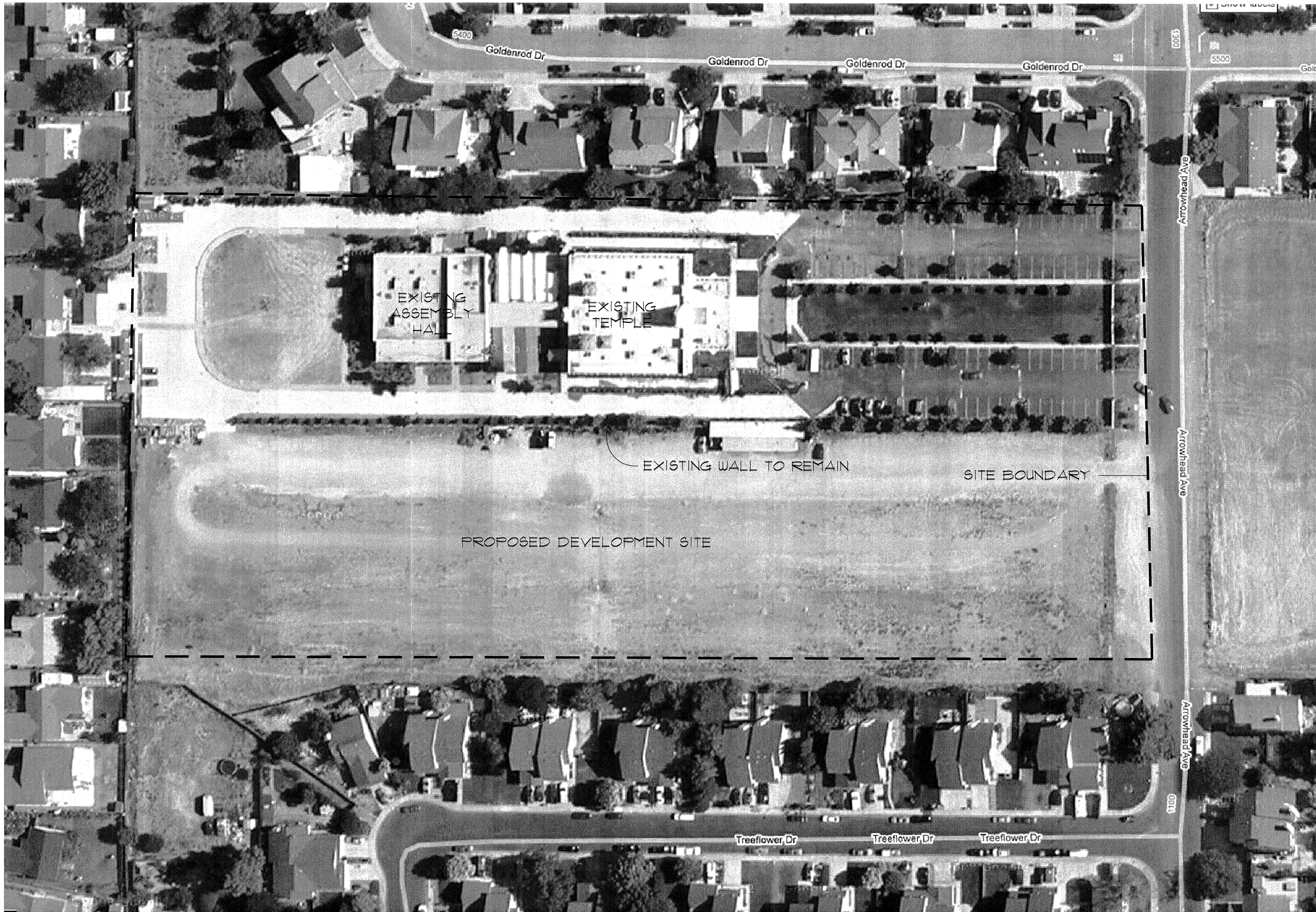
REVISION:	DESCRIPTION:	DATE:



PROJECT NAME: HCCC
 PROJECT NUMBER: P3995
 PROJECT FILE:
 DRAWN: SH, JC
 CHECK: DG
 DATE: 12/1/2010



SITE MASTER PLAN



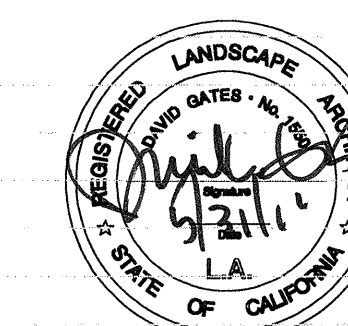
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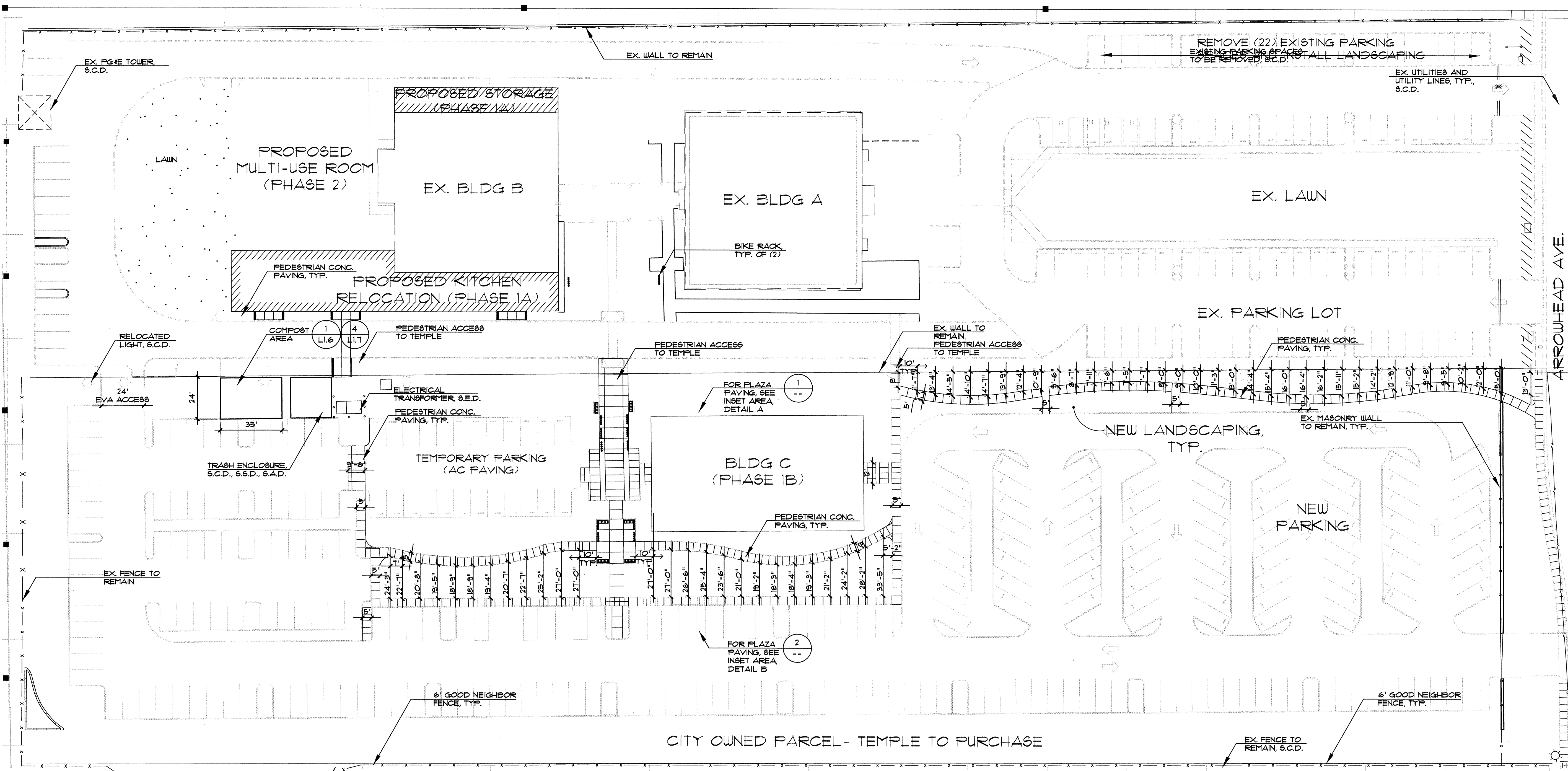
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SCALE: N.T.S.

EXISTING LANDSCAPE
 CONDITIONS

L1.2

PROJECT NORTH OF SHEETS



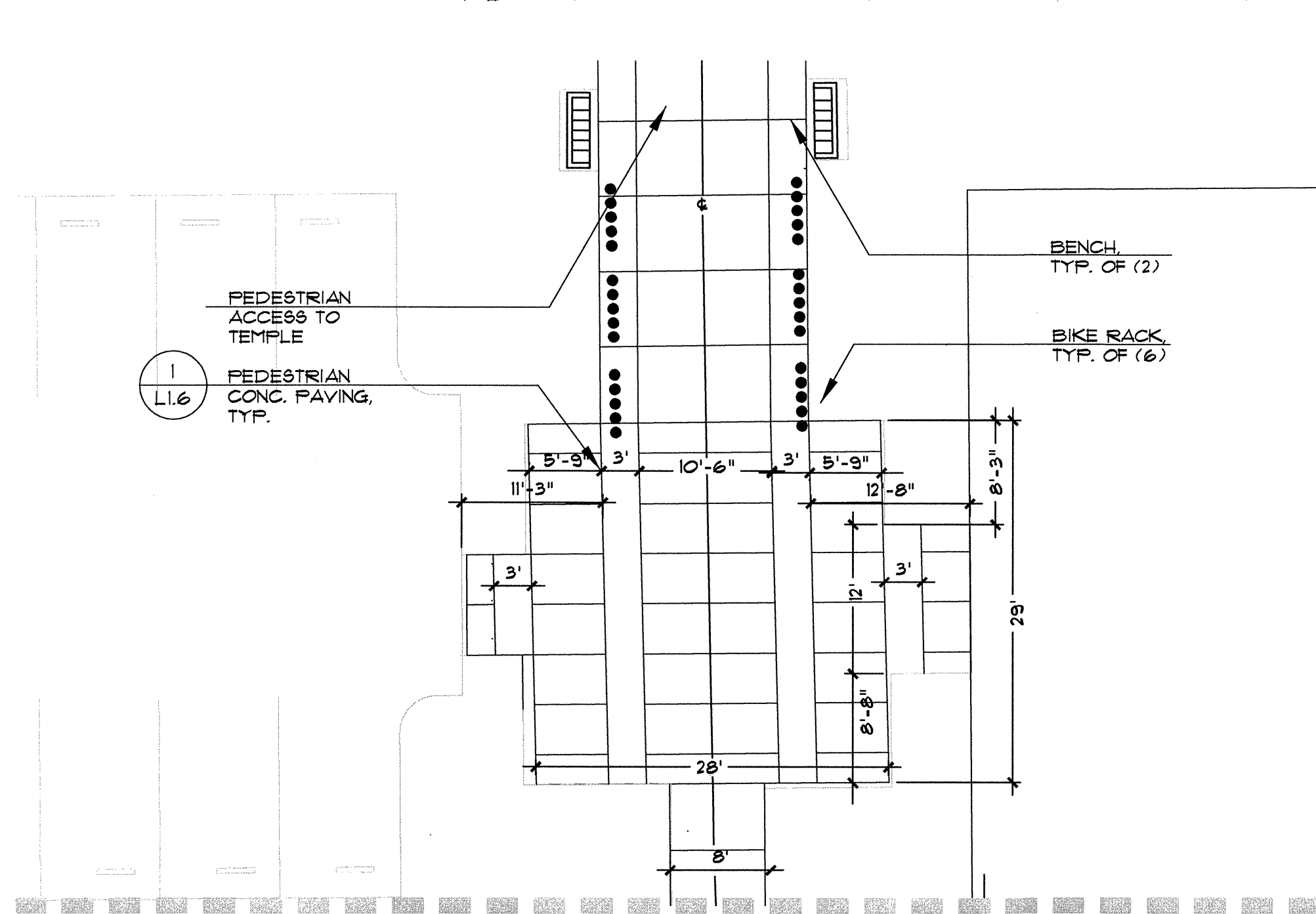
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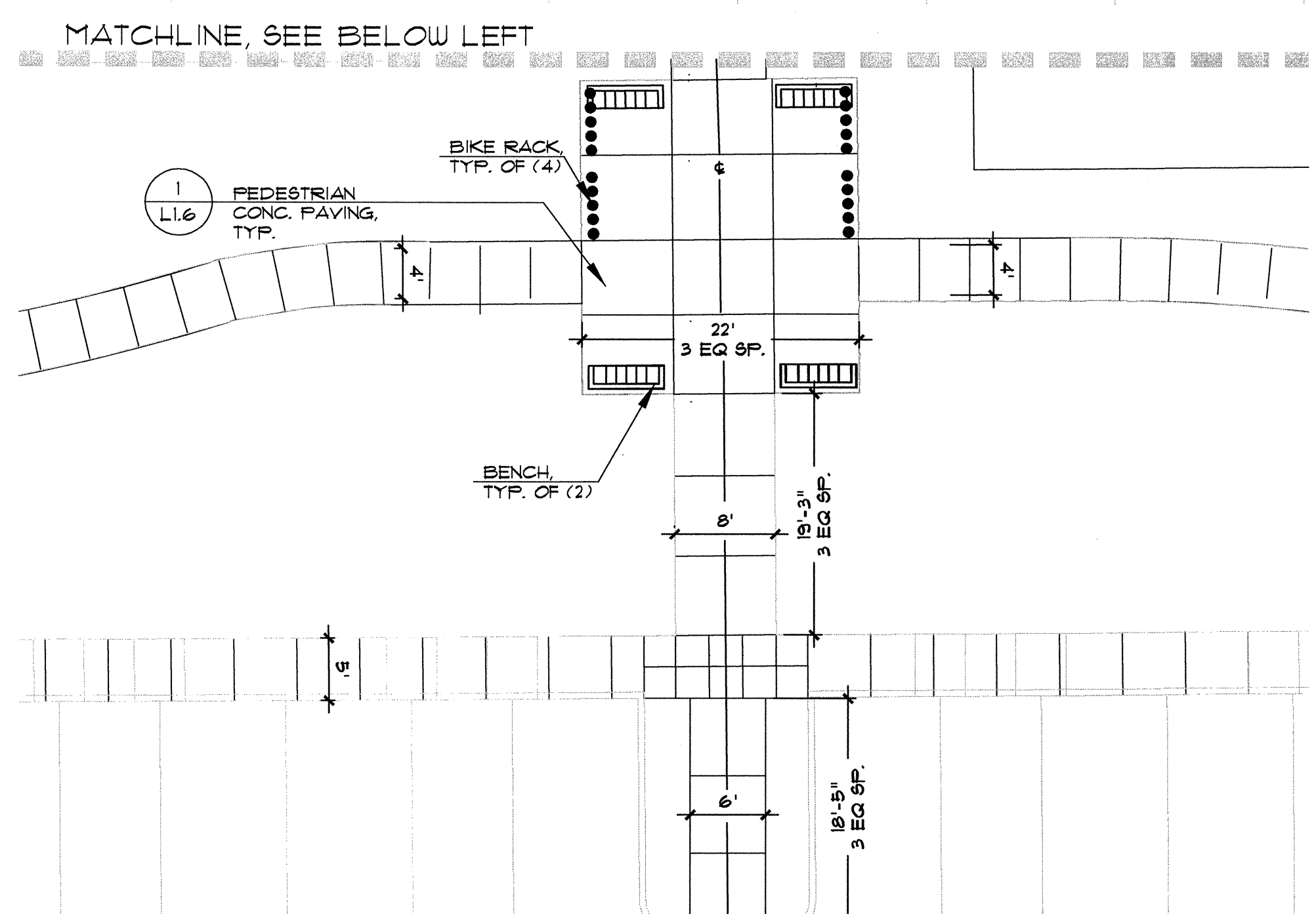
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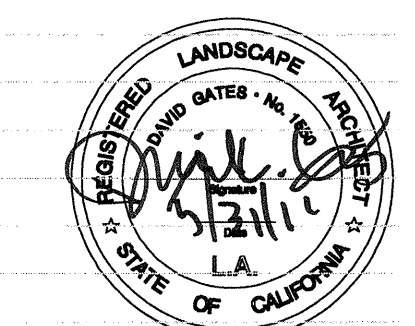
REVISION:	DESCRIPTION:	DATE:
1	response to city comments	8/1/10



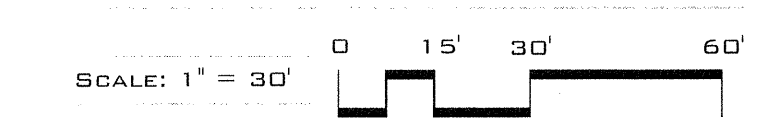
1 PLAZA DETAIL A
 SCALE: 1"=10'-0"



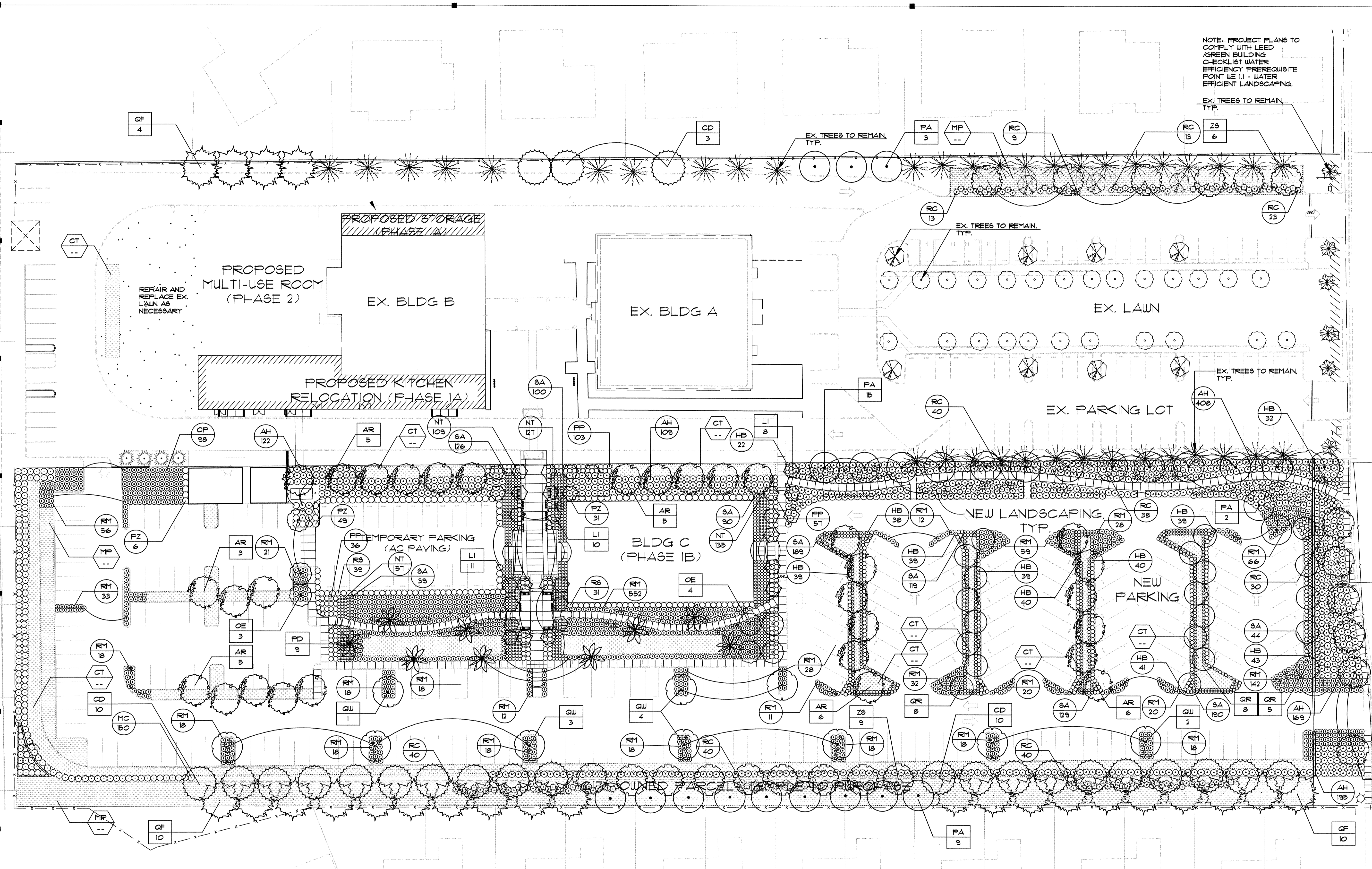
2 PLAZA DETAIL B
 SCALE: 1"=10'-0"



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LAYOUT AND FENCING
 PLAN



NOTE: PROJECT PLANS TO COMPLY WITH LEED /GREEN BUILDING CHECKLIST WATER EFFICIENCY PREREQUISITE POINT U2.1 - WATER EFFICIENT LANDSCAPING.
 EX. TREES TO REMAIN, TYP.

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SCALE: 1" = 30'

PLANTING PLAN

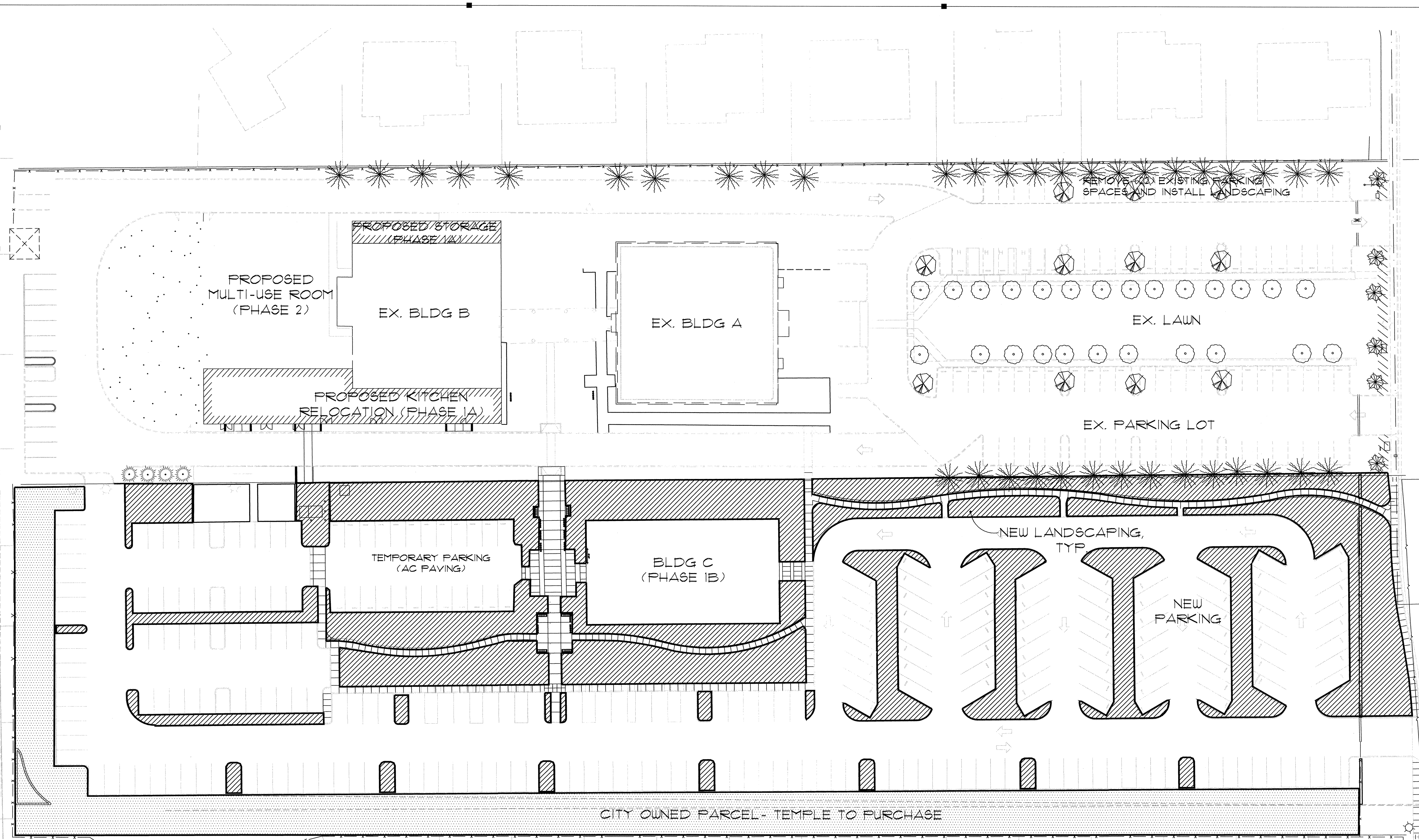
GROUNDCOVER LEGEND

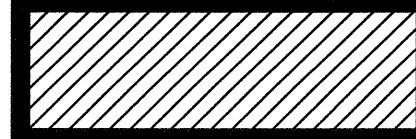
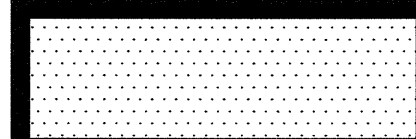


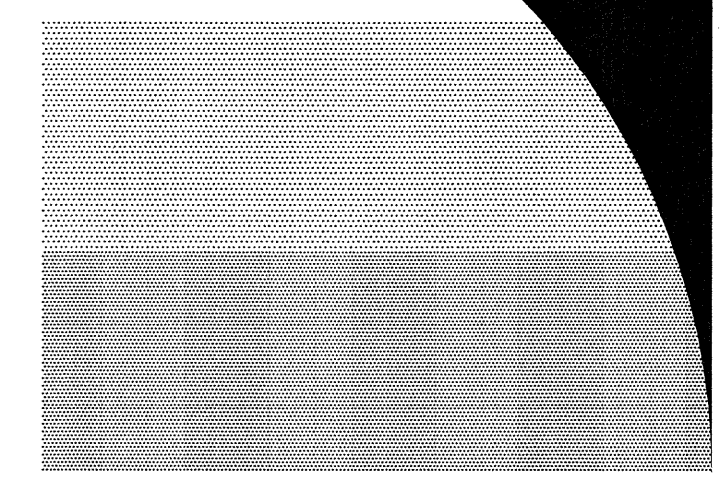
VEGETATED AREA SQUARE FOOTAGE CALCULATIONS

TOTAL SITE SQUARE FOOTAGE: 343,682 SQ. FT.
 20% OF TOTAL SITE INCLUDING BUILDINGS: 68,731 SQ. FT.
 TOTAL NEW NATIVE/ADAPTED VEGETATED AREAS (PHASE 1A): 13,216 SQFT.

NOTE: THIS PERCENTAGE OF TOTAL SITE SATISFIES REQUIREMENTS OF LEED SS CREDIT 5.1 - PROTECT OR RESTORE HABITAT.



-  DRIP IRRIGATION HYDROZONE
-  MP ROTATOR SPRAY IRRIGATION HYDROZONE



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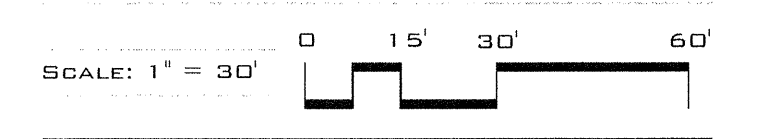
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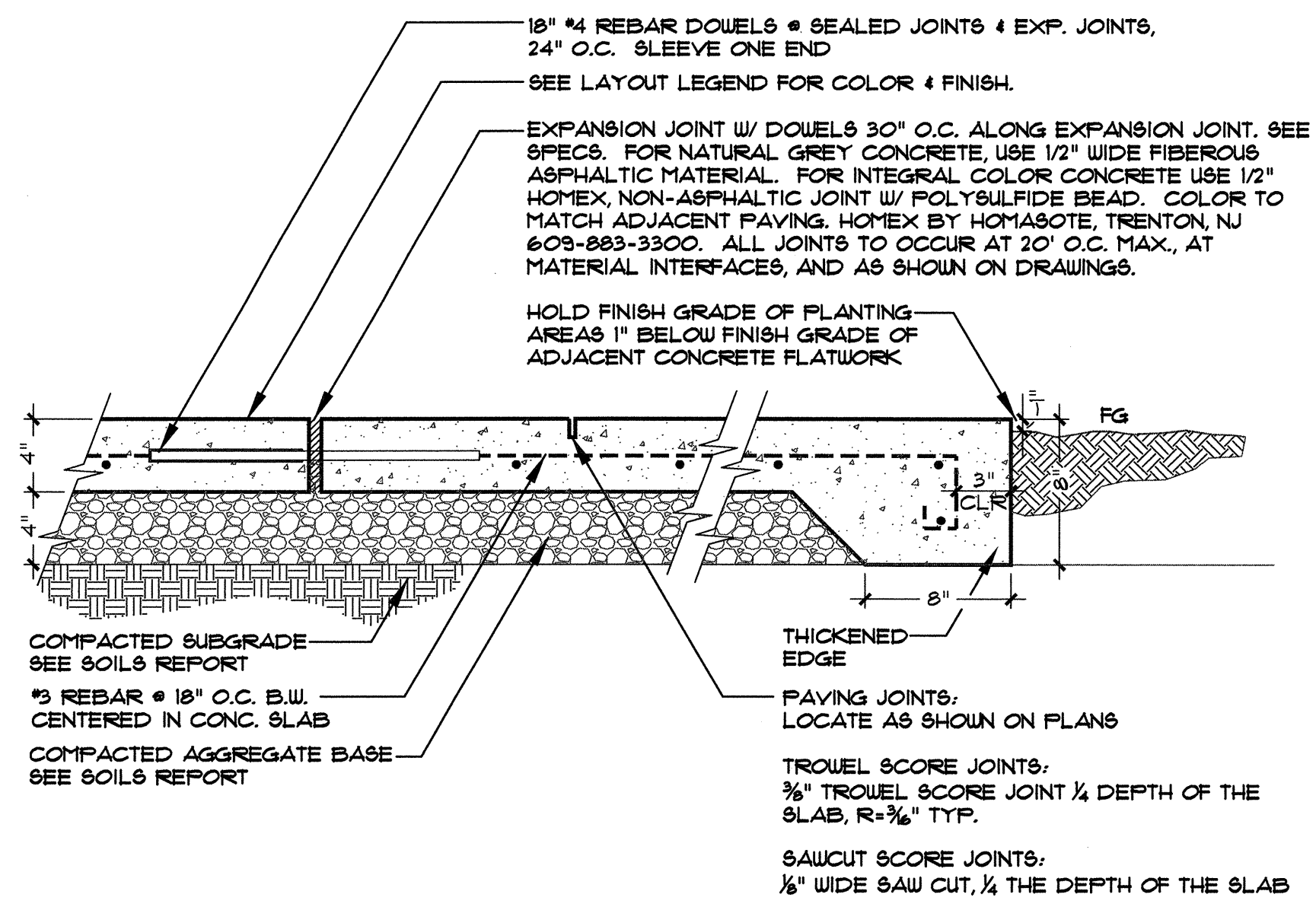
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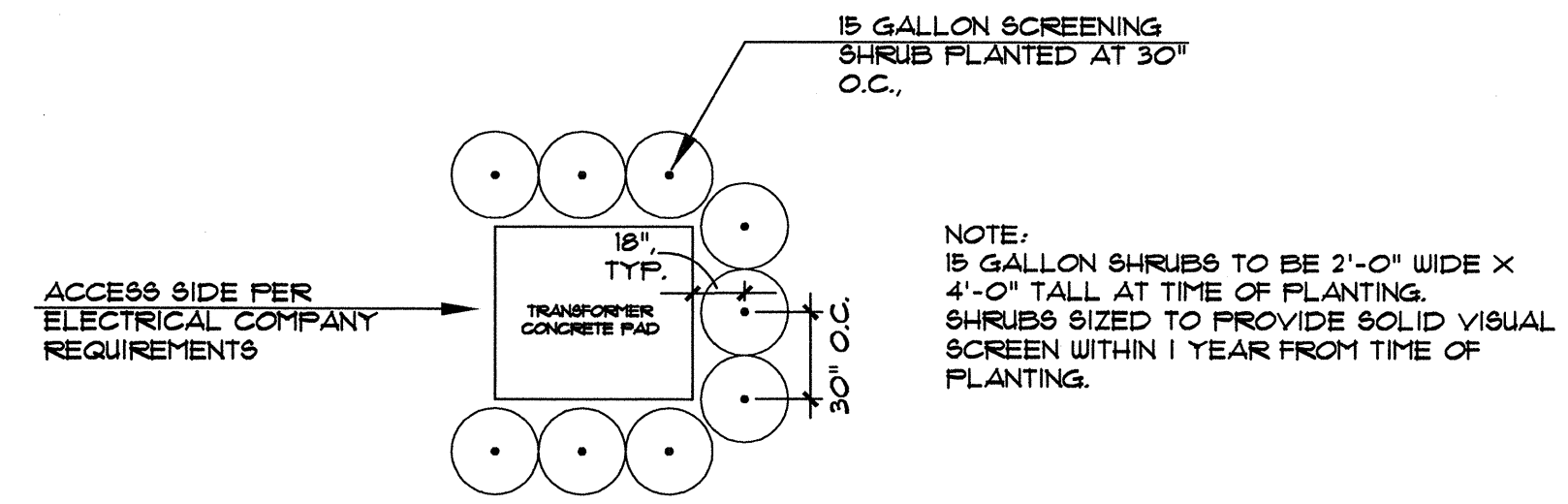
HYDROZONE PLAN



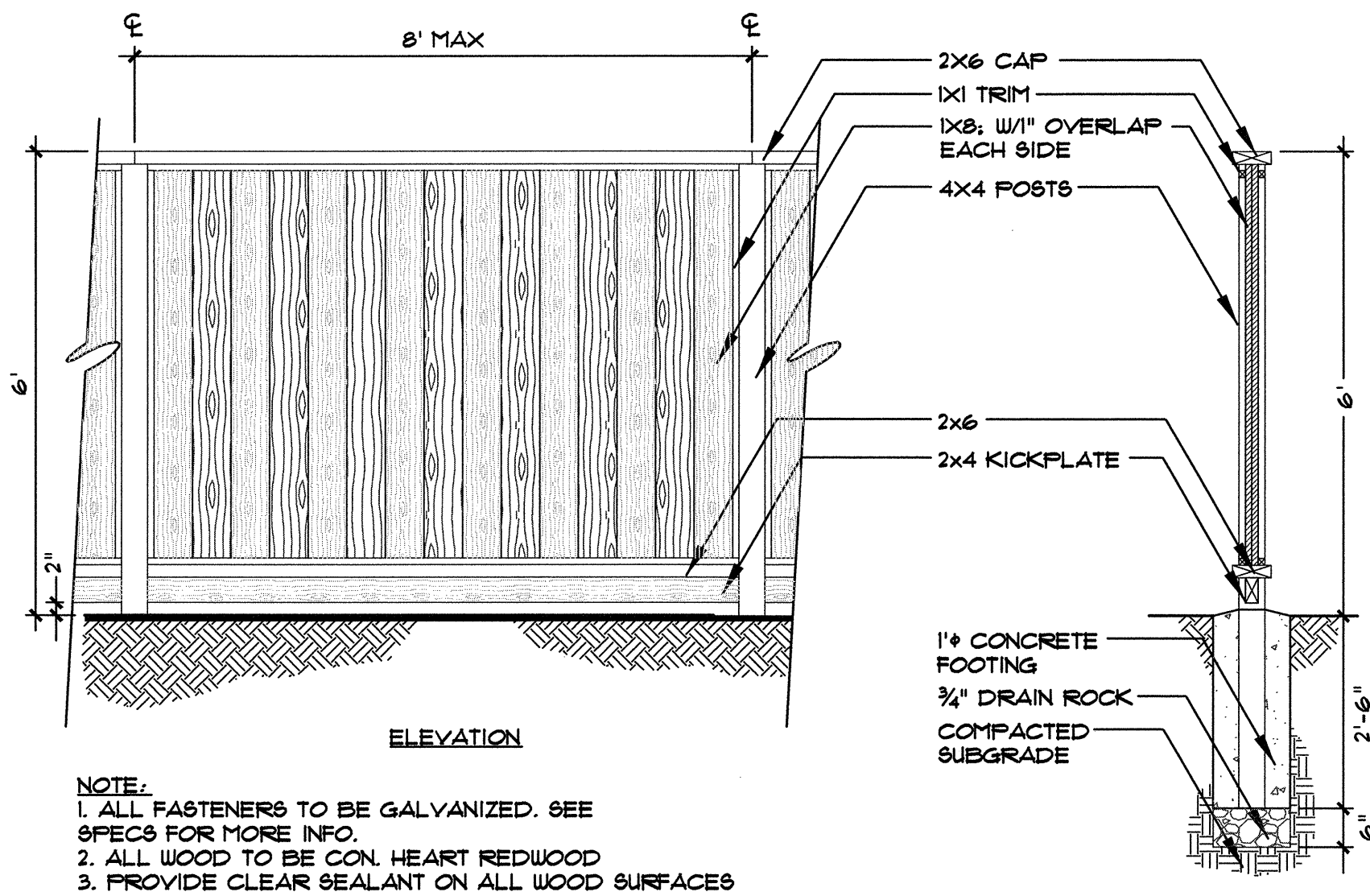
1 CONCRETE PAVING ON GRADE
SCALE: 1 1/2" = 1'-0"



4 EXISTING WALL TO REMAIN
SCALE: 3/8" = 1'-0"

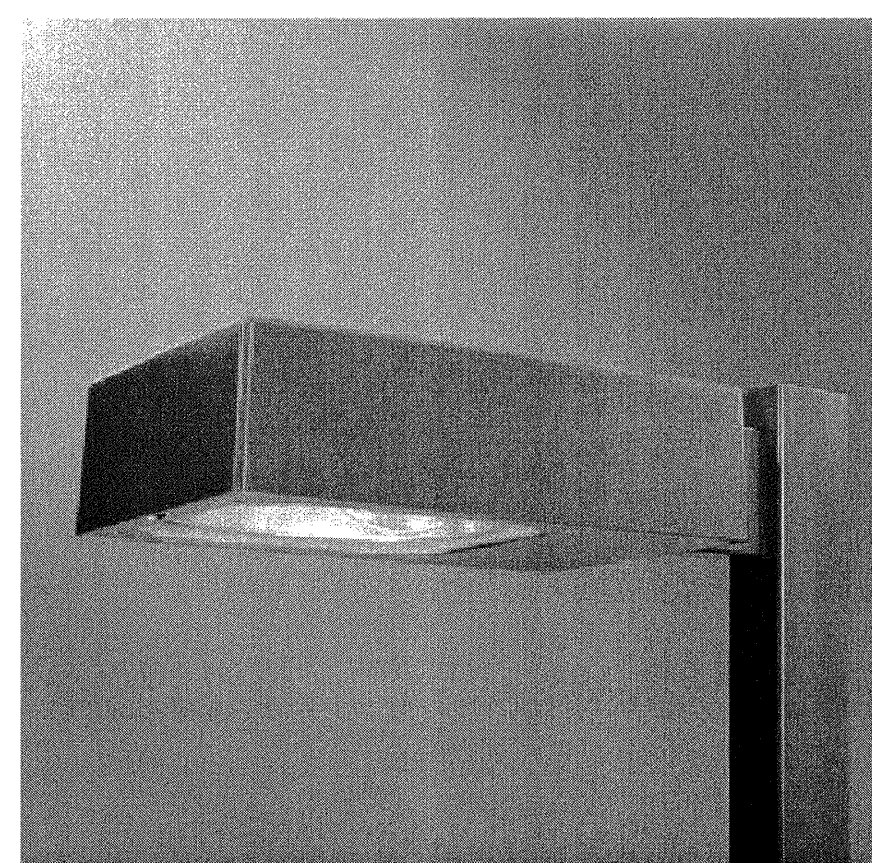


7 ELECTRICAL TRANSFORMER SCREEN PLANTING
SCALE: 3/16" = 1'-0"



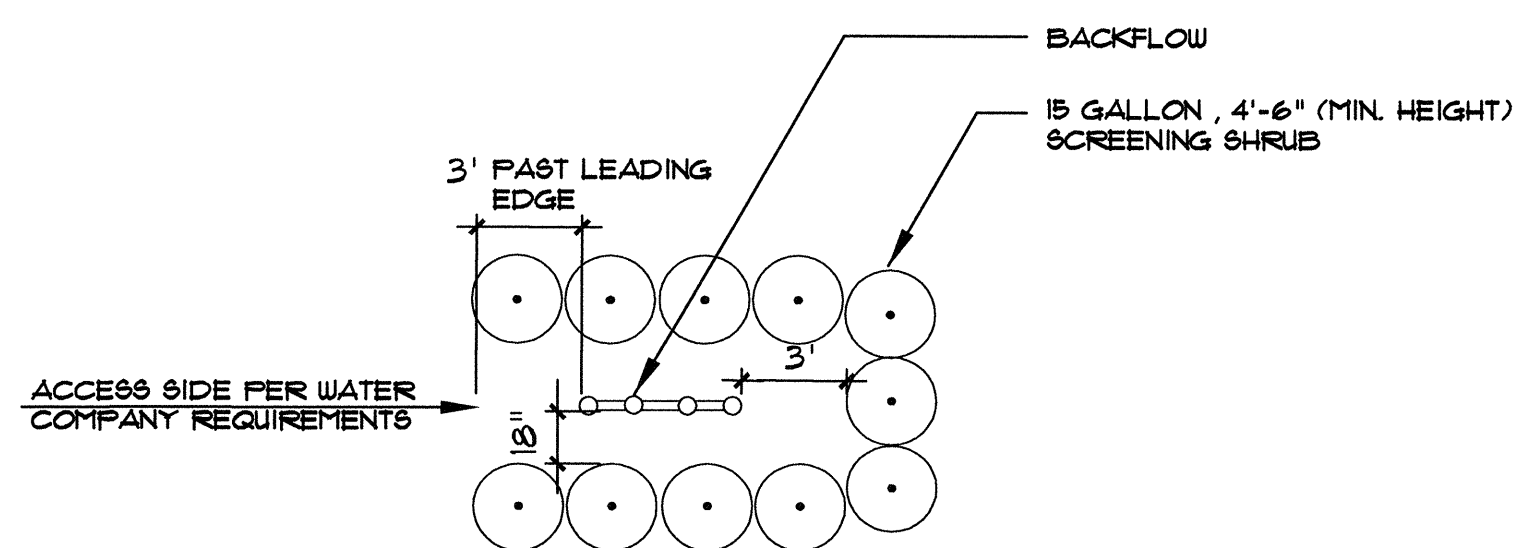
2 6' GOOD NEIGHBOR FENCE
SCALE: 1/2" = 1'-0"

5 NOT USED
SCALE: NTS



MFR: STREETWORKS BY COOPER LIGHTING
POLE HEIGHT: 18' MAXIMUM, INCL. CONCRETE BASE
MODEL NAME: TRU TRIBUTE
FINISH: TO MATCH EXISTING

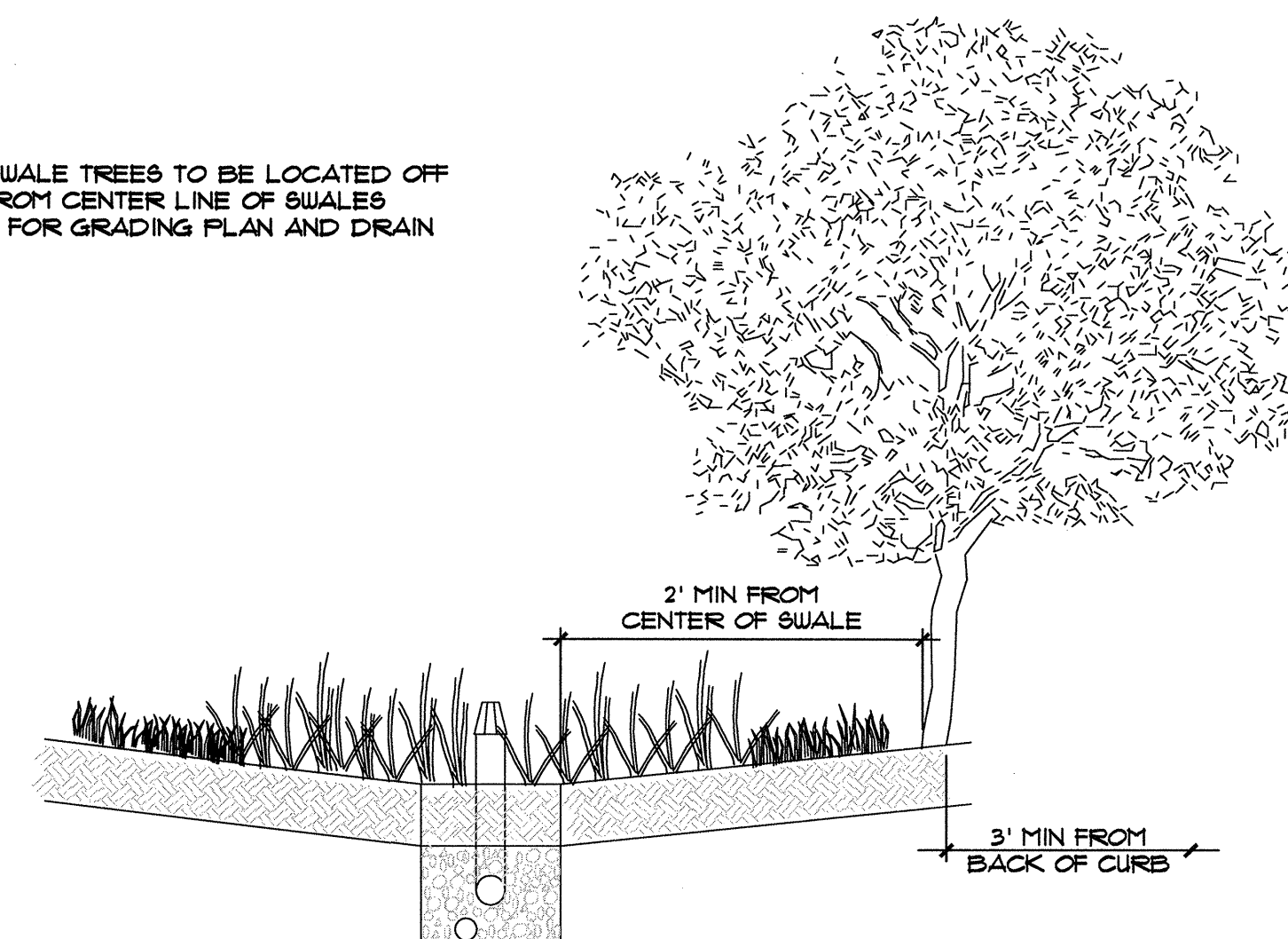
3 PARKING LOT LIGHT FIXTURE
SCALE: 3/8" = 1'-0"



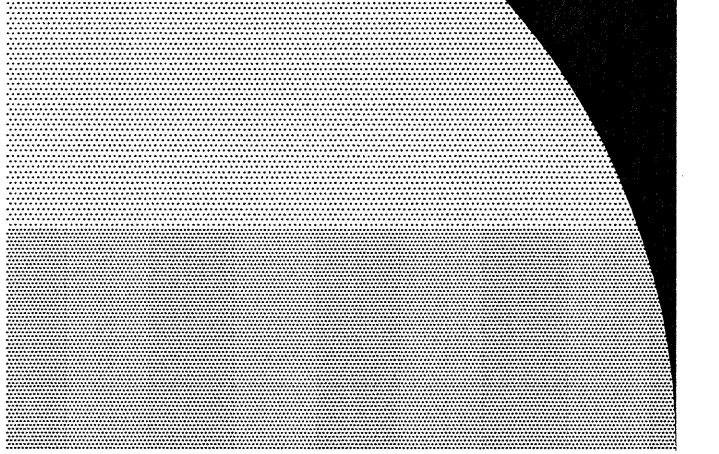
NOTE:
15 GALLON SHRUBS TO BE 2'-0" WIDE X 4'-6" TALL AT TIME OF PLANTING. SHRUBS SIZED TO PROVIDE SOLID VISUAL SCREEN WITHIN 1 YEAR FROM TIME OF PLANTING.

6 BACKFLOW/UTILITY PLANTING SCREEN, TYPICAL
SCALE: 3/16" = 1'-0"

NOTE:
BIO-SWALE TREES TO BE LOCATED OFF SET FROM CENTER LINE OF SWALES S.C.D. FOR GRADING PLAN AND DRAIN LINES



8 BIOSWALE PLANTING
SCALE: NTS



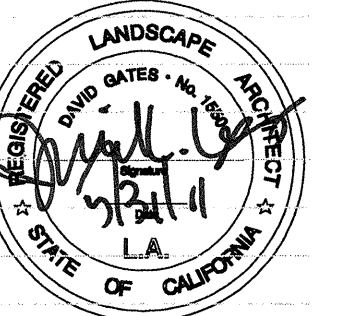
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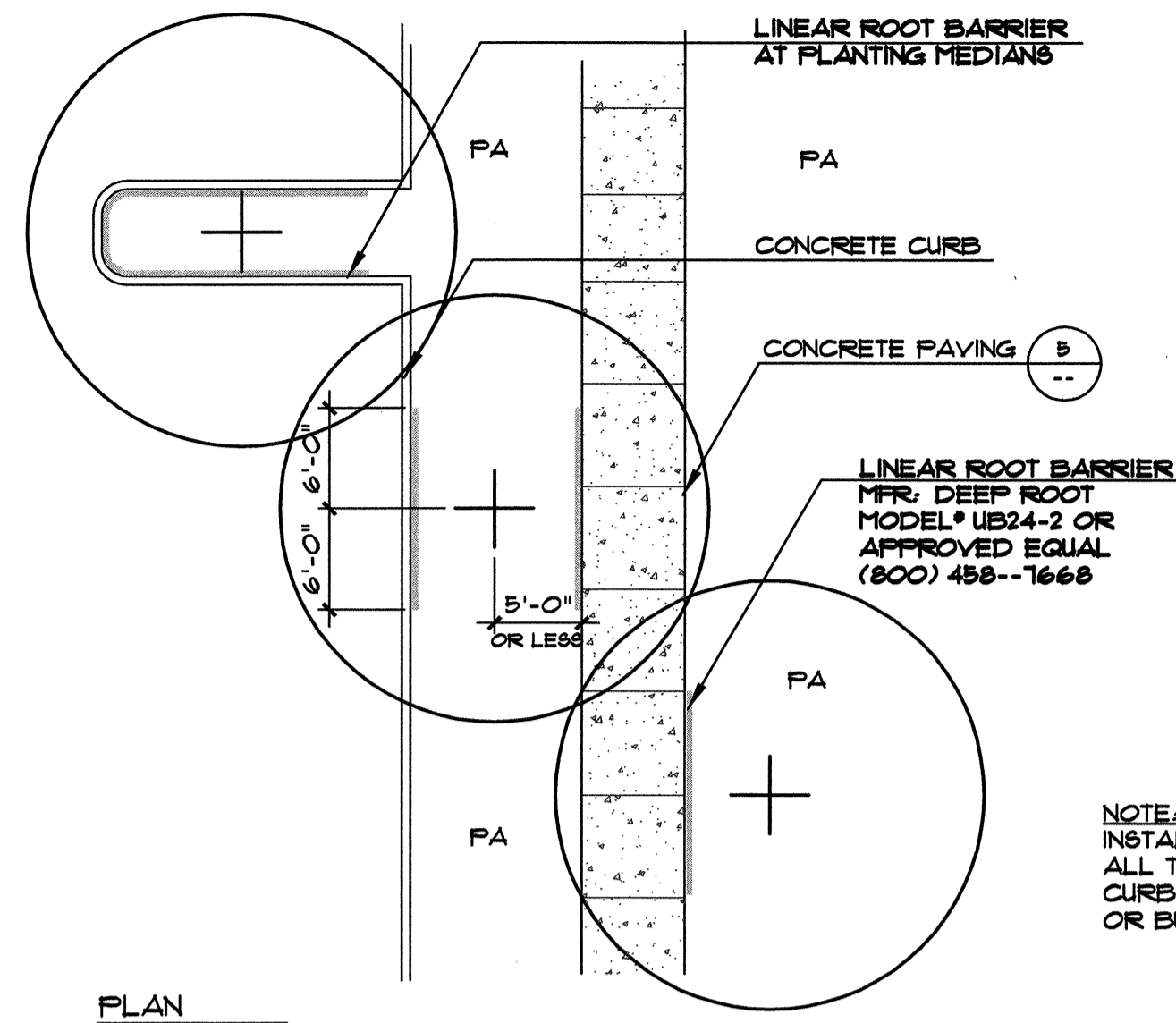


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SCALE: VARIES

DETAILS

L1.6
PROJECT NORTH OF SHEETS



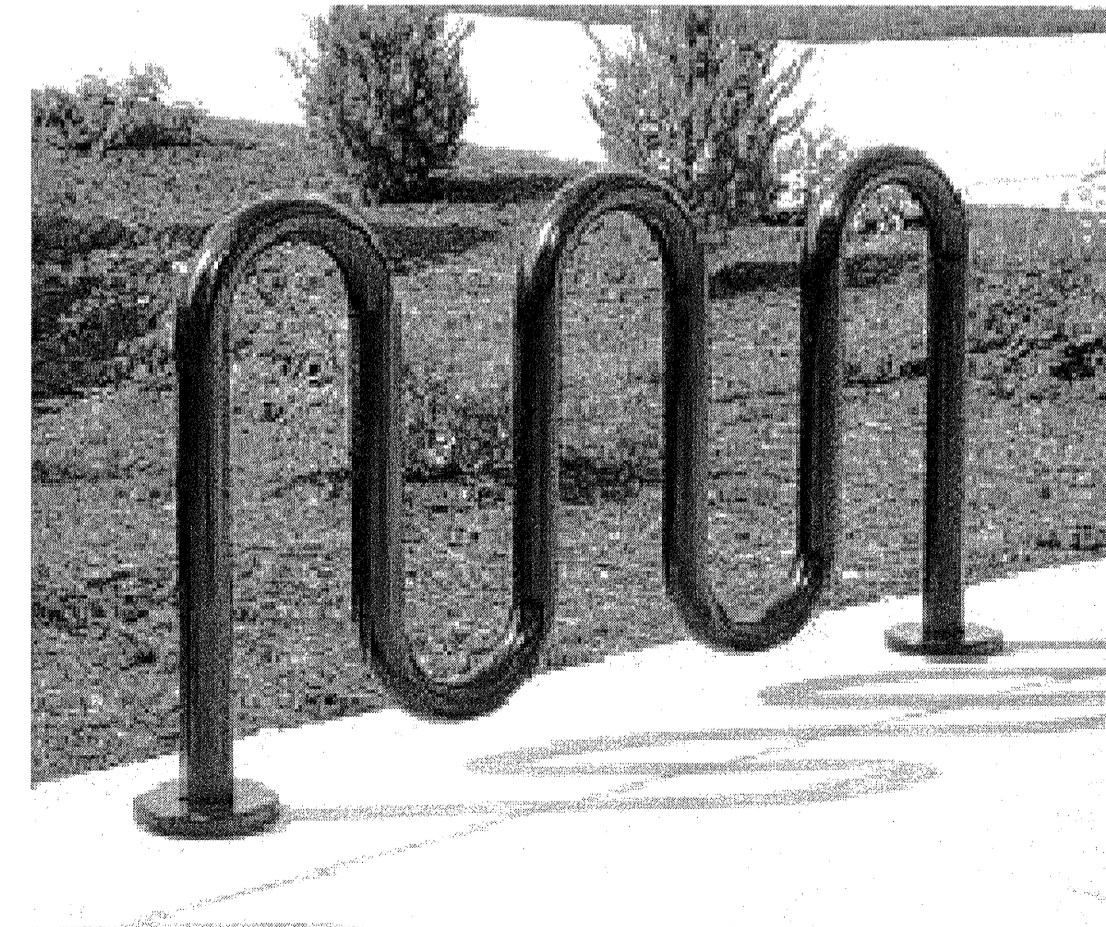
NOTE:
INSTALL ROOT BARRIERS AT ALL TREES WITHIN 5' OF ALL CURBS, SIDEWALKS, ROADS OR BUILDINGS.

1 LINEAR ROOT BARRIER
SCALE: 1" = 10'-0"



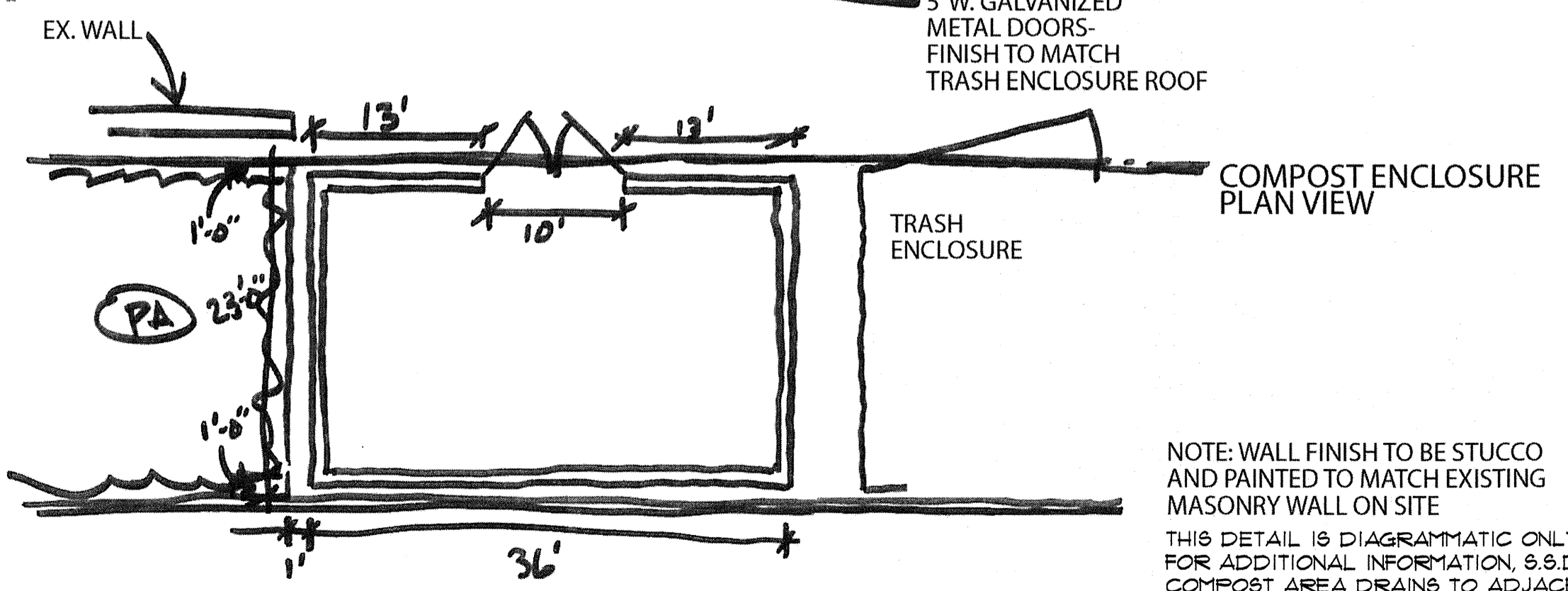
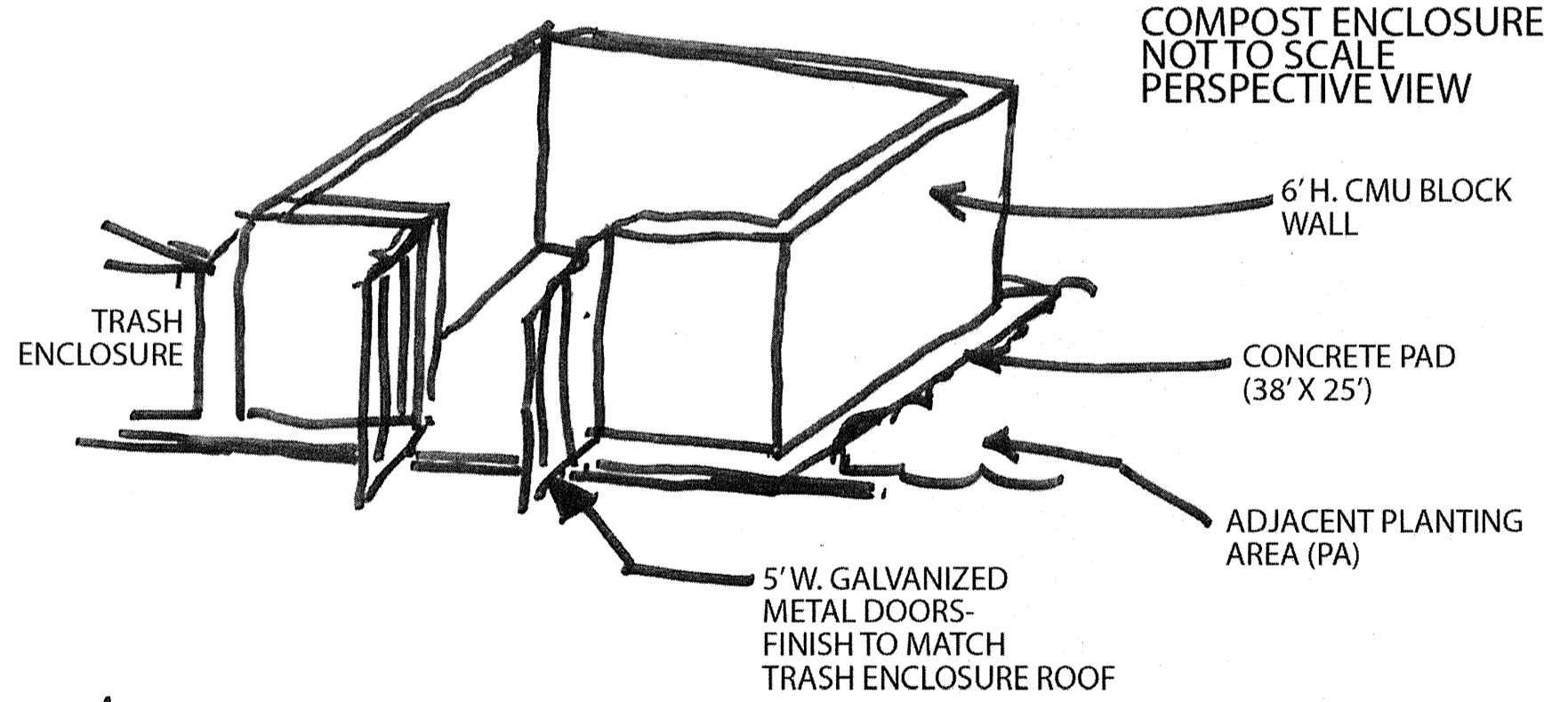
6' BENCH
MANF: DUMOR
MODEL: 169
COLOR: BLACK
CONTACT: 800-598-4018
WWW.DUMOR.COM
SEE MANF. SPECIFICATIONS FOR INSTALLATION DETAILS

2 BENCH
SCALE: N.T.S.



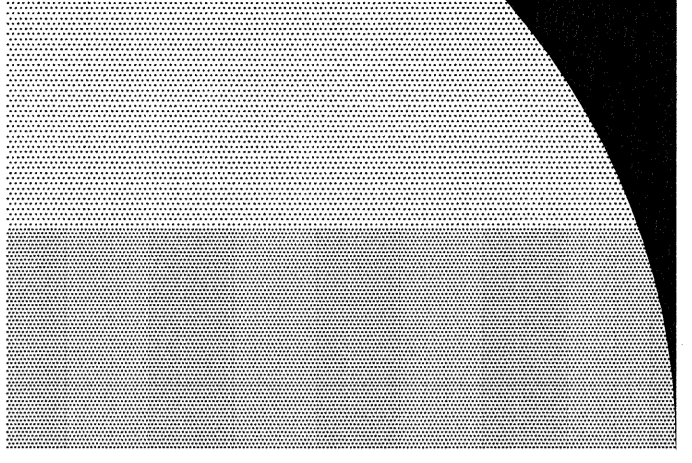
BIKE RACK
MANF: DUMOR
MODEL: 125-20
COLOR: BLACK
CONTACT: 800-598-4018
WWW.DUMOR.COM
SEE MANF. SPECIFICATIONS FOR INSTALLATION DETAILS

3 BIKE RACK
SCALE: N.T.S.



NOTE: WALL FINISH TO BE STUCCO AND PAINTED TO MATCH EXISTING MASONRY WALL ON SITE
THIS DETAIL IS DIAGRAMMATIC ONLY FOR ADDITIONAL INFORMATION, S.S.D. COMPOST AREA DRAINS TO ADJACENT LANDSCAPE AREAS, NOT TO STORM OR SANITARY SEWER SYSTEMS, FOR GRADING AND DRAINAGE, S.C.D.

4 COMPOST AREA
SCALE: 1" = 10'



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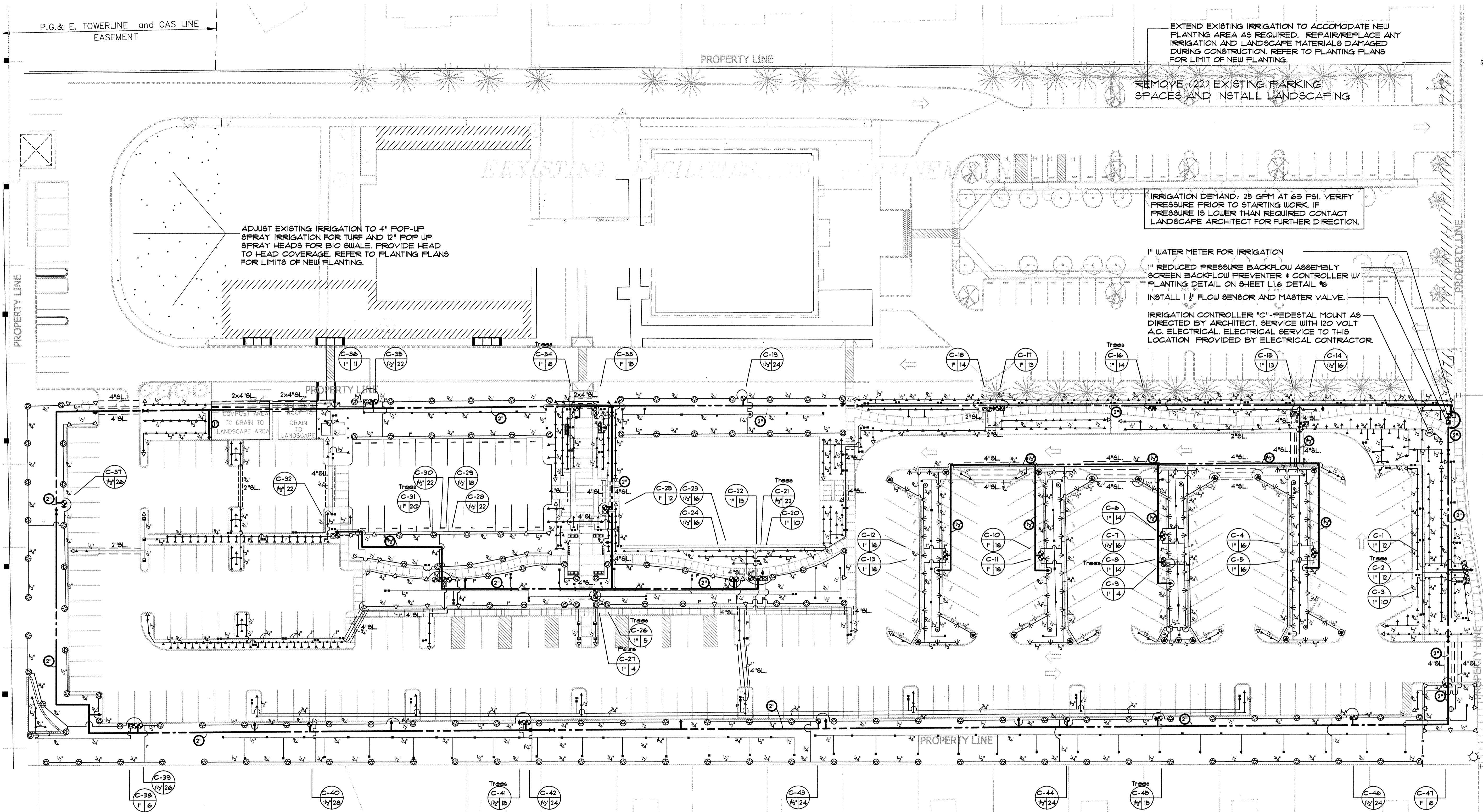
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SCALE: VARIES

DETAILS



P.G. & E. TOWERLINE and GAS LINE EASEMENT

PROPERTY LINE

EXTEND EXISTING IRRIGATION TO ACCOMMODATE NEW PLANTING AREA AS REQUIRED. REPAIR/REPLACE ANY IRRIGATION AND LANDSCAPE MATERIALS DAMAGED DURING CONSTRUCTION. REFER TO PLANTING PLANS FOR LIMIT OF NEW PLANTING.

REMOVE (22) EXISTING PARKING SPACES AND INSTALL LANDSCAPING

ADJUST EXISTING IRRIGATION TO 4" POP-UP SPRAY IRRIGATION FOR TURF AND 12" POP UP SPRAY HEADS FOR BIO SWALE. PROVIDE HEAD TO HEAD COVERAGE. REFER TO PLANTING PLANS FOR LIMITS OF NEW PLANTING.

IRRIGATION DEMAND: 25 GPM AT 65 PSI. VERIFY PRESSURE PRIOR TO STARTING WORK. IF PRESSURE IS LOWER THAN REQUIRED CONTACT LANDSCAPE ARCHITECT FOR FURTHER DIRECTION.

1" WATER METER FOR IRRIGATION
 1" REDUCED PRESSURE BACKFLOW ASSEMBLY SCREEN BACKFLOW PREVENTER 4 CONTROLLER W/ PLANTING DETAIL ON SHEET LI6 DETAIL 16
 INSTALL 1" FLOW SENSOR AND MASTER VALVE.
 IRRIGATION CONTROLLER 1" FEDESTAL MOUNT AS DIRECTED BY ARCHITECT. SERVICE WITH 120 VOLT A.C. ELECTRICAL SERVICE TO THIS LOCATION PROVIDED BY ELECTRICAL CONTRACTOR

INSTALL 3/4" PVC INSIDE 2" SLEEVE THRU WALL AND EXTEND PIPE UP TO RAISED PLANTING AREA.

WATER CONSERVATION CONCEPT STATEMENT

- 1) THE IRRIGATION SYSTEM SHALL BE DESIGNED WITH WATER CONSERVATION IN MIND WHILE ACHIEVING THE GOAL OF EFFECTIVELY AND EFFICIENTLY PROVIDING THE LANDSCAPE WITH WATER BY MEANS OF SPRAY IRRIGATION AT A MINIMUM OF 8' WIDE AND DRIP IRRIGATION TO SHRUBS/GROUND COVER AREAS LESS THAN 8' WIDE AND BUBBLERS TO THE TREES.
- 2) THE SPRAY SYSTEM SHALL BE HUNTER MP ROTATOR SPRAY HEADS WITH PRESSURE COMPENSATING NOZZLES AND TORO'S HIGH EFFICIENCY SPRAY NOZZLES IN A HEAD TO HEAD LAYOUT TO ACHIEVE AN EVEN LEVEL OF PRECIPITATION THROUGHOUT THE IRRIGATION SYSTEM.
- 3) A STATE-OF-THE-ART ET IRRIGATION CONTROLLER SHALL BE SPECIFIED FOR THIS PROJECT TO CONTROL THE WATER ALLOCATED TO EACH VALVE GROUPED PER INDIVIDUAL HYDROZONE (BASED ON PLANT TYPE AND EXPOSURE).
- 4) PROJECT SHALL FOLLOW LIVERMORE'S WATER EFFICIENT LANDSCAPE ORDINANCE REQUIREMENTS AND CHECKLIST FOR THE LANDSCAPE PROFESSIONAL.

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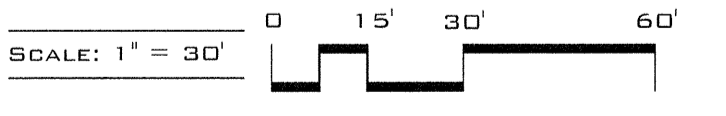
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IRRIGATION PLAN

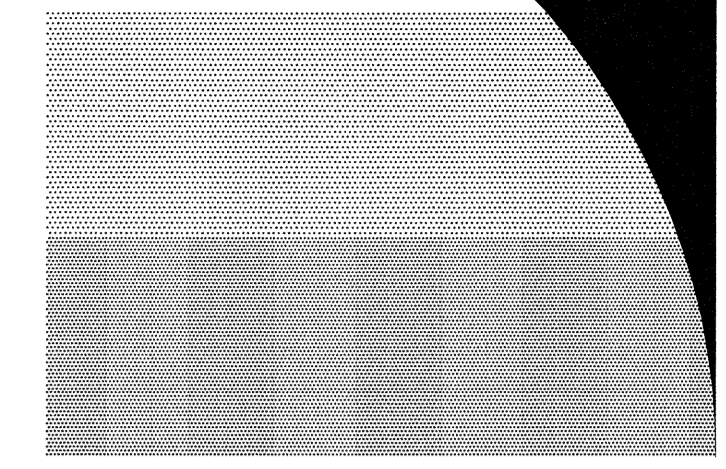
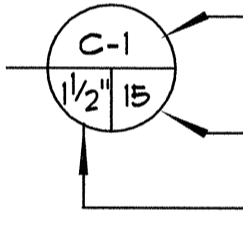
L2.1
 PROJECT NORTH OF SHEETS

IRRIGATION NOTES

1. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHERE POSSIBLE. AVOID ANY CONFLICTS BETWEEN THE SPRINKLER SYSTEM, PLANTING AND ARCHITECTURAL FEATURES.
2. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
3. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, ETC. HE SHALL COORDINATE HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS FOR THE LOCATION AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, PAVING, STRUCTURES, ETC.
4. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF HIS WORK AND PLAN HIS WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THEN WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEMS, PLANTING, AND ARCHITECTURAL FEATURES.
5. ELECTRICAL CONTRACTOR TO SUPPLY 120 VOLT A.C. (2.5 AMP) SERVICE TO CONTROLLER LOCATION. IRRIGATION CONTRACTOR TO MAKE FINAL CONNECTION FROM ELECTRICAL STUB-OUT TO CONTROLLER.
6. EACH CONTROLLER SHALL HAVE ITS OWN INDEPENDENT GROUND WIRE.
7. VALVE LOCATIONS SHOWN ARE DIAGRAMMATIC. INSTALL IN GROUND COVER/SHRUB AREAS WHERE POSSIBLE (NOT IN LAWN AREA).
8. SPLICING OF 24 VOLT WIRES WILL NOT BE PERMITTED EXCEPT IN VALVE BOXES. LEAVE A 24" COIL OF EXCESS WIRE AT EACH SPLICE AND 100 FEET ON CENTER ALONG WIRE RUN. TAPE WIRE IN BUNDLES 10 FEET ON CENTER. NO TAPING PERMITTED INSIDE SLEEVES.
9. INSTALL FOUR (4) SPARE CONTROL WIRES OF A DIFFERENT COLOR ALONG THE ENTIRE MAIN LINE. LOOP 36" EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES.
10. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, ROADWAYS AND/OR BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND TO THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.
11. NOTIFY ARCHITECT OF ANY ASPECTS OF LAYOUT WHICH WILL PROVIDE INCOMPLETE OR INSUFFICIENT WATER COVERAGE OF PLANT MATERIAL AND DO NOT PROCEED UNTIL HIS INSTRUCTIONS ARE OBTAINED.
12. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE DESIGNATED ON THE PLANS.
13. INSTALL A VALCON 5000 SERIES SPRING LOADED CHECK VALVE BELOW THOSE SPRINKLERS WHERE LOW HEAD DRAINAGE WILL CAUSE EROSION AND EXCESS WATER.
14. IN BIOSWALE PLANTING AREAS, INSTALL DRIP BUBBLERS ON HIGHER GROUND AT EDGE OF CURB.
15. INSTALL VALVE BOXES 12" FROM AND PERPENDICULAR TO WALK, CURB, BUILDING OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB, ETC. AND EACH BOX SHALL BE 12" APART. SHORT SIDE OF VALVE BOX SHALL BE PARALLEL TO WALK, CURB, LAWN, ETC.
16. THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE.
17. OPERATE IRRIGATION CONTROLLER(S) BETWEEN THE HOURS OF 10:00 PM AND 7:00 AM.
18. IRRIGATION CONTRACTOR TO NOTIFY ALL LOCAL JURISDICTIONS FOR INSPECTION AND TESTING OF INSTALLED BACKFLOW PREVENTION DEVICE.
19. PRIOR TO TRENCHING, CALL UNDERGROUND SERVICE ALERT, (1-800) 642-2444 FOR NORTHERN CALIFORNIA
20. WHEN VERTICAL OBSTRUCTIONS (STREET LIGHTS, TREES, FIRE HYDRANTS, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE HEADS SO AS TO PREVENT PROPER COVERAGE, THE IRRIGATION CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER, THIRD OR HALF CIRCLE HEAD AT THE SIDES OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
21. ENGRAVE OR HOT STAMP REMOTE CONTROL VALVE BOXES WITH CONTROLLER STATION NUMBERS.
22. PROVIDE PLASTIC LAMINATED COLOR-CODED IRRIGATION LAYOUT DIAGRAMS.
23. PROVIDE TWO (2) SETS OF Q.C. KEYS AND CONTROLLER.
24. SOILS REPORT (SUBMITTED 8-17-09) CONFIRMS THAT TOP 3' OF TOPSOIL IS HOSPITABLE FOR IRRIGATION.

IRRIGATION LEGEND

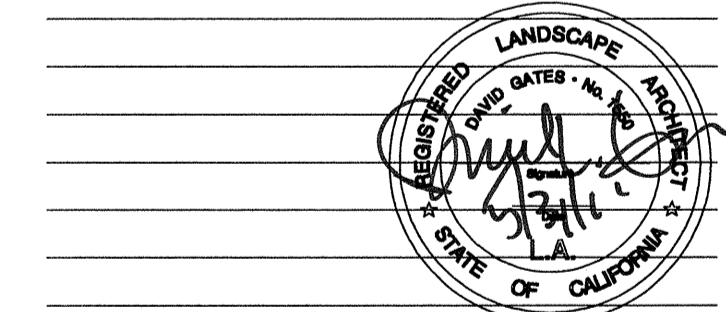
SYMBOL	MODEL NUMBER	DESCRIPTION	PSI	GPM	RADIUS
	MPR40-12-CV-MP3000-90	HUNTER 12" MP ROTATOR SPRAY HEAD	40	2.12-2.73	22'-30'
	MPR40-12-CV-MP3000-90	HUNTER 12" MP ROTATOR SPRAY HEAD	40	.86-2.12	22'-30'
	MPR40-12-CV-MP2000-360	HUNTER 12" MP ROTATOR SPRAY HEAD	40	.75	13'-21'
	MPR40-12-CV-MP2000-90	HUNTER 12" MP ROTATOR SPRAY HEAD	40	.20-.50	13'-21'
	570Z-12P-PRX-OT-12H	TORO 12" SPRAY HEAD W/PRECISION SERIES NOZZLES	30	1.0	12'
	570Z-12P-PRX-OT-10F,H,Q	TORO 12" SPRAY HEAD W/PRECISION SERIES NOZZLES	30	1.0, .50, .25	10'
	OCT816	PEPCO OCTA BUBBLER-SHRUBS	30	2 GPH	-
	1633	PEPCO QUADRA BUBBLER-SHRUBS	30	2 GPH	-
	RWG-02	RAINBIRD DEEP WATERING TUBE	30	.50	-
	M64/AP100	SPEARS FLUSHING END PLUG - LOCATE AT ENDS OF DRIP LATERAL LINE			
	T-113-K	NIBCO GATE VALVE WITH CROSS HANDLE (LINE SIZE) IN ROUND BOX			
	44 DRC	RAIN BIRD QUICK COUPLING VALVE			
	1-1201-1151-8130 PMR-MF-30-1"	AMIAD 1" FILTER WITH 130 MESH SCREEN WITH SENNINGER 1" IN-LINE PRESSURE REDUCING VALVE (1-22 GPM)			
	700 SERIES ULTRAFLOW	IRRITROL SYSTEMS ULTRAFLOW SERIES REMOTE CONTROL VALVE			
	825Y-BV-1 1/2" SBBC-30	FEBCO REDUCED PRESSURE BACKFLOW ASSEMBLY INSIDE STRONG BOX ENCLOSURE			
	TFS-150/3100	TORO 1 1/2" FLOW SENSOR WITH SUPERIOR 1 1/2" 3100 NORMALLY OPEN MASTER VAVLE			
	TIS-48-PED-TMR1-TFS-TRS	TORO INTELLISENSE 48 STATION ET CONTROLLER, PEDESTAL MOUNTED WITH RAINSENSOR AND MAINTENANCE REMOTE			
		STATION NUMBER			
		GALLONS PER MINUTE			
		VALVE SIZE			
		MAINLINE: 1120-SCHEDULE 40 PVC PLASTIC PIPE WITH SCHEDULE 40 PVC SOLVENT WELD FITTINGS. 18" COVER.			
		LATERAL LINE: 1120-200 PSI PVC PLASTIC PIPE W/SCHEDULE 40 PVC PLASTIC FITTINGS. 12" COVER.			
		SLEEVE: 1120-200 PSI PVC PLASTIC PIPE W/SCHEDULE 40 PVC PLASTIC FITTINGS. 18" COVER.			



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**HINDU COMMUNITY
 & CULTURAL CENTER**
 1200 ARROWHEAD AVE.
 LIVERMORE, CA

REVISION: DESCRIPTION: DATE:



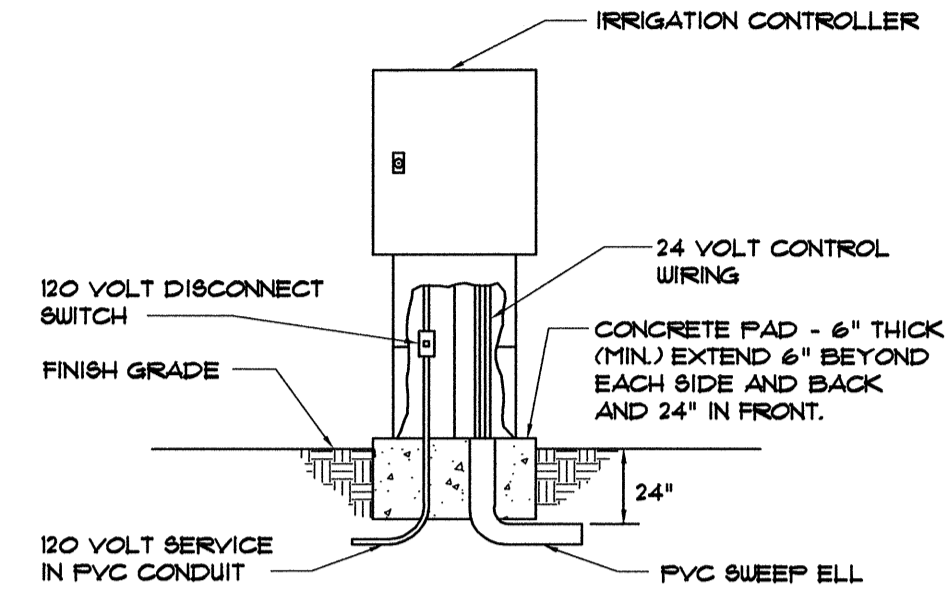
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 PROJECT NUMBER: P3995
 PROJECT FILE:
 DRAWN: SH, JC
 CHECK: DB
 DATE: 12/1/2010

SCALE: NTS

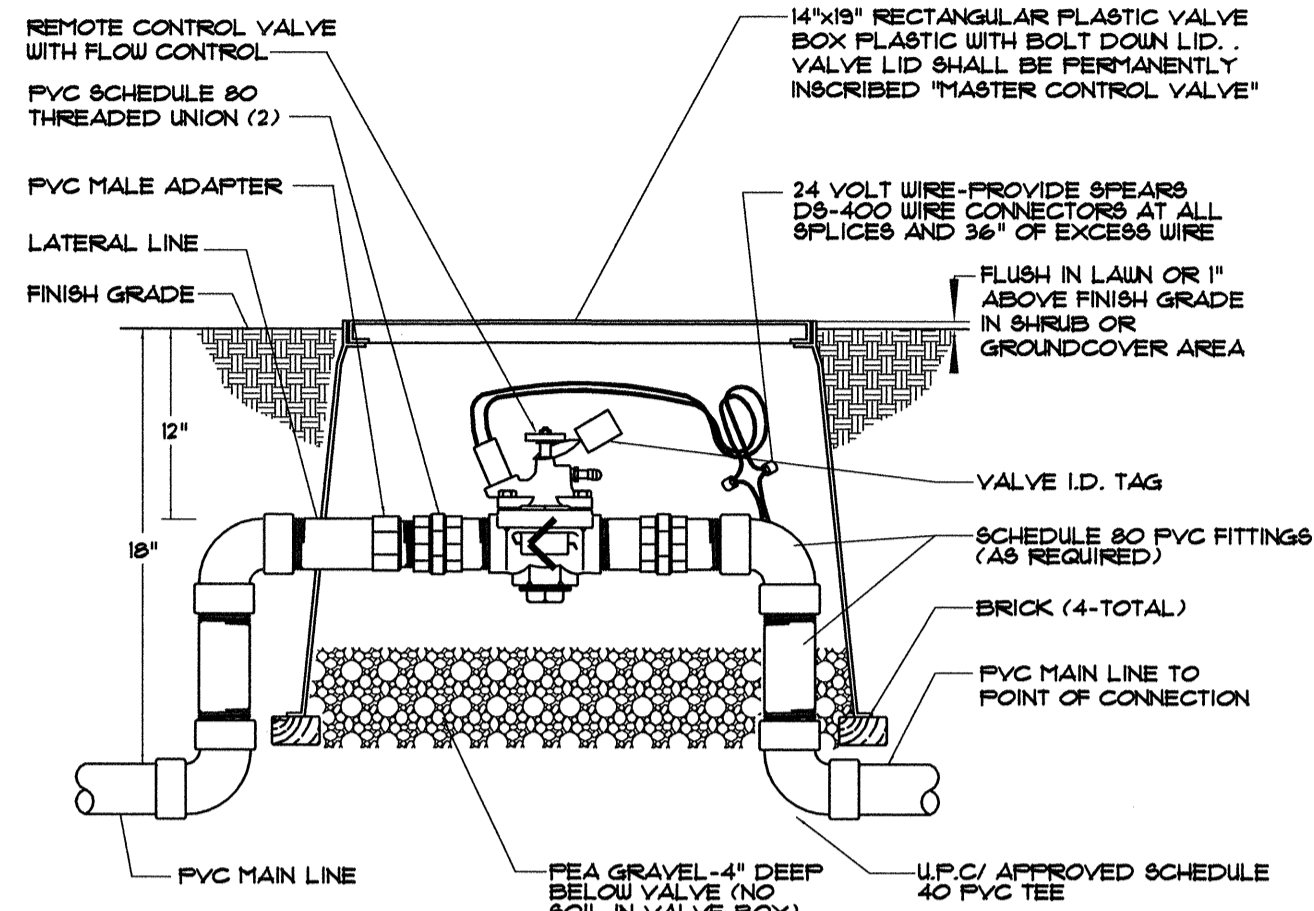
NOTES AND LEGEND

L2.2

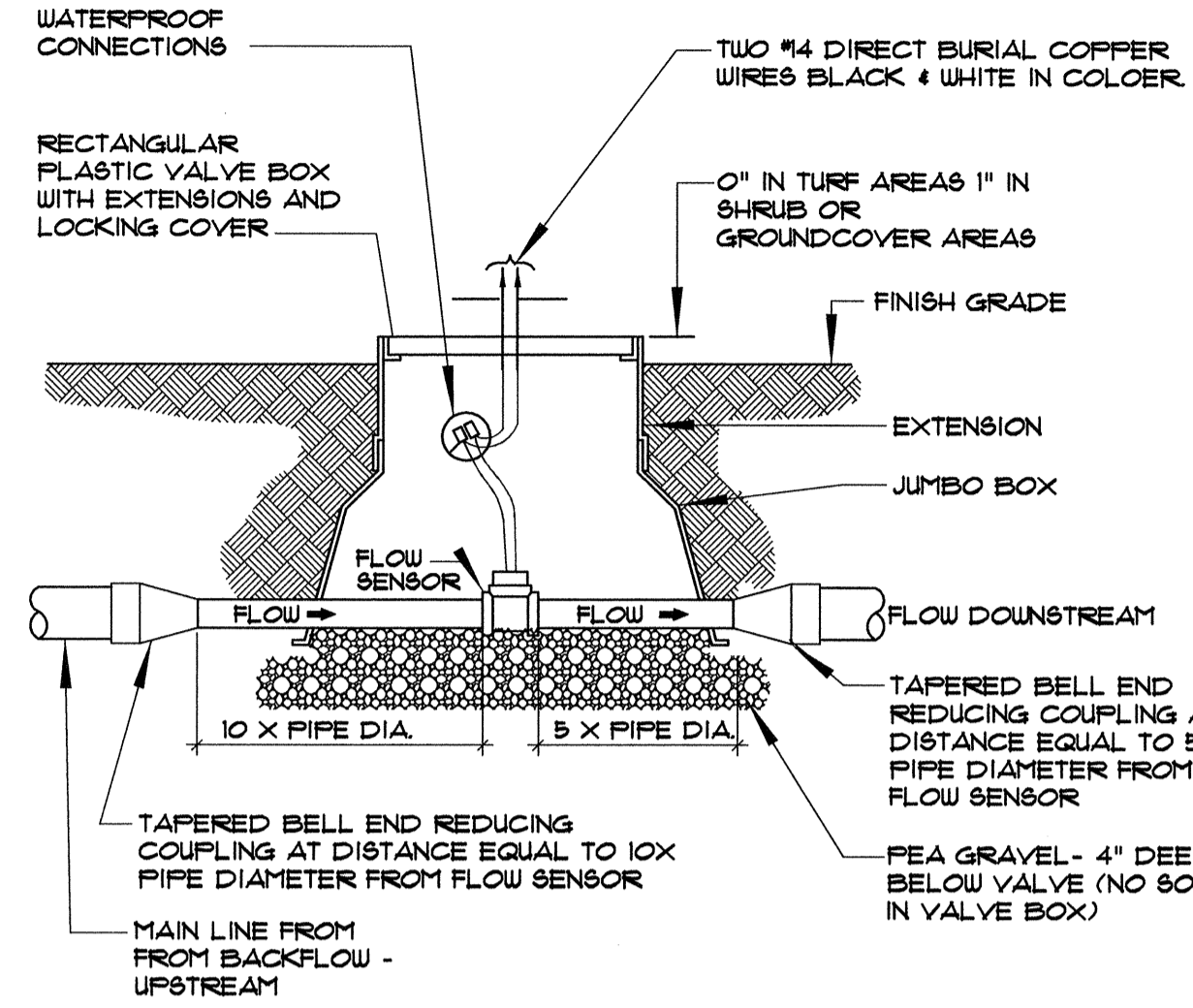
PROJECT NORTH OF SHEETS



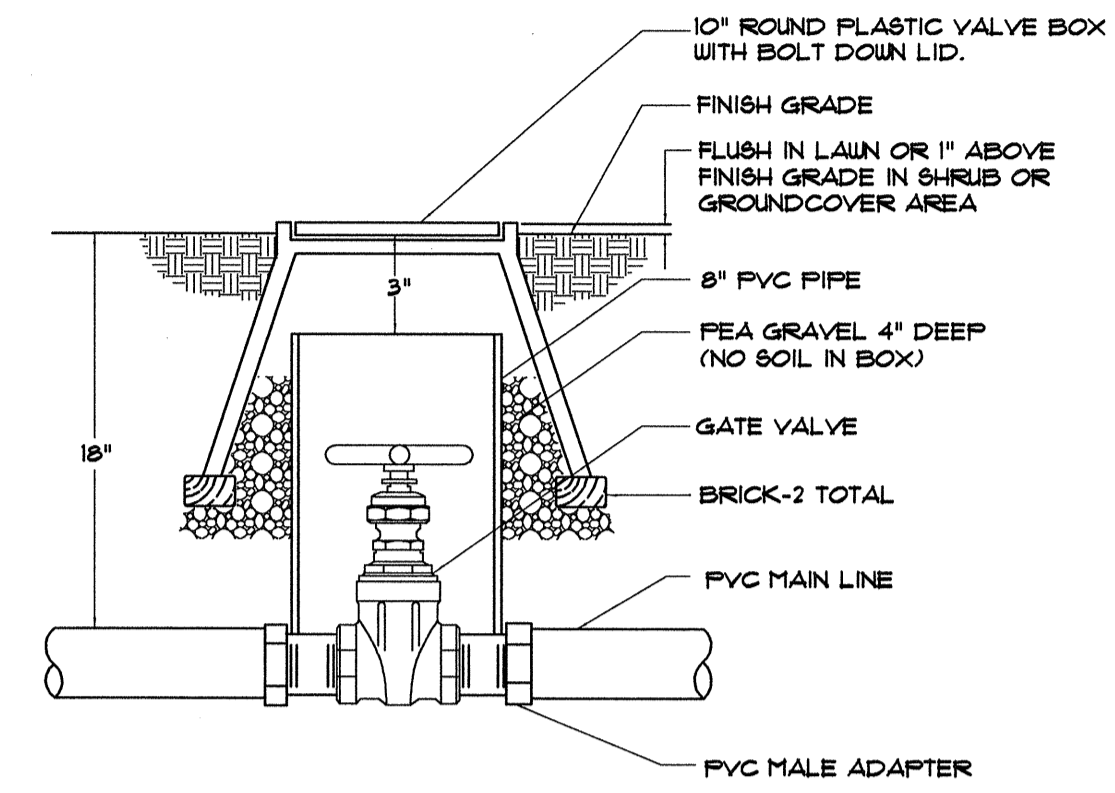
1 PEDESTAL MOUNT CONTROLLER
NTS



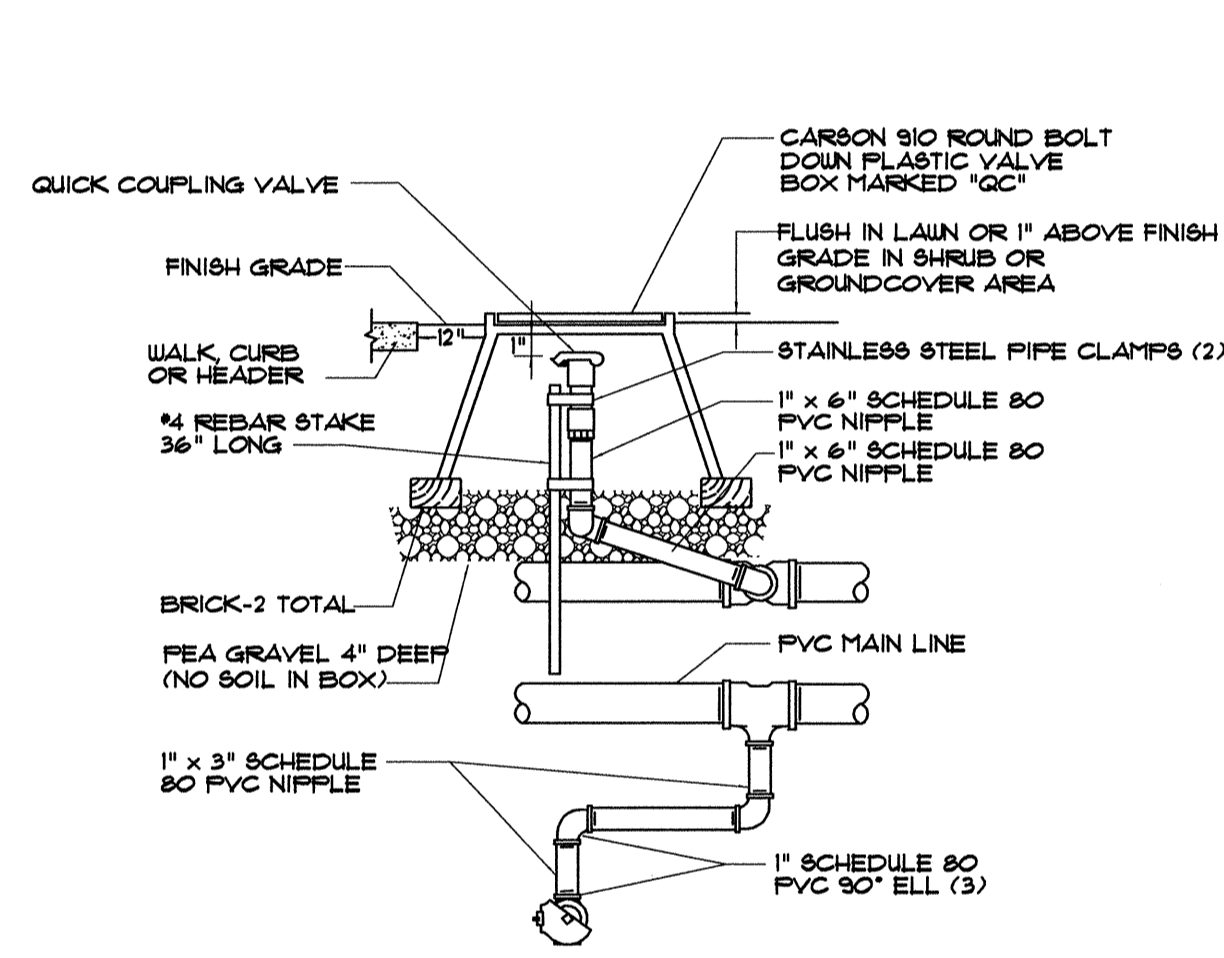
2 MASTER CONTROL VALVE INSTALLATION
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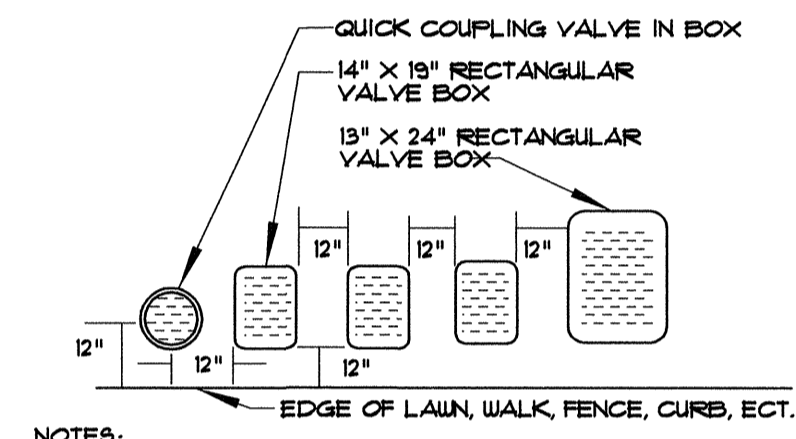
3 FLOW SENSOR INSTALLATION
NTS



4 GATE VALVE INSTALLATION
NTS

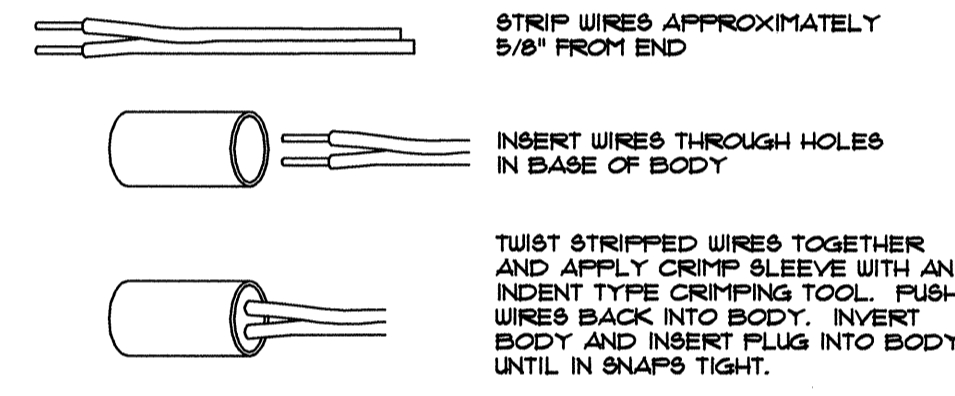


5 1" QUICK COUPLER IN BOX
NTS



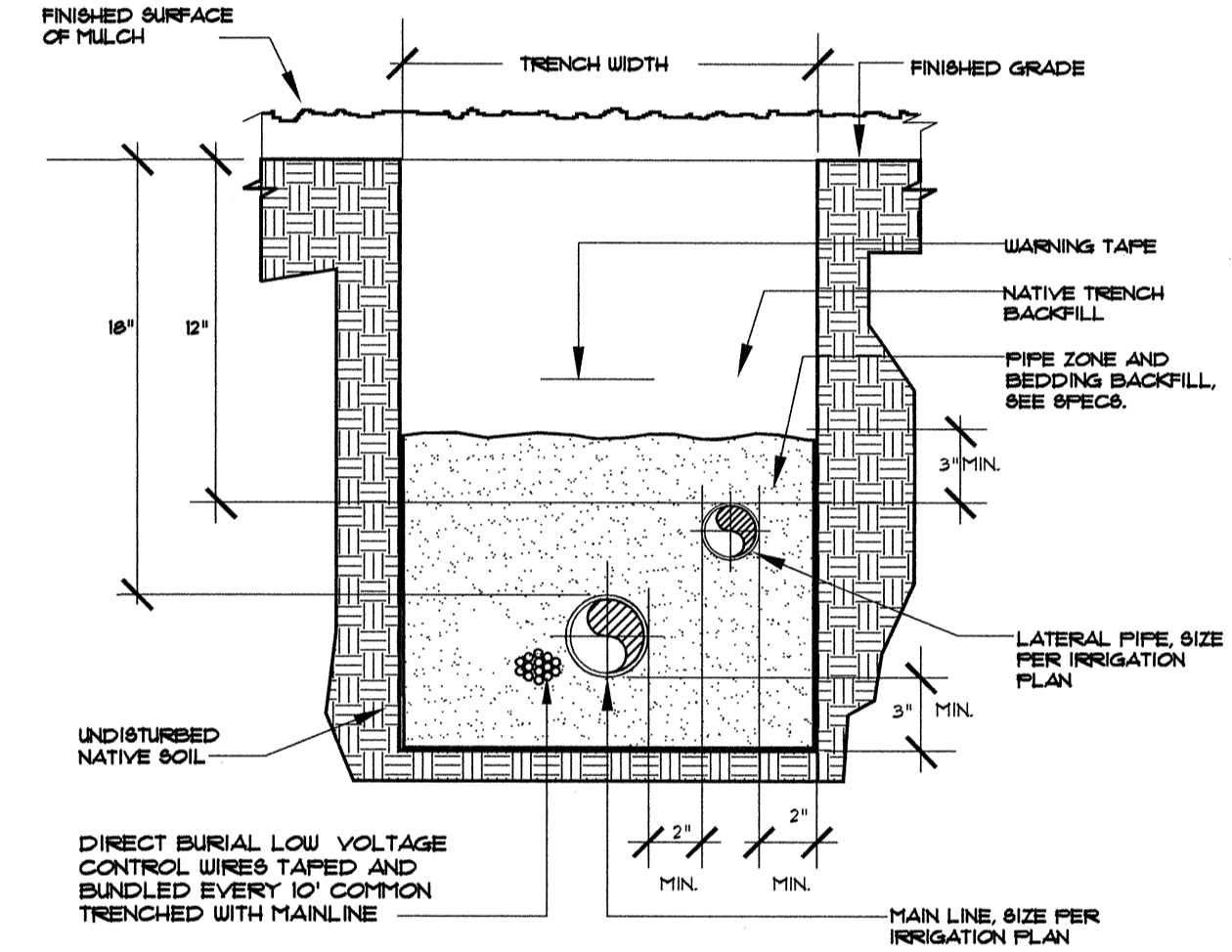
- NOTES:
- CENTER BOX OVER REMOTE CONTROL VALVE TO FACILITATE SERVICING VALVE.
 - SET BOXES 1" ABOVE FINISH GRADE IN GROUND COVER/SHRUB AREA AND FLUSH WITH FINISH GRADE IN TURF AREA.
 - SET RCV AND VALVE BOX ASSEMBLY IN GROUND COVER/SHRUB AREA WHERE POSSIBLE. INSTALL IN LAWN AREA ONLY IF GROUND COVER DOES NOT EXIST ADJACENT TO LAWN.
 - SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
 - AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOX EDGES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.
 - ALL VALVE BOXES SHALL HAVE BOLT DOWN LIDS.
 - VALVE LID SHALL BE PERMANENTLY INSCRIBED "CONTROL VALVE" AND WITH THE CONTROLLER STATION NUMBER.

6 VALVE BOX INSTALLATION
NTS

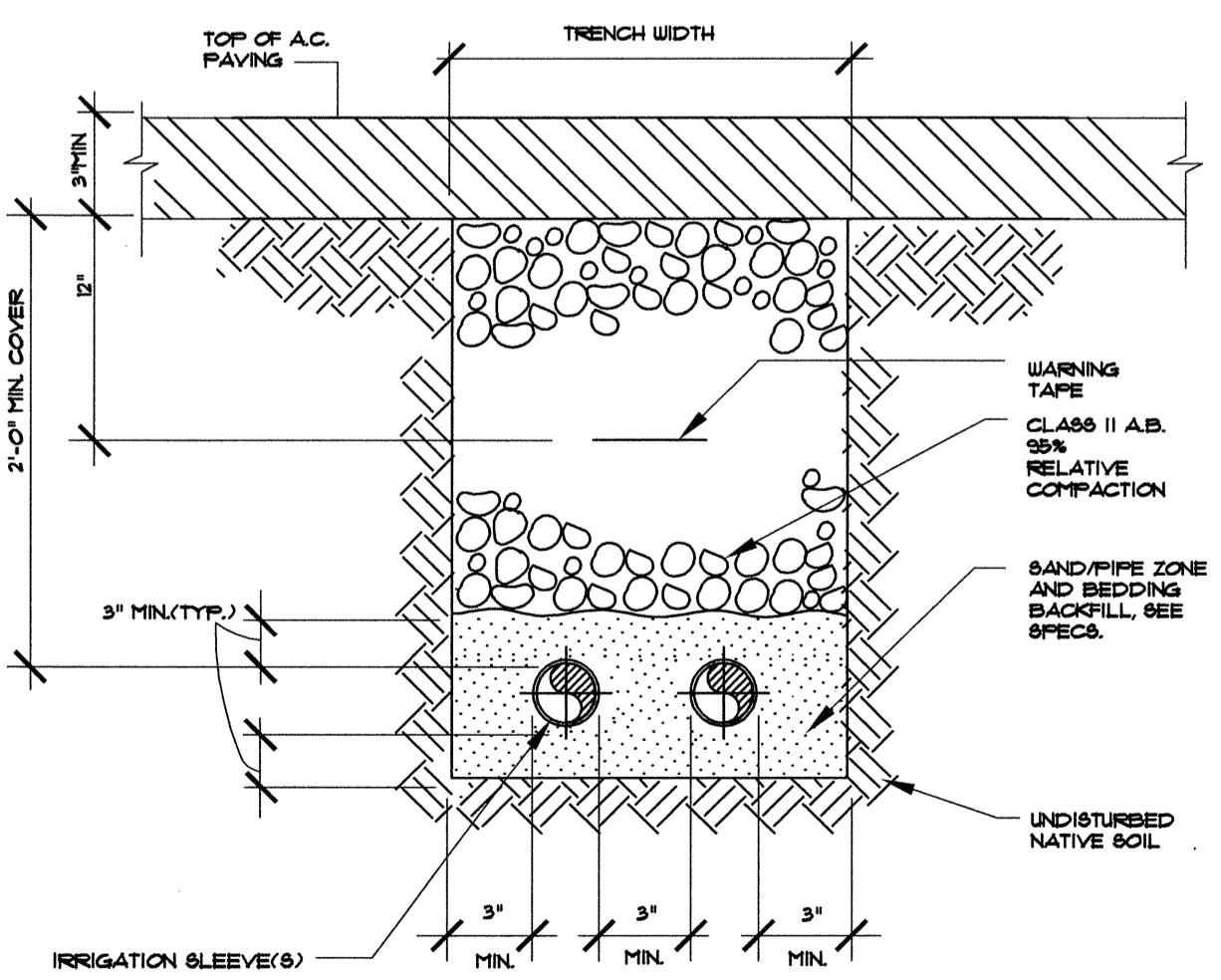


- NOTES:
- ONE CONNECTOR HANDLES 10 AWG, #2 AWG AND #4 AWG WIRES.
 - WIRES CONNECTORS WILL ACCEPT THREE WIRE OR TWO WIRE CONNECTIONS.
 - MANUFACTURED BY SPEARS #D8-500, KING #61135 OR EQUAL.

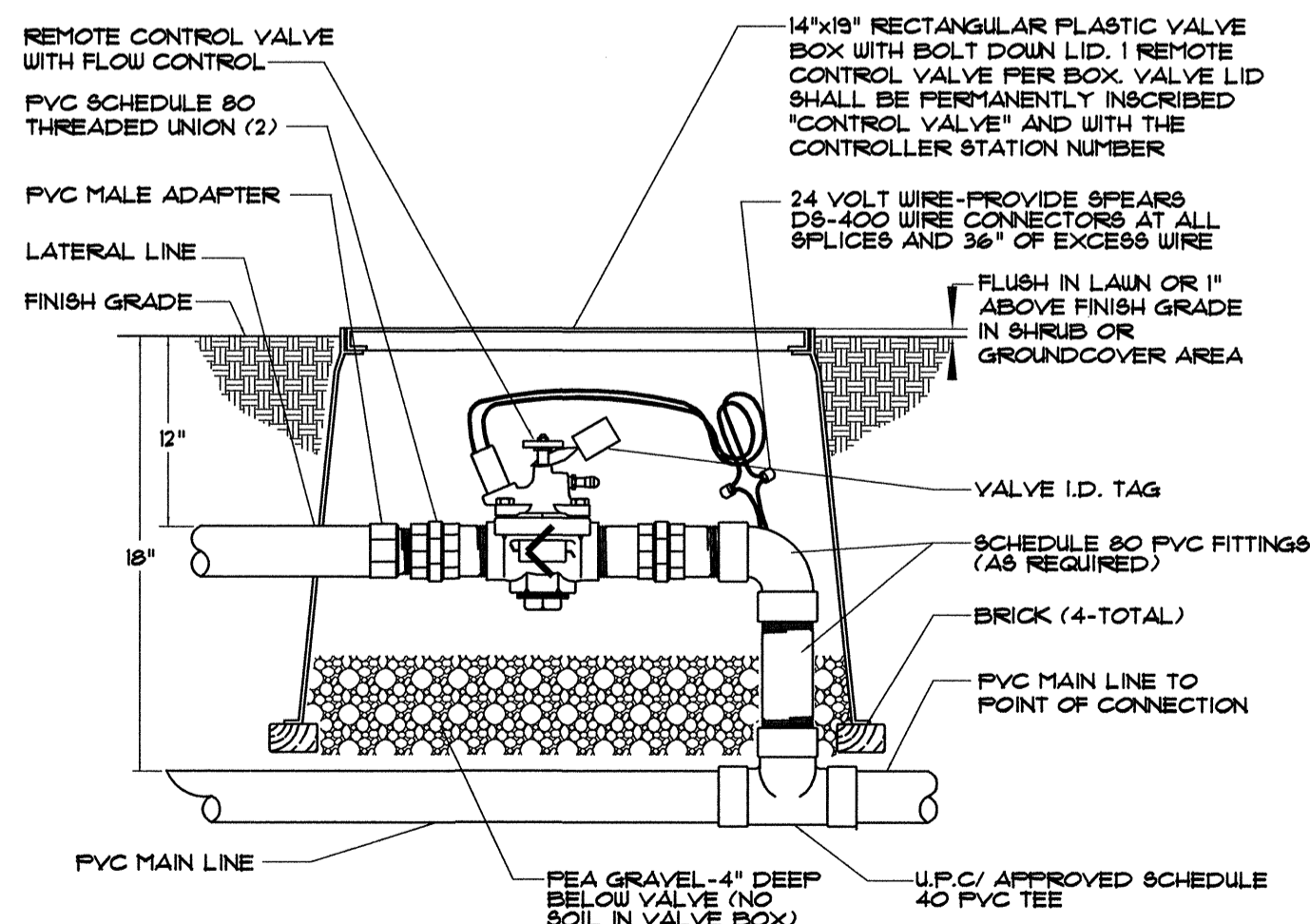
7 WIRE CONNECTION
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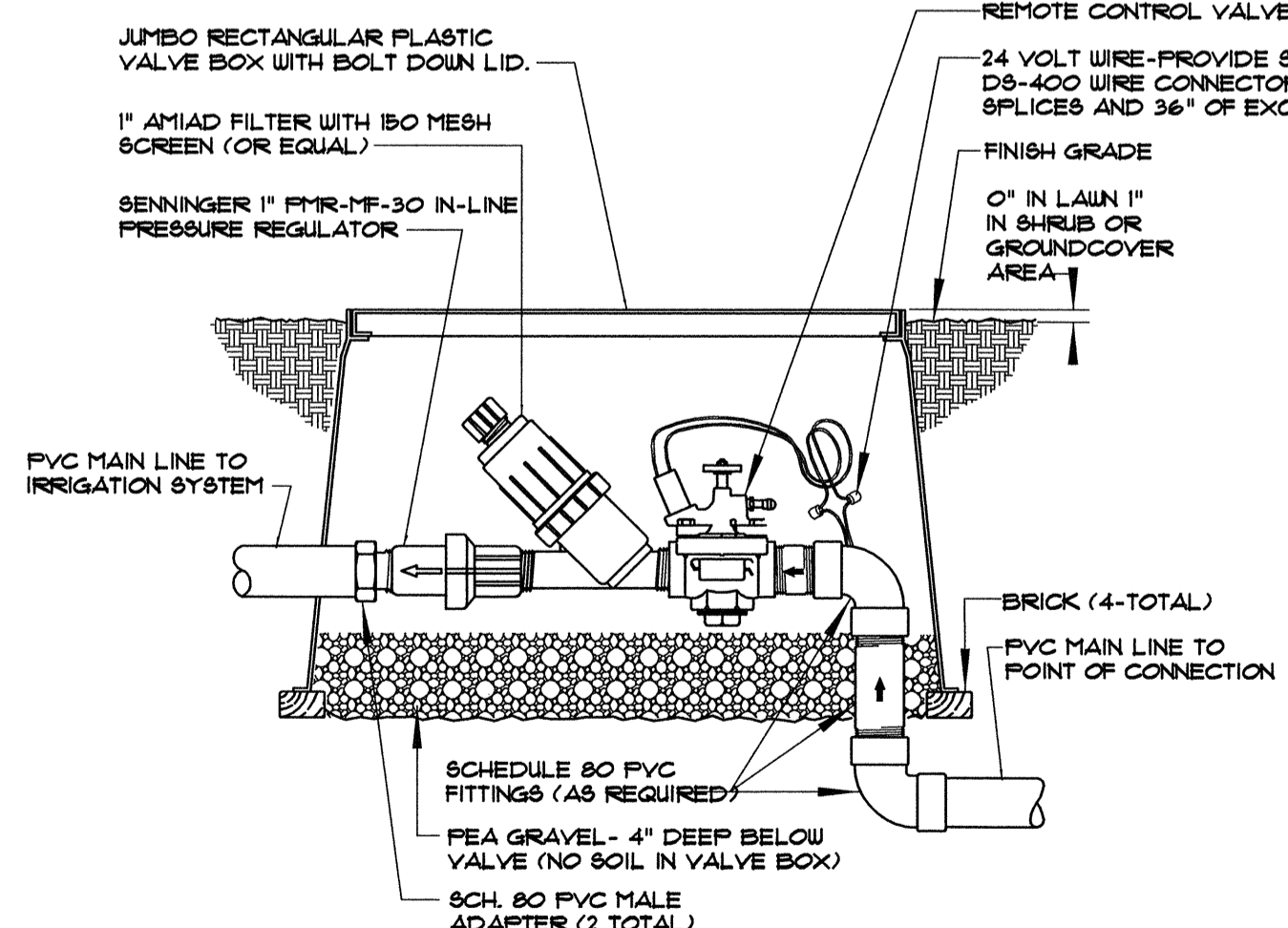
8 TYPICAL COMBINATION TRENCH
NTS



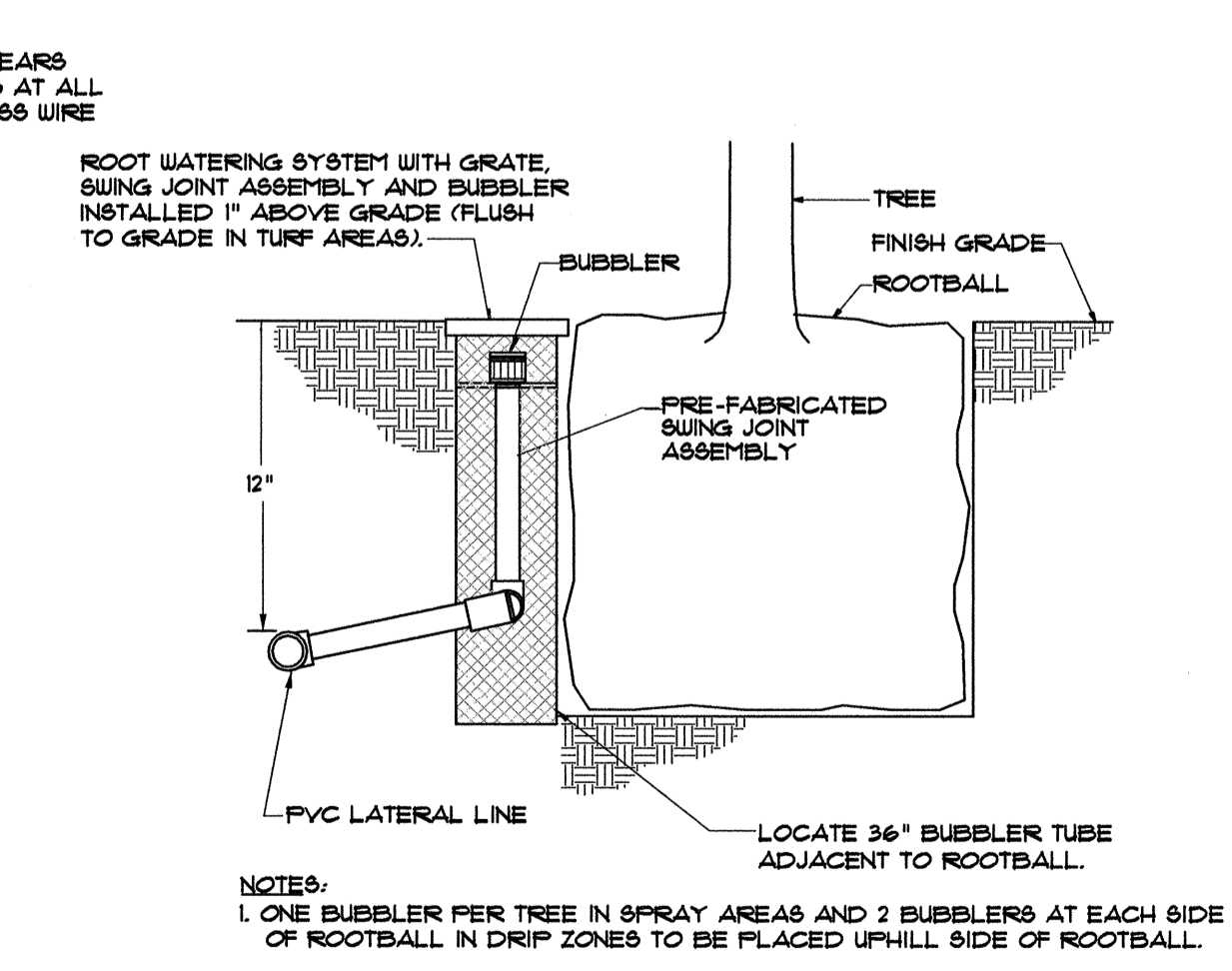
9 SLEEVE TRENCH DETAIL UNDER ROADWAY
NTS



10 REMOTE CONTROL VALVE INSTALLATION
NTS



11 DRIP REMOTE CONTROL VALVE ASSEMBLY
NTS



12 TREE BUBBLER INSTALLATION
NTS

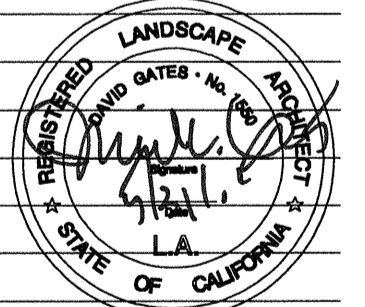
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LIVERMORE, CA

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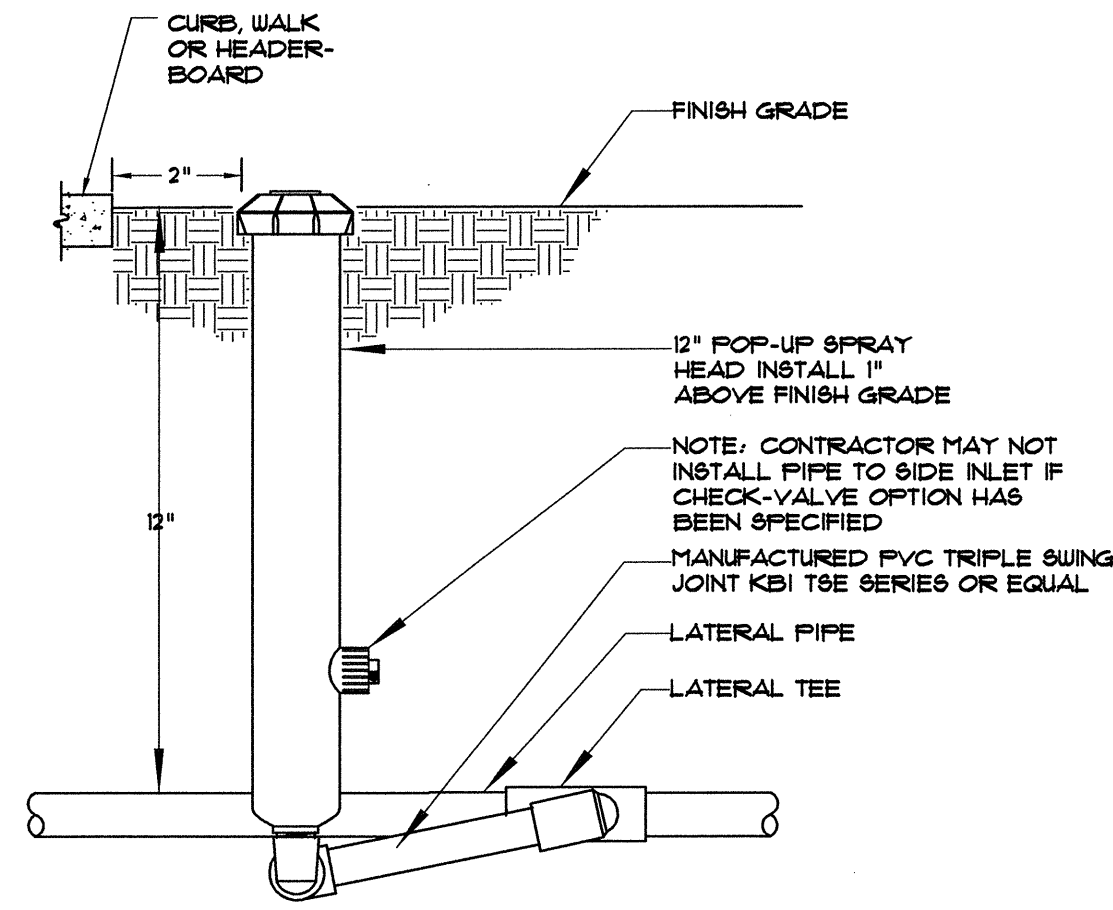
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PROJECT NUMBER: P3995
PROJECT FILE:
DRAWN: SH, J.C.
CHECK: DG
DATE: 12/1/2010

SCALE: NTS

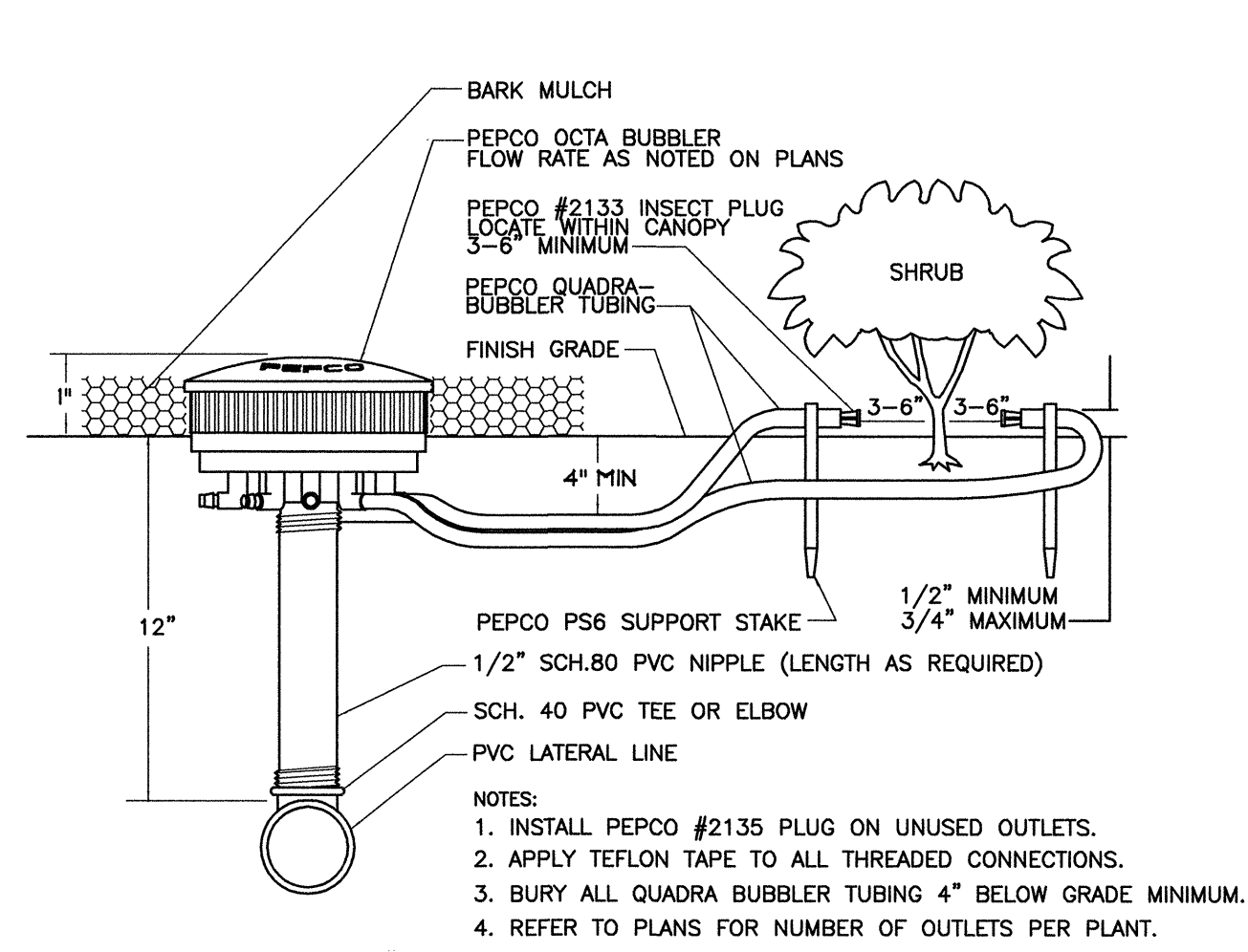
IRRIGATION DETAILS

L2.3

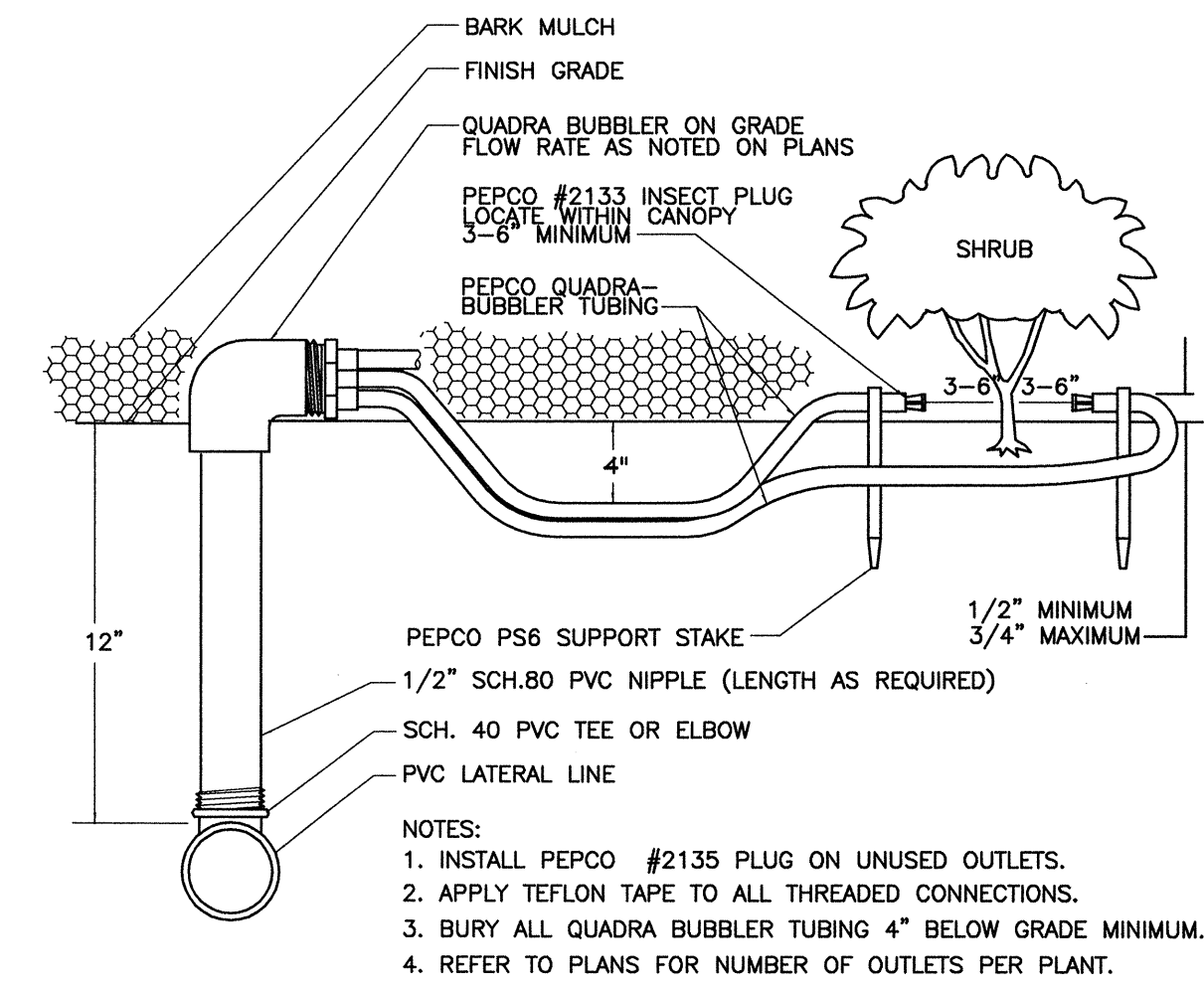
PROJECT NORTH OF SHEETS



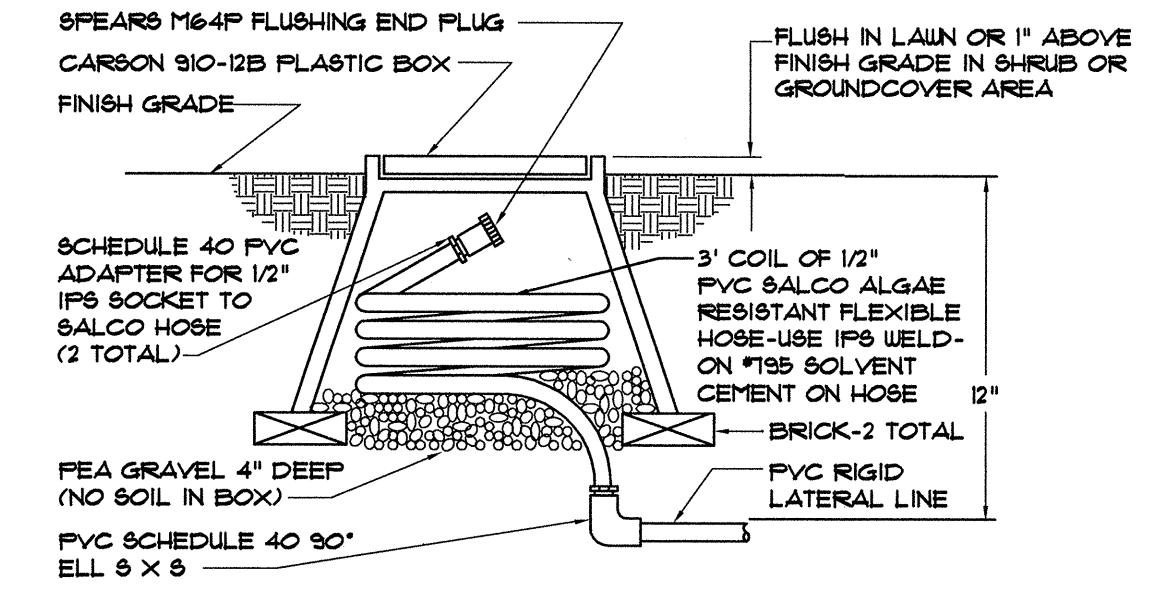
13 POP-UP 12" SPRAY HEAD INSTALLATION
NTS



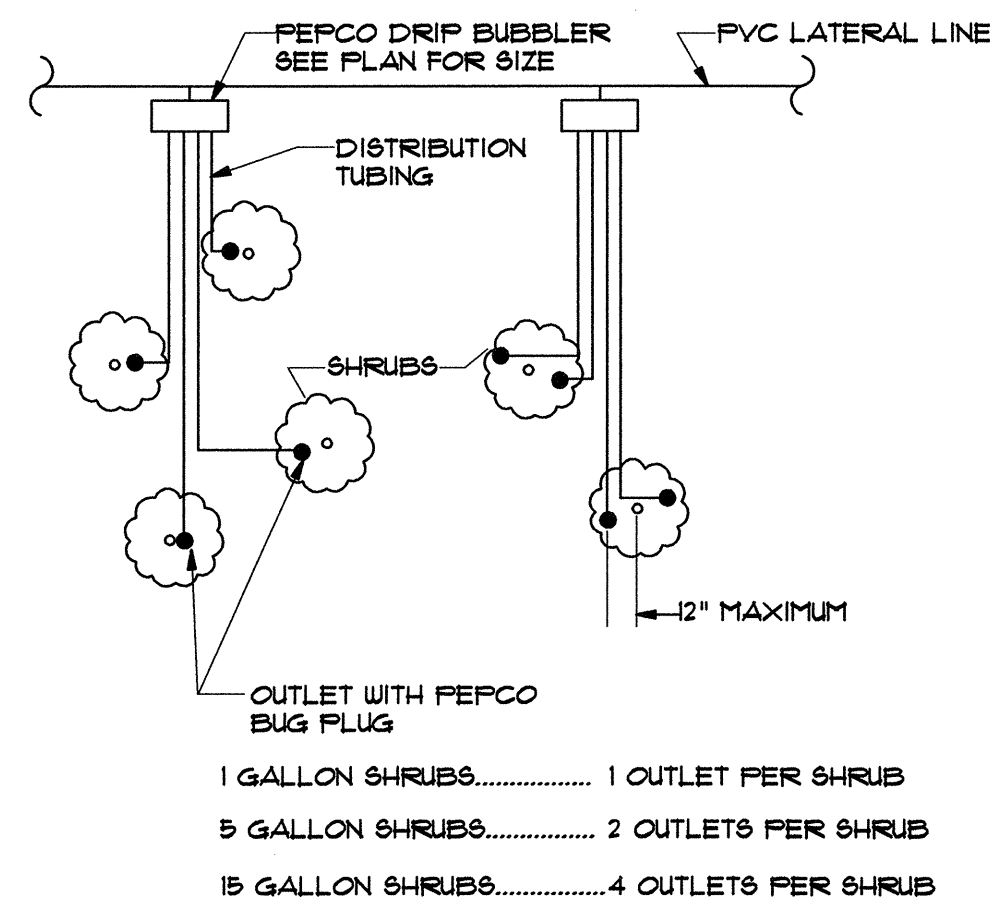
14 OCTA-BUBBLER DETAIL
NTS



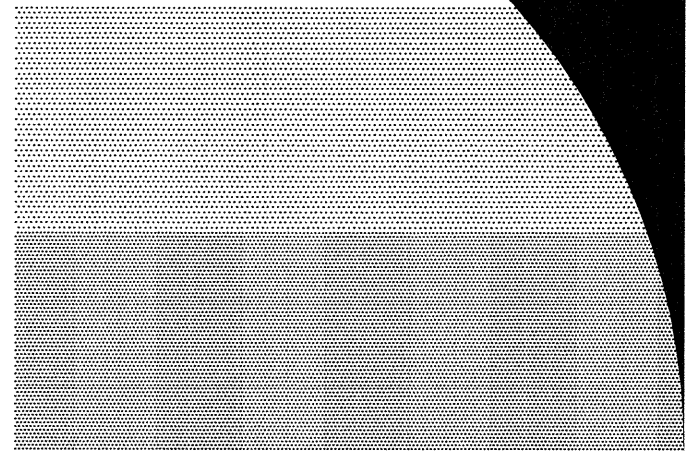
15 DRIP BUBBLER INSTALLATION
NTS



16 FLUSHING END PLUG INSTALLATION
NTS



17 TYPICAL DRIP BUBBLER LAYOUT
NTS



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SCALE: NTS

IRRIGATION DETAILS

Irrigation Audit Schedule:

1. Irrigation Audits shall be done in accordance with the Landscape Irrigation Auditor handbook published by the Irrigation Association.
2. Irrigation Audits shall be conducted by a Certified Landscape Irrigation Auditor certified by the Irrigation Association.
3. Irrigation Audits shall be done one every five years as required by the state model water efficiency requirements. Results shall be submitted to the local water purveyor for review.

IRRIGATION SYSTEM MAINTENANCE

A. General:

1. It is the City's objective to actively pursue water conservation within publicly-owned landscape areas. The CONTRACTOR can expect the administration of this irrigation specification to be closely monitored. Implementation of the Water Conservation Program will be carried out as stated in the City's Water Efficient Landscape Ordinance.
2. The CONTRACTOR shall have full responsibility to ensure watering requirements are met within each landscaped area. The CONTRACTOR shall be capable of performing repairs, installations and modifications to the existing irrigation system to adequately irrigate all landscaped areas.
3. If any part of the irrigation system is vandalized or stolen, the CONTRACTOR shall immediately repair or replace the affected component. If the component cannot be repaired immediately, the CONTRACTOR shall initiate a program of manual watering for all affected areas until the system is fully functional or install a loaner unit.

B. Maintenance and repair:

1. As part of the maintenance obligation, the CONTRACTOR shall regularly inspect the operation of the complete irrigation system, including periodic manual checks of the operation of each station. If a damaged component is discovered, the CONTRACTOR shall promptly repair the damage using replacement parts which are compatible with the original parts.
2. All rotors and spray heads shall operate efficiently and without obstruction. The pop-up extension shall glide smoothly to a fully extended position when in operation, and shall retract completely when the watering cycle ends. The nozzles shall spray with the proper arc and trajectory, and the orifice shall remain unobstructed. The screen within each head shall be periodically cleaned. Replacement parts shall be compatible with the existing equipment, and shall be installed in accordance with the manufacturer's recommendations.
3. If required by the Architect, the rotor or spray head at the end of the lateral line for each station shall be removed so the system can be flushed with water. Said flushing shall be performed until the water flows clean. The rotor or spray head shall then be carefully reinstalled.
4. All remote control valves shall close consistently and completely at the conclusion of each station cycle. Main-line irrigation leaks shall be promptly repaired.
5. The cleaning or replacement of wye filters for the drip system shall be performed periodically by the CONTRACTOR. The system will not be accepted for permanent maintenance until all filters are clean.
6. Any pressure regulators shall be adjusted by the CONTRACTOR to ensure optimum water delivery to the emitters. Any in-line filters shall be cleaned on a quarterly basis.
7. The controller shall be inspected weekly to assure that the system programming is appropriate and efficient. The CONTRACTOR shall replace any controller which does not perform to the manufacturer's specifications.
8. All spray heads, bubblers, emitters, and rotors shall be adjusted to eliminate clogs or over spray onto the streets, walkways, buildings, walls, signs, or other features that may be damaged or stained by irrigation water.
9. The CONTRACTOR shall conduct any necessary backflow prevention assembly testing.

C. Watering:

1. Seasonal programming of the controller shall be performed by the CONTRACTOR according to the schedules shown on the irrigation plans, and per the evapotranspiration rates for different months of the year and the plant's crop coefficient factor. The time and duration of watering for each station shall be adjusted regularly to account for seasonal temperature and precipitation changes. The irrigation shall be shut-off during weeks of heavy rain, or if the spray may turn to ice on the streets or walkways.
2. Manual watering shall be performed only to supplement the irrigation water provided to particular plants or areas by the automatic irrigation system. Manual watering shall not be performed to disguise a deficiency in the automatic irrigation system. If the automatic irrigation system fails to adequately distribute water to all landscaped areas or plants, the CONTRACTOR shall modify the irrigation system as necessary to achieve complete coverage.
3. Following planting and initial watering, the CONTRACTOR shall assure that the irrigation system provides water for all plants and planted areas as necessary to keep the ground moist from the surface to well below the root systems.

**Hindu Community and Cultural Center
MAWA Water Calculations**

Maximum Applied Water Allowance (MAWA)

MAWA = (LA) (20.5)

MAWA = Maximum Applied Water Allowance (gallons per year)
 LA = Landscaped area (square feet)
 20.5 = conversion factor (to gallons per square foot per year) The conversion factor is made up of the reference evapotranspiration (47.2) x ET adjustment factor (0.7) x .62 to convert square feet to gallons per square foot per year.

MAWA = (75,158) (20.5)

MAWA = 1,540,739 Gallons per year

Estimated Water Use Calculations (EWU)

EWU = (ETo)(PF)(HA)(0.62)/IE

EWU = Estimated Water Use (Per year)
 ETO = Reference Evapotranspiration (inches per year)
 PF = Plant Factors
 IE = Irrigation System Efficiency in decimal form
 HA = Hydrozone area (square feet)
 .62 = Conversion factor (to gallons per square foot)

Medium water use shrubs & groundcover w/ MP Rotator spray irrigation

EWU: = 47.2 (0.62) [(0.4)(65,919)/.75]

= 1,028,829 Gallons per year

Medium water use shrubs & groundcover w/ drip irrigation

EWU: = 47.2 (0.62) [(0.4)(9,239)/.90]

= 120,164 Gallons per year

Total EWU = 1,148,993 gallons per year

Mid Summer Baseline Case Water Calculations (LEED)

Estimated Applied Water Use (EWU) gallons Per year

EWU = (HA x (ETo x KL / IE)) x 0.6233

EWU = Estimated Applied Water Use (EWU) (gallons per year)
 ETO = Reference Evapotranspiration (inches per year/month)
 KL = Landscape Coefficient
 IE = Irrigation System Efficiency in decimal form
 HA = Hydrozone area (square feet)
 0.6233 = conversion factor (to gallons per square foot)

Turf field with spray irrigation

EWU: = 52,610 x (47.2 x 0.70 / .625) x 0.6233

= 1,733,506 Gallons per year

Groundcover with spray irrigation

EWU: = 22,548 x (47.2 x 0.65 / .625) x 0.6233

= 689,891 Gallons per year

Total EWU = 2,423,397 gallons per year

Design Case Water Calculations (LEED)

Estimated Applied Water Use (EWU) gallons Per year

EWU = (HA x (ETo x KL / IE)) x CE x 0.6233

EWU = Estimated Applied Water Use (EWU) (gallons per year)
 ETO = Reference Evapotranspiration (inches per year/month)
 KL = Landscape Coefficient (Ks x Kd x Kmc)
 Ks = species factor
 Kd = density factor
 Kmc = microclimate factor
 IE = Irrigation System Efficiency in decimal form
 HA = Hydrozone area (square feet)
 0.6233 = conversion factor (to gallons per square foot)
 CE = ET controller efficiency (0.8)

Area 1 - Bio swale no mow fescue / High efficiency spray irrigation

KL = Ks 0.4, Kd 1.0, Kmc 1.0

EWU: = 9,709 x (47.2 x 0.4 / 0.7) x 0.8 x 0.6233

= 130,577 Gallons per year

Area 2 - Low to moderate water use shrubs and groundcover / with MP Rotator stream spray irrigation

KL = Ks 0.4, Kd 1.0, Kmc 1.0

EWU: = 56,210 x (47.2 x 0.4 / .75) x .80 x 0.6233

= 705,572 Gallons per year

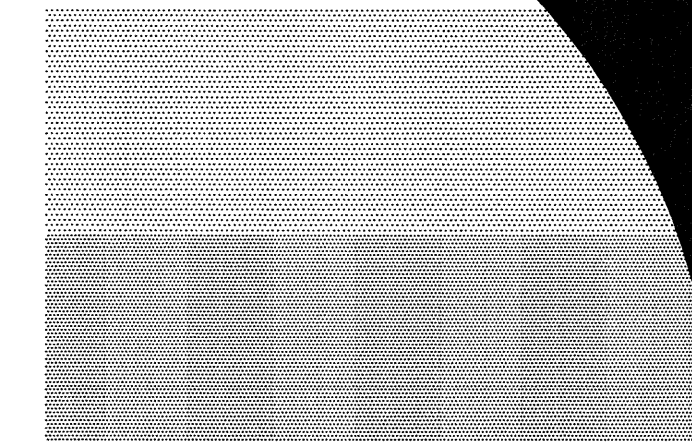
Area 3 - Low to moderate water use shrubs and groundcover / drip irrigation

KL = Ks 0.4, Kd 1.0, Kmc 1.0

EWU: = 9,239 x (47.2 x 0.4 / 0.9) x .80 x 0.6233

= 96,643 Gallons per year

TOTAL EWU = 1,490,605 (REDUCTION OF 61.5% OF BASELINE CALCULATIONS)

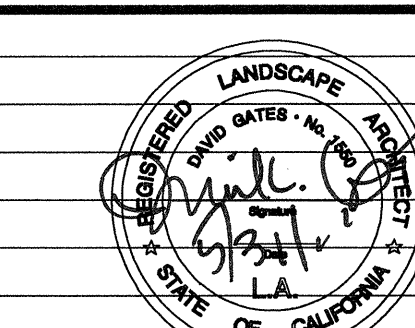


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SCALE: NTS

WATERING CALCULATIONS

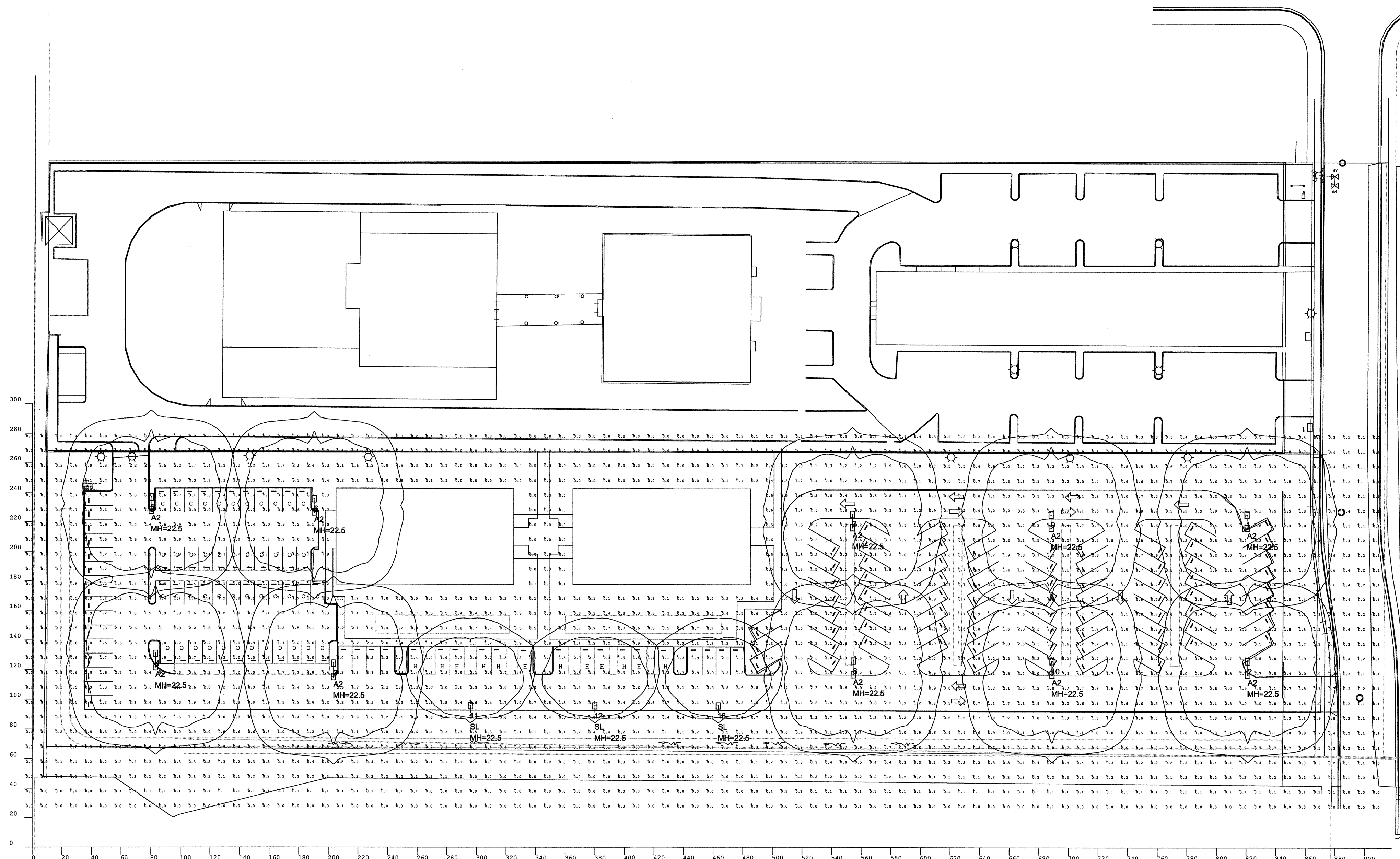
L2.6

PROJECT NORTH OF SHEETS

The lighting calculations provided in this report approximate the light levels expected within the space as defined and are based on the information provided to Cal Lighting. Please verify the data to assure the accuracy of the report. Cal Lighting is not responsible for light output of lamps and ballasts, or design variables.

Label	Calc Type	Units	Avg	Max	Min	Avg/Min	Max/Min	Description
Calc/Fts	illumiance	Fc	1.23	8.2	0.0	N/A	N/A	Grade
Parking	illumiance	Fc	2.22	8.2	0.5	4.44	16.40	Grade

Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
[Symbol]	10	A2	BACK-BACK	22000	0.750	MPTR-SS-350
[Symbol]	3	SL	SINGLE	22000	0.750	MPTR-SL-250



ARROWHEAD AVENUE

LumNo	Label	X	Y	Z	Orient	Tilt
1	A2	820.64	220.693	22.5	90	0
2	A2	821.168	121.455	22.5	90	0
3	A2	203.389	119.753	22.5	90	0
4	A2	83.13	126.401	22.5	90	0
5	A2	80.221	232.352	22.5	90	0
6	A2	190.327	231.105	22.5	90	0
7	A2	554.072	220.693	22.5	90	0
8	A2	554.6	121.455	22.5	90	0
9	A2	688.267	220.693	22.5	90	0
10	A2	688.795	121.455	22.5	90	0
11	SL	295.875	91.264	22.5	90	0
12	SL	379.971	91.264	22.5	90	0
13	SL	463.402	91.264	22.5	90	0

CAL
Lighting

CAL Lighting - Patrick London
6111 Bollinger Canyon Road, Suite 110
San Ramon, CA 94583
Tel: 925.242.0111
Fax: 925.242.1001

Hindu Cultural Center

SpecifierN/A

Date: 8/7/2009

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SCALE: VARIES
PHOTOMETRIC DIAGRAM