WALDEN WEST SCIENCE SCHOOL MODERNIZATION

CONSTRUCTION DOCUMENTS

SARATOGA, CALIFORNIA

PROJECT DIRECTORY

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PROJECT DESCRIPTION

Modernization of existing dormitory building and restrooms/shower building, shade structure or multi-purpose building, amphitheater and various site work/utility improvements.

Existing Planting Area within project limits: 1,295 sqft
Proposed Planting Area within project limits: 8,635 sqft (1)

WATER EFFICIENT LANDSCAPE ORDINANCE LANDSCAPE DOCUMENTATION CHECKLIST

ITEM		DESCRIPTION	SHEET #
A	Project Information		L-1.0
	1. Date		L-1.0
	2. Project Applicant		L-4.1
	3. Project Address	15555 Sanborn Rd. Saratoga CA, 95070	
	4. Landscape Area	8,635 sf (1)	
	5. Project Type	Modernization of Ex. Bldgs and Sitework	
	6. Water Supply Type	Well	
	7. Checklist		L-1.0
	8. Project Contacts		L-1.0
	9. Applicant Signature		L-4.0
B	Water Efficient Landscape Worksheet		L-4.1
	1. Hydrozone Information Table		L-4.1
	2. Water Budget Calcs		L-4.1
C	Soil Management Report		
D	Landscape Design Plan		L-5.0
E	Irrigation Design Plan		L-4.0
	1. Meter & Back-flow Preventer		L-6.0
F	Grading Design Plan		

GENERAL NOTES

DESIGN INTENT These Drawings and accompanying technical specifications represent the general design intent to be implemented on the site. Contractor shall be responsible for contacting the Owner's Representative for any additional clarification or details necessary to accommodate site conditions.

CONTRACTOR COORDINATION The Contractor shall coordinate and otherwise integrate his work with that of others in an efficient, craftsmanlike and timely manner so as to provide the Owner with a well-constructed, easily maintainable project. Each contractor shall notify others at least two working days in advance of covering, completing or exposing work to be installed by others.

CONTRACTORS' JOB SITE CONDITIONS The Contractor agrees to assume sole and complete responsibility for site conditions during the course of construction of this project, including safety of all persons 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 Owner and the Design Consultant harmless from any and all liability, real or alleged in connection with the performance of work on this project, excepting liability arising from the sole negligence of the Owner or the Design Consultant.

COMPOSITE BASE SHEET The proposed improvements shown on these Drawings are superimposed on a base sheet. This base sheet is compiled from a boundary survey, a topographic survey, architectural and/or engineering documents and other data as made available by the Owner. The Design Consultant shall not be held liable for changes, inaccuracies, omissions or other errors on these documents. The composite base sheet is provided only as an aid, and the Contractor shall be responsible for reviewing these documents and incorporating/integrating all construction as required to accommodate same.

UTILITIES A reasonable effort has been made to locate and delineate all known underground utilities. The Contractor is cautioned that only excavation will reveal the types, extent, sizes, location and depths of such underground utilities. However, the Design Consultant can assume no responsibility for the completeness or accuracy of delineation of such underground utilities, nor for the existence of other buried objects or utilities which are not shown on these Drawings.

- For areas under public ownership or private lands with public utility easements, the Contractor is responsible for contacting utility companies prior to commencing construction, and requesting a visual verification of the locations of their underground utilities. The utility companies are members of the Underground Service Alert (USA) one-call program. Notification shall be a minimum of (2) working days in advance of performing excavation work by contacting USA North at 811 / 1-800-227-2600 / www.usanorth.org for Northern California, and DigAlert 811 / www.digalert.org for Southern California.
- For areas under private ownership and campuses not members of USA, the Contractor is responsible for engaging the services of a private utility locator for a visual verification of the locations of underground utilities. Excavation is defined as being 6 or more inches in depth below the existing surface.

CODES / STANDARDS

GENERAL: Bring conflicts between Codes, Referenced Standards, Drawings, and Specifications to the attention of the Construction Manager in writing, for resolution before taking any action. Where differences exist between codes and standards, the one affording the greatest protection shall apply. If the year of adoption is omitted from the Code or Standard designation, it shall mean the latest revision in effect on the Bid date.

PROJECT SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:

2010 ADA Standards for Accessible Design, Department of Justice; Public Accommodations and Commercial Facilities (Title III regulations, 28 CFR Part 36, Subpart D, as amended by the final rules published on August 11, 2016, and December 2, 2016; 2004 ADAAG, 36 CFR part 1191, Appendices B and D).

Accessibility provisions of the 2016 California Building Codes (CBC): Part 2 of California Code Of Regulations, Title 24, including but not limited to:
Division 4 Accessible Routes: 11B-402 Accessible Routes; 11B-403 Walking Surfaces; 11B-404 Doors & Gates; 11B-405 Ramps; 11B-406 Curb Ramps
Division 5 General Site & Building Elements: 11B-502 Parking Spaces; 11B-503 Passenger Drop-off & Loading Zones; 11B-504 Stairways; 11B-505 Handrails
Division 7 Communication Elements & Features: 11B-703 Signs; 11B-705 Detectable Warnings

California Model Water Efficient Landscape Ordinance 2015 (DWR Title 23 Chapter 2.7) or local ordinance if applicable.

2015 U.M.C as amended by the 2016 California Mechanical Code
2016 U.P.C as amended by the 2016 California Plumbing Code
2014 N.E.C as amended by the 2016 California Electrical Code
2016 California Energy Code
2016 California Green Building Standards Code (CALGreen)
2016 California Fire Code
2016 NFPA Automatic Sprinkler Systems (CA Amended)

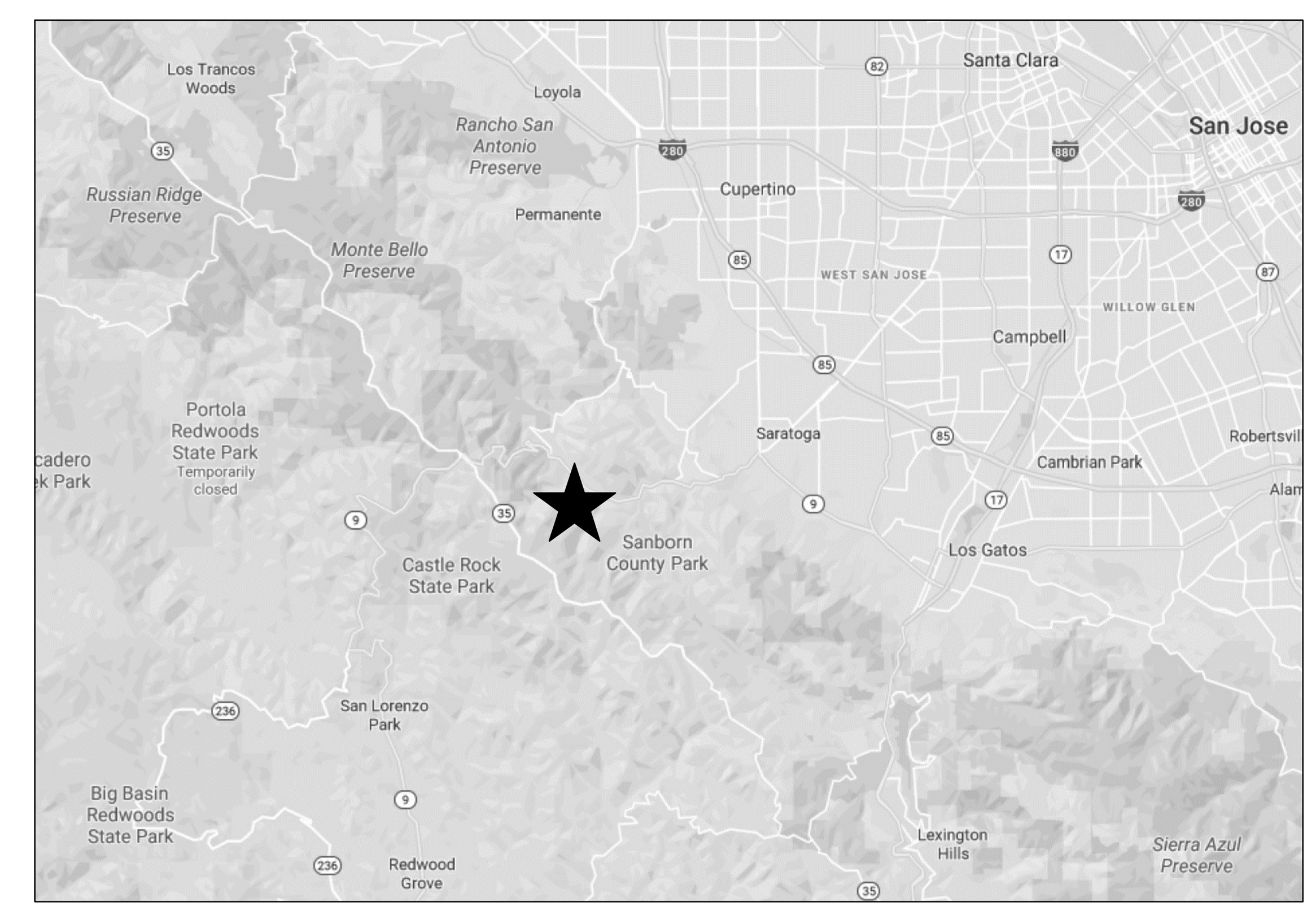
ABBREVIATIONS

AB	Aggregate Base
AC	Asphalt Concrete
AD	Area Drain
ALT	Alternate
APPROX	Approximate
ARCH	Architectural
BLDG	Building
BC	Bottom of Curb
BW	Bottom of Wall
BS	Bottom of Step
BOT	Bottom
CB	Catch Basin
CBC	CA Building Code
CI	Cast Iron
CL, ℄	Centerline
CLR	Clear
CM	Centimeter
CMU	Concrete Masonry Unit
CONC	Concrete
CONST	Construction
CONT	Continuous
CO	Cleanout
COORD	Coordinate
CY	Cubic Yard
DBL	Double
DEMO	Demolition
DET	Detail
DG	Decomposed Granite
DIA, Ø	Diameter
DN	Down
DWG	Drawing
(E), EX	Existing
EA	Each
EG	Existing Grade
EJ	Expansion Joint
EP	Edge of Paving
ELEV	Elevation
ELEC	Electrical
EQ	Equal
EQUIP	Equipment
EXP	Exposed
EXT	Exterior
FFE	Finished Floor Elevation
FG	Finished Grade
FL	Flow Line
FOB	Face of Building
FOC	Face of Curb
FPS	Feet Per Second
FS	Finish Surface
FSF	Finish Surface Field
FT	Foot
GA	Gauge
GALV	Galvanized
GB	Grade Break
GI	Galvanized Iron
GPH	Gallons Per Hour
GPM	Gallons Per Minute
HDG	Hot Dipped Galvanized
HDR	Header
HORIZ	Horizontal
HP	High Point
HSS	Hollow Structural Steel
ICV	Irrigation Control Valve
ID	Inside Diameter
INT	Interior
INV	Invert
LB	Pound
LF	Linear Feet
LOW	Limit of Work
LP	Low Point
MAX	Maximum
MECH	Mechanical
MED	Medium
MFR	Manufacturer
MH	Manhole
MIN	Minimum
MM	Millimeter
MTL	Metal
(N)	New
NIC	Not In Contract
NO	Number
NOM	Nominal
NTS	Not To Scale
OC	On Center
OD	Outside Diameter
OPP	Opposite
PA	Plant Area
PB	Pull Box
PE	Polyethylene
PERF	Perforated
POB	Point of Beginning
POC	Point of Connection
POS	Point on Slope
PNT	Point
PREFAB	Prefabricated
PSI	Pounds per Square Inch
PT	Pressure Treated
PVC	Polyvinyl Chloride
QTY	Quantity
R, RAD	Radius
REBAR	Reinforcement Bar
REF	Reference
REQD	Required
RIM	Rim Elevation
RND	Round
RWL	Rain Water Leader
S4S	Surface Four Sides
SCH	Schedule
SD	Storm Drain
SF	Square Foot
SIM	Similar
SPECS	Specifications
SQ	Square
SS	Sanitary Sewer
STL	Steel
SY	Square Yard
SYN	Synthetic
TBD	To be Determined
TC	Top of Curb
THK	Thick
TS	Top of Step
TYP	Typical
TW	Top of Wall
U/G	Underground
UON	Unless Otherwise Noted
VERT	Vertical
VIF	Verify in Field
W	Water
WP	Weaked Plane Joint
WV	Water Valve
WWM	Welded Wire Mesh
W/	With
WD	Wood

SYMBOLS

Symbol	Description
2	Revision Callout
0 / L-0.0	Elevation Callout
0 / L-0.0	Section Callout
0 / L-0.0	Area Plan Callout
1	Reference Note
X/L-X.X	Detail Reference

VICINITY MAP



LOCATION MAP

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Drawing Title:

COVER SHEET

Scale:

Sheet:

L-1.0

Revision:

Date: July 2020

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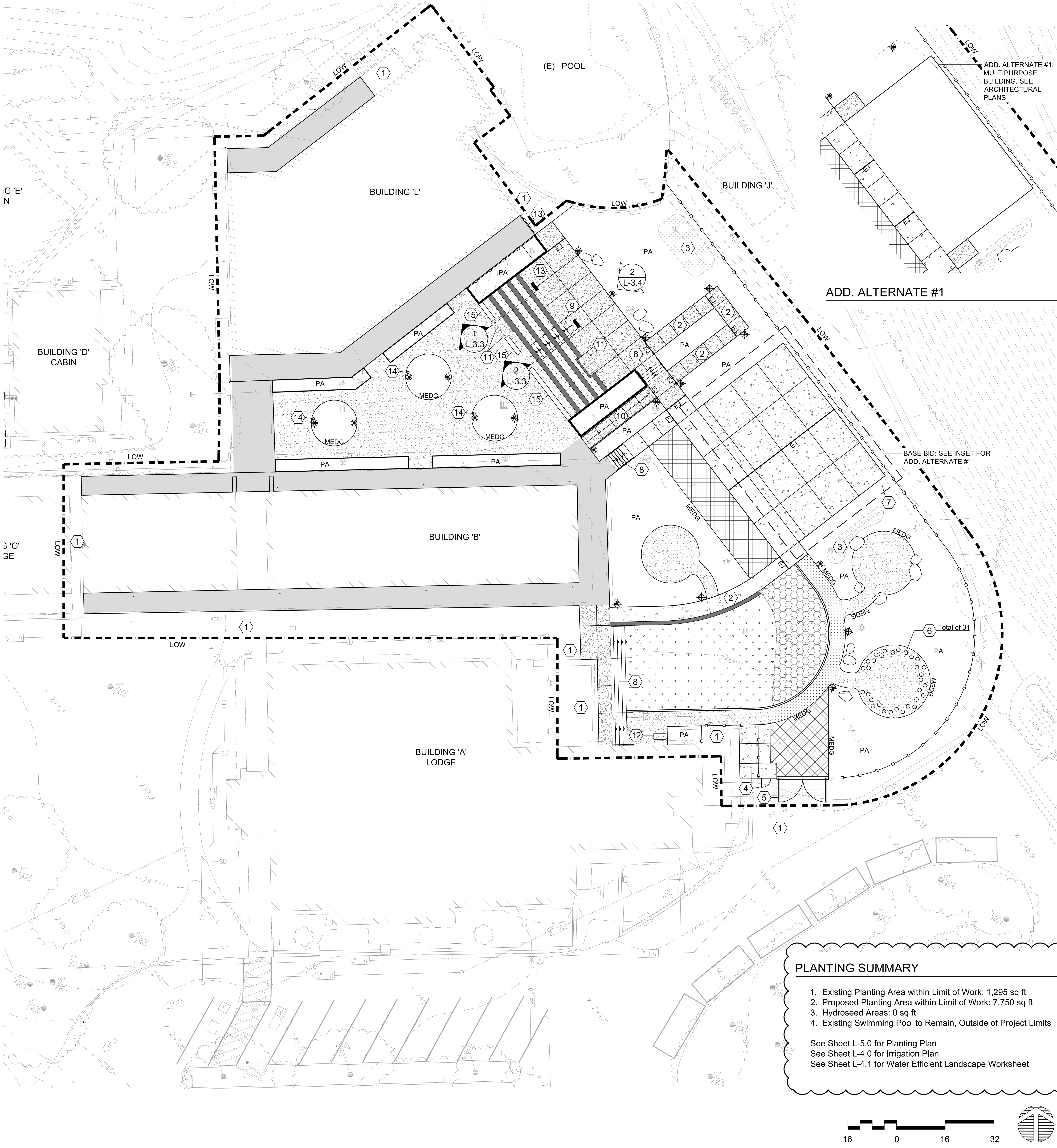

PLANTING SUMMARY

1. Existing Planting Area within Limit of Work: 1,295 sq ft
2. Proposed Planting Area within Limit of Work: 7,750 sq ft
3. Hydroseed Areas: 0 sq ft
4. Existing Swimming Pool to Remain, Outside of Project Limits

See Sheet L-5.0 for Planting Plan
See Sheet L-4.0 for Irrigation Plan
See Sheet L-4.1 for Water Efficient Landscape Worksheet

16 0 16 32

LEGEND

- Limit of Work Line
- Pedestrian Concrete Paving: Integral Davis colors. Light sand finish with sawcut control joints. TopCast #3 or #5. Other joints are Weakened Plane Joints UON. See Specs. See 2/L-3.0
- Vehicular Concrete Paving: Integral Davis Colors, Match Pedestrian Concrete Paving Color and Finish. See Specs. See 3/L-3.0
- Building Access Paving: See Civil Plans for Limits. See Architectural Plans for Jointing / Scoring. See 3/L-3.1
- GraniteCrete: See Specs. See 10/L-3.0
- GraniteCrete in Fire Lane: 4" GraniteCrete over 6" porous base rock. Sim to 10/L-3.0
- Synthetic Turf: See Specs. See 6/L-3.0
- Synthetic Turf in Fire Lane: See Specs. See 6/L-3.0
- Geogrid Fire Lane: See Specs. See 8/L-3.0
- Concrete Wall: Natural color with board-form finish. See Civil drawings for wall height. See 2/L-3.1
- Concrete Curb: See 1/L-3.1
- Boulder: 24 x 36" +/-. See 4/L-6.2
- Metal Edge: See Specs. See 5/L-3.0
- Fence: 6'-0" Tall. See 5/L-3.1
- PA — Planting Area: See Planting Plan
- Step Light: See Electrical Plan
- Bollard Light: See 1/L-3.0
- Drainage Structure: See Civil Plans

REFERENCE NOTES

1. Existing Paving: Preserve and protect.
2. Sloped Walk: See Civil Drawings
3. Bioretention Area: See Civil Drawings.
4. Single Pedestrian Gate with Panic Hardware: See 1/L-3.2
5. Double Vehicular Gate: See 2/L-3.2
6. Log Seats: 15" high x 15" dia. See Specs.
7. Shade Structure: Base Bid. See Architectural Drawings.
8. Concrete Steps with Handrail: See 4/L-3.1
9. Amphitheater Steps with Handrail: See 1/L-3.3 2/L-3.3
10. Concrete Ramp: See 1/L-3.4
11. ADA Companion Seating Spaces: 36" x 48" Each
12. Location for Future BBQ Grill
13. Guardrail: 42" high: See Architectural Plans for Detail
14. GCFI Outlet: In weatherproof box. See Electrical Plans
15. Wood Bench: See 3/L-3.3 4/L-3.3

GENERAL NOTES

1. CODES
   1. Walking surfaces shall comply with CBC 11B-403 Walking Surfaces. All finishes shall be slip resistant.
   2. Curb ramps shall be in compliance with CBC 11B-406 Curb Ramps, Blended Transitions and Islands
   3. Ramps, including handrails, shall be in compliance with CBC 11B-405 Ramps
   4. Steps, including handrails, shall be in compliance with CBC 11B-504 Stairways
   5. Detectable walking surfaces shall be in compliance with CBC 11B-705 Detectable Warnings and Detectable Directional Texture

2. CONTROL JOINTS: PEDESTRIAN CONCRETE PAVING
   1. Expansion Joints: locate as shown on the Plans; if not shown then at maximum 60' O.C. in any direction. Locate at all building faces, walls, steps, ramps, and other site structures. See typical joint detail. See Specs.
   2. Weakened Plane Joints: locate as shown on the Plans; if not shown then at maximum 20' O.C. in any direction. Joints shall be saw-cut. See typical joint detail. See Specs.

3. CONTROL JOINTS: VEHICULAR CONCRETE PAVING
   1. Expansion Joints: locate as shown on the Plans. See typical joint detail. See Specs.
   2. Weakened Plane Joints: locate and construct per Section 40-1.08 JOINTS of the California Department of Transportation Standard Specifications.

4. CONTROL JOINTS: CURBS
   1. Expansion Joints: align with expansion joints in monolithic paving; at maximum 60' O.C. when adjacent to modular paving, and at all corners, start/end of radiuses, and connections to flush curbing. Full depth.
   2. Weakened Plane Joints: align with weakened plane joints in monolithic paving; at a maximum of 20' O.C. when adjacent to modular paving. Construct across the top and visible face.

5. UTILITIES
   1. Install utility boxes parallel to curbs / edges of sidewalks. Install utility boxes in plaza paving areas parallel to jointing patterns. Review locations in the field with the Owner's Representative prior to installation.

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MICHAEL E. BELLINGER
Signature
12-31-21
Renewal Date
07-15-20
Date
STATE OF CALIFORNIA

BFS P#: 19030

Drawing Title:
CONSTRUCTION PLAN

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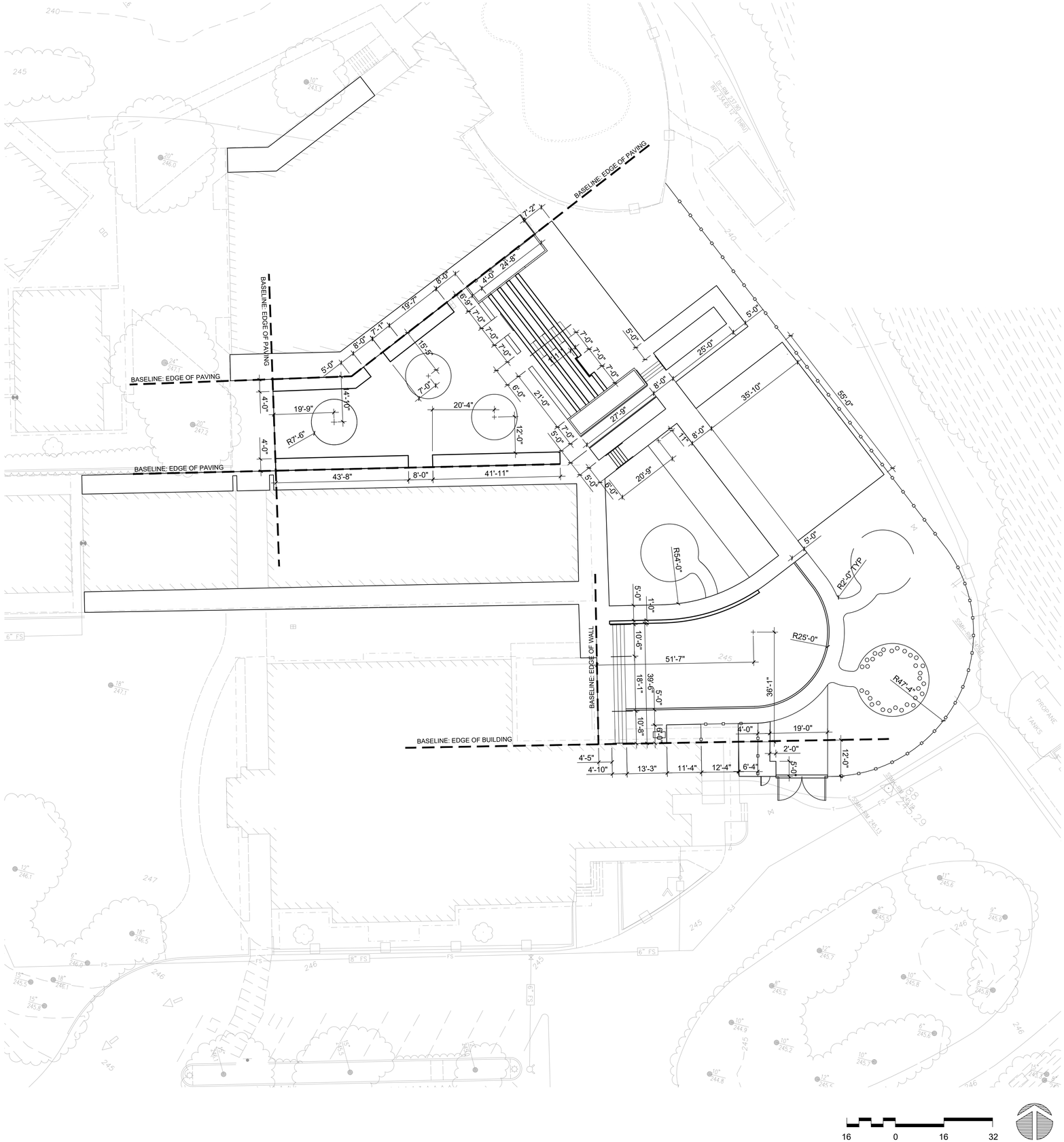
Sheet: L-2.0

Revision:

Date: July 2020



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07-15-20
Date
STATE OF CALIFORNIA

BFS P#: 19030

Drawing Title:

LAYOUT PLAN

Scale: 1" = 16'-0"

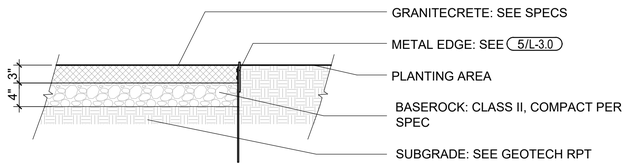
Sheet:

L-2.1

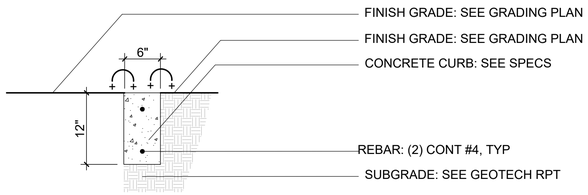
Revision:

Date: July 2020

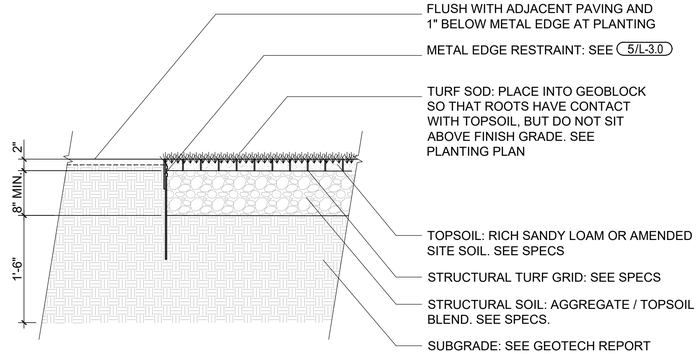
NOTE: CONTRACTOR TO PREPARE UP TO THREE 4'x4' MOCK UPS OF GRANITECRETE FOR APPROVAL PRIOR TO INSTALLATION. MOCK UP SHALL BE VIEWED FOR COLOR, CONSISTENCY AND FINISH AND SHALL REMAIN ON SITE DURING CONSTRUCTION. THE APPROVED SAMPLE SHALL BE THE BASIS OF APPROVAL FOR GRANITECRETE WORK



10 GraniteCrete
1" = 1'-0"

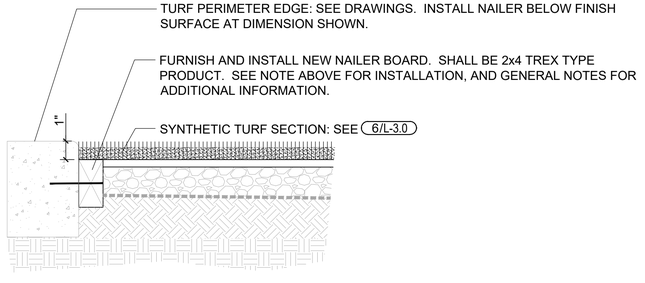


9 Concrete Band
1" = 1'-0"

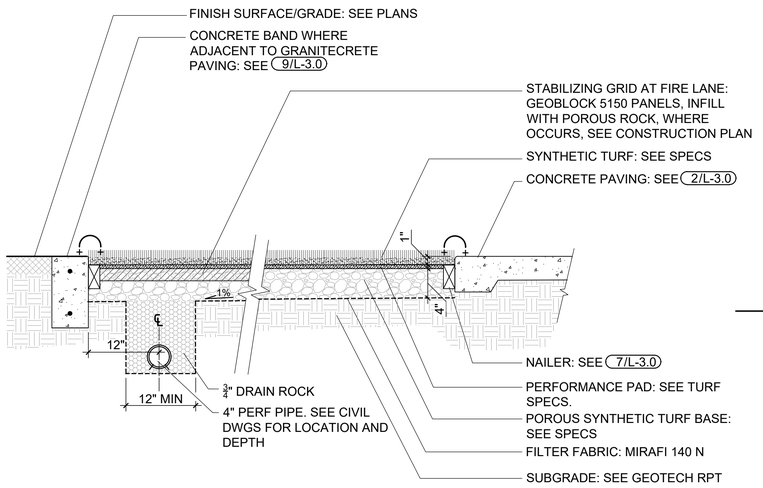


8 Structural Turf Grid
1" = 1'-0"

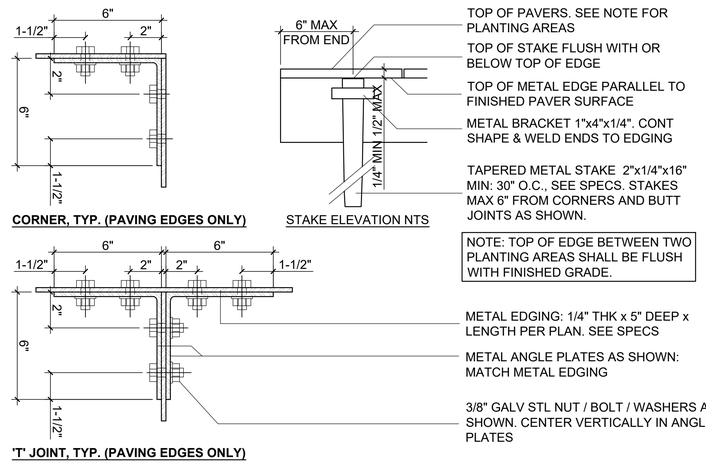
NAILER BOARD INSTALLATION:
THE BOARD SHALL BE INSTALLED TO THE CONC CURB WITH A NAIL GUN AND 3" NAILS, 24" ON CENTER. EACH END OF THE BOARD ON STRAIGHT RUNS, AND INCLUDING THE CENTER ON CURVED RUNS, SHALL BE SECURED WITH A ⅜" DIA, BY 3.5" LONG EXPANSION BOLT WITH LEAD SLEEVE. CORE DRILL INTO CURB AND TIGHTEN BOLT TO THE BOARD.
MAINTAIN ½" GAP BETWEEN CONSECUTIVE BOARDS FOR EXPANSION. THE NAILER BOARD SHALL BE INSTALLED ON THE ENTIRE EXISTING PERIMETER EDGES OF NEW SYNTHETIC TURF.



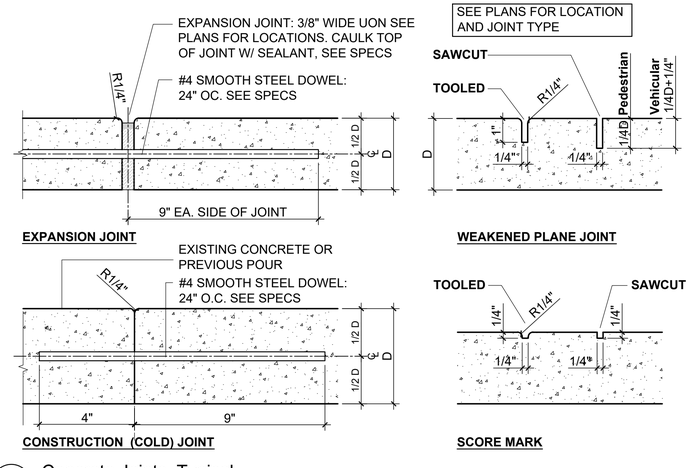
7 Synthetic Turf Nailer
NTS



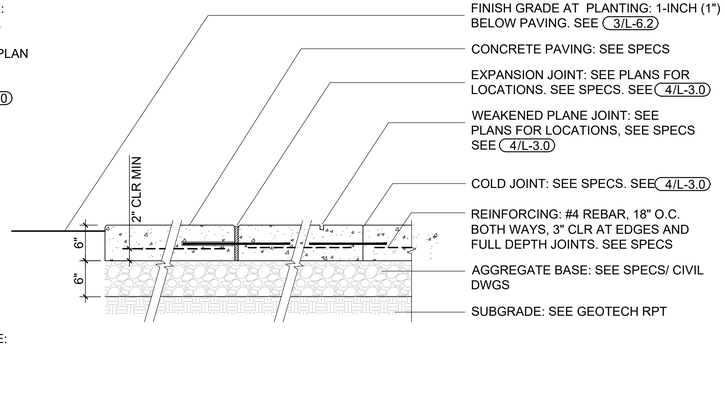
6 Synthetic Turf
1" = 1'-0"



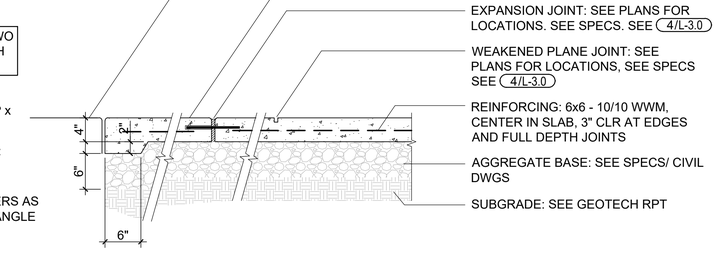
5 Metal Edge Restraint
3"=1'-0"



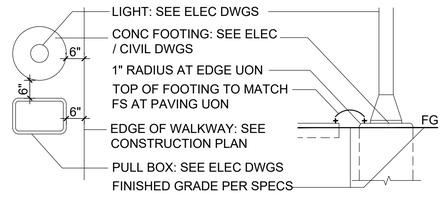
4 Concrete Joints, Typical
4" = 1'-0"



3 Concrete Paving, Vehicular
1" = 1'-0"



2 Concrete Paving, Pedestrian
1" = 1'-0"



1 Light Bollard
NTS

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12-31-21
Renewal Date
07-15-20
Date
STATE OF CALIFORNIA

BFS P#: 19030

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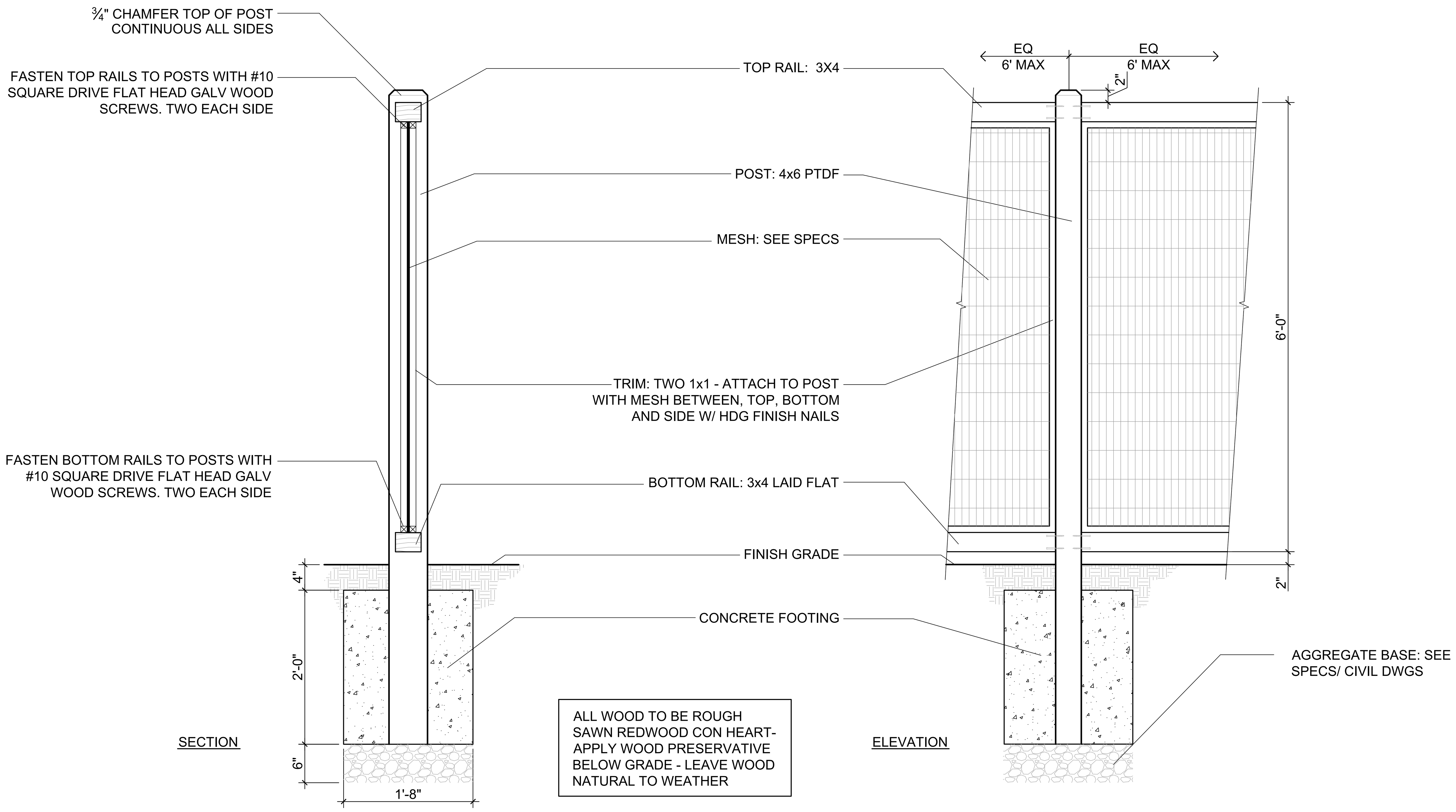
CONSTRUCTION DETAILS

Scale:

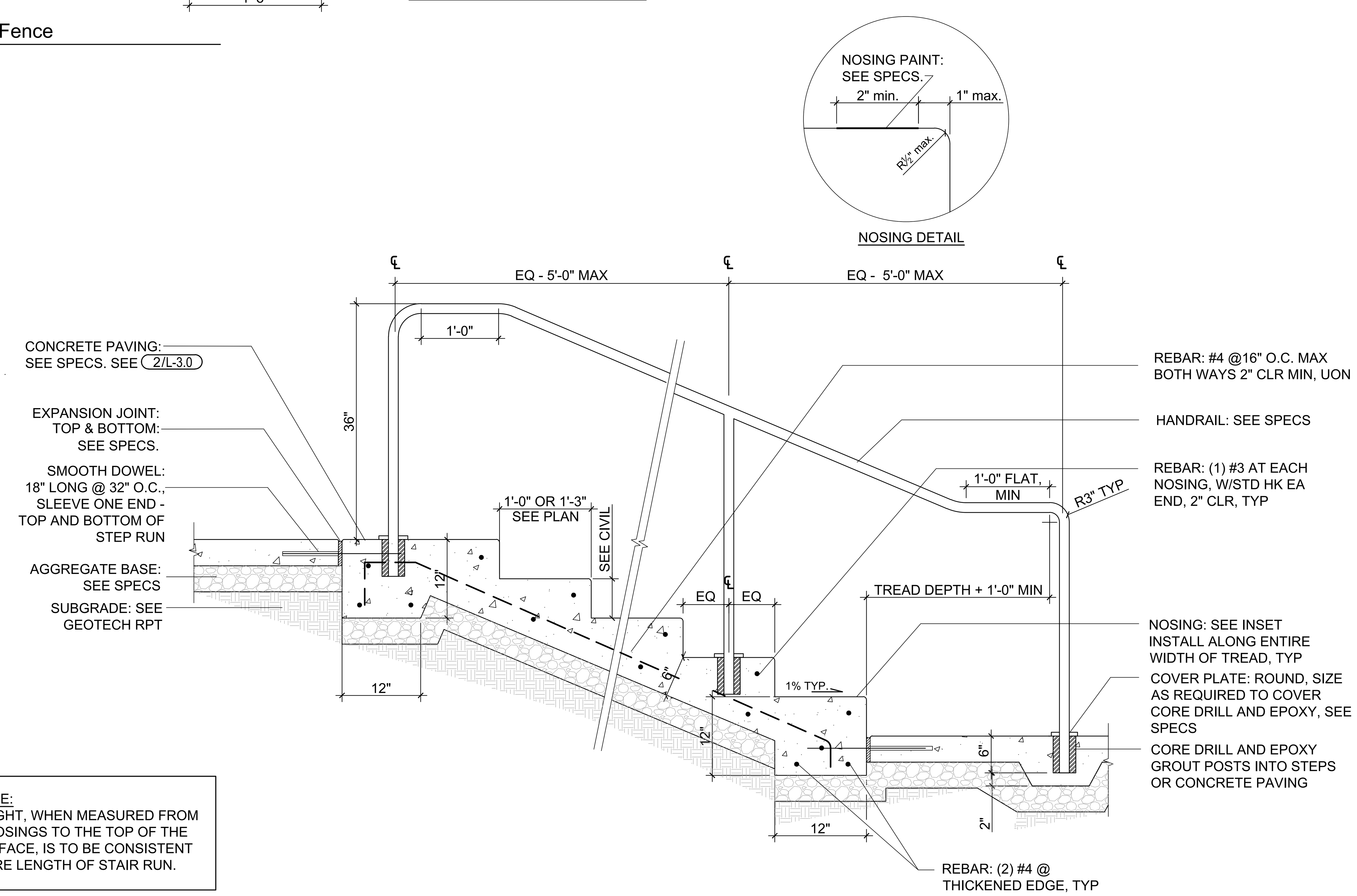
Sheet:
L-3.0

Revision:

Date: July 2020

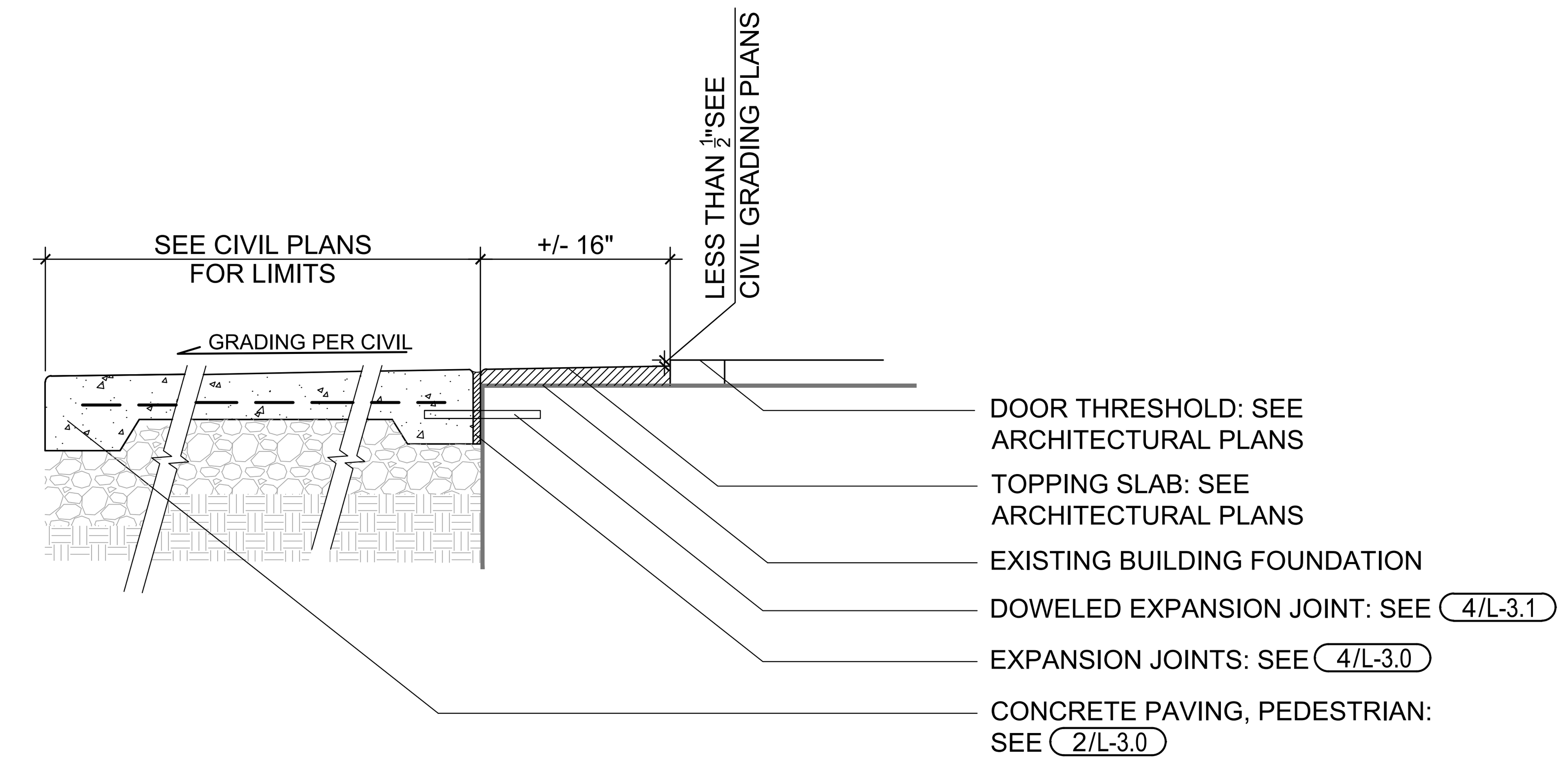


5 Welded Wire Fence
1" = 1'-0"

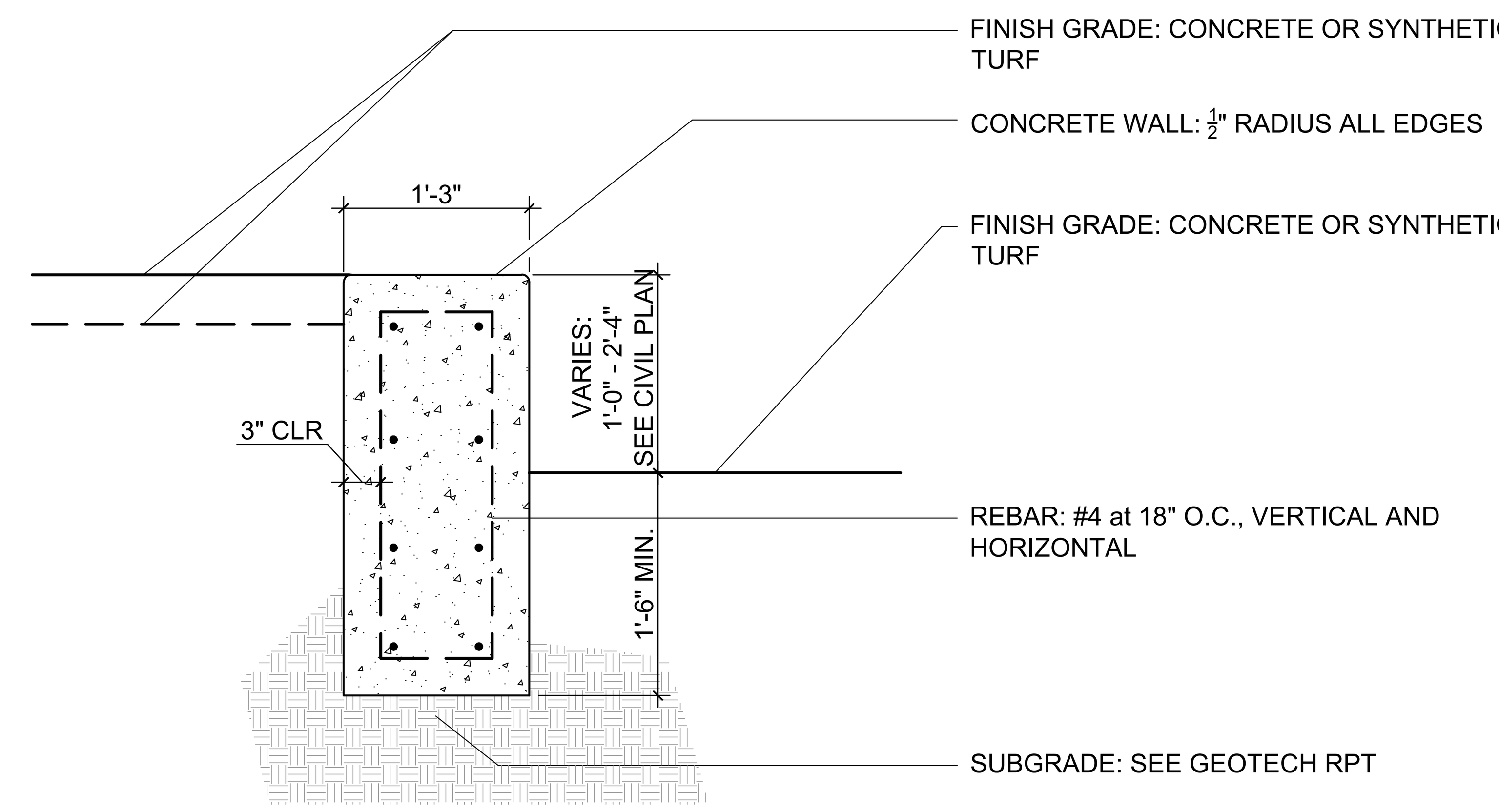


HANDRAIL NOTE:
HANDRAIL HEIGHT, WHEN MEASURED FROM EACH STAIR NOSINGS TO THE TOP OF THE GRIPPING SURFACE, IS TO BE CONSISTENT FOR THE ENTIRE LENGTH OF STAIR RUN.

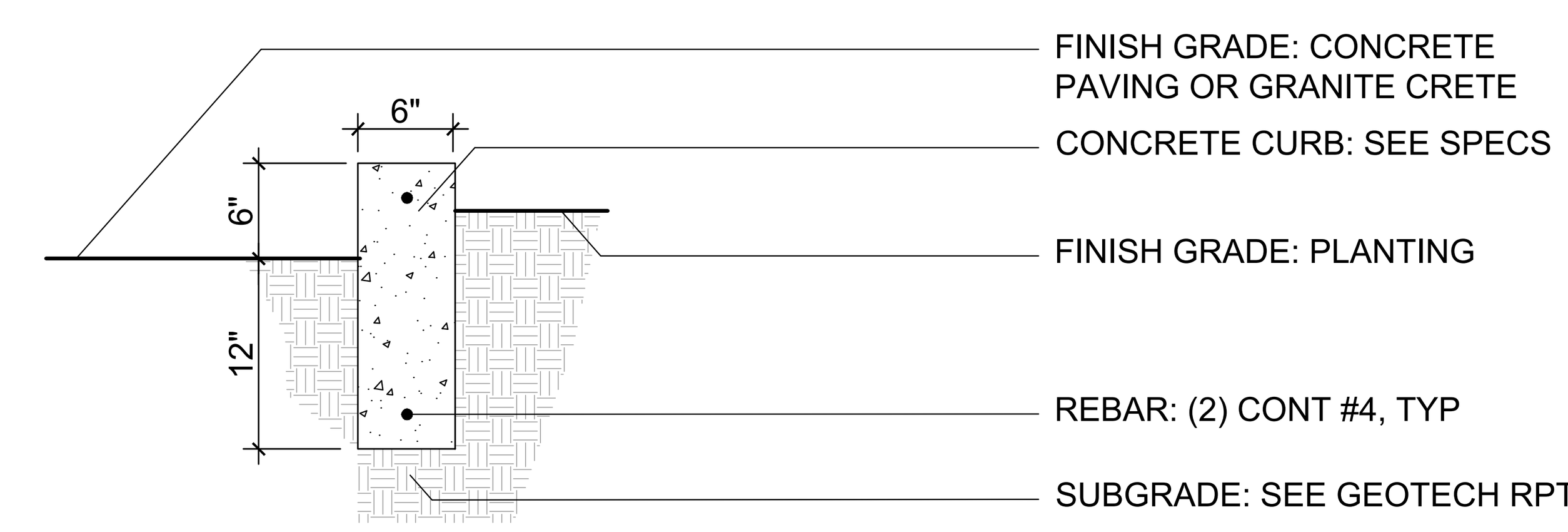
4 Concrete Steps
1" = 1'-0"



3 Building Access Paving
1" = 1'-0"



2 Amphitheater Wall
1" = 1'-0"



1 Concrete Curb
1" = 1'-0"

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LICENSED LANDSCAPE ARCHITECT
MICHAEL E. BELLINGER
12-31-21 Renewal Date
07-15-20 Date
STATE OF CALIFORNIA

BFS P#: 19030

Drawing Title:
CONSTRUCTION DETAILS

Scale:
Sheet:
L-3.1

Revision:

Date: July 2020

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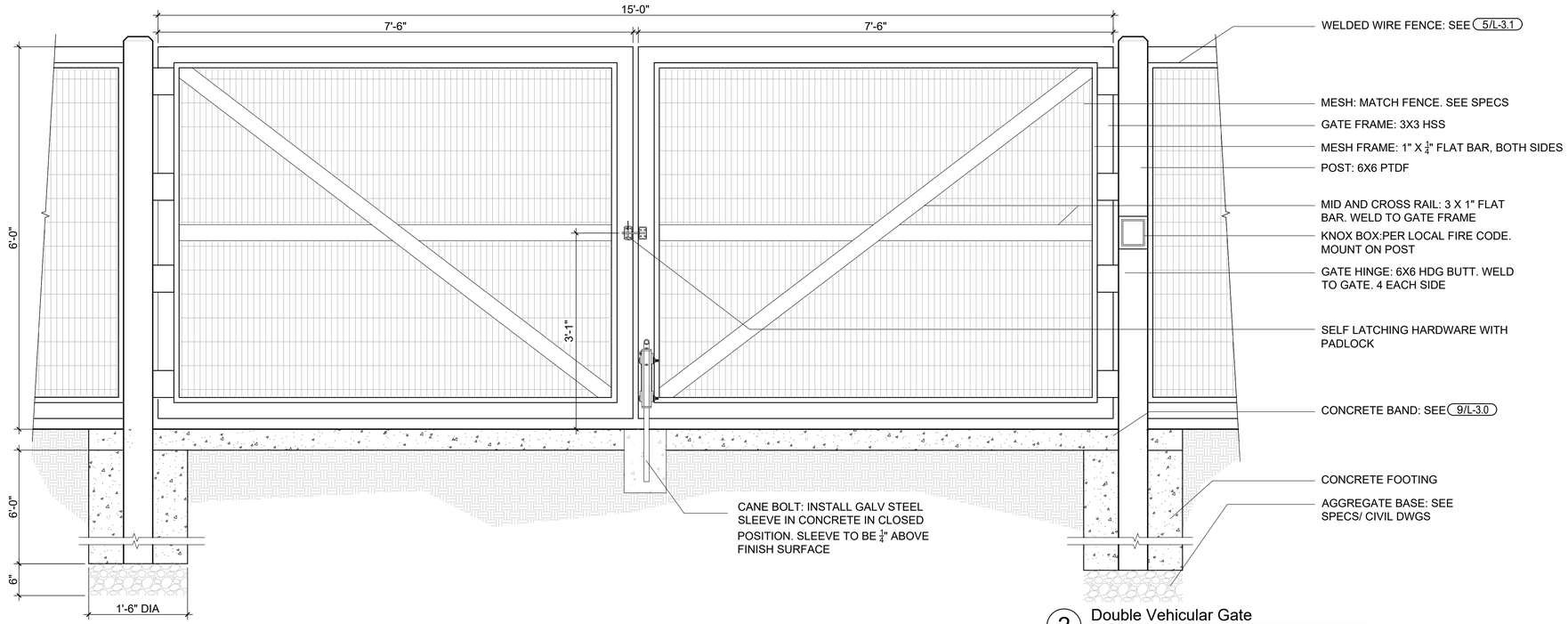
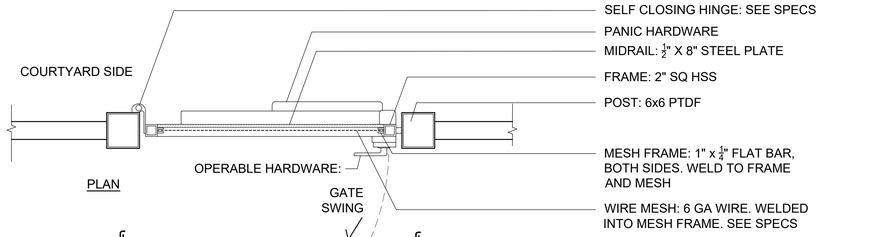
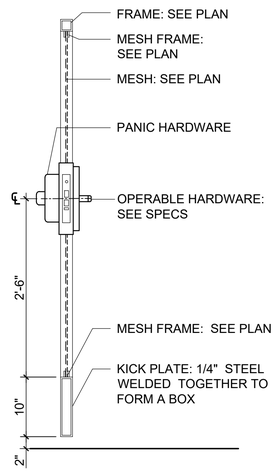


2 Double Vehicular Gate
1/2" = 1'-0"





SECTION

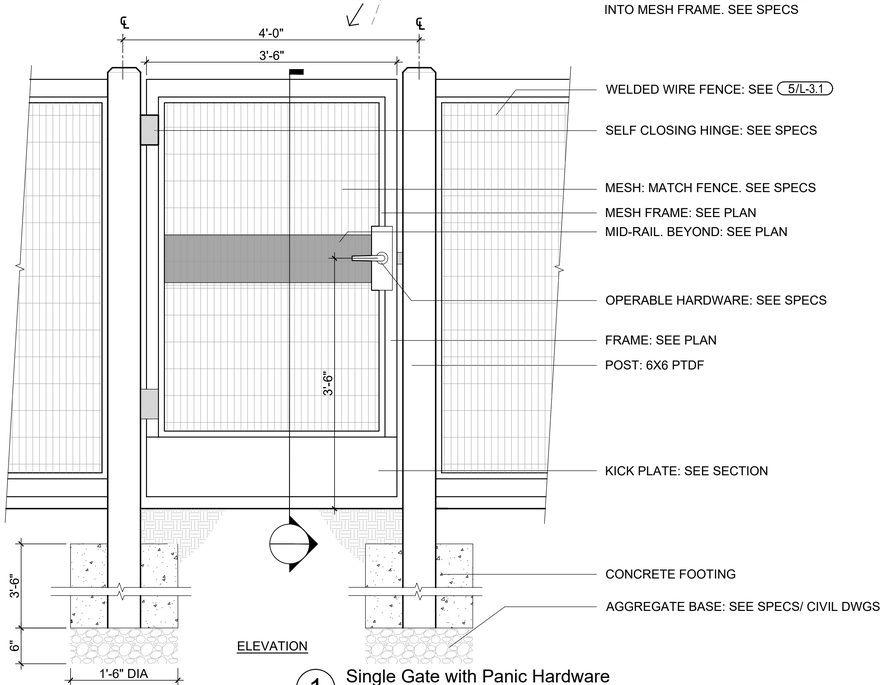
GATE NOTES:
1. ANCHOR ROD: 5/8" DIA MB WELD TO BACK OF STEEL POST @ 12" O.C. - CORE DRILL AND EPOXY SET IN END OF WALL. GROUT FILL UNDER STEEL PLATE - SET DEPTH TO ALLOW FOR GATE TO OPEN 90 DEGREES

2. ALL METAL TO BE POWDERCOATED STEEL. COLOR - TBD

3. CONTRACTOR TO VERIFY APPROXIMATE GATE WEIGHT PRIOR TO FABRICATION AND CONFIRM WEIGHT IS WITHIN GATE CLOSER LIMITS.

4. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR GATE PRIOR TO FABRICATION.

5. GATE OPENING PRESSURE TO BE MAXIMUM 5 LBS PER CODE.



ELEVATION

1 Single Gate with Panic Hardware
1" = 1'-0"

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LICENSED LANDSCAPE ARCHITECT
MICHAEL S. BELLINGER No. 6063
Signature
10-31-21
Renewal Date
07-15-20
Date
STATE OF CALIFORNIA

BFS P#: 19030

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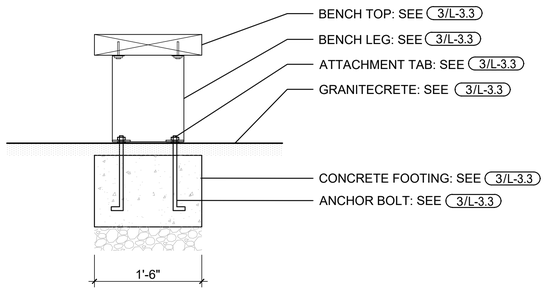
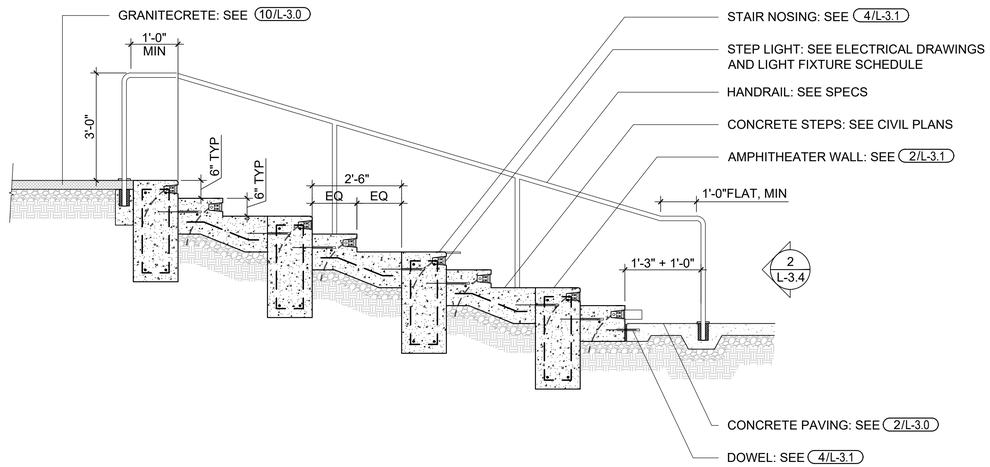


END SECTION

4 Wood Bench

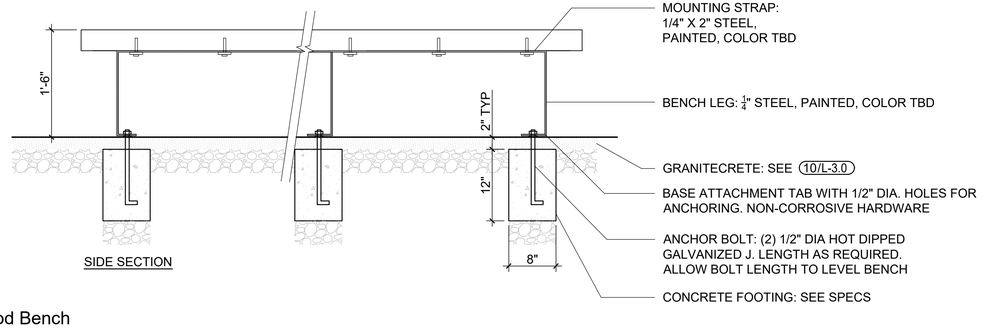
1" = 1'-0"



2 Amphitheater Steps

1" = 2'-0"

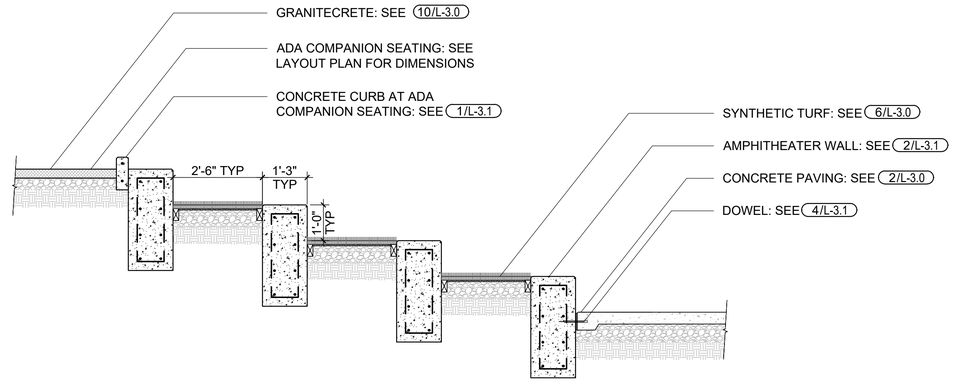
PLAN



SIDE SECTION

3 Wood Bench

1" = 1'-0"



1 Amphitheater Walls

1" = 2'-0"

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LICENSED LANDSCAPE ARCHITECT — BRIAN E. BELLINGER — No. 5161 — Signature — 12-31-21 Renewal Date — 07-15-20 Date — STATE OF CALIFORNIA

BFS P#: 19030

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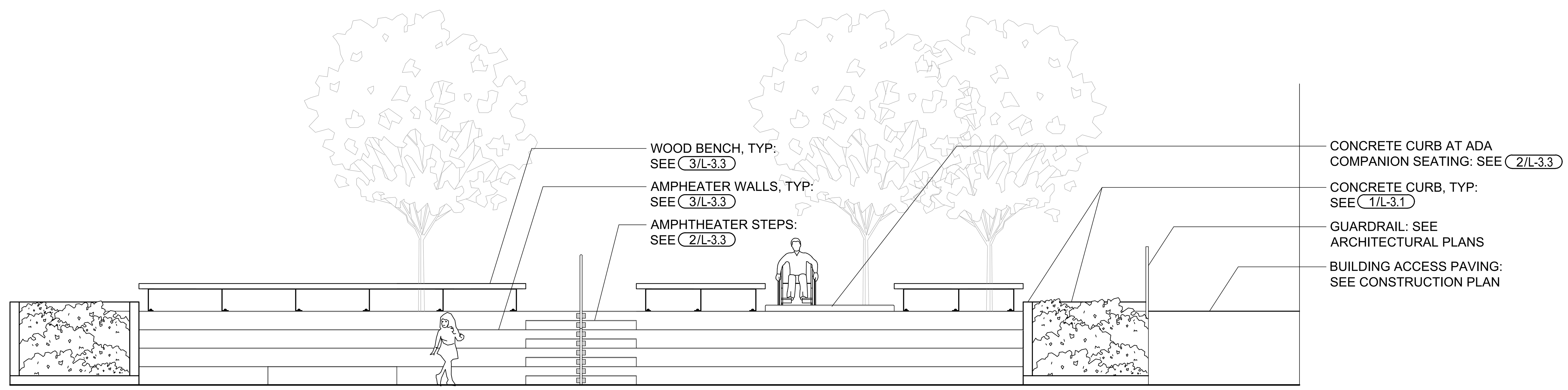
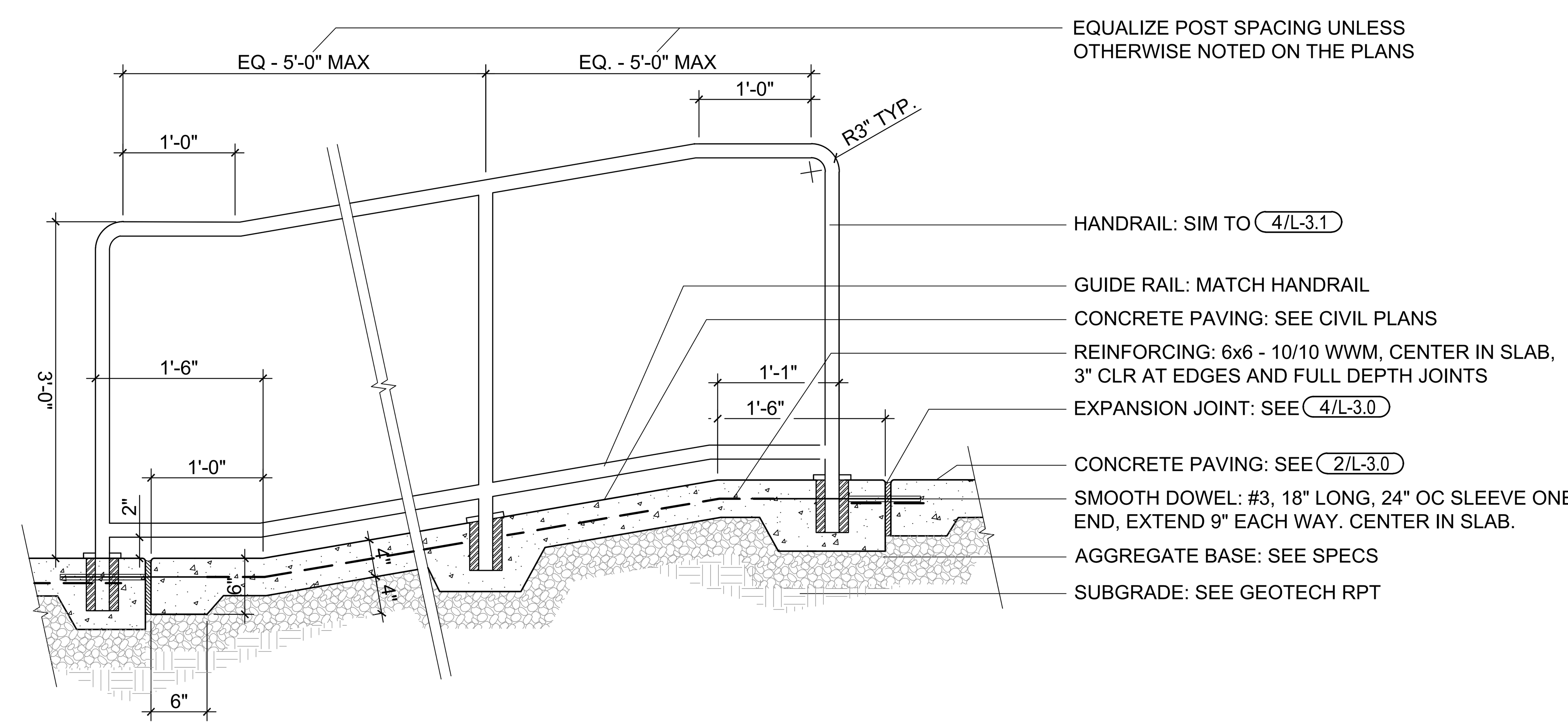


2 Amphitheater Elevation
1"=1'-0"



1 Concrete Ramp
1"=1'-0"

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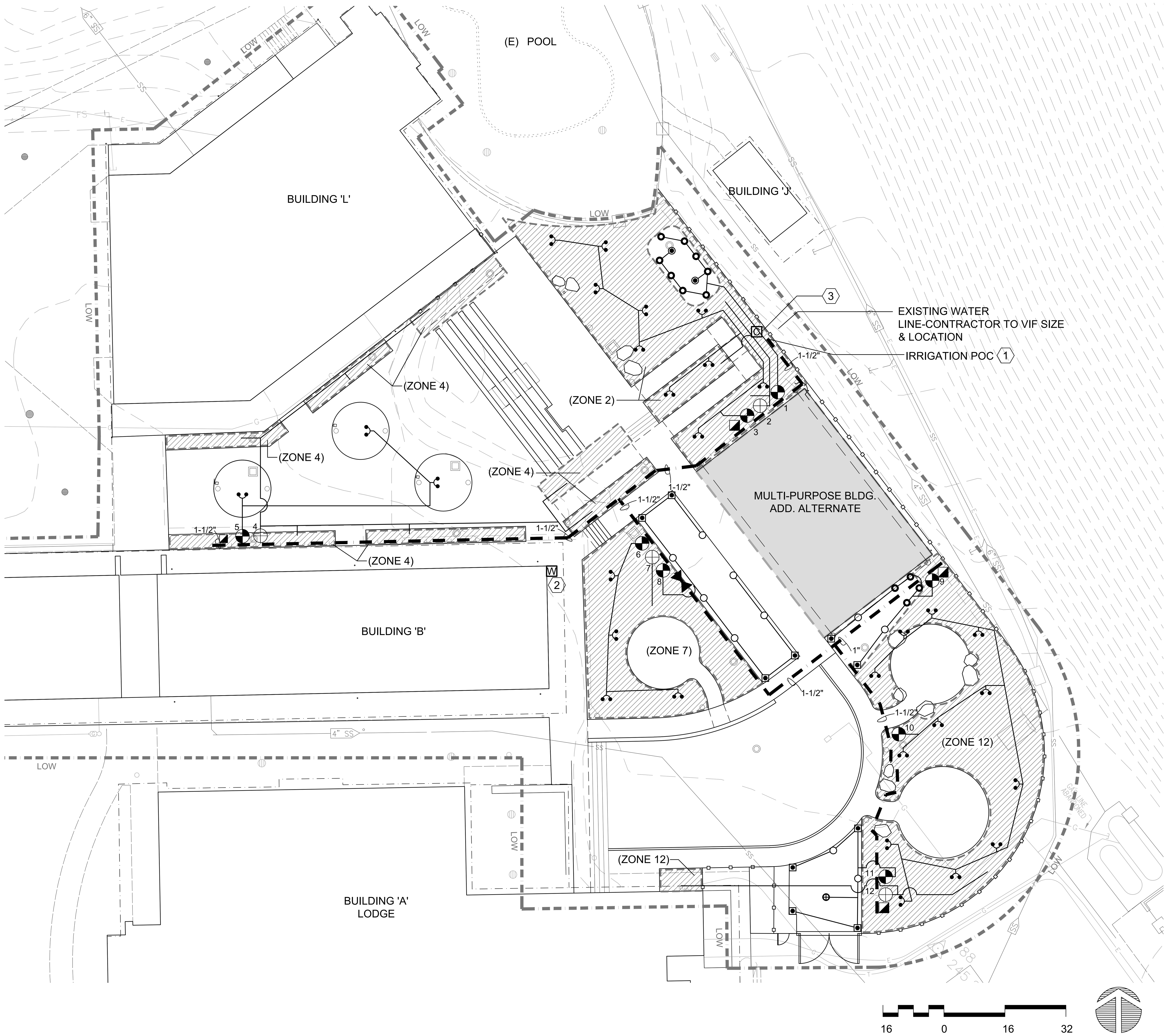

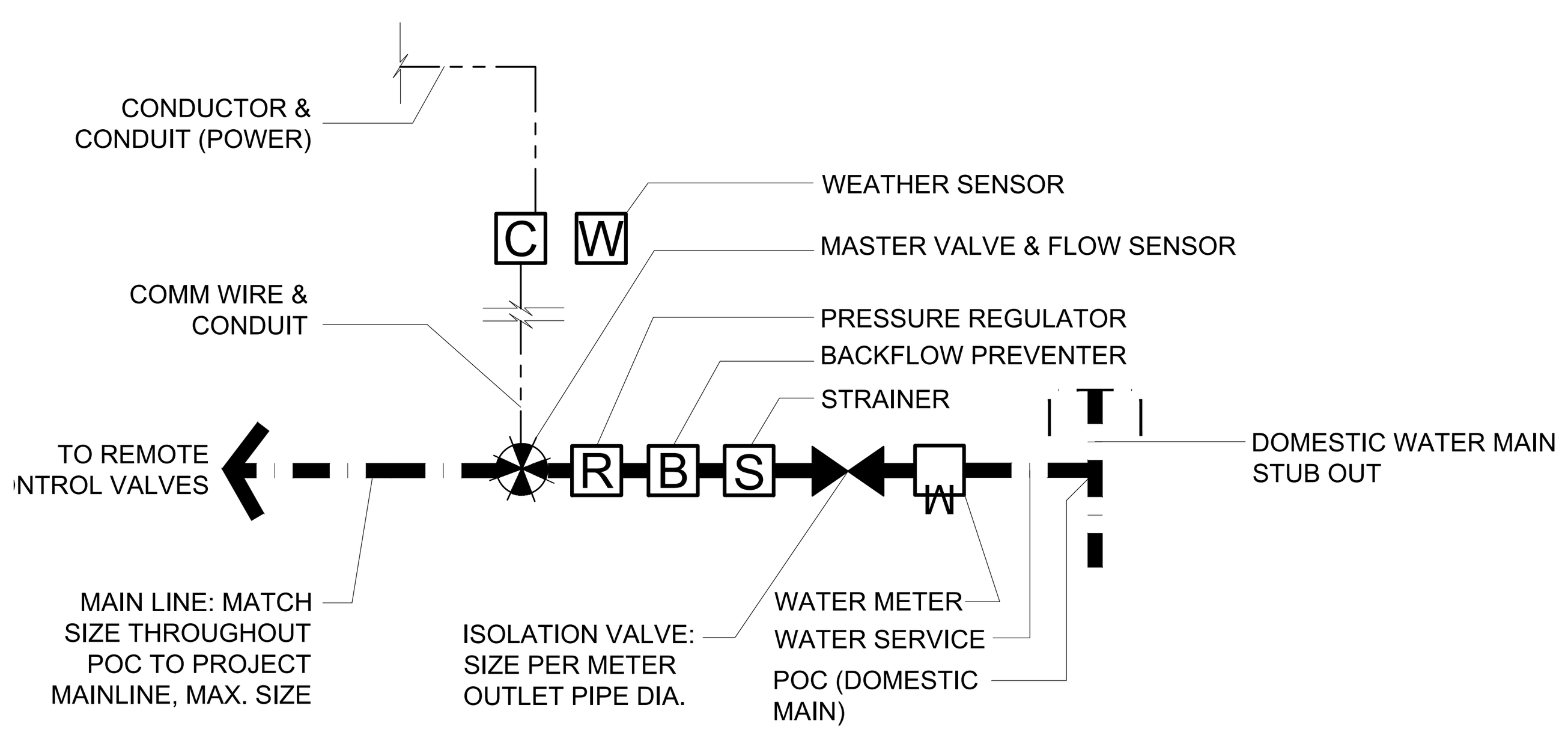

1 POINT OF CONNECTION SCHEMATIC PLAN
NTS

LEGEND

SYMBOL	MANUFACTURER	DESCRIPTION
(main line)		Main Line: 24" minimum cover. Sch/Class for pipe / fittings per Specs. See Plan for sizes.
(lateral line)		Lateral Line / Drip Irrigation Supply Line: 18" min. cover, 24" under AC paving Sch/Class per Specs. See chart for size.
	Rainbird	PEB Remote Control Valve: Size as shown on plan.
	Rainbird	3/4" Quick Coupler. Single lug, 2-pc body, locking cover.
M	Rainbird	Water Meter (3/4"). Model #FM075B. See General Note 2 for PSI / GPM.
S	Zurn Wilkins	SXL Cast Bronze 'Y' Type Strainer. Line Size. 40-mesh
B	Febco	(1") Lead-free Backflow Preventer LF825YA w/ Bronze Wye Strainer. Dark Green cage & blanket: See Details
R	Wilkins	500 Series - Line Size. Set Downstream of Backflow Preventer. Set Pressure to 70 PSI

Note: Where applicable, all equipment specified shall comply with NSF/ANSI Standard 61: Drinking Water System Components.

SYMBOL	MANUFACTURER	DESCRIPTION
POC		Point of Connection: Domestic main line stub out. See 1/L-4.0
C	Rainbird	Controller with MV & FS terminals, metal pedestal cabinet 12 Stations. Model # ESPLXBASIC-LXMMSSPED
W	Rainbird	ET Sensor: WR2 Wireless Rain+Freeze Sensor (wireless). Model #WR2-48. Attach to building eve. See 2/L-6.0
	Superior	1-1/2" - 3300 Normally Open Master Valve
	Data Industrial	1" Brass Flow Sensor, # 250BR10. Connect to Controller.
(conduit)		1" Conduit: 24" Depth minimum. For MV & FS wire and dedicated common. For Sensor & Grounding Wires.

LEGEND - SPRINKLERS

SYMBOL	MANUF	BODY / NOZZLE	PSI	GPM	RAD	PRECIP In/hr
	Rainbird	RD12-S-P30-5H	30	0.2	5'	1.54
	Rainbird	RD12-S-P30-5F	30	0.41	5'	1.58
	Rainbird	RD06-S-P30-10F	30	1.58	10'	1.52
	Rainbird	RD06-S-P30-12H	30	1.30	12'	1.74
	Rainbird	RD06-S-P30-12Q	30	0.65	12'	1.74

LEGEND - TREE BUBBLERS / EMITTERS

SYMBOL	MANUFACTURER / DESCRIPTION	MODEL/DESCRIPTION	PSI	GPM / GPH
	Rainbird / Hunter (15 Gallon Trees)	RWS-S-B-C-1401 RZWS-10"-50-CV	30	0.5 GPM

LEGEND - DRIP IRRIGATION

SYMBOL	MANUFACTURER	DESCRIPTION
Zone designation (ZONE 00)		POINT-SOURCE: 3/4" I.D. PE supply pipe & 1/4" I.D. PE distribution tubes. See Specs. See Irrigation Details. Emitters: 2.0 GPH pressure compensating w/ bug/dust cap. Rainbird Xeri-Bug / Toro NGE / Netafim WPC. See Emitter Schedule. Manual flush valve at end of each branch of supply pipe. Rainbird Drip Operation Indicator at furthest end of each zone. See Schematic Irrigation Diagram. Netafim High Flow Control Zone Kit w/ Disc Filter (4.5-17.6 GPM). Low Flow Kit w/ Disc Filter (0.25-4.4 GPM)
01	Netafim / Rainbird / Toro Pre-assembled Kit	Rainbird XCZLF-100- / XCZ-075 Control Zone Kit. PRBR filter. -100 > 5.0 GPM, -075 < 5.0 gpm as required per zone Toro DZK-TPV-1-LF / MF Drip Zone Valve Kit. MF > 4.5 GPM LF < 4.5 GPM as required per zone

REFERENCE NOTES

1. Point of Connection: Contractor to tap into existing water line. See Civil Dwgs. for installing project meter. Irrigation point of connection configuration, See 1/L-4.0
2. Rain Sensor: Mount wireless sensor on building eave. See 2/L-6.0
3. Irrigation Controller Electrical Connection, See Electrical Dwgs.

VALVE LEGEND

Valve Station Number	Bubbler Drip Rotor Spray	GPM	Size	Irrigation Zone (Z) & Notes
1	S	2.42	1-1/2"	Z1 (Bio)
2	D	6.6	1-1/2"	Z2 (Shrubs)
3	B	10.0	1-1/2"	Z3 (Trees)
4	D	4.8	1-1/2"	Z4 (Shrubs)
5	B	3.0	1-1/2"	Z5 (Trees)
6	B	5.0	1-1/2"	Z6 (Trees)
7	D	10.4	1-1/2"	Z7 (Shrubs)
8	S	11.8	1-1/2"	Z8 (Fire Lane)
9	S	3.16	1-1/2"	Z9 (Bio)
10	B	11.0	1-1/2"	Z9 (Trees)
11	S	5.2	1-1/2"	Z10(Fire Lane)
12	D	7.3	1-1/2"	Z11 (Shrubs)

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LICENSED LANDSCAPE ARCHITECT
MICHAEL E. BELLINGER
STATE OF CALIFORNIA

Drawing Title:
IRRIGATION PLAN

Scale: 1" = 16'-0"
Sheet:
L-4.0

Revision:

Date: July 2020

WATER EFFICIENT LANDSCAPE WORKSHEET

Project Name	Walden West Renovation	Status	100% CD	Calc By	JB
Project Number	19.030	Date	07/13/2020		

Reference Evapotranspiration (ETo) 45.30

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b] s or d	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq ft)	ETAF x Area	Estimated Total Water Use (ETWU)[e]
Regular Landscape Areas							
1 Trees	0.4	d	0.81	0.49	530	261.73	7350.90
2 Shrubs/GrndCvr	0.3	d	0.81	0.37	6,590	2440.74	68550.64
3 Bioretention	0.3	s	0.75	0.40	455	182.00	5111.65
3 Turf / Fire Lane	0.4	s	0.75	0.53	1,060	565.33	15877.95
				Totals	(A) 8635	(B) 3449.80	96891.15
Special Landscape Areas							
4 None				1.00	0	0.00	0.00
				Totals	(C) 0	(D) 0.00	0.00
	ETWU Total (Gallons)						96891.15
	Maximum Allowed Water Allowance (MAWA)[e] (Gallons)						109135.17
						ETWU (Acre Feet)	0.30
						MAWA (Acre Feet)	0.33

[a]***Hydrozone #/Planting Description***
E.g
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b]***Irrigation Method***
overhead spray or drip

[c]***Irrigation Efficiency***
0.75 for spray head
0.81 for drip

[d]***ETWU* (Annual Gallons Required) =**
Eto x 0.62 x ETAF x Area
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e]***MAWA (Annual Gallons Allowed) = (****Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	(B)	3449.80
Total Area	(A)	8635.00
Average ETAF	**B ÷ A**	0.40

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)	3449.80
Total Area	(A+C)	8635.00
Sitewide ETAF	**(B+D) ÷ (A+C)**	0.40

1

GENERAL NOTES

1. GUARANTEE:
Guarantee the irrigation system for one year from date of acceptance.

2. VERIFICATION:
For new systems, design is based on 30 P.S.I. and 11.8 G.P.M. required at discharge outlet of point of connection. Verify same and notify Owner's Representative if such data adversely affects the operation of the system. Such notice shall be made in writing and prior to commencing any irrigation work.

3. UTILITIES:
Verify location of all on-site utilities. Preserve and protect all such utilities unless otherwise noted. Restore damaged utilities to the satisfaction of the Owner's Representative, and at no additional cost to the Owner.

4. SCHEMATIC:
System features are shown schematically for graphic clarity. Install all piping and valves in common trenches where feasible and inside planting areas adjacent to walkways and inside medians whenever possible.

5. SPECIFICATIONS:
See irrigation specifications for additional information.

6. CODES:
Irrigation system shall be installed in accordance with all local codes and manufacturer's specifications. Notify Owner's Representative by telephone and in writing of any conflicts prior to installation.

7. MASTER VALVE / FLOW SENSOR:
   a. Connect master valve, and flow sensor if included, to controller with communication cable. See Irrigation Details. Install in dedicated 1" diameter PVC conduit.
   b. Normally closed Master Valves: if irrigation controller does not have a master valve over-ride function / program, then dedicate one station to quick coupler use.
   c. Flow sensors: See Specifications for instructions on how to program irrigation controller to allow flow sensor to accommodate quick coupler use.

8. VALVES:
   a. For tree bubbler zones, include the MFR's adjustable pressure regulating dial.

9. QUICK COUPLING VALVES:
Install on double swing joint. Locate 12" away from edge of walks, walls, curbs, and headerboards within planting areas. Provide one swivel, hose ell.

10. CHECK VALVES:
Install in-head check valves for sprinklers, and in-line check valves in drip irrigation supply lines, as required to minimize line drainage. Allow in bid price an amount sufficient to provide and install additional check valves to accommodate any necessary field changes.

11. BORING
Jet bore or directional bore under existing rigid paving areas. Do not trench across unless specifically shown on the Drawings and/or approved in writing by the Owner's Representative.

12. SLEEVING:
Sch. 40 PVC pipe for all wiring and irrigation lines installed under paving areas and that pass through drainage trenches with drain rock. 4-inch dia. or twice the aggregate diameter of all pipes contained within the sleeve, whichever is greater. Install (with ends clearly marked above grade) at the necessary depth prior to the construction of paving areas or field bases. Sleeving to extend 12-inches from edge of paving or drainage trench into adjacent subgrade. No unsleeved piping, angle-bends, 90-degree bends, or joints shall be allowed under paving.

13. HEAD ALLOWANCE:
Allow in bid price an amount sufficient to provide and install an additional 5 sprinkler heads of each type specified on plan to accommodate field changes. These heads shall be located as directed by the Owner's Representative. Deliver to the owner any unused additional heads at the end of the maintenance period.

14. FIELD VERIFICATION:
Field verify dimensions of all planting areas to receive sprinkler irrigation. Determine nozzle pattern (1/2 head, 1/4 head, Adjustable Arc, etc.) based on field conditions. Adjust all nozzles in field for optimal coverage and to prevent overspray onto walks, paved areas, buildings, etc.

15. VALVE TUNING
For sprinkler circuits adjust flow control on valves, if required, to optimize coverage and minimize misting.

16. POP-UP HEIGHT:
Use 6" pop-up sprays in turf areas and 12" pop-up sprays in the remaining planting areas, unless otherwise noted. See Legend for Pop-up rotor height.

17. POP-UP LOCATION:
Distance of pop-up sprinkler from paving or headerboard is equal to:
   a. Minimum 24" if adjacent non-permeable surface drains away from planting.
   b. 2" if adjacent non-permeable surface drains entirely to planting.
   c. 2" if adjacent surface is permeable and no runoff occurs.

18. PRESSURE REGULATION
All sprinklers shall be installed with pressure regulating screens or have pressure regulated bodies.

19. DRIP VALVES
Group drip valve run times together to ensure a minimum flow of 2 GPM as required by the flow sensor. Suggested grouping chart will be provided prior to Final Completion.

21. CONTROLLER:
Install controller as shown on the Drawings. All above-grade conduit shall be rigid steel securely fastened to structure and to controller.

22. PROGRAMMING / SCHEDULING:
   b. Set up establishment irrigation schedules for optimum plant growth based on anticipated weather over the maintenance period, water use of plantings (see Planting Plan Legend) and sun exposure. Assume the soil type to be a clay / sand loam.
   c. Non-ET Controllers: Prior to the end of the maintenance period, schedule the controller for repeat cycle irrigation and multiple programs.
   d. ET Controllers: Prior to the end of the maintenance period, program the controller per manufacturer's directions.
   e. Adjust irrigation times for bio-retention soil areas to account for higher percolation rates
   f. For sprinklers, provide at least three start times for turf and two start times for shrubs if over 5 minutes in length for any one station. Turf and shrubs shall be on separate programs. Shrubs shall be separated into two programs, one for sun valves, one for partial shade to shade valves.
   g. Do not cycle drip irrigation application more than once per day, adjust length of run time to provide the required volume of water in one cycle.

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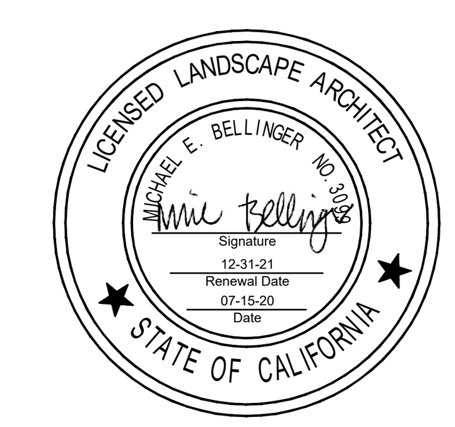

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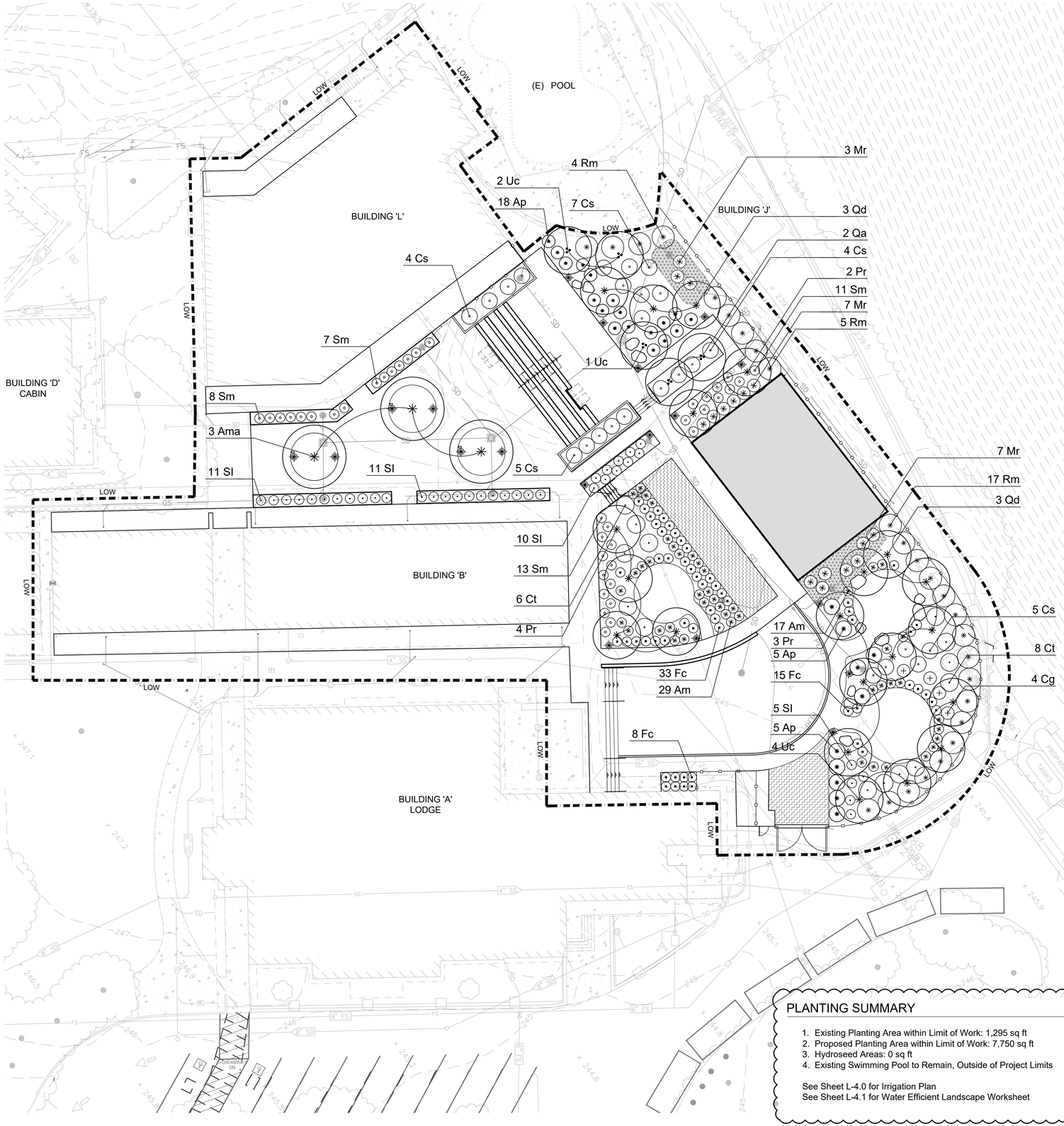


PLANT LEGEND

LOW — Limit of Work Line

*WUC	CODE	BOTANICAL NAME	COMMON NAME	SIZE	NOTES / SPACING
	Trees				
M	Ama	Acer macrophyllum	Bigleaf Maple	15 Gal.	
M	Pr	Platanus racemosa	Western Sycamore	15 Gal.	
VL	Qa	Quercus agrifolia	Coast Live Oak	15 Gal.	Multi Trunk
VL	Qd	Quercus douglasii	Blue Oak	15 Gal.	
M	Uc	Umbellularia californica	California Bay	15 Gal.	
	Shrubs				
L	Am	Achillea millefolium	Common Yarrow	1 Gal.	12" O.C.
L	Ct	Ceanothus thyrsiflorus	Blue Blossom	5 Gal.	84" O.C.
L	Cs	Cistus salvifolius	Sageleaf Rockrose	5 Gal.	60" O.C.
L	Fc	Festuca californica	California fescue	5 Gal.	36" O.C.
L	Sl	Salvia leucophylla 'Point Sal Spreader'	Purple Sage	5 Gal.	36" O.C.
L	Sm	Salvia mellifera	Black Sage	5 Gal.	36" O.C.
L	Rm	Rhamnus californica' Mound San Bruno'	San Bruno Coffeeberry	5 Gal.	84" O.C.
	Groundcovers				
L	Ap	Arctostaphylos 'Pacific Mist'	Pacific Mist Manzanita	5 Gal.	As Shown
L	Cg	Ceanothus griseus 'Yankee Point'	Yankee point ceanothus	5 Gal.	As Shown
	Bioretention Plants				
		Carex divulsa	Berkeley Sedge (33%)	Plugs	12" O.C.
L		Festuca californica	California Fescue (33%)	Plugs	12" O.C.
L		Iris douglasiana	Pacific Coast Iris (33%)	Plugs	12" O.C.
L	Mr	Muhlenbergia rigens	Deer Grass	1 Gal.	48" O.C.
	Geogrid Planting				
		Delta Bluegrass No-Mow	Turf		

* WATER USE CATEGORY (WUC) KEY

WUCOLS Region Applicable to this Project: REGION 1
H = High; M = Moderate; L = Low; VL = Very Low; NL = Species Not Listed
* from: Water Use Classification of Landscape Species,
A Guide to the Water Needs of Landscape Plants (WUCOLS)
Revised 2014, University of California Cooperative Extension, L.R. Costello, K.S. Jones

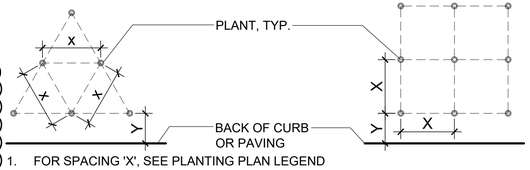
GENERAL NOTES

1. See Specifications for materials and procedures including, but not limited to, soil preparation, amendments, fertilizers, herbicides, and mulch application.
2. See Specifications for materials and procedures including plant pit size, staking, aeration tubes / bubblers, and windscreen. See (1/L-6.2) (2/L-6.2)
3. See Specifications for materials and procedures relating to weed mat and metal edge See (1/L-6.2) (5/L-3.0)
4. Install root barrier panels around trees planted within 5' of foundations, walls, and curbs, and in all planters in paved areas. See (1/L-6.2)

GENERAL NOTES

1. Landscape Architect to approve plant material BEFORE plant layout commences.
2. Landscape Architect to approve layout of all plants BEFORE planting commences.
3. Apply pre-emergent herbicide to all planting areas, excluding naturalized hydroseed areas/ See Specifications.
4. Apply post-emergent herbicide to all naturalized hydroseed areas. See Specifications.
5. Prepare, amend, and fertilize existing soil per Specifications. Import topsoil per Specifications.
6. Install weed mat under river rock, gravel, and mulch-only areas. See Specifications. See (1/L-6.2)
7. Install weed mat in all planting areas. See Specifications. See (1/L-6.2)
8. Install header board / edge restraint per detail. See Specifications.
9. Install root barrier panels at trees planted within 5' of foundations, walls, and curbs, and in all planters in paved areas. See Specifications. See (1/L-6.2) .
10. Pre-mix amendments into soil before backfilling plant pits - do not mix inside pits. Break large clods into small pieces. See Specifications.
11. Plant shrubs and groundcovers per detail (2/L-6.2) . See Spacing Diagram.
12. Plant and stake trees per detail (1/L-6.2).
13. Install mulch to all planting areas. See Specifications for thickness.
14. Install windscreen at all trees. See Specifications. See (1/L-6.2)
15. Apply deer repellent to all plants. See Specifications.
16. See Specifications for Maintenance Period.

PLANT SPACING AND PLANTING SETBACK DIAGRAM



1. FOR SPACING 'X', SEE PLANTING PLAN LEGEND
2. Y= 1/2X + 12" UON

PLANTING SUMMARY

1. Existing Planting Area within Limit of Work: 1,295 sq ft
2. Proposed Planting Area within Limit of Work: 7,750 sq ft
3. Hydroseed Areas: 0 sq ft
4. Existing Swimming Pool to Remain, Outside of Project Limits

See Sheet L-4.0 for Irrigation Plan
See Sheet L-4.1 for Water Efficient Landscape Worksheet

1

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DANIEL E. BELLINGER NO. 5178
Signature
10-31-21
Renewal Date
07-15-20
Date
STATE OF CALIFORNIA

BFS P#: 19030

Drawing Title:
PLANTING PLAN

Scale: 1" = 16'-0"

Sheet:
L-5.0

Revision:

Date: July 2020

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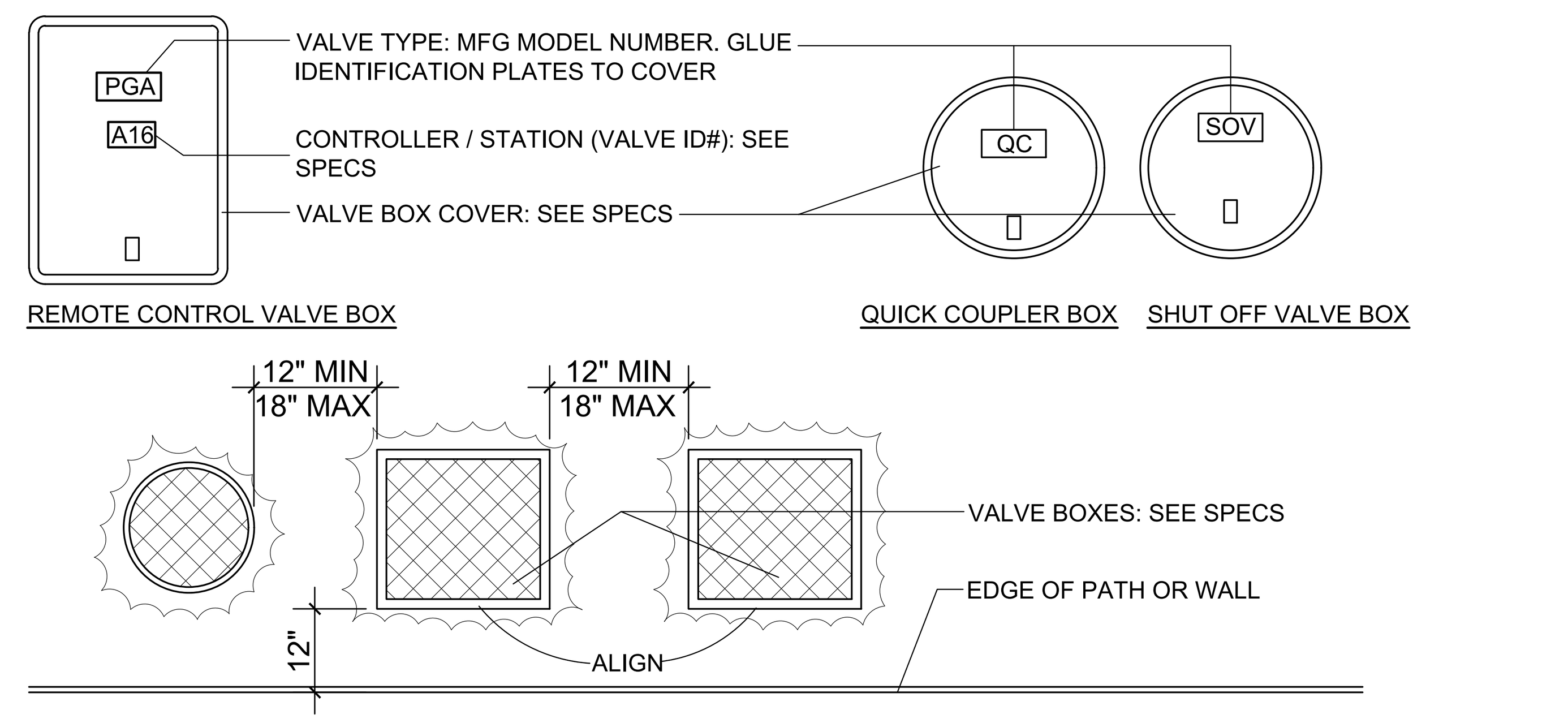
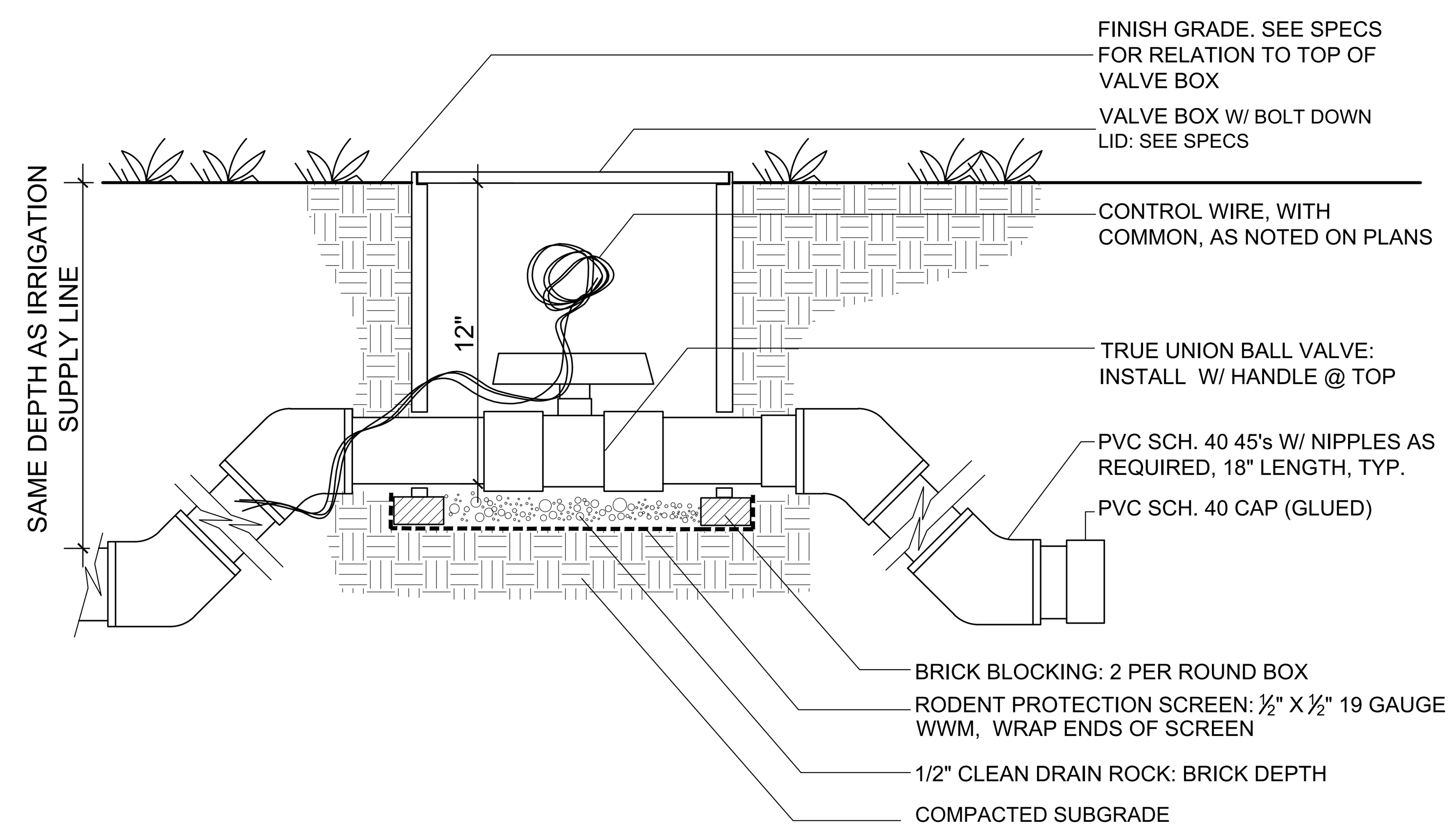


NOTE:
1. ALL VALVE BOXES MUST BE IDENTIFIED WITH A VALVE ID # ON BOX: SEE SPECIFICATIONS FOR ACCEPTABLE METHODS.
2. VALVE BOXES SHALL HAVE 12" CLEARANCE FROM STRUCTURES AND ANY CONCRETE AREAS. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO CONCRETE, SOUND WALL, HEADERBOARD, ETC.
2. SET BOXES 1-1 /2" ABOVE FINISHED GRADE IN MULCH-COVERED AREAS. SET BOXES 1/2" ABOVE GRADE IN TURF AREAS. BOXES TO BE PERPENDICULAR TO FINISH GRADE.
3. SET VALVE BOX ASSEMBLY IN GROUND COVER / SHRUB AND NOT IN SIDEWALK OR ROADWAY. INSTALL IN LAWN ONLY IF GROUNDCOVER DOES NOT EXIST ADJACENT TO LAWN.
4. INSTALL EXTENSION BY VALVE BOX MANUFACTURER AS REQUIRED TO COMPLETELY ENCLOSE ASSEMBLY FOR EASY ACCESS.
5. RECTANGULAR VALVE BOXES SHALL HAVE 4 BRICKS INSTALLED, ONE UNDER EACH CORNER. ROUND VALVE BOXES SHALL HAVE 2 COMMON BRICKS INSTALLED, AT OPPOSITE SIDES. BRICKS SHALL NOT BE PLACED OVER ANY PIPE OR ITEM THAT COULD FAIL DUE TO BRICK PLACEMENT.
6. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOXES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.

9 Valve Box Installation

NTS

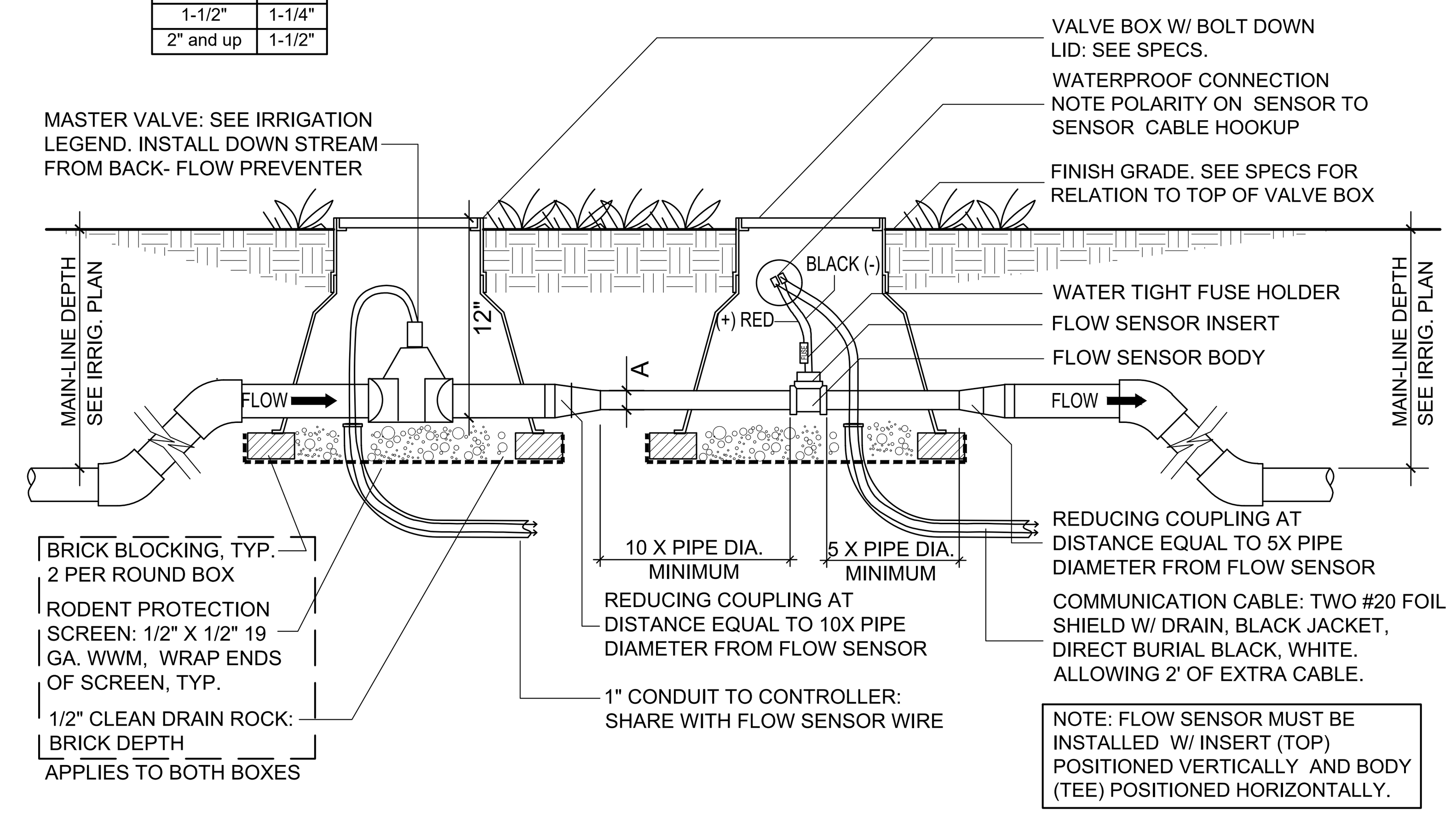


NOTE: BALL VALVES SHALL BE INSTALLED ON PIPE SIZES UP TO 3". GATE VALVES ON PIPE OVER 3".

6 Mainline Stubout

NTS

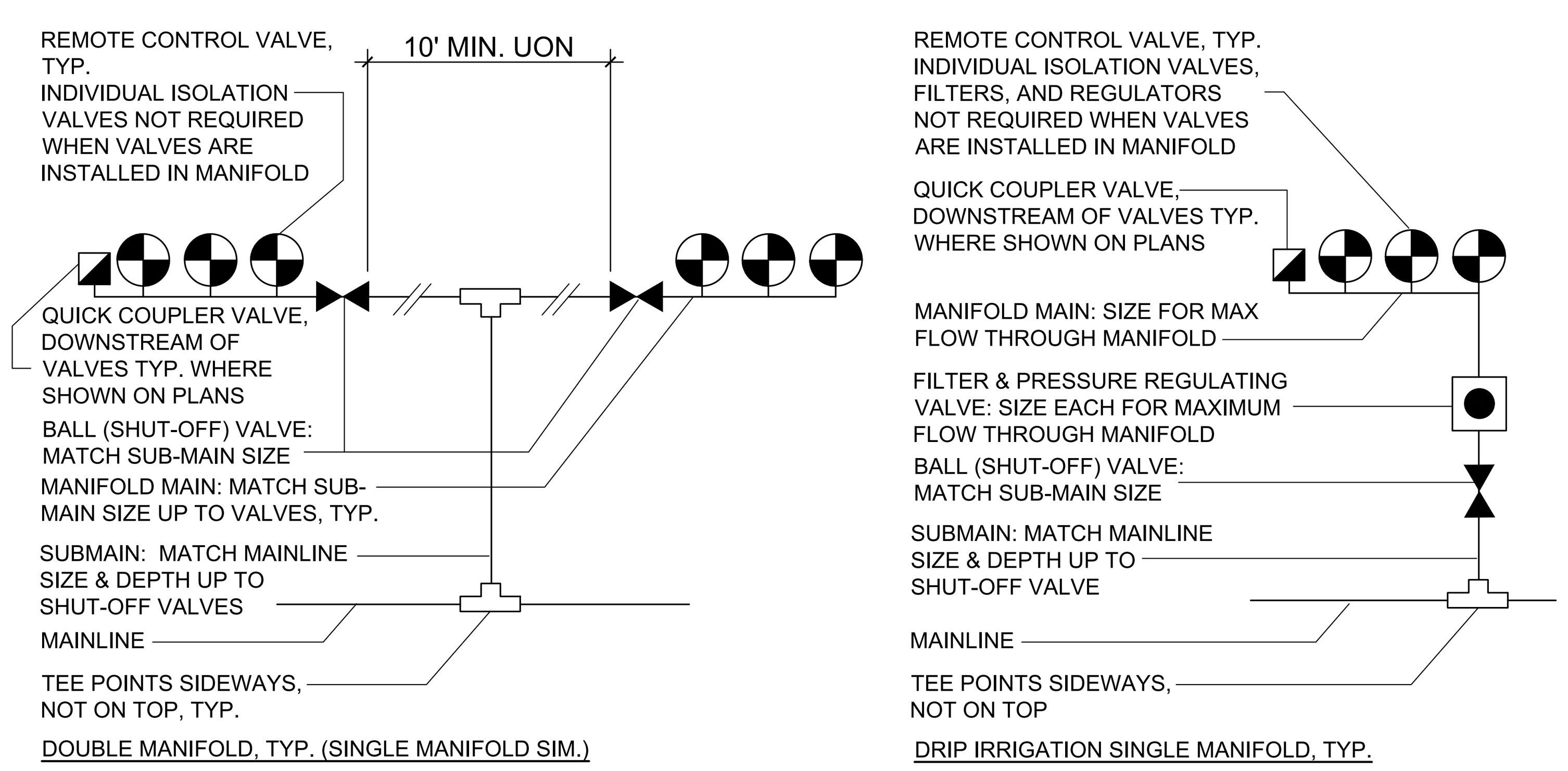
FLOW SENSOR SIZE	PIPE I.D. (A)
1"	3/4"
1-1/4"	1"
1-1/2"	1-1/4"
2" and up	1-1/2"



NOTE: FLOW SENSOR MUST BE INSTALLED W/ INSERT (TOP) POSITIONED VERTICALLY AND BODY (TEE) POSITIONED HORIZONTALLY.

3 Master Valve / Flow sensor

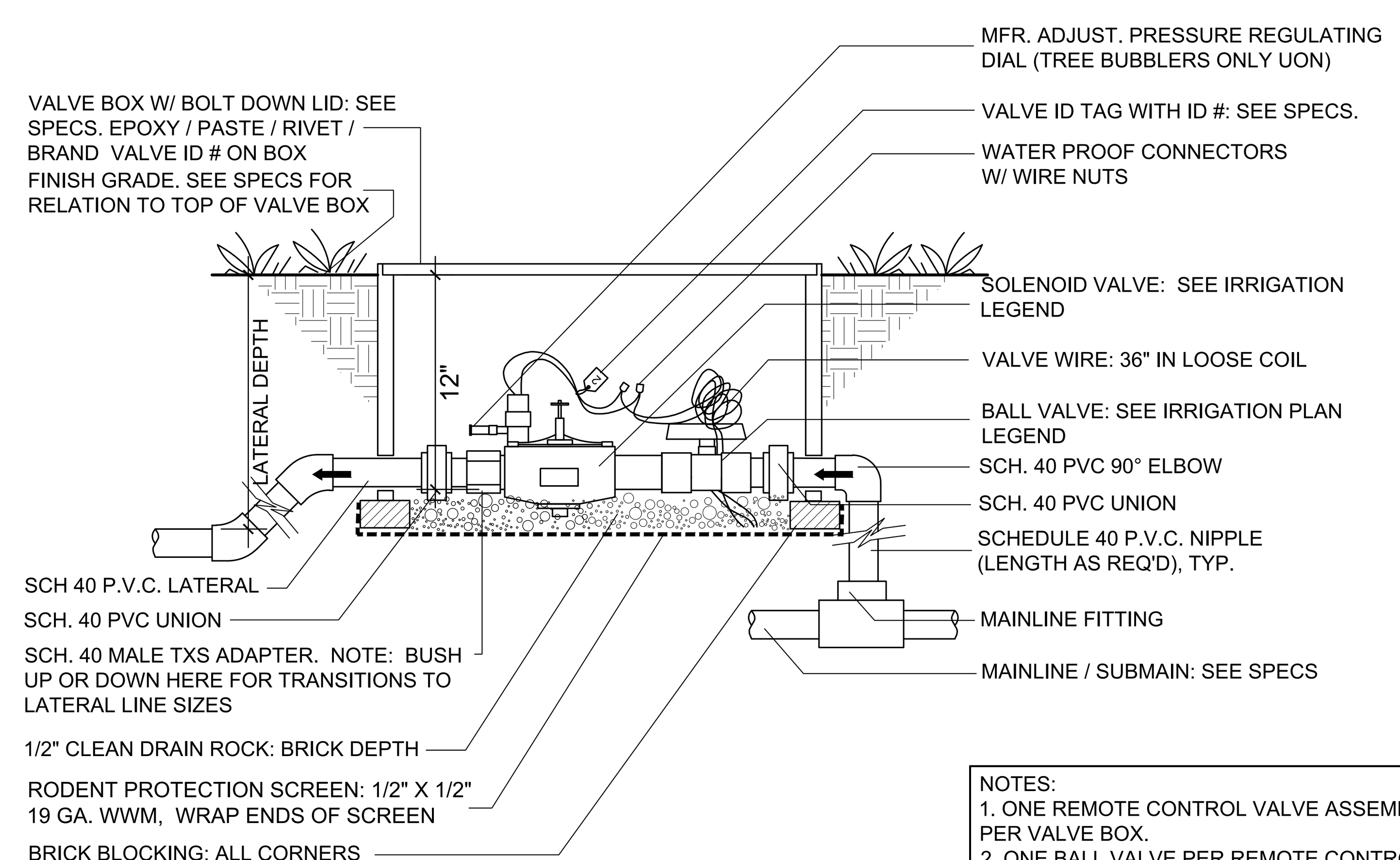
NTS



NOTE:
MAX. 3 REMOTE CONTROL VALVES PER BALL (SHUT-OFF) VALVE.
SUB MAINS MAY TRANSITION TO CLASS 315 PVC FROM MAINLINES THAT ARE RING-TITE PVC PIPE.

8 Typ. Valve Manifold

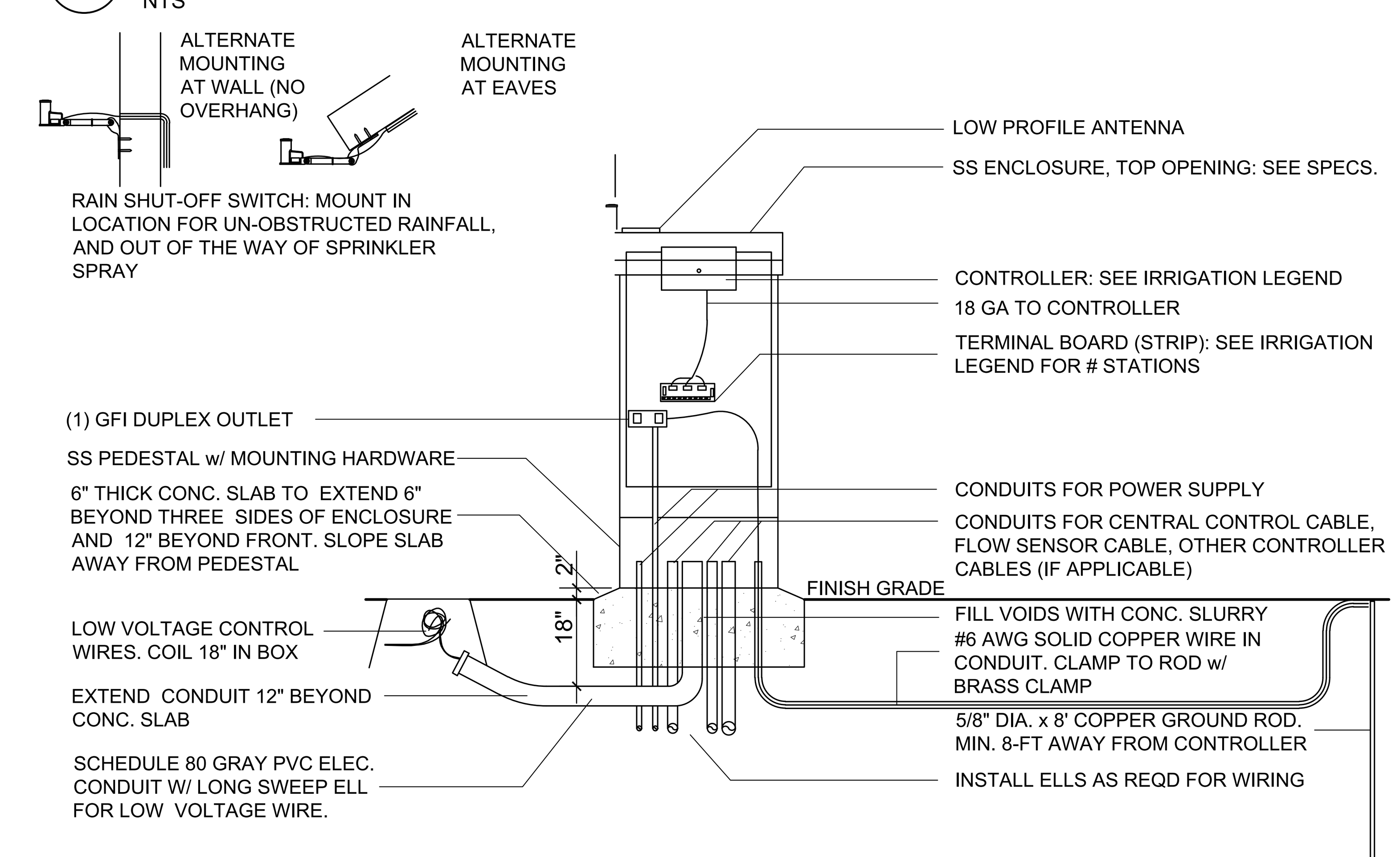
NTS



NOTES:
1. ONE REMOTE CONTROL VALVE ASSEMBLY PER VALVE BOX.
2. ONE BALL VALVE PER REMOTE CONTROL VALVE / PER VALVE MANIFOLD

5 Remote Control Valve

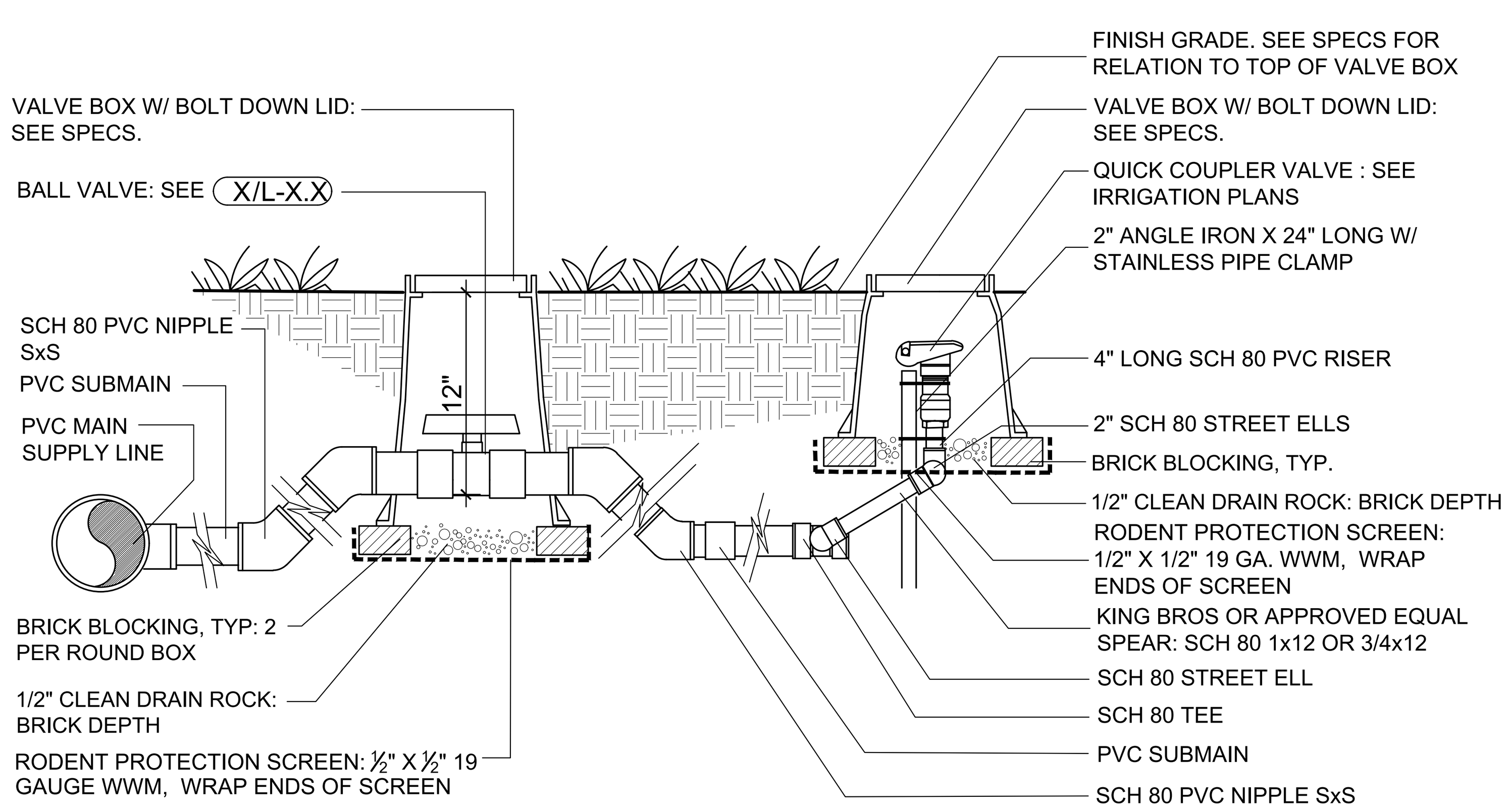
NTS



NOTES:
1. SIZE CONDUITS PER MANUFACTURER / CABLE REQUIREMENTS. MIN 1" DIA.

2 Controller SS Pedestal Mount Top Entry

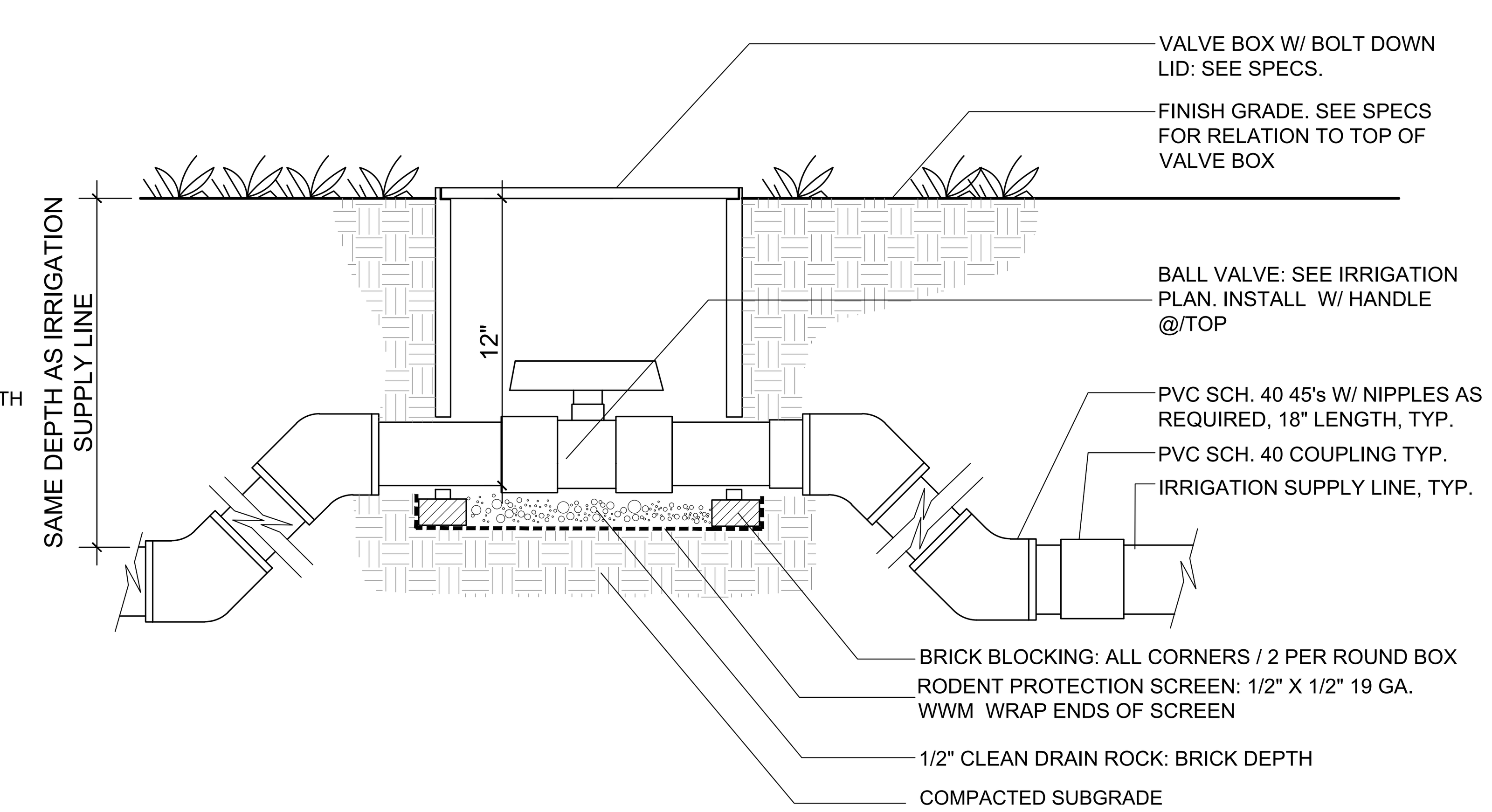
NTS



NOTES:
1. GROUP QUICK COUPLER WITH REMOTE CONTROL VALVES FOR USE OF COMMON ISOLATION VALVE. SEE TYPICAL MANIFOLD DETAIL.
2. SCHEDULE 80 PRE-ASSEMBLED SWING MAY BE USED .
3. DO NOT INSTALL DIRECTLY ON TOP OF LIVE WATER MAINS.

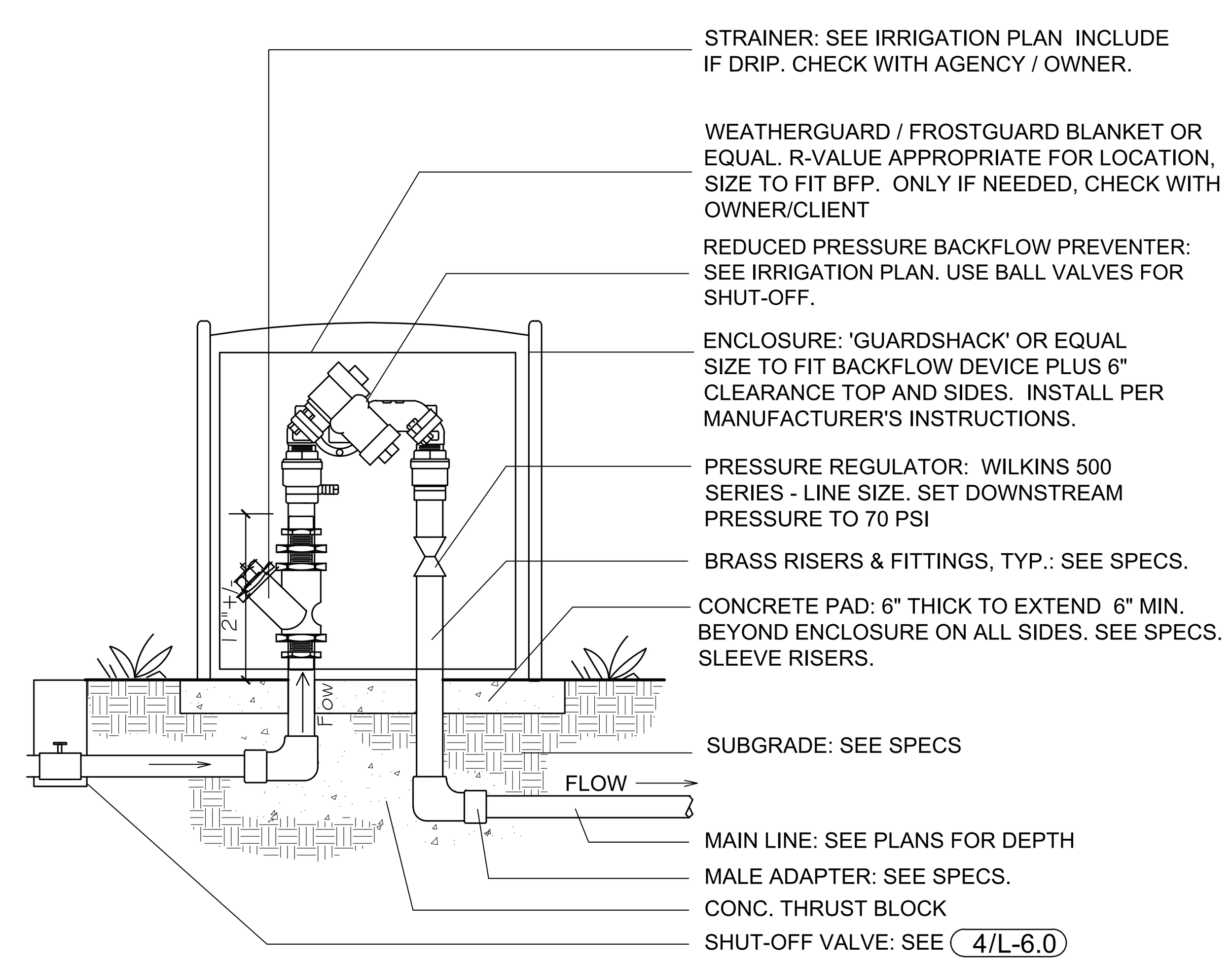
7 Quick Coupler

NTS



4 Isolation (Ball) Valve

NTS



1 Backflow Device: 2-1/2" Pipe or Less

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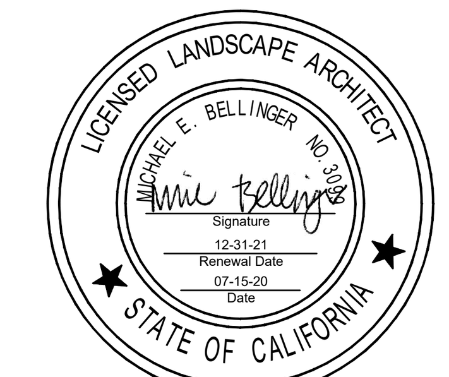

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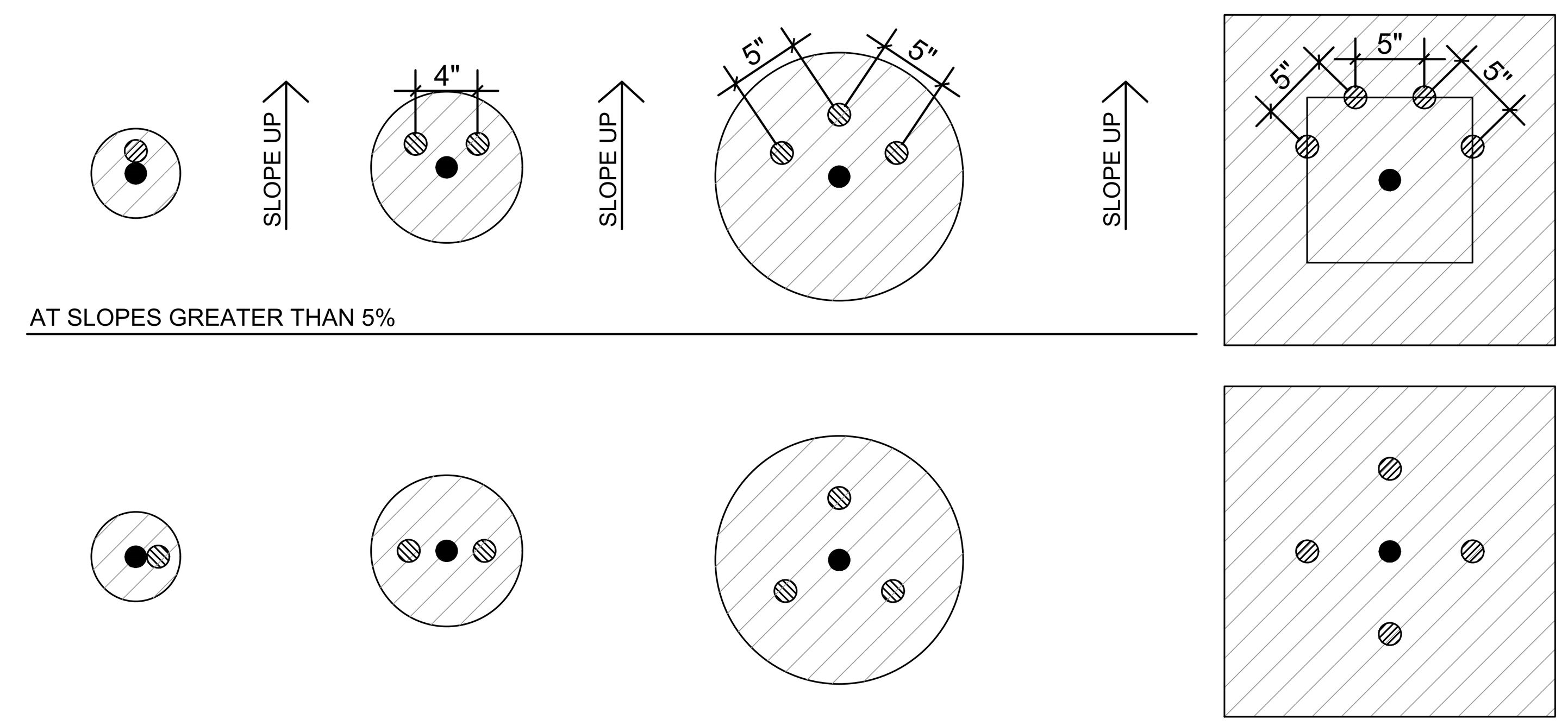


1-GALLON PLANT
LOCATE 1 EMITTER AT MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND TRUNK AS SHOWN

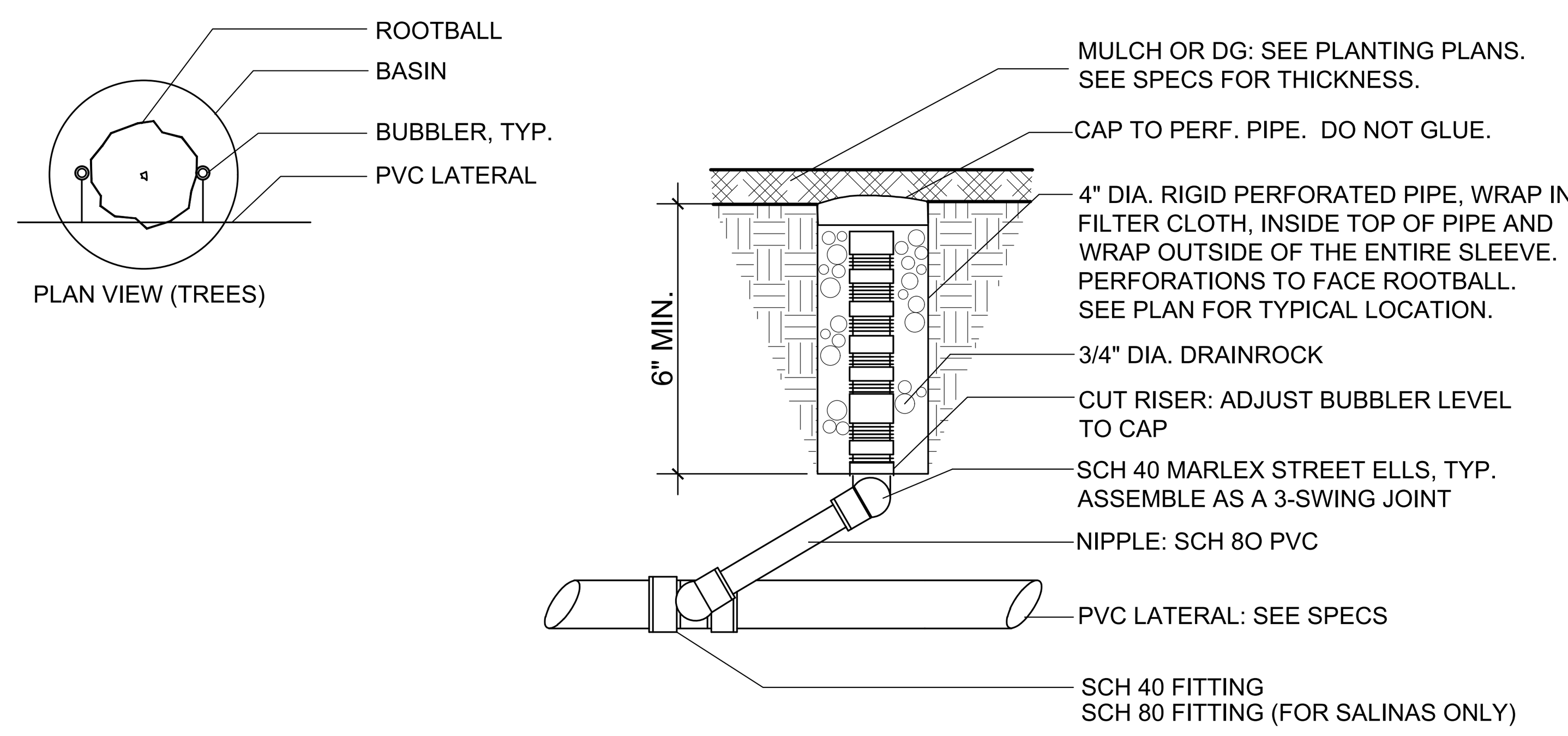
5-GALLON PLANT
LOCATE 2 EMITTERS AT MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND TRUNK AS SHOWN

15-GALLON PLANT
LOCATE 3 EMITTERS AT MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND TRUNK AS SHOWN

24-IN BOX PLANT
LOCATE 4 EMITTERS AT MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND TRUNK AS SHOWN

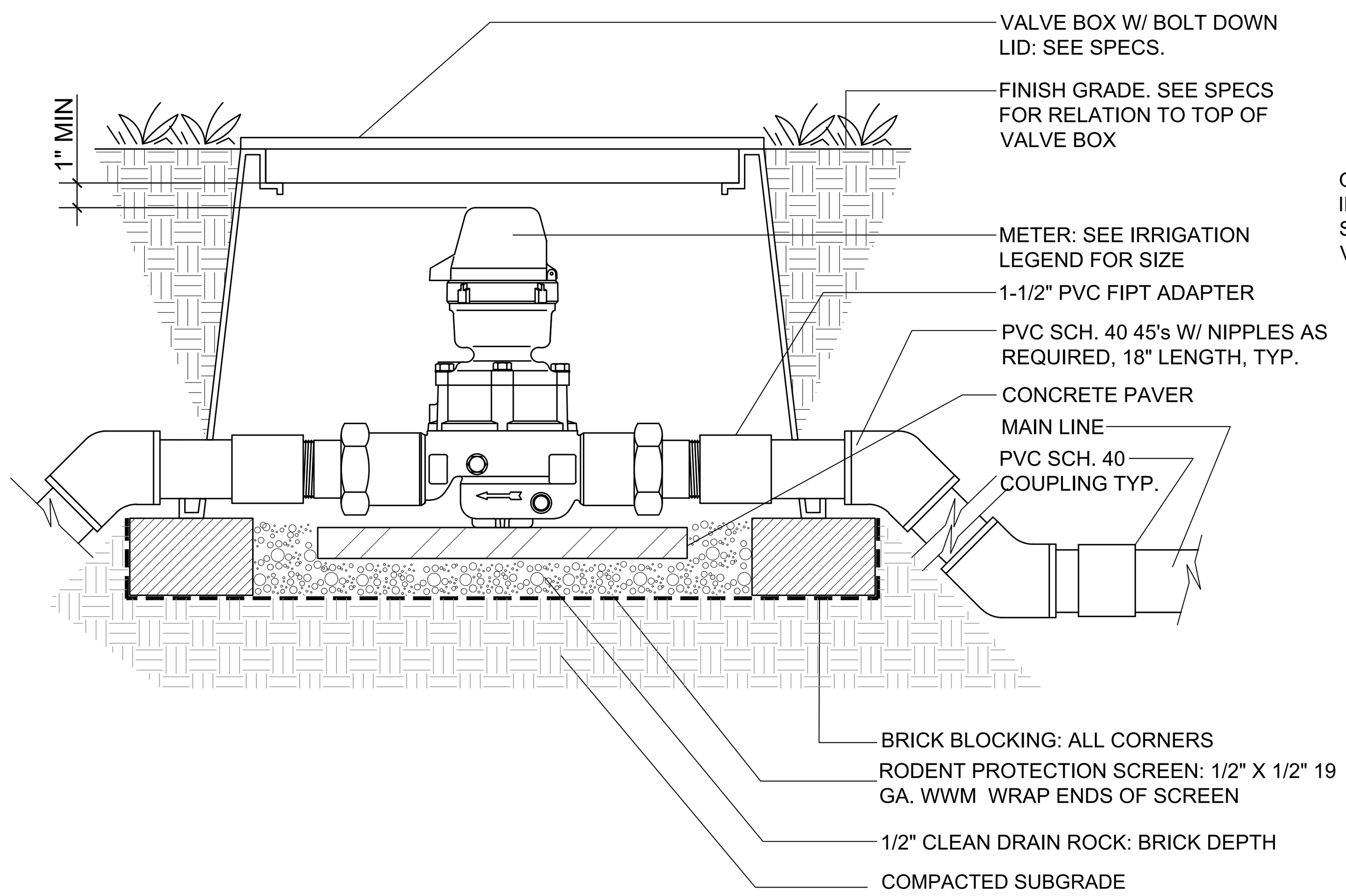
NOTES:
1. SEE IRRIGATION LEGEND FOR EMITTER GPH AND CONNECTION METHODS TO SUPPLY LINE
2. SEE SPECS FOR SUPPLY & DISTRIBUTION PIPE
3. FOR PLANTS LARGER THAN 24" BOX, USE SOAKER HOSE OR SUB-SURFACE IRRIGATION AS SHOWN ON THE PLANS.

6 Drip Irrigation : Emitter Layout
NTS

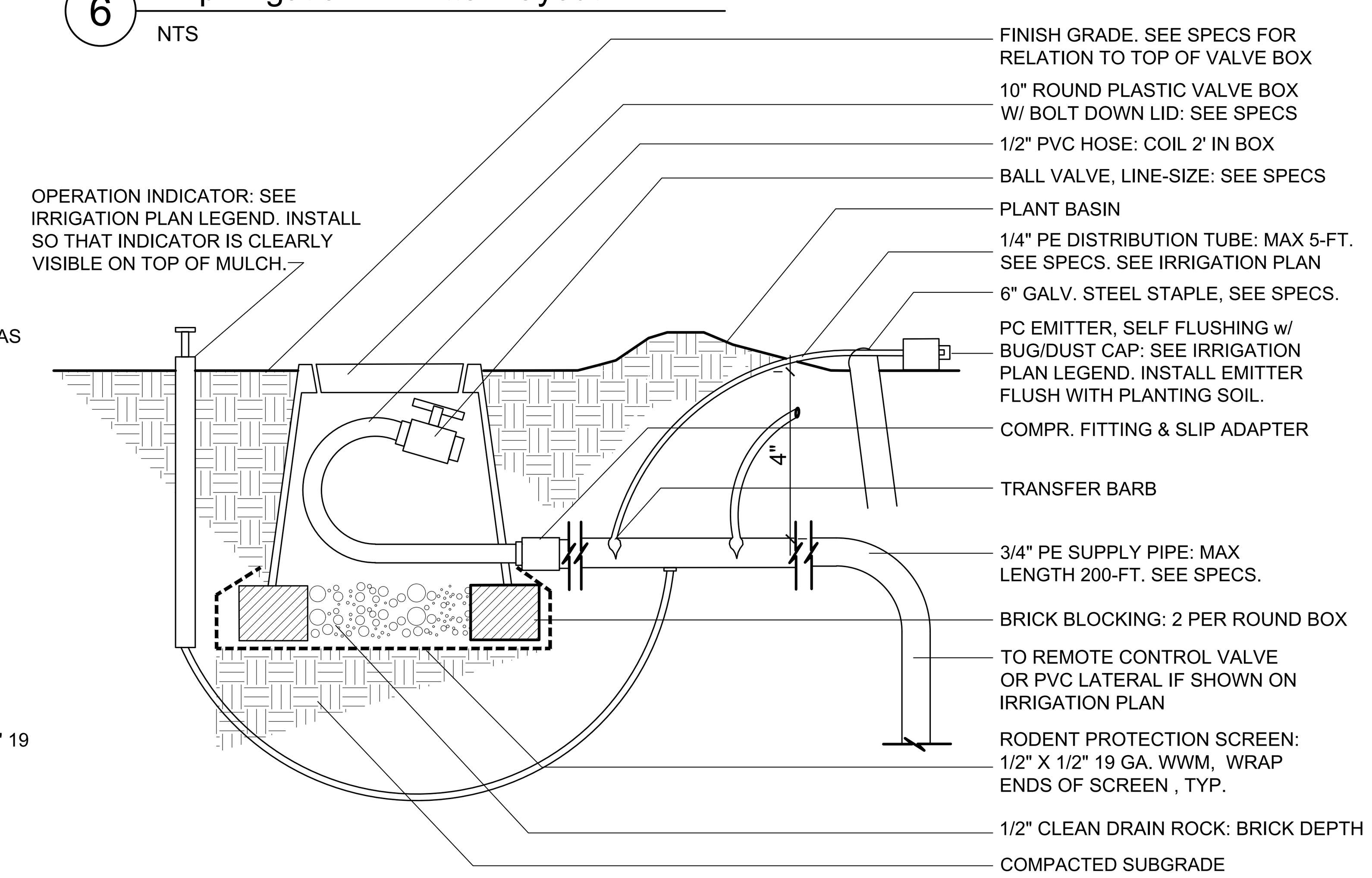


NOTE:
1. TOP OF BUBBLER CAP TO BE BELOW MULCH OR DG AS SHOWN.
2. BUBBLERS TO BE PLACED WITHIN 12" OF PLANT, INSIDE WATER BASIN.
3. BUBBLERS TO BE PLACED PERPENDICULAR TO GROUND.
4. IF PLANT IS ON A SLOPE > 5%, INSTALL BUBBLERS ON UPHILL SIDE.

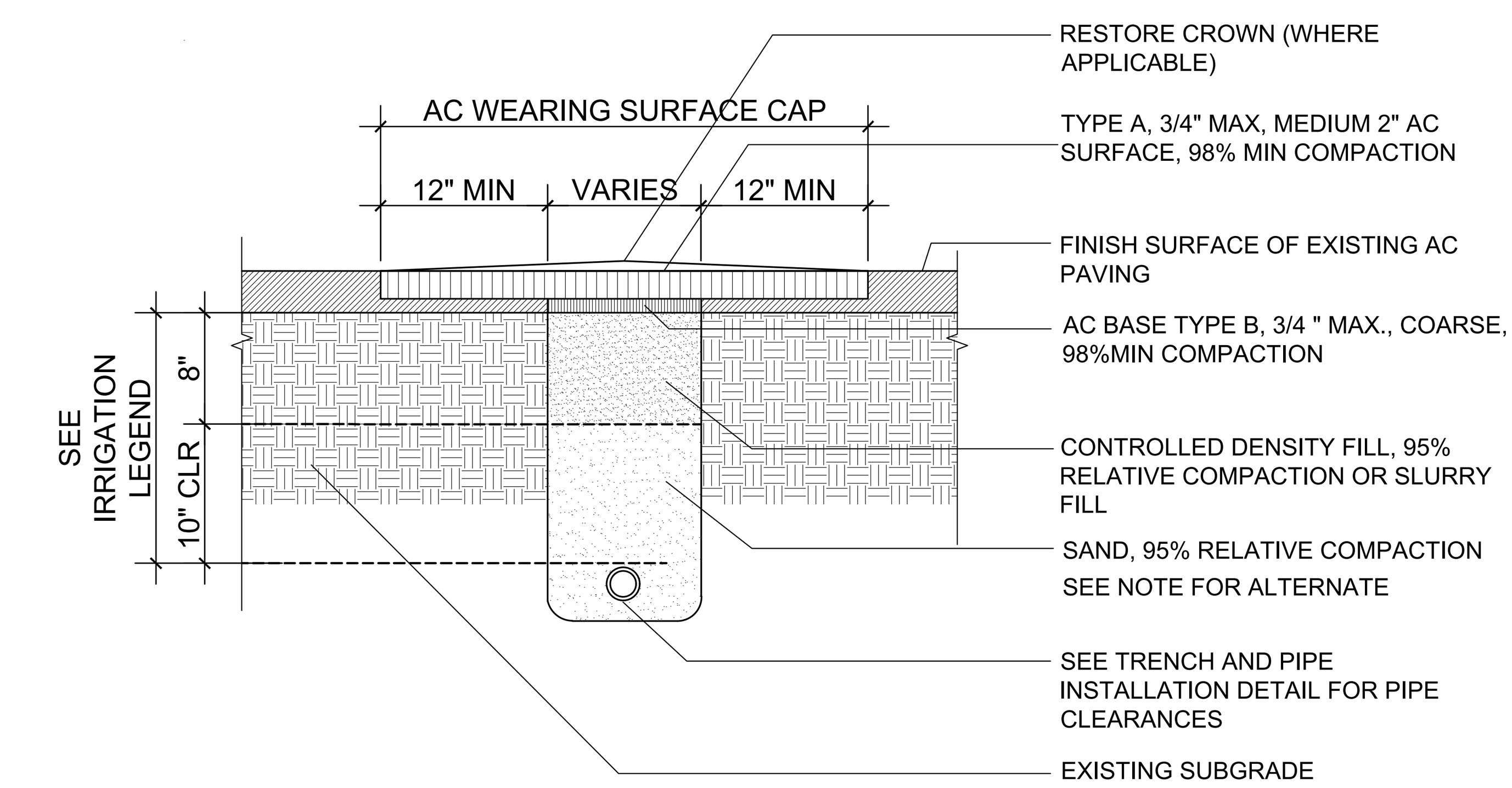
3 Tree Bubbler (1-15 Gal. Plants)
NTS



8 Water Meter
NTS

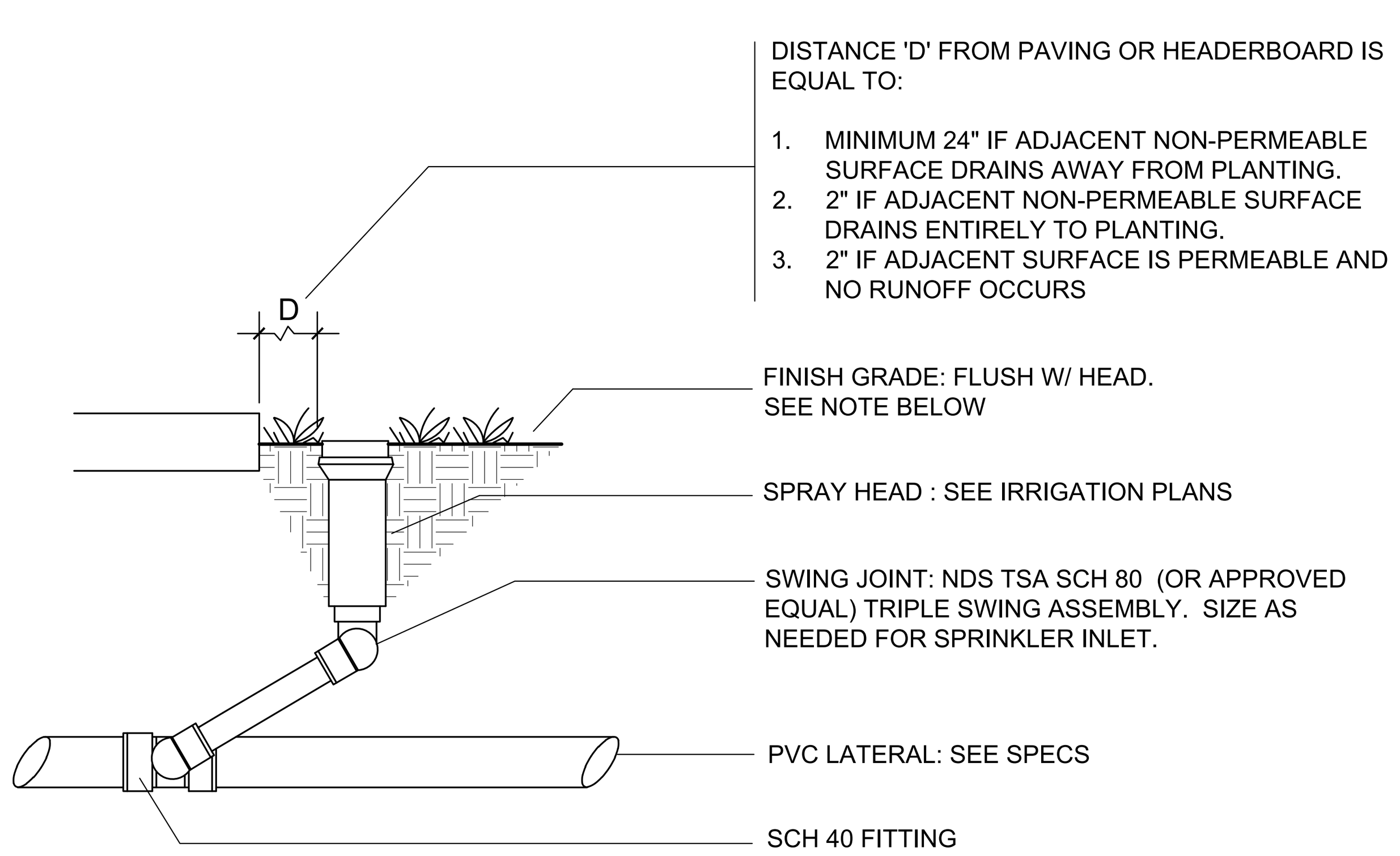


5 Drip Irrigation : PE Tube / Emitter / Flush Port
NTS



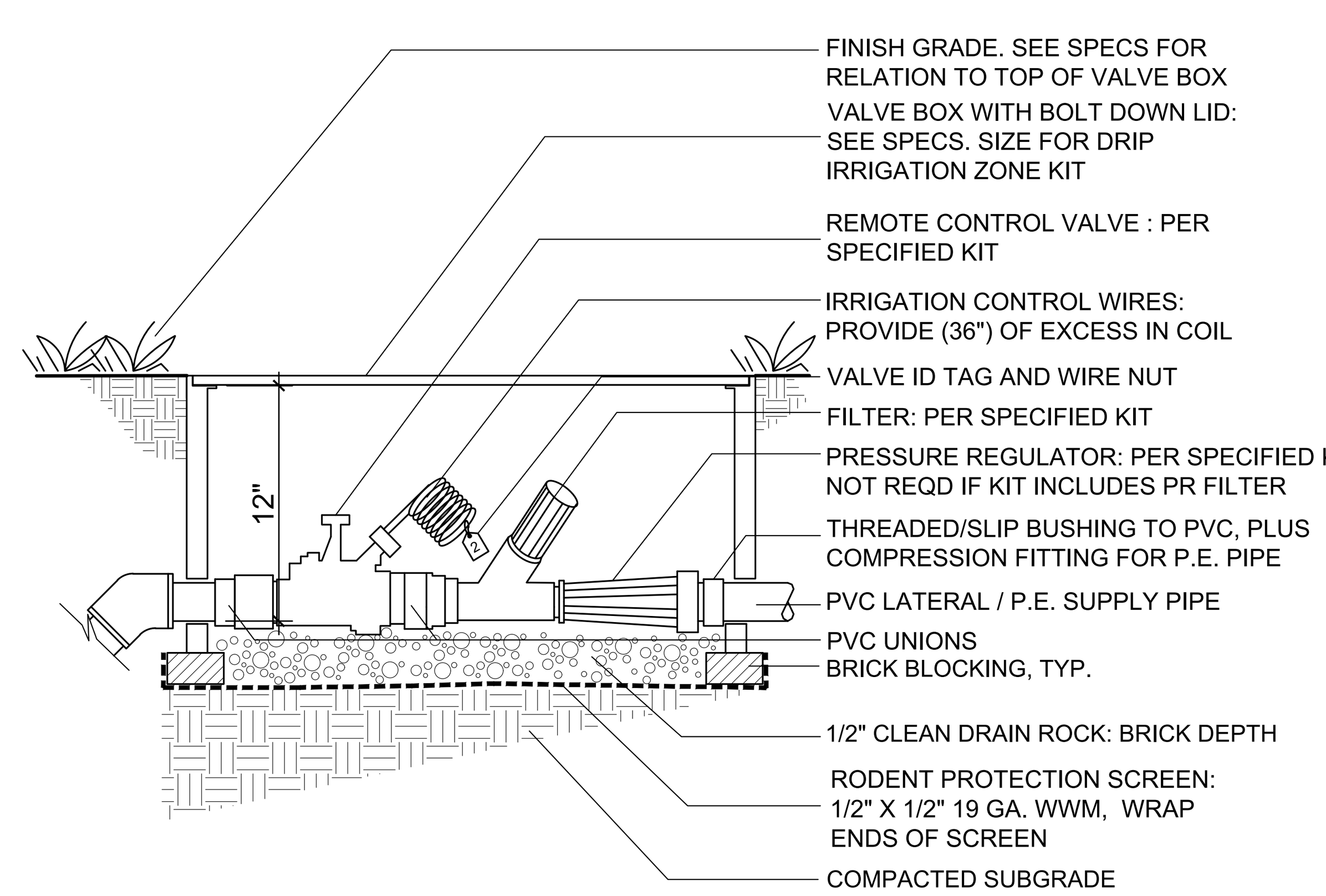
NOTE: ALTERNATE FILL
FILL TO BOTTOM OF TRENCH WITH SLURRY CEMENT BACKFILL PER CALTRANS STANDARD SPECIFICATIONS, LATEST EDITION

2 Trench Restoration Under AC Paving
1" = 0'-0"



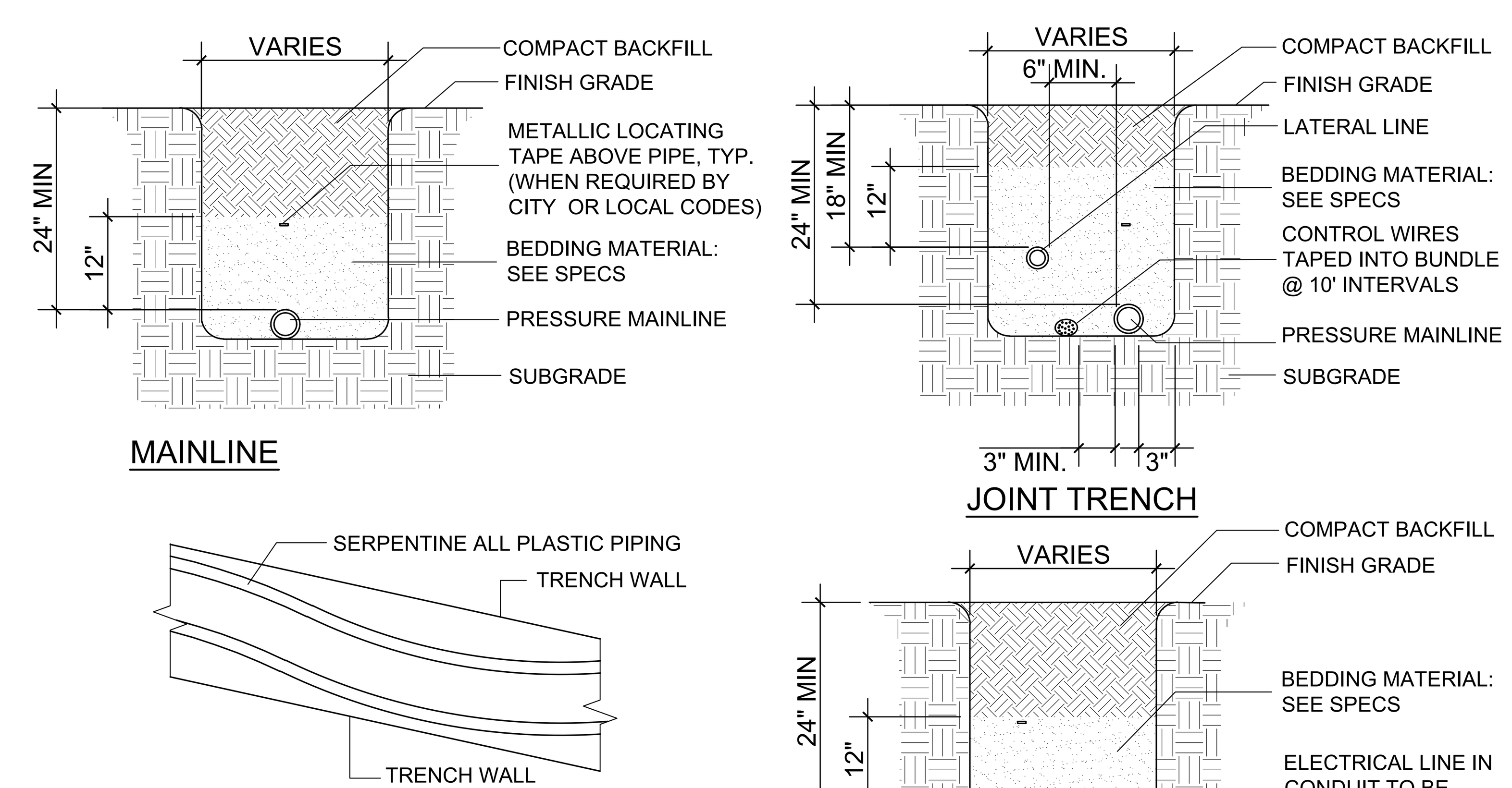
NOTE:
1. ALL IRRIGATION HEADS USED IN PLANTED SHRUB AREAS TO BE INSTALLED TO FINAL GRADE, NOT FLUSH TO TOP OF CURB OR SIDEWALK.
2. ALL IRRIGATION HEADS TO BE INSTALLED PERPENDICULAR TO FINAL GRADE.
3. ALL IRRIGATION HEADS TO BE INSTALLED WITH SWING JOINTS AS SHOWN.
4. ALL POP-UP IRRIGATION HEADS SHALL HAVE CHECK VALVE INSTALLED IN THEM.

7 Spray
NTS

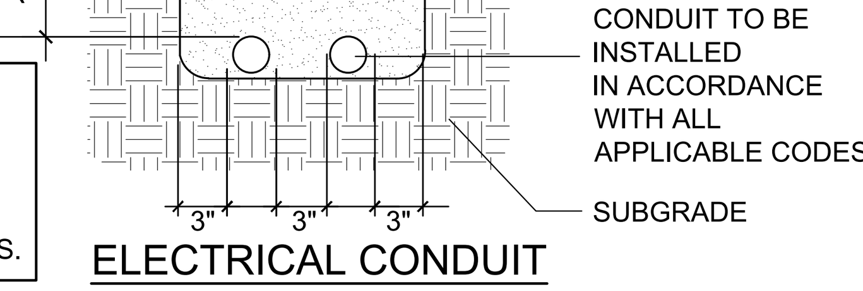


NOTE:
1. ONE REMOTE CONTROL VALVE KIT PER BOX.
2. BOX SHALL NOT REST UPON OR TOUCH THE VALVE, FILTER OR ANY LATERAL AT ANY POINT.
3. 'TEFLON' TAPE REQUIRED ON ALL THREADED JOINTS.

4 Drip Irrigation : Remote Control Valve (Kit Assembly)
NTS



NOTE:
1. REFER TO APPLICABLE CODES FOR MAINLINE DEPTH UNDER ROADWAYS
2. SERPENTINE ALL PLASTIC PIPING.
3. LATERAL SEPARATION DISTANCES SHOWN ARE MINIMUMS UON.
4. SEE SPECIFICATIONS FOR TRENCH BACKFILL.
5. ALL WIRES SHALL BE TAPED AND BUNDLED AT 10' INTERVALS IN TRENCHES.



1 Trench & Pipe Installation
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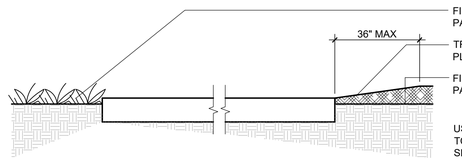

3 Finish Grade

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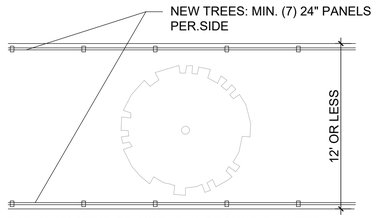
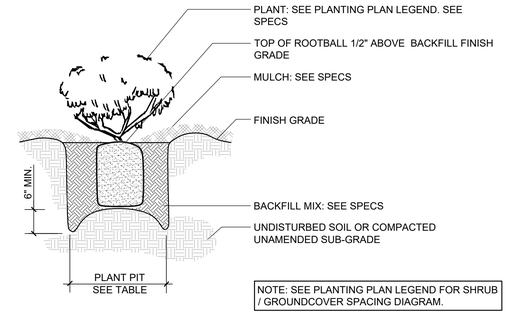


PARKWAY STRIP OR LINEAR IN-GROUND PLANTER

OPEN PLANTING BEDS	
BOX SIZE	24" PANELS
24"	7
36"	9
48"	11
60"	13

EXISTING TREES IN PARKWAY STRIPS	
CANOPY DIA	24" PANELS / SIDE
12'	7
18'	10
24'	13

PLANT PIT SIZE TABLE	
PLANT SIZE	PIT SIZE - ROOTBALL PLUS
4"POT	3" ALL AROUND
1 GAL	6" ALL AROUND
5 GAL	8" ALL AROUND
15 GAL	10" ALL AROUND



NOTE: SEE PLANTING PLAN LEGEND FOR SHRUB / GROUNDCOVER SPACING DIAGRAM.

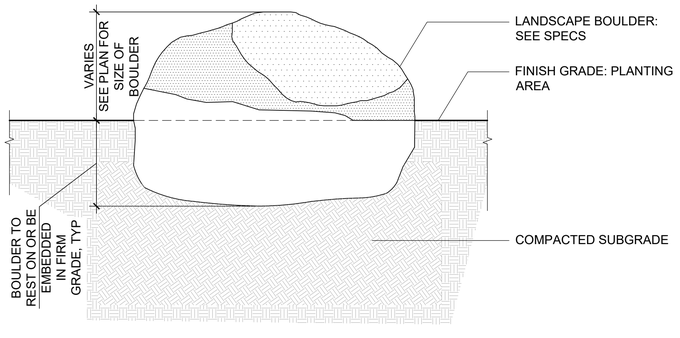
NOTE: SEE ROOT BARRIER PLAN FOR BARRIER LENGTHS. THIS GENERIC DETAIL IS ONLY APPLICABLE TO TREES WHERE ROOT BARRIERS HAVE NOT BEEN SHOWN ON PLAN.

5 Root Barrier

NTS

2 Shrub / Groundcover Planting

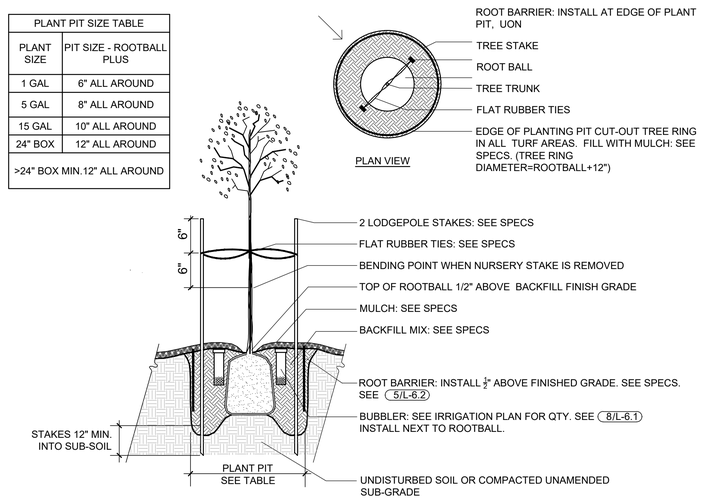
1" = 0'-0"



4 Boulder

NTS

PLANT PIT SIZE TABLE	
PLANT SIZE	PIT SIZE - ROOTBALL PLUS
1 GAL	6" ALL AROUND
5 GAL	8" ALL AROUND
15 GAL	10" ALL AROUND
24" BOX	12" ALL AROUND
>24" BOX MIN.12" ALL AROUND	



1 Tree Planting & Staking

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