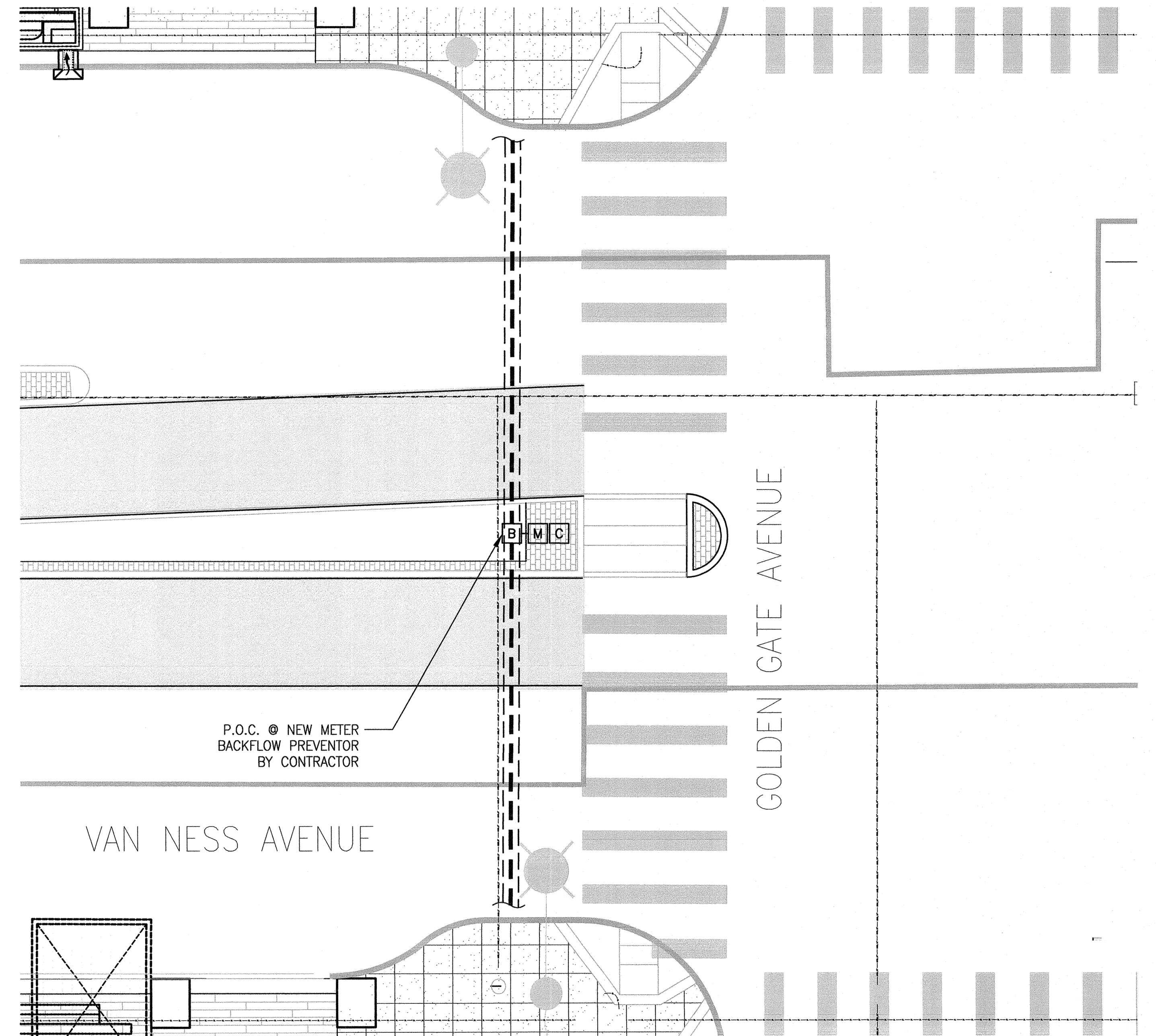


NOTES

1. THESE NOTES AND IRRIGATION PLAN GOVERN INSTALLATION ONLY AND ARE NOT INTENDED TO GOVERN OTHER WORK.
2. THE CONTRACTOR SHALL VERIFY LOCATIONS OF POINT OF CONNECTION, MAINLINE, BACK FLOW PREVENTION DEVICE, VALVE BOXES AND CONTROLLER LOCATION PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCY BETWEEN THE DRAWING AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE CITY REPRESENTATIVE PRIOR TO INSTALLATION.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF AN IRRIGATION SYSTEM THAT PROVIDES 100% OF THE COMPLETE COVERAGE IN ALL PLANTING AREAS. THE WORK OF THE CONTRACT INCLUDES ADJUSTMENTS TO THE SYSTEMS DESIGN INDICATED, INCLUDING ADJUSTMENTS TO QUANTITIES OF PIPING, HEADS, NOZZLES AND OTHER EQUIPMENT AS NECESSARY TO ASSURE FULL COVERAGE.
4. THE IRRIGATION SYSTEM IS DESIGNED BASED ON THE AVAILABILITY OF 40 PSI AFTER THE BACK FLOW PREVENTER AND 20 GPM THROUGH THE VALVES. NOTIFY THE CITY REPRESENTATIVE OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE SYSTEM INSTALLATION.
5. THE IRRIGATION DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW EXACT LOCATIONS OR SCALE OF PIPING, VALVES OR CONTROLLERS. INSTALL THESE ITEMS IN SHRUB PLANTING AREAS PARALLEL TO, AND AS CLOSE AS POSSIBLE TO CURBS OR PAVING EDGES UNLESS OTHERWISE INDICATED. DO NOT PLACE VALVE BOXES IN PLANTING AREAS DESIGNATED FOR LAWN. CONTRACTOR SHALL GET APPROVAL OF FINAL VALVE BOX AND QUICK COUPLER BOX LOCATIONS PRIOR TO TRENCHING AND INSTALLATION WITH CITY REPRESENTATIVE. NOTIFY THE CITY REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO TRENCHING.
6. THE CONTRACTOR SHALL VERIFY AND COORDINATE WORK WITH ALL APPROPRIATE TRADES FOR THE INSTALLATION OF IRRIGATION CONTROLLER, VALVES, BACKFLOW PREVENTER, PIPING, PIPE SLEEVES AND ELECTRICAL CONDUIT. INSTALL APPROPRIATE SIZE SCHEDULE 80 PVC SLEEVES UNDER PAVEMENT AS REQUIRED.
7. ALL PIPING AND CONTROL WIRING UNDER PAVING SHALL BE INSTALLED IN SCHEDULE 80 PVC PIPE SLEEVES OF SUFFICIENT SIZE TO ALLOW FOR EASY INSERTION AND REMOVAL. ALL OTHER CONTROL WIRING LOCATED IN PLANTING AREAS SHALL BE SLEEVED IN SCHEDULE 40 PVC SLEEVES. INDICATE SLEEVE DEPTH, LOCATION AND MATERIAL IN AS BUILT DRAWINGS.
8. INSTALL EACH SOLENOID VALVE IN A SEPARATE VALVE BOX PER DETAIL.
9. THE BACKFLOW PREVENTERS SHALL BE CERTIFIED BY THE CONTRACTOR.
10. PROTECTIVE LOCKING ENCLOSURE FOR BP, Y, R, & IRRIGATION CONTROLLER SHALL BE GUARDSHACK GS-1. LIFT-OFF, 10"Wx22"Lx24"H, STAINLESS STEEL ENCLOSURE W/HK100 HARDWARE KIT & GS-AWPKA LOCKS. INSTALL ON 18"Wx30"Lx4"D WELDED WIRE MESH REINFORCED CONCRETE PAD.
11. ALL IRRIGATION EQUIPMENT BOXES SHALL BE TRAFFIC RATED CONCRETE AND INSTALLED IN SIDEWALK.
12. PRIOR TO ANY EXCAVATION OR TRENCHING, LOCATE AND VERIFY ALL CABLES, CONDUITS, AND UNDERGROUND UTILITIES. CONTACT AN UNDERGROUND UTILITY LOCATING SERVICE TO LOCATE AND MARK ALL UTILITIES. TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH UNDERGROUND UTILITIES. NOTIFY THE CITY REPRESENTATIVE IMMEDIATELY IF A CONFLICT EXISTS BETWEEN SUCH OBSTACLES AND THE PROPOSED WORK. PROCEED IN THE SAME MANNER IF ROCK LAYERS OR ANY OTHER CONDITIONS ARE ENCOUNTERED UNDERGROUND.
13. SHOULD THE CONTRACTOR FAIL TO NOTIFY THE CITY REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN THE PLANS AND THE FIELD CONDITIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO THE CITY.

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER'S MODEL/NUMBER	REMARKS
●	PT. OF CONNECTION (P.O.C.)	WATER MAIN TAP AND METER WILL BE PROVIDED BY SF WATER, SEE SPECS.	AS PER CITY STANDARD
M	NEW 2" WATER METER, SEE PLAN FOR LOCATIONS	WATER MAIN TAP AND WATER METER WILL BE PROVIDED BY SFWD, SEE SPECS.	ALLOW 60 DAYS LEAD TIME
B C	NEW 2" REDUCED PRESSURE BACKFLOW PREVENTER, SEE PLANS FOR LOCATIONS WITH WYE FILTER & CONTROLLER	DIG LEIT-XRC; AMBIENT LIGHT, WIRELESS 28-STATION CONTROLLER W/RC2 HANDSET	INSTALL INSIDE BFP CAGE ON DIG MCDLXS MOUNTING COLUMN, SEE DETAIL
⊙	QUICK COUPLER	HUNTER QB44LRCAR10; 1" INLET, 2-PC, 2 SLOT, W/YELLOW LOCKING RUBBER COVER	INSTALL IN SIDEWALK, SEE DETAILS
PR	WATER PRESSURE REDUCING VALVE	FEBCO 3/4" PRV-2, BRONZE, FEMALE INLET & OUTLET NPT THREAT	INSTALL IN CHRISTY B1017BOX
1/8	IRRIGATION CONTROL VALVE & TAG, SEE NOTE FOR KEY	HUNTER IBV-101G-LS; 1" BRASS VALVE W/O SOLENOID. PROVIDE DIG 1600HE SOLENOID ACTUATOR	TRAFFIC BOX W/B1017-51JH BOLT DOWN, GALV STL CVR. PL., INSTALL IN SIDEWALK, SEE DETAIL
2	2" MANUAL GATE VALVE	NIBCO T-29 LINE-SIZE BRONZE GATE VALVE, FEM. THREADED INLET/OUTLET	INSTALL BEFORE IRRIGATION CTRL VALVES IN CHRISTY BOX
---	2" PRESSURE SUPPLY LINE 24" DEPTH	SCHEDULE 40 GALVANIZED STEEL PIPE & SCHEDULE 80 GALVANIZED STEEL FITTINGS	INSTALL IN 2xDIA. SIZE GALVANIZED STEEL, SCH. 40 SLEEVING UNDER ROADWAY
---	IRRIGATION LINE SLEEVING	SCHEDULE 40 PVC, PIPE & FITTINGS, SIZE FOR EASE OF INSERTION AND REMOVAL OF WIRES.	PROVIDE 2xDIA. SIZE SLEEVING; PIPES IN PAVED AREAS & CONC.
---	UNDERGROUND IRRIGATION FLEXIBLE TUBING WITH BUILT-IN DRIP EMITTERS & PVC HEADER	NETAFIM TECHLINE TLCV6-1201; 17 MM, PRESSURE COMPENSAT'G, SELF-CLEANING, ANTI-DRAIN CHECK VALVE (CV) DRIPLINE.	STAPLE TO GROUND W/TLS6 @ 24" O.C.; USE ONLY TECHLINE CV 17 MM CONNECTORS.
F	DRIPPERLINE END AUTOMATIC AND MANUAL FLUSH VALVES	TECHLINE TLFV-1 & TISOV IN FERNCO FSD-60 BOX W/SCREW-ON GREEN LID	INSTALL AT LOWEST & FURTHEST POINT OF DRIPPERLINE SYSTEM
---	1" NON-PRESSURE LATERAL LINE, 18" DEPTH	TECHLINE CV BLANK PIPE & FITTINGS UP TO 5GPM, SCHEDULE 40 PVC >5GPM	USE ONLY TECHLINE CV 17MM CONNECTORS
♬	OPERATION/PRESSURE INDICATOR STAKE	NETAFIM OPERATION FLAG #10-F-01; W/ FLAG, STAKE, TUBING & BARB	INSTALL AT HIGHEST & FURTHEST POINT OF DRIPPERLINE SYSTEM



GI IRRIGATION POINT OF CONNECTION AT GOLDEN GATE AVENUE

N.T.S.

1

CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

LANDSCAPE GREEN INFRASTRUCTURE
IRRIGATION NOTES AND LEGEND

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE DIVISION

SECTION MANAGER: *[Signature]* 9/15
DRAWN: BJ/SP
DEPUTY DIVISION MANAGER: *[Signature]*
DESIGNED: KP/SH
DIVISION MANAGER: *[Signature]*
CHECKED: JD SA

SECTION MANAGER: *[Signature]*
CHECKED: *[Signature]*
DRAWN: *[Signature]*
DATE: *[Signature]*

APPROVED: *[Signature]*
MANAGER: *[Signature]*
ASSISTANT GENERAL MANAGER
WASTEWATER ENTERPRISE

NO. DATE DESCRIPTION BY APPR'D

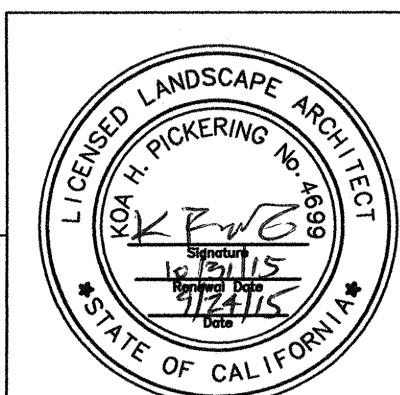
REVISIONS

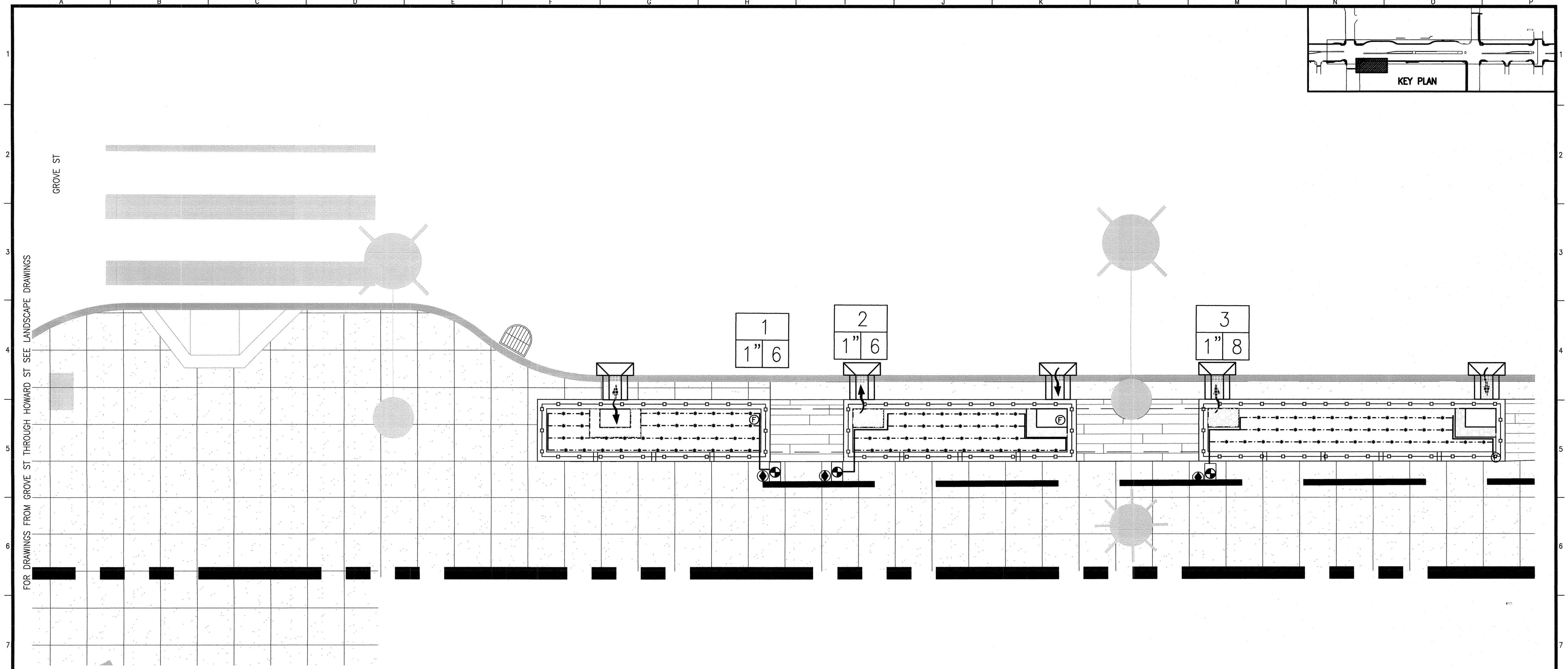
SHEET 102,831 LGI-5.0 0

VALVE TAG KEY:

1	VALVE #
1/8	FLOW (GPM)

ELEVATION DATUM CITY



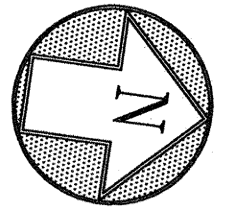
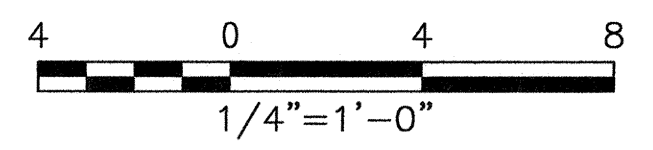


FOR DRAWINGS FROM GROVE ST THROUGH HOWARD ST SEE LANDSCAPE DRAWINGS

GI UNITS: 1-3, GROVE & VAN NESS

SCALE: 1/4" = 1'-0" 1

NOTES:
1. FOR NOTES & LEGEND, SEE LGI-5.0

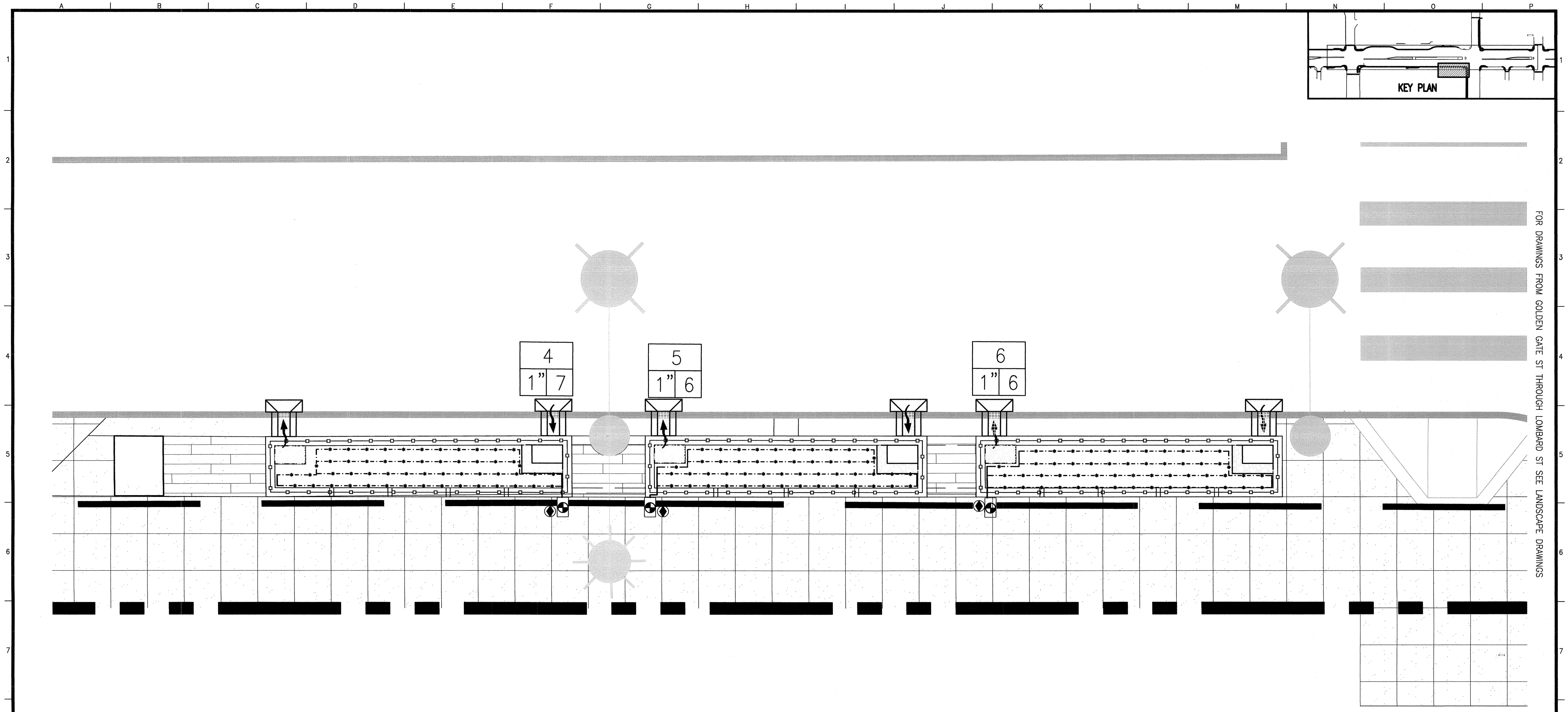


ELEVATION
DATUM
CITY



CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE DIVISION			
SECTION MANAGER <i>[Signature]</i>	DRAWN Bj/SP	DESIGNED KP/SH	CHECKED JD SA
DEPUTY DIVISION MANAGER			
DIVISION MANAGER			
NO.	DATE	DESCRIPTION	BY
REVISIONS			

CONTRACT NO. 1289			
CITY AND COUNTY OF SAN FRANCISCO PUBLIC UTILITIES COMMISSION ENGINEERING MANAGEMENT BUREAU			
MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT			
LANDSCAPE GREEN INFRASTRUCTURE IRRIGATION PLAN			
SECTION MANAGER <i>[Signature]</i>	CHECKED <i>[Signature]</i>	DRAWN	SCALE
DIVISION MANAGER <i>[Signature]</i>	RECOMMENDED	DESIGNED	DATE
APPROVED <i>[Signature]</i> MANAGER	APPROVED <i>[Signature]</i> ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	PLAN NO. 102,832	DRAWING NO. LGI-5.1
SHEET		102,832	REVISION NO. 0

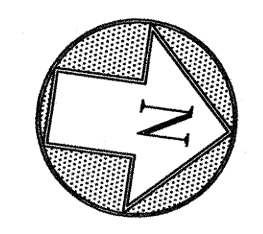
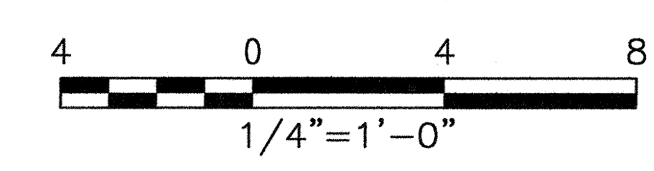


FOR DRAWINGS FROM GOLDEN GATE ST THROUGH LOMBARD ST SEE LANDSCAPE DRAWINGS

GI UNITS: 4-6, McALLISTER & VAN NESS

NOTES:
1. FOR NOTES & LEGEND, SEE LGI-5.0

SCALE: 1/4" = 1'-0" 1

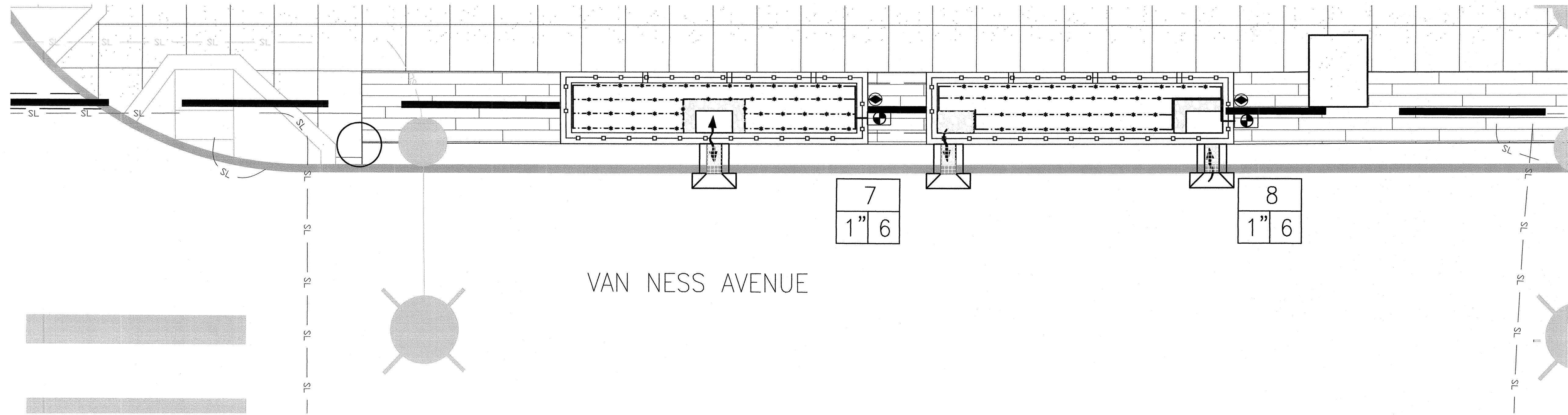
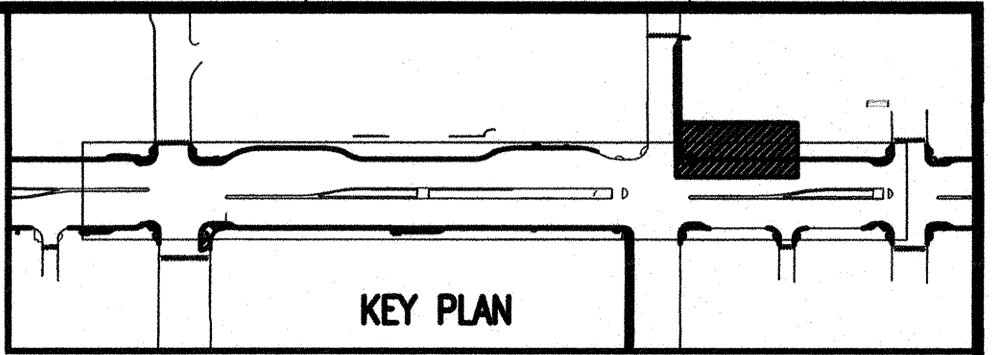


ELEVATION DATUM CITY



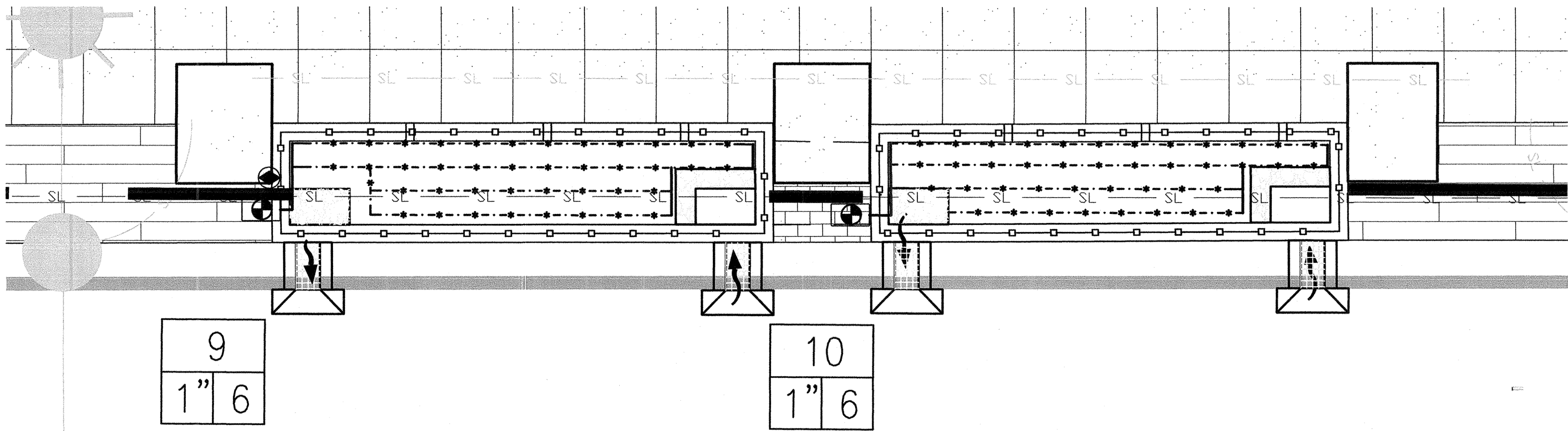
CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE DIVISION			
SECTION MANAGER	7/15	DRAWN	Bj/SP
DEPUTY DIVISION MANAGER		DESIGNED	KP/SH
DIVISION MANAGER		CHECKED	JD
NO.	DATE	DESCRIPTION	BY
REVISIONS			

CONTRACT NO. 1289			
CITY AND COUNTY OF SAN FRANCISCO PUBLIC UTILITIES COMMISSION ENGINEERING MANAGEMENT BUREAU			
MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT			
LANDSCAPE GREEN INFRASTRUCTURE IRRIGATION PLAN			
SECTION MANAGER	CHECKED	DRAWN	SCALE
DIVISION MANAGER	RECOMMENDED	DESIGNED	DATE
APPROVED	APPROVED		REVISION NO.
MANAGER	ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	PLAN NO.	DRAWING NO.
SHEET	102,833	LG1-5.2	0



GI UNITS: 7 & 8, McALLISTER & VAN NESS

SCALE: 1/4" = 1'-0" 1



GI UNITS: 9 & 10, McALLISTER & VAN NESS

SCALE: 1/4" = 1'-0" 2

CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

LANDSCAPE GREEN INFRASTRUCTURE
IRRIGATION PLAN

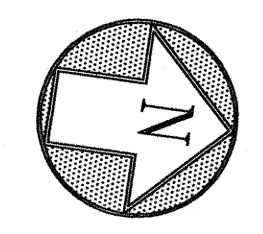
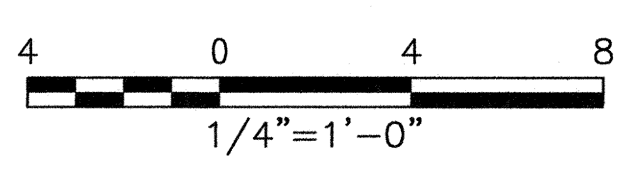
CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE DIVISION

SECTION MANAGER	9/15	DRAWN	Bj/SP
DEPUTY DIVISION MANAGER		DESIGNED	KP/SH
DIVISION MANAGER		CHECKED	JD SA
NO.	DATE	DESCRIPTION	BY
REVISIONS			

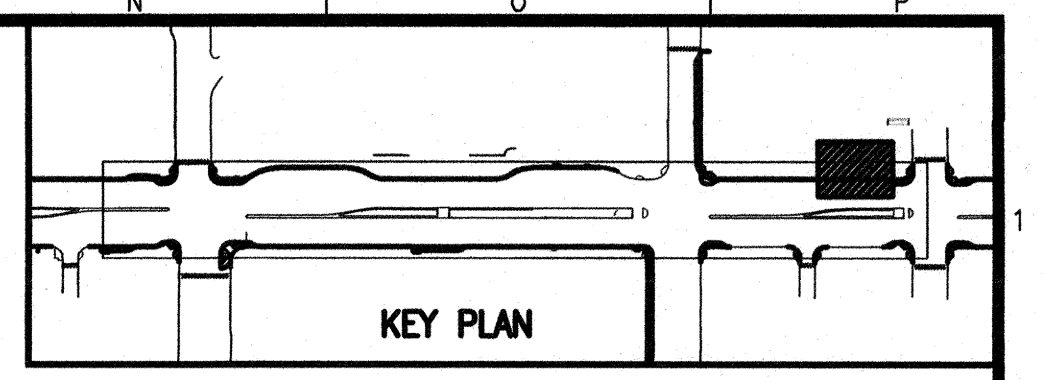
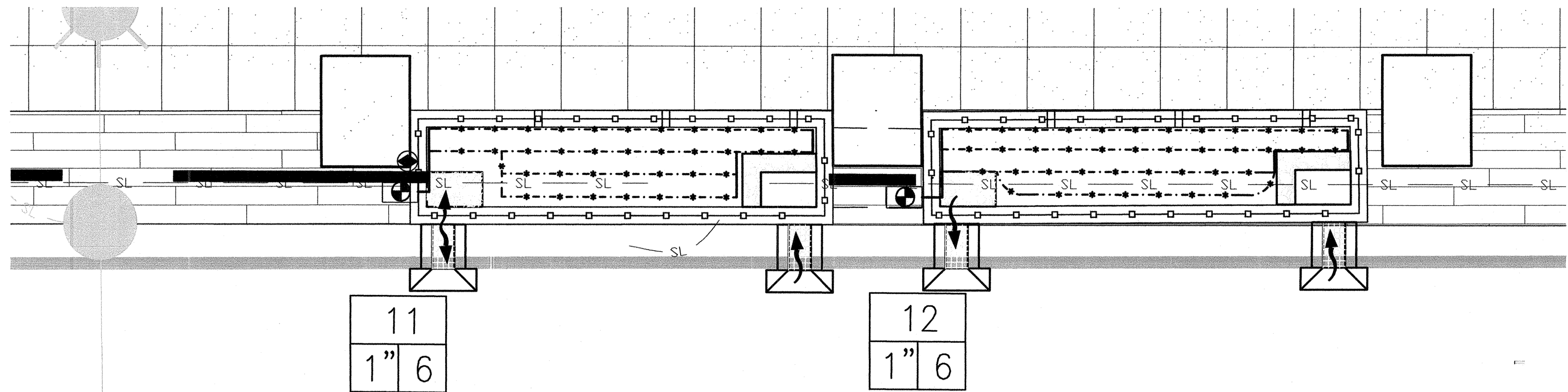
SECTION MANAGER	CHECKED	DRAWN	SCALE
DIVISION MANAGER	RECOMMENDED	DESIGNED	DATE
APPROVED	APPROVED		REVISION NO.
MANAGER	ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	PLAN NO.	DRAWING NO.
		102,834	LGI-5.3
SHEET			0



ELEVATION DATUM
CITY



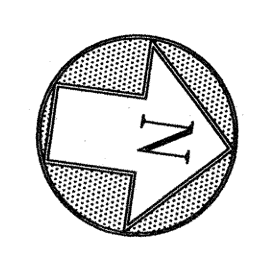
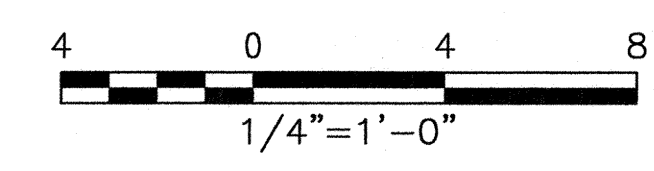
NOTES:
1. FOR NOTES & LEGEND, SEE LGI-5.0



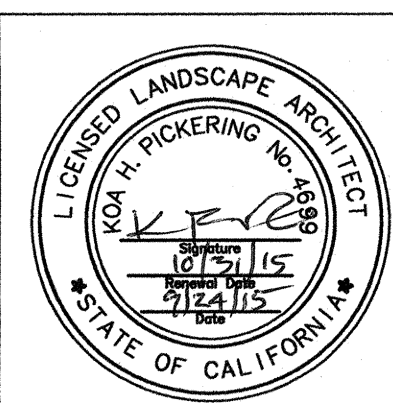
GI UNITS: 11 & 12, McALLISTER & VAN NESS

SCALE: 1/4" = 1'-0" 1

NOTES:
1. FOR NOTES & LEGEND, SEE LGI-5.0

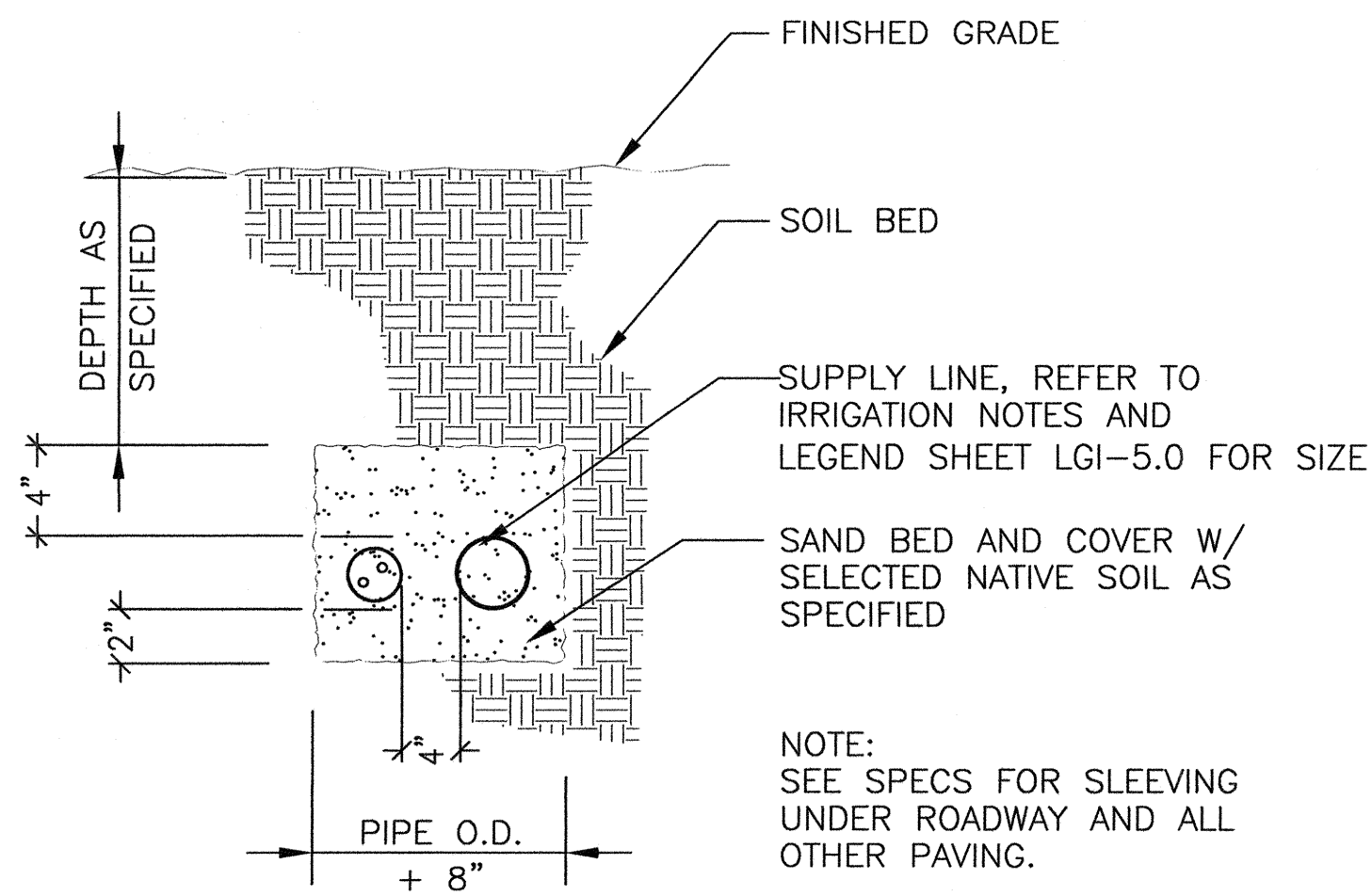


ELEVATION
DATUM
CITY

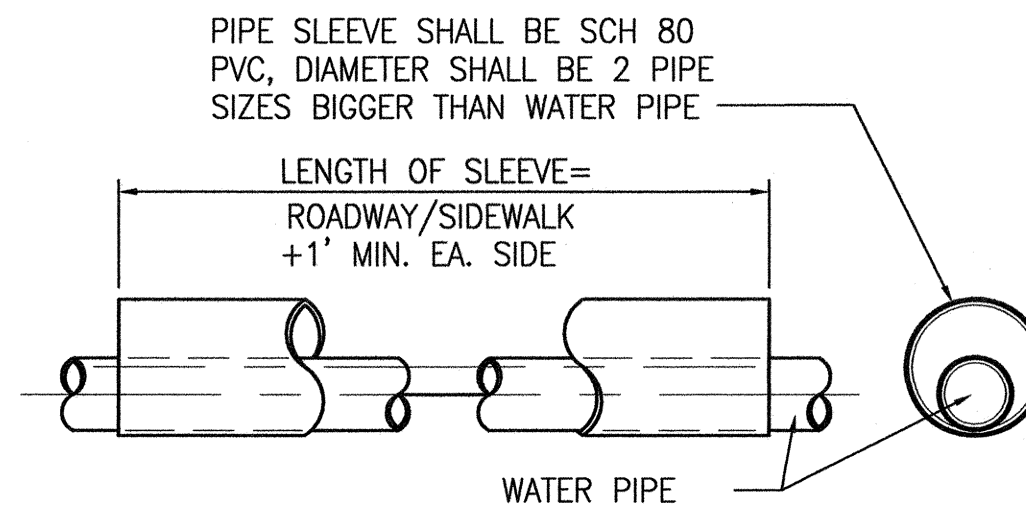


SECTION MANAGER <i>9/15</i>		DRAWN Bj/SP	
DEPUTY DIVISION MANAGER		DESIGNED KP/SH	
DIVISION MANAGER <i>[Signature]</i>		CHECKED JD <i>[Signature]</i>	
NO.	DATE	DESCRIPTION	BY
REVISIONS			

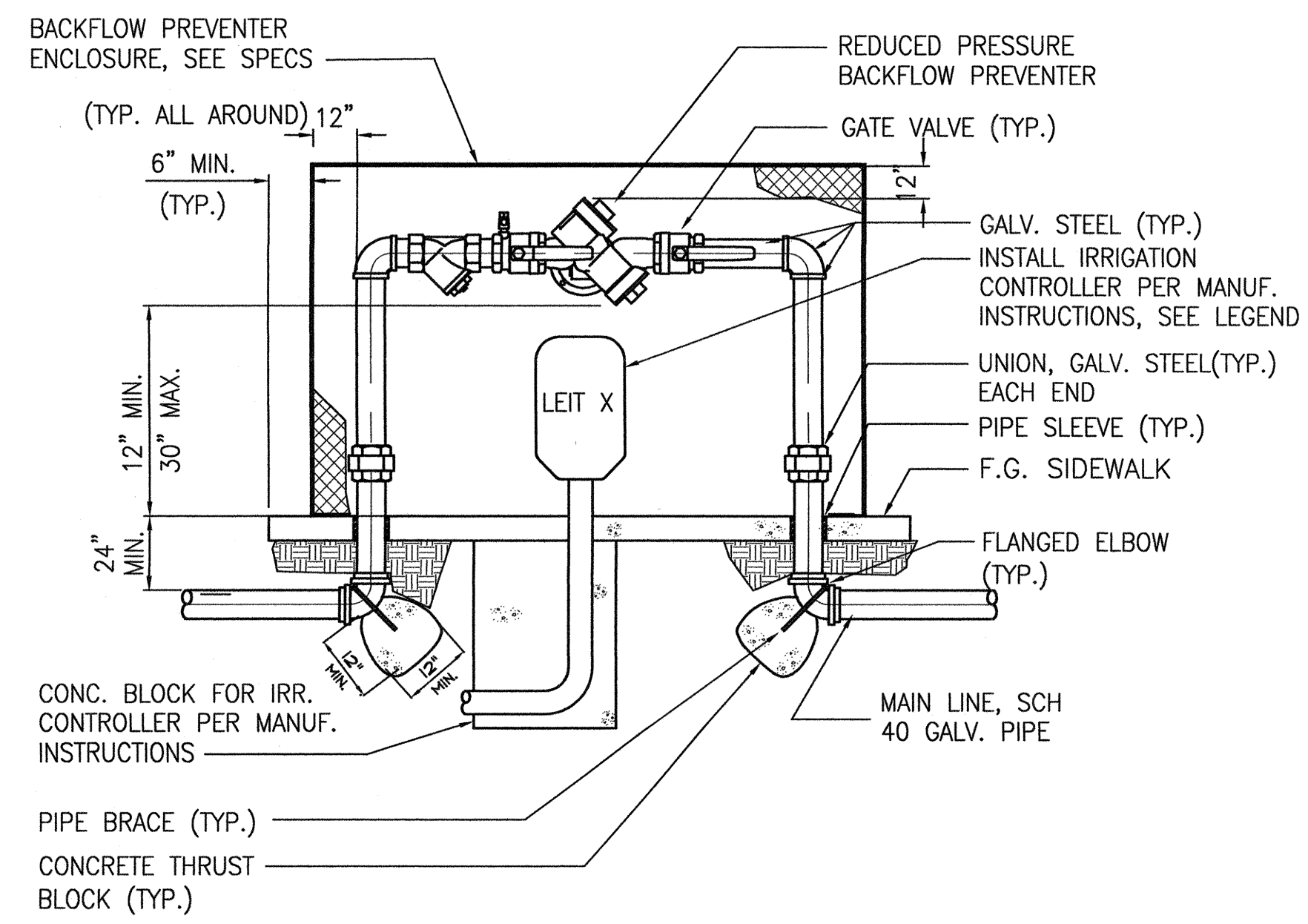
CONTRACT NO. 1289			
CITY AND COUNTY OF SAN FRANCISCO PUBLIC UTILITIES COMMISSION ENGINEERING MANAGEMENT BUREAU			
MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT			
LANDSCAPE GREEN INFRASTRUCTURE IRRIGATION PLAN			
SECTION MANAGER <i>[Signature]</i>	CHECKED	DRAWN	SCALE
DIVISION MANAGER <i>[Signature]</i>	RECOMMENDED	DESIGNED	DATE
APPROVED <i>[Signature]</i> MANAGER	APPROVED <i>[Signature]</i> ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	PLAN NO. 102,835	DRAWING NO. LGI-5.4
SHEET		102,835	0



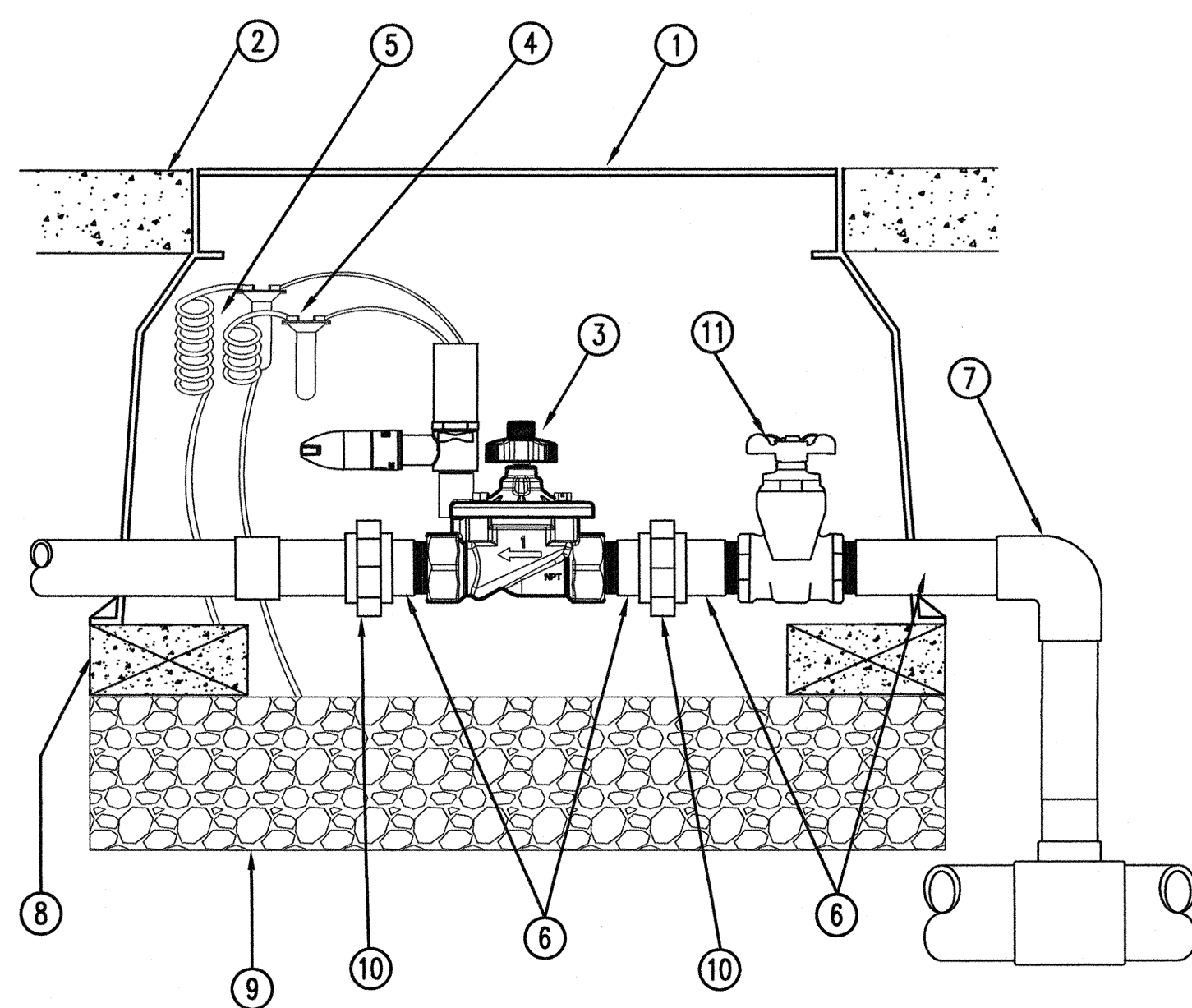
IRRIGATION SUPPLY LINE ①
SCALE: 1 1/2"=1'-0"



PIPE SLEEVE ②
NOT TO SCALE



BACKFLOW PREVENTER INSTALLATION ③
NOT TO SCALE

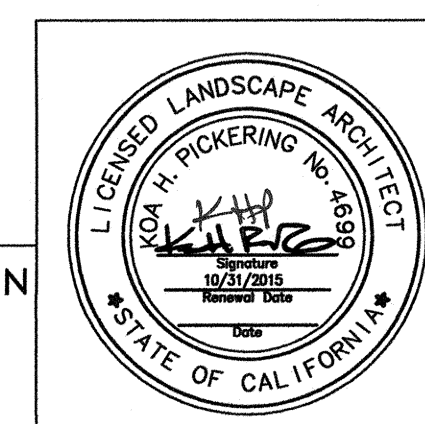


- ① STANDARD VALVE BOX PER IRRIGATION SCHEDULE
- ② FINISH GRADE @ SIDEWALK
- ③ REMOTE CONTROL VALVE PER IRRIGATION SCHEDULE
- ④ WATERPROOF CONNECTORS (2)
- ⑤ 18-24" COILED WIRE
- ⑥ SCH 80 T.O.E. NIPPLE
- ⑦ MAIN LINE PIPE & FITTINGS
- ⑧ BRICK SUPPORTS (4)
- ⑨ 3/4" MINUS WASHED GRAVEL
- ⑩ PVC SLIP UNIONS
- ⑪ GATE VALVE LINE SIZED PER IRRIGATION SCHEDULE

IRRIGATION CONTROL VALVE WITH ISOLATION VALVE ④
NOT TO SCALE

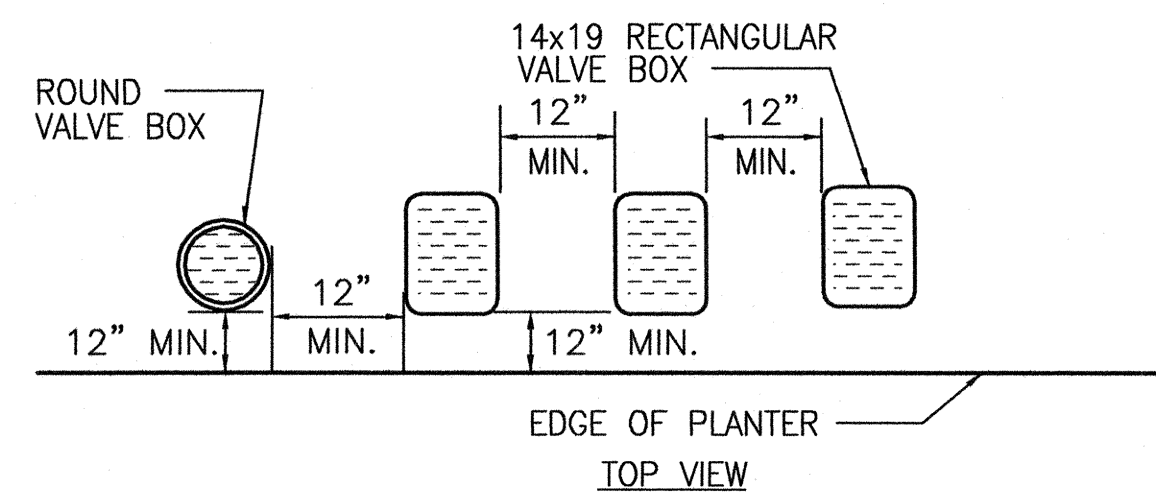
CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU
MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT
LANDSCAPE GREEN INFRASTRUCTURE
IRRIGATION DETAILS



ELEVATION DATUM CITY

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE DIVISION				SECTION MANAGER 7/15 DRAWN BJ/SP			
DESIGNED KP/SH em				SECTION MANAGER			
CHECKED JD				CHECKED		DRAWN	
APPROVED				RECOMMENDED		DESIGNED	
NO. DATE DESCRIPTION BY APPR'D				MANAGER		SCALE	
REVISIONS				ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE		DATE	
SHEET				PLAN NO. 102,836		DRAWING NO. LGI-5.5	
				REVISION NO.		REVISION NO.	



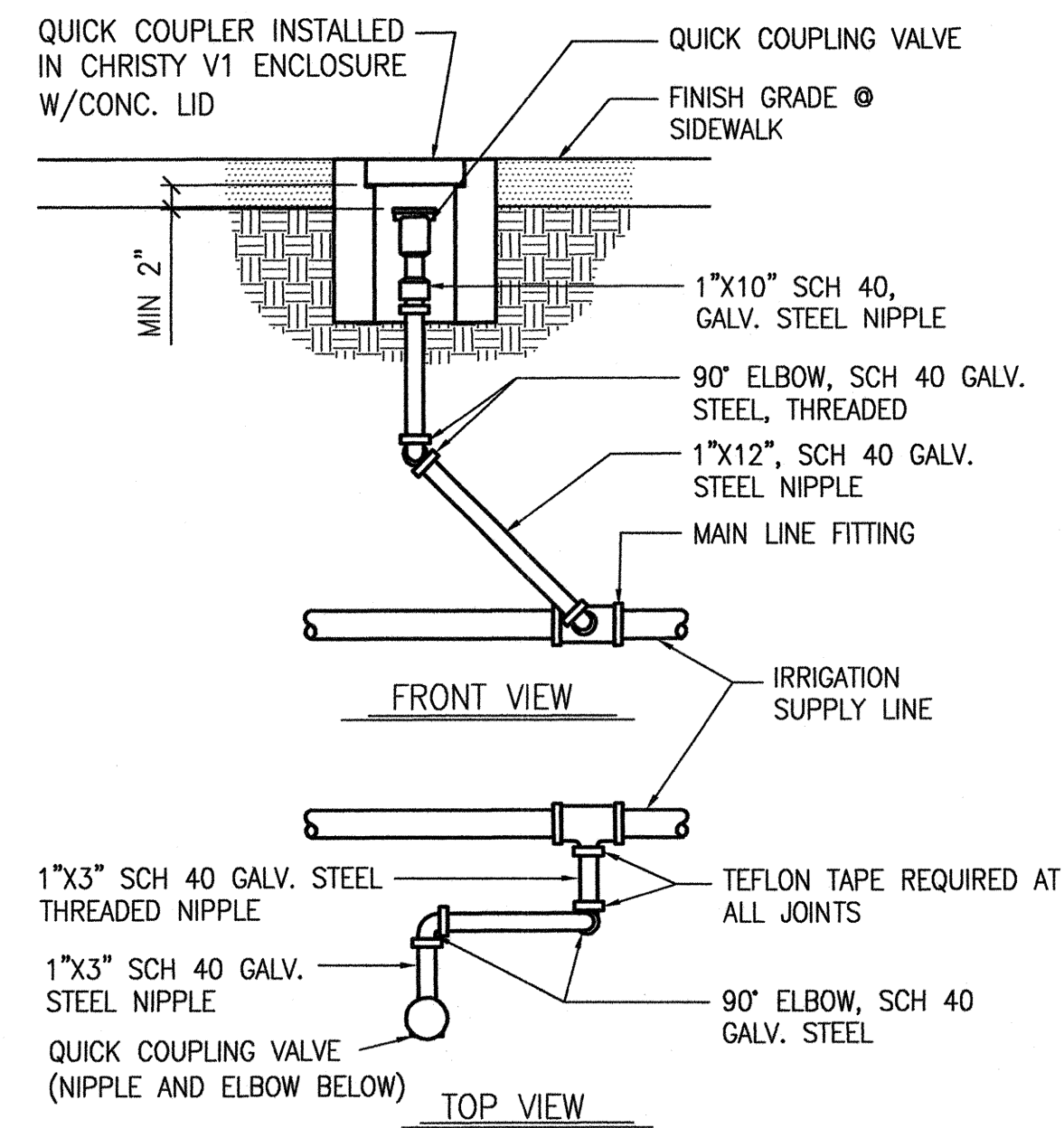
NOTES:

1. CENTER BOX OVER VALVE TO FACILITATE SERVICING VALVE.
2. SET BOXES WITH TOP LEVEL WITH FINISH GRADE IN SIDEWALK AREA
3. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
4. VALVE BOXES SHALL BE TRAFFIC RATED CONCRETE WITH BOLT DOWN LIDS
5. INSTALL ALL BOXES IN SIDEWALK ADJACENT TO PLANTER.

VALVE BOX INSTALLATION

NOT TO SCALE

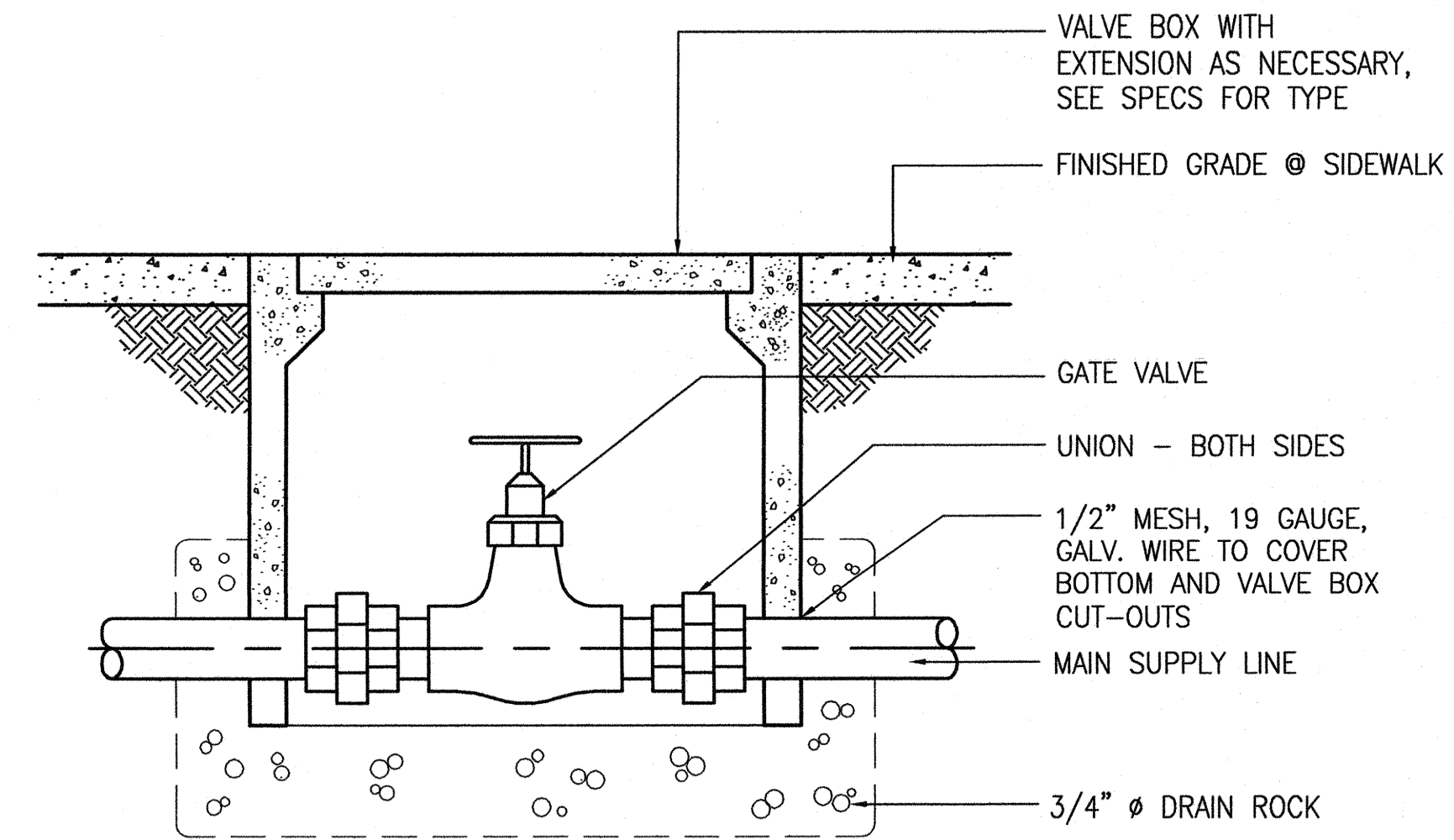
1



QUICK COUPLING VALVE

SCALE: 1"=1'-0"

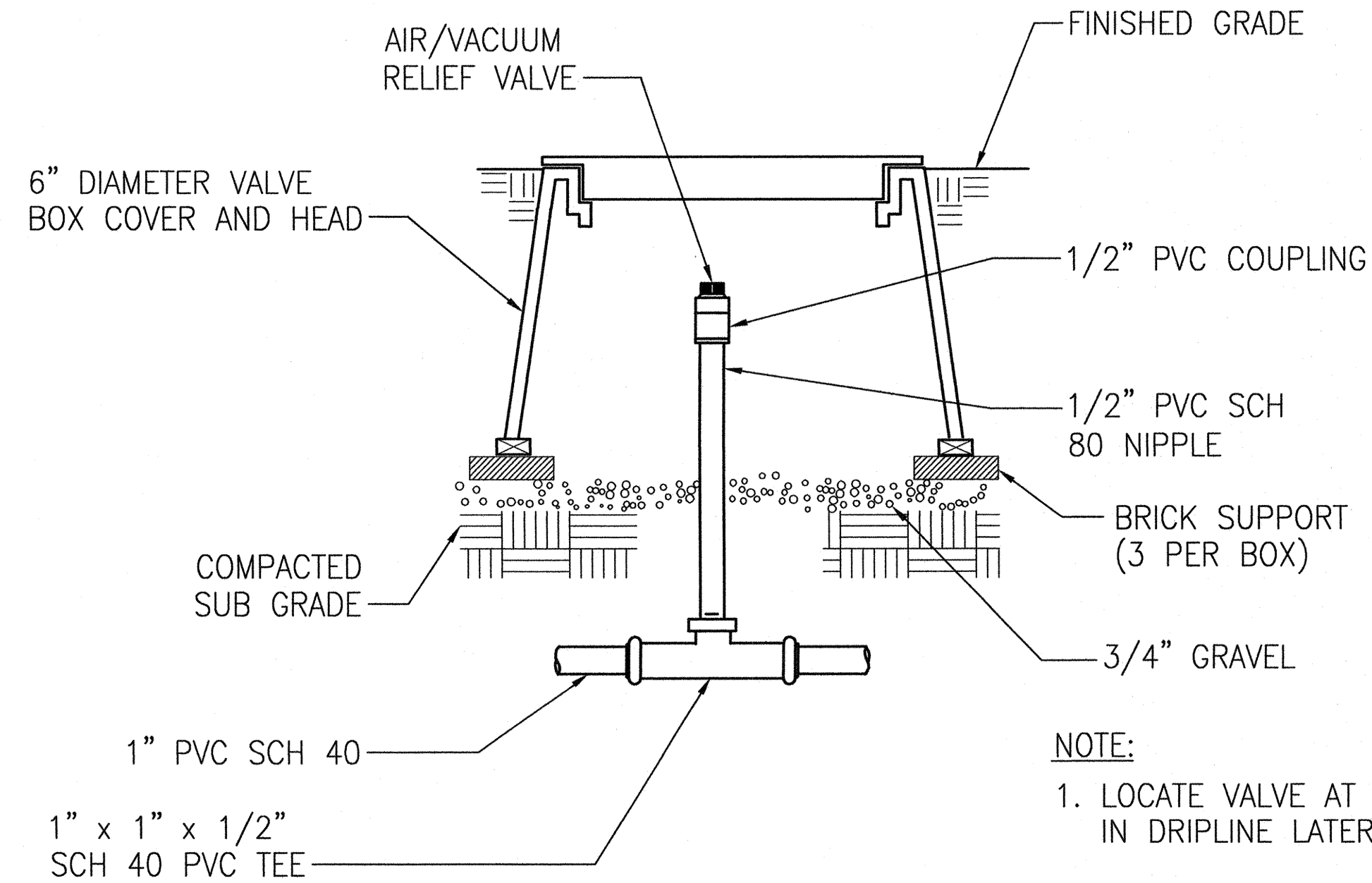
2



GATE VALVE AND VALVE BOX

NOT TO SCALE

3



NOTE:

1. LOCATE VALVE AT HIGHEST POINT IN DRIPLINE LATERAL.

ELEVATION

DRIP IRRIGATION AIR/VACUUM RELIEF VALVE DETAIL

4

CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

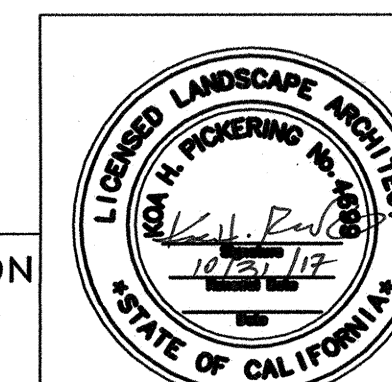
MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

LANDSCAPE GREEN INFRASTRUCTURE
IRRIGATION DETAILS

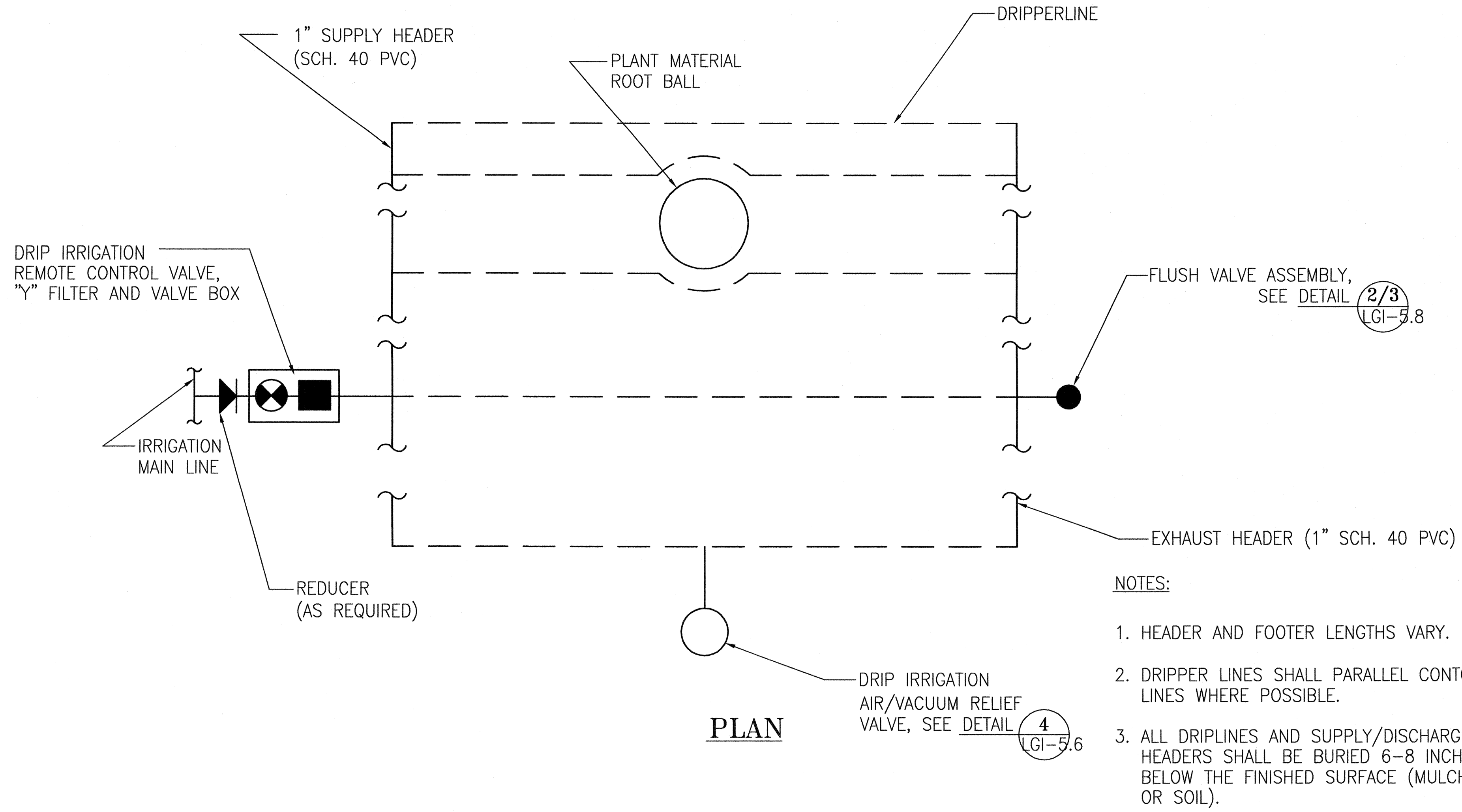
CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE DIVISION

SECTION MANAGER	DRAWN	Bj/SP
DEPUTY DIVISION MANAGER	DESIGNED	KP/SH
DIVISION MANAGER	CHECKED	JD
APPROVED		
NO.	DATE	DESCRIPTION
REVISIONS		

SECTION MANAGER	CHECKED	DRAWN	SCALE
DIVISION MANAGER	RECOMMENDED	DESIGNED	DATE
APPROVED		APPROVED	
MANAGER		ASSISTANT GENERAL MANAGER	
NO.	PLAN NO.	DRAWING NO.	REVISION NO.
SHEET	102,837	LGI-5.6	0



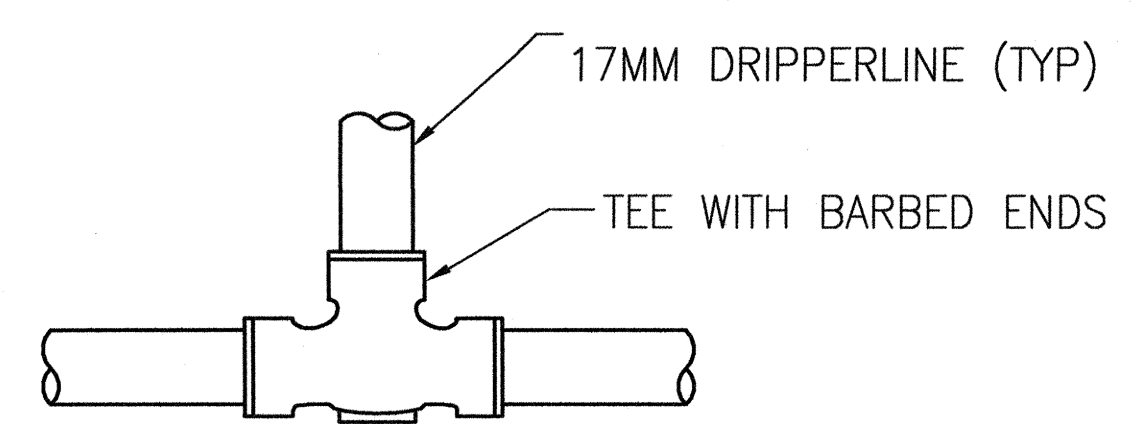
ELEVATION
DATUM
CITY



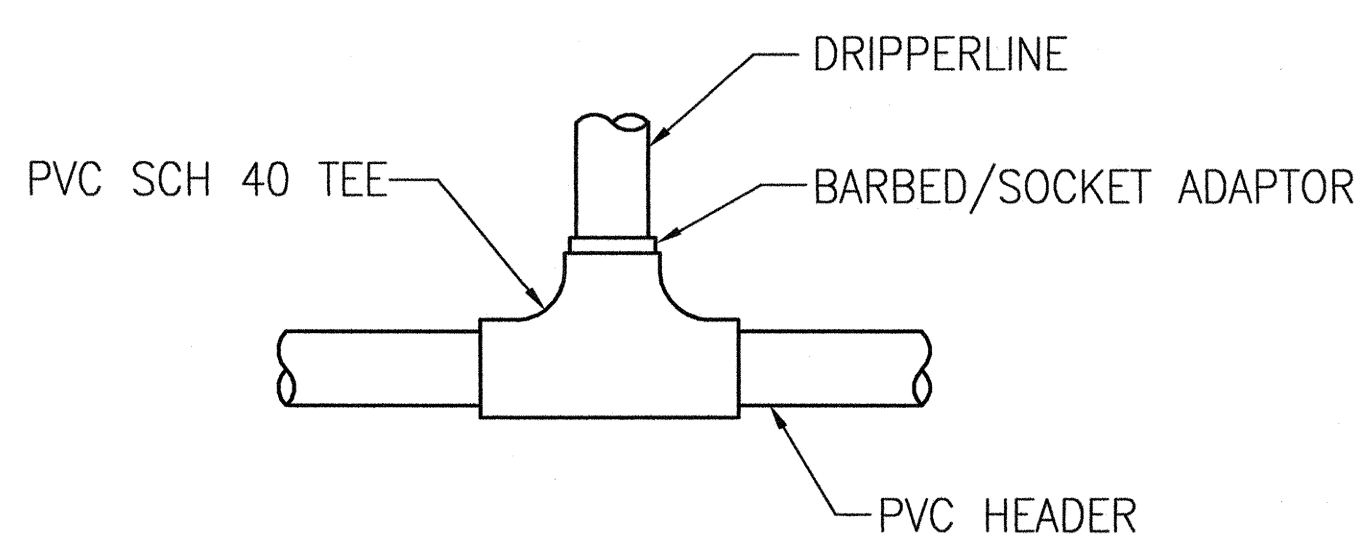
- NOTES:**
1. HEADER AND FOOTER LENGTHS VARY.
 2. DRIPPER LINES SHALL PARALLEL CONTOUR LINES WHERE POSSIBLE.
 3. ALL DRIPLINES AND SUPPLY/DISCHARGE HEADERS SHALL BE BURIED 6-8 INCHES BELOW THE FINISHED SURFACE (MULCH OR SOIL).

DRIP IRRIGATION TYPICAL LAYOUT DETAIL

1



DRIPLINE TO DRIPLINE



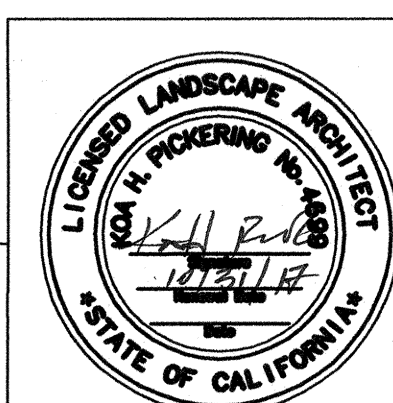
DRIPLINE TO PVC MANIFOLD

NOTE:
1. ALL DRIPLINES SHALL BE SECURED TO BARBED ENDS WITH TYPE 316 SS PIPE CLAMPS.

DRIPLINE CONNECTION DETAIL

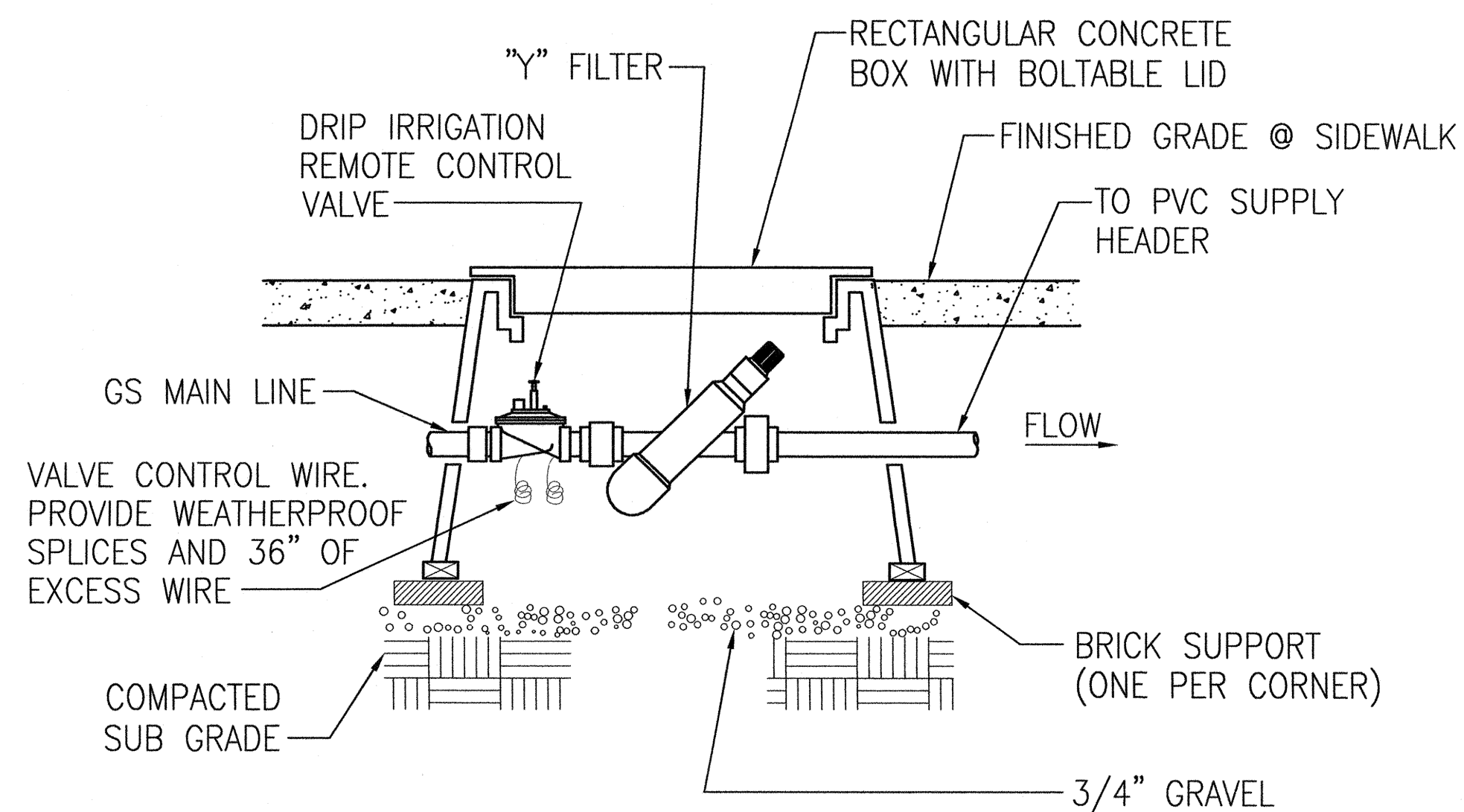
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ELEVATION
DATUM
CITY



CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE DIVISION													
SECTION MANAGER	DRAWN	BJ/SP											
DEPUTY DIVISION MANAGER	DESIGNED	KP/SH											
DIVISION MANAGER	CHECKED	JD											
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NO.	DATE	DESCRIPTION	BY	APPR'D									
REVISIONS													

CONTRACT NO. 1289			
CITY AND COUNTY OF SAN FRANCISCO PUBLIC UTILITIES COMMISSION ENGINEERING MANAGEMENT BUREAU			
MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT			
LANDSCAPE GREEN INFRASTRUCTURE IRRIGATION DETAILS			
SECTION MANAGER	CHECKED	DRAWN	SCALE
DIVISION MANAGER	RECOMMENDED	DESIGNED	DATE
APPROVED		APPROVED	
MANAGER		ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	
SHEET		PLAN NO. 102,838	DRAWING NO. LGI-5.7
		REVISION NO. 0	

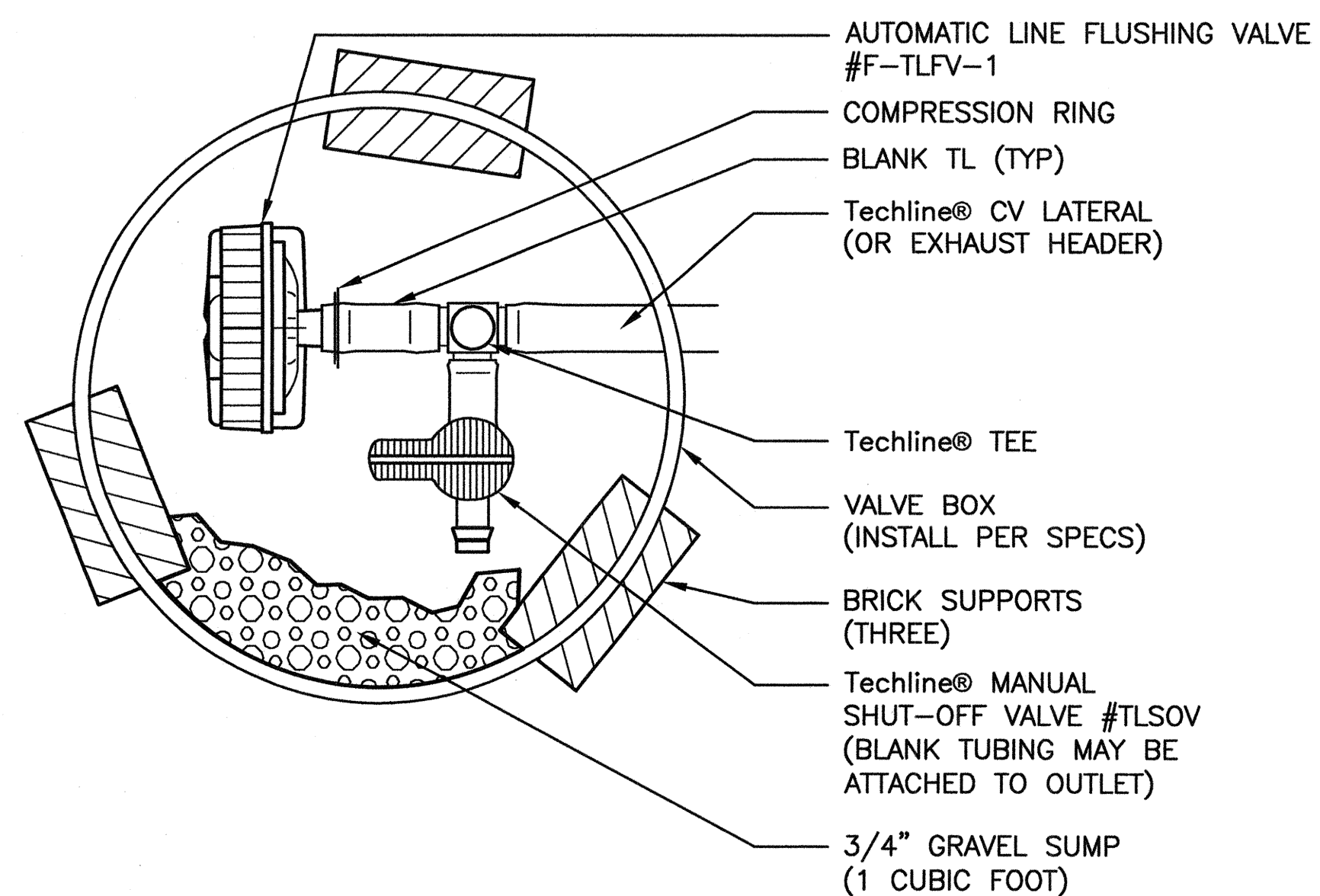


ELEVATION

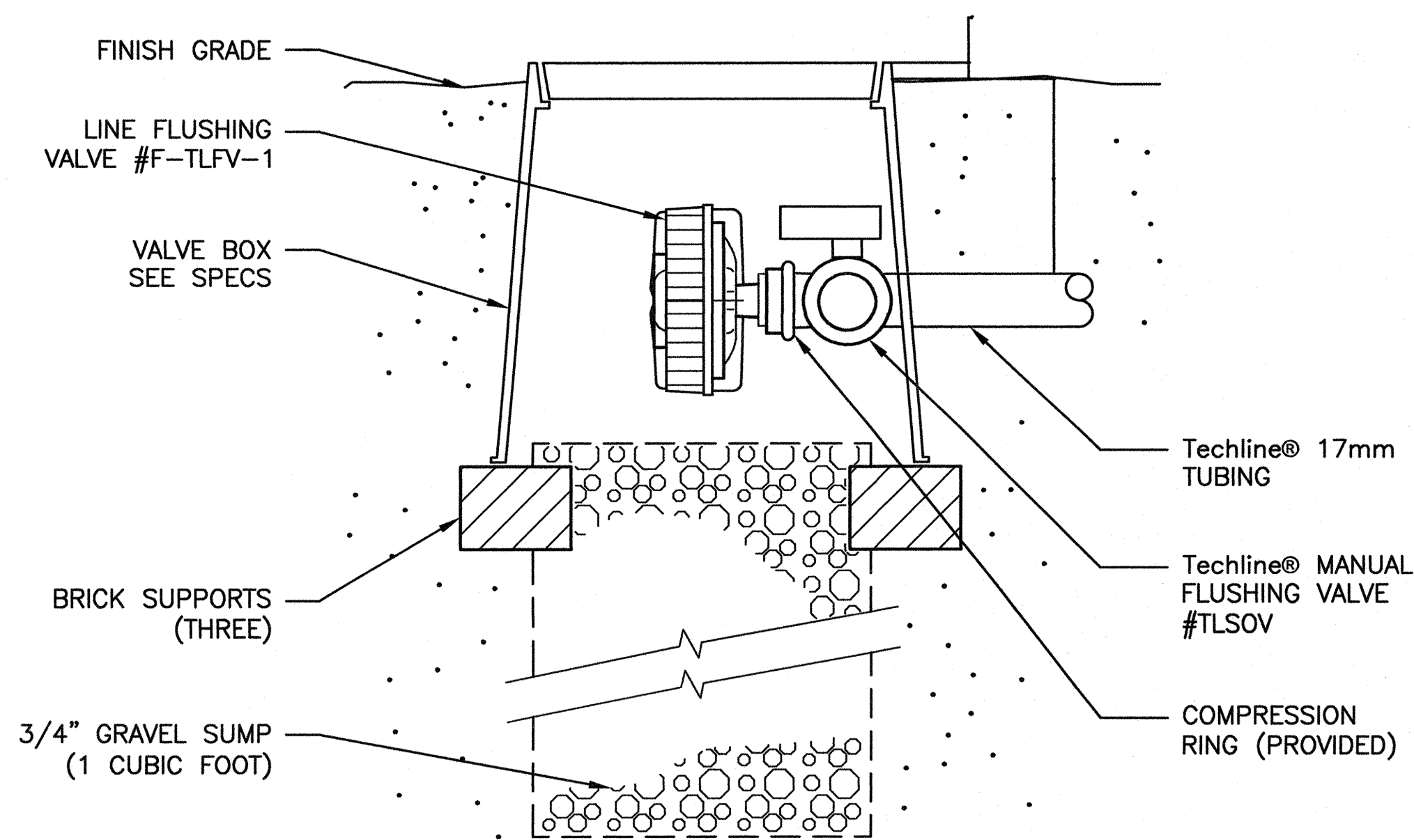
NOTES:

1. USE REDUCERS AS REQUIRED.
2. SIZE FITTINGS EQUAL IN SIZE TO CONTROL VALVES.

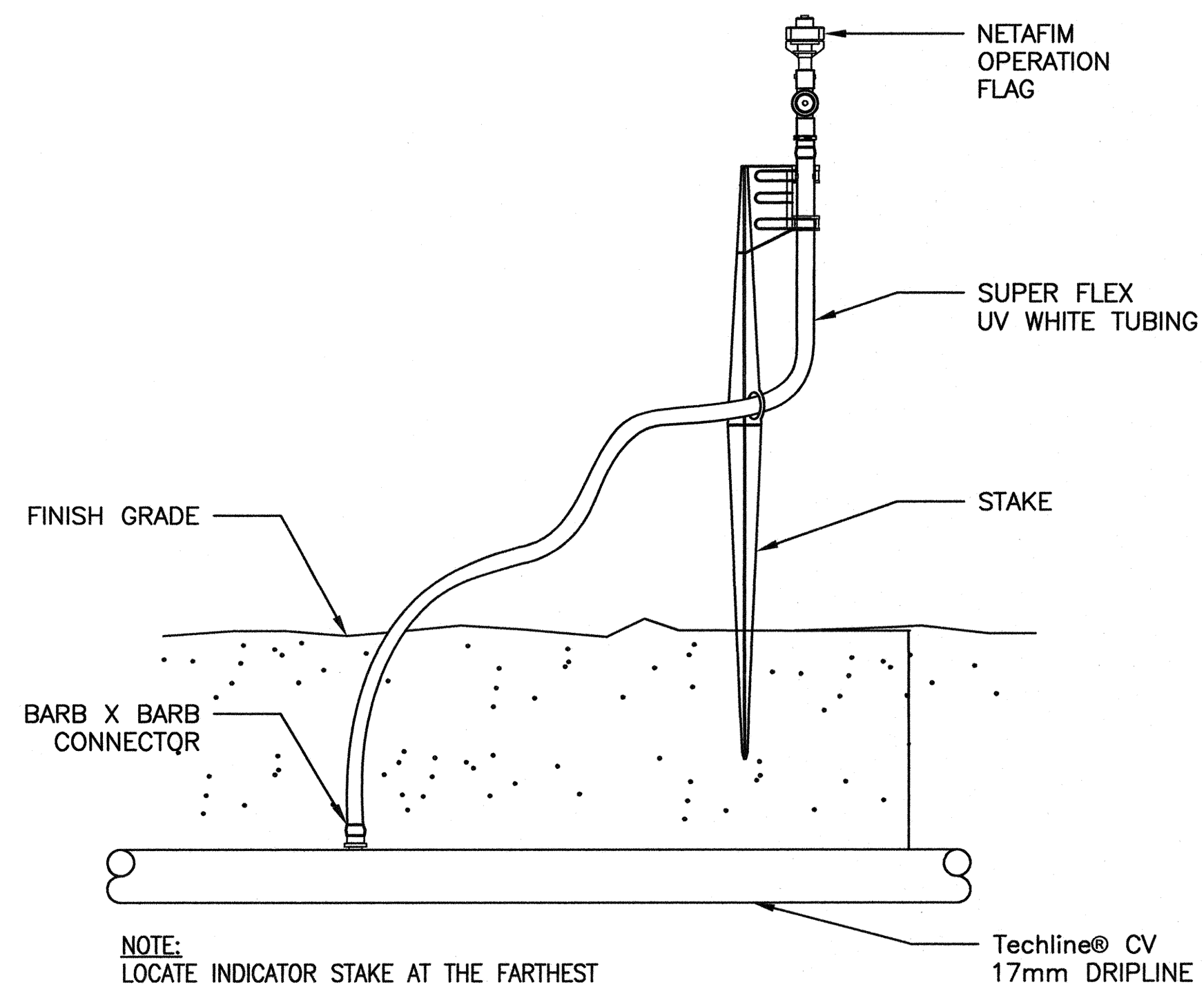
DRIP IRRIGATION RCV/FILTER DETAIL ①



AUTOMATIC AND MANUAL LINE FLUSHING VALVE PLAN ③



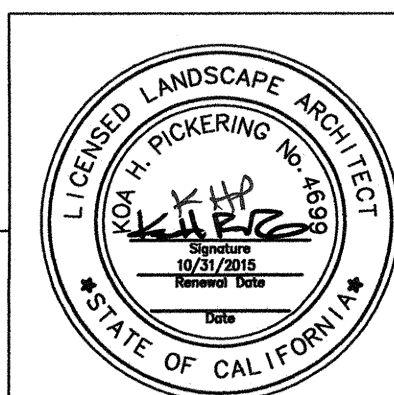
AUTOMATIC AND MANUAL LINE FLUSHING VALVE SECTION ②



NOTE:
LOCATE INDICATOR STAKE AT THE FARTHEST AND/OR HIGHEST POINT ON THE ZONE.

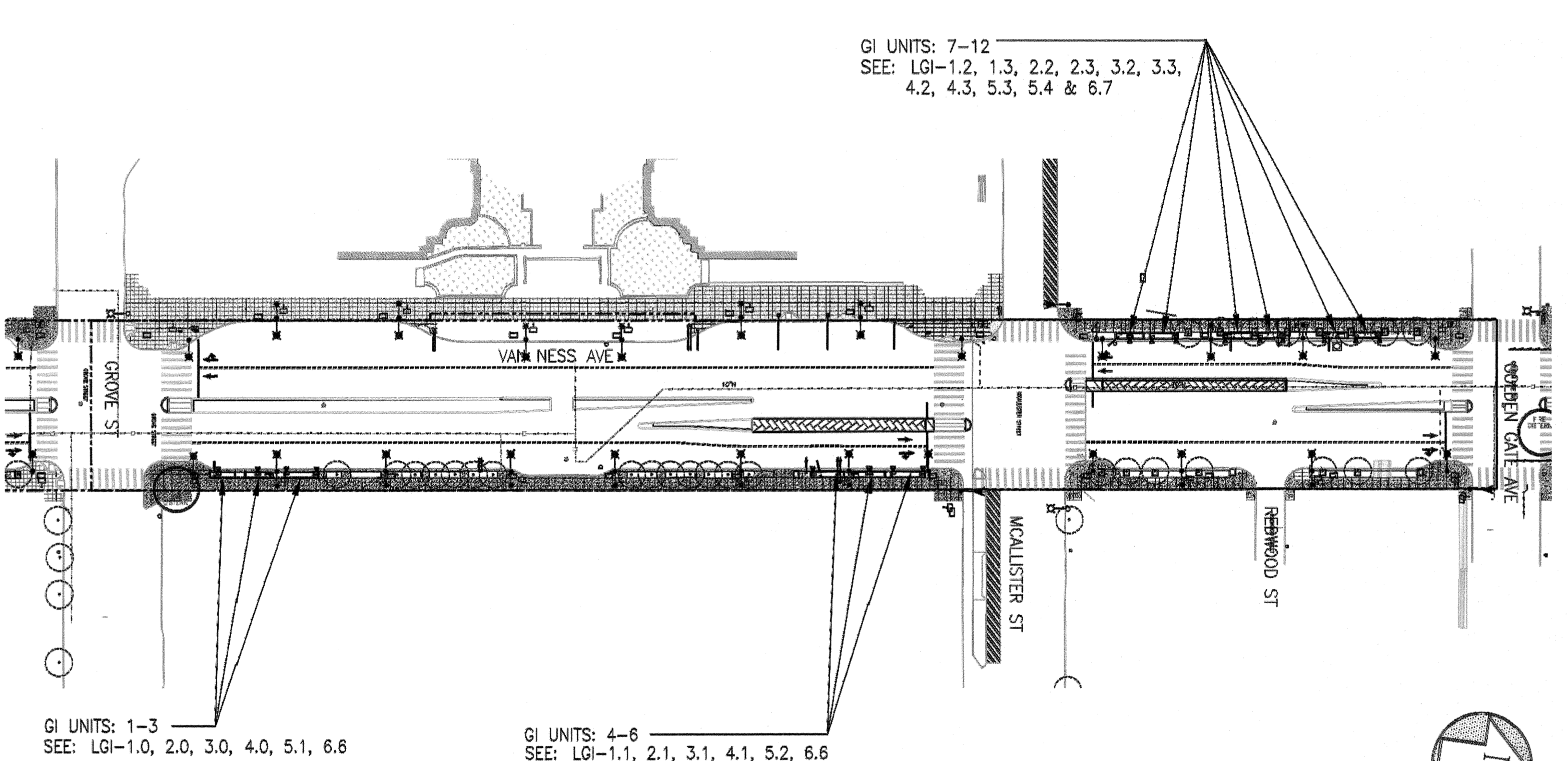
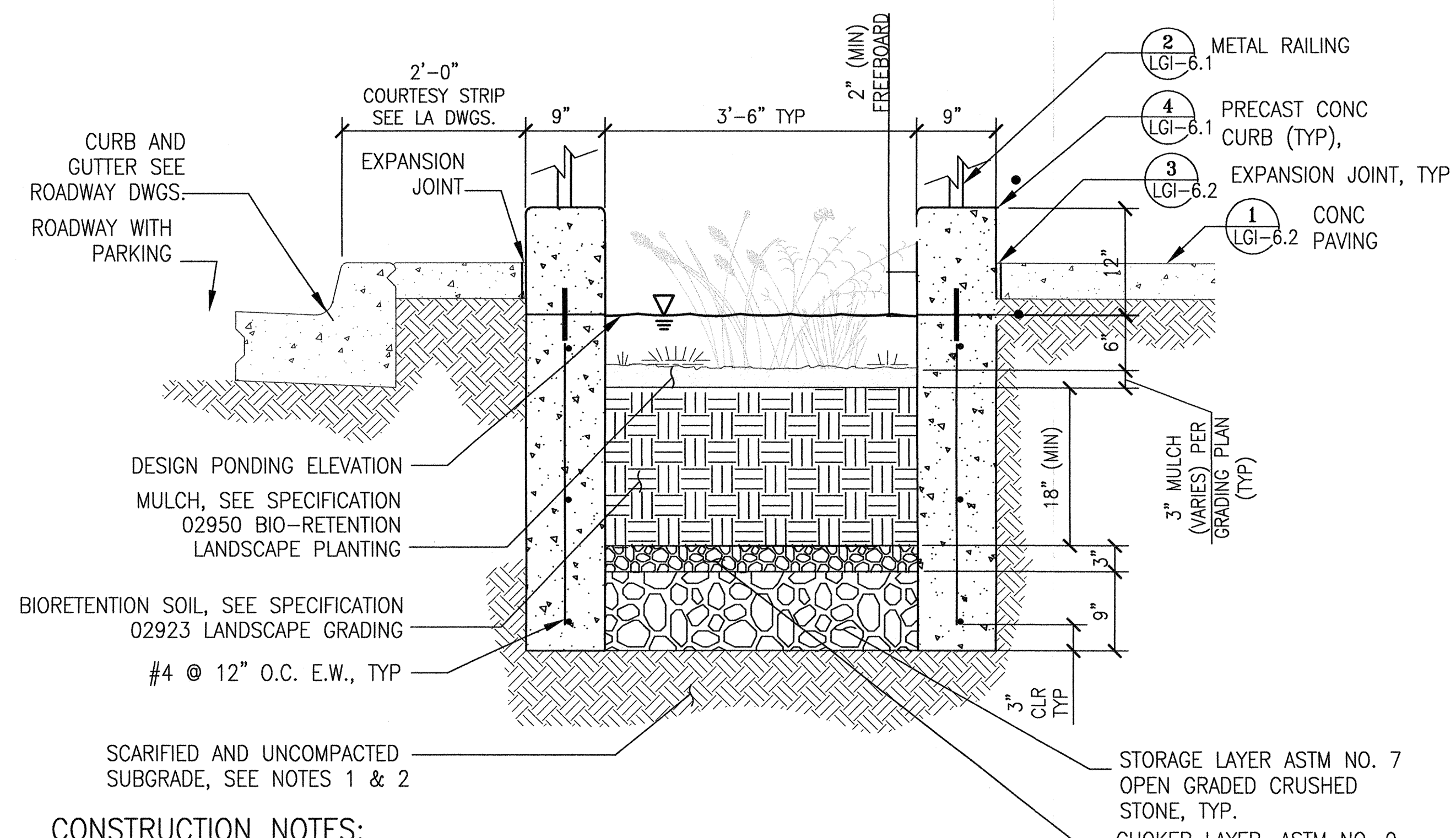
CV OPERATION PRESSURE INDICATOR FLAG ④

ELEVATION
DATUM
CITY



CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE DIVISION			
SECTION MANAGER <i>z/lis</i>	DRAWN Bj/SP	DESIGNED KP/SH <i>cm</i>	CHECKED JD
DEPUTY DIVISION MANAGER	DIVISION MANAGER <i>JD</i>	DESIGNED	DATE
APPROVED		APPROVED <i>[Signature]</i> ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	
NO.	DATE	DESCRIPTION	BY
REVISIONS			

CONTRACT NO. 1289			
CITY AND COUNTY OF SAN FRANCISCO PUBLIC UTILITIES COMMISSION ENGINEERING MANAGEMENT BUREAU			
MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT			
LANDSCAPE GREEN INFRASTRUCTURE IRRIGATION DETAILS			
SECTION MANAGER	CHECKED	DRAWN	SCALE
DIVISION MANAGER	RECOMMENDED	DESIGNED	DATE
APPROVED		APPROVED	
MANAGER		ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	
SHEET	PLAN NO. 102,839	DRAWING NO. LGI-5.8	REVISION NO. 0

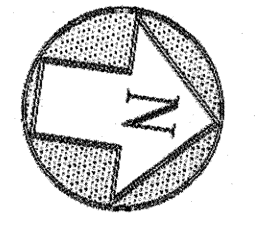


GI UNITS: 7-12
SEE: LGI-1.2, 1.3, 2.2, 2.3, 3.2, 3.3, 4.2, 4.3, 5.3, 5.4 & 6.7

GI UNITS: 1-3
SEE: LGI-1.0, 2.0, 3.0, 4.0, 5.1, 6.6

GI UNITS: 4-6
SEE: LGI-1.1, 2.1, 3.1, 4.1, 5.2, 6.6

LGI - KEY PLAN



SCALE: 1" = 70'-0"

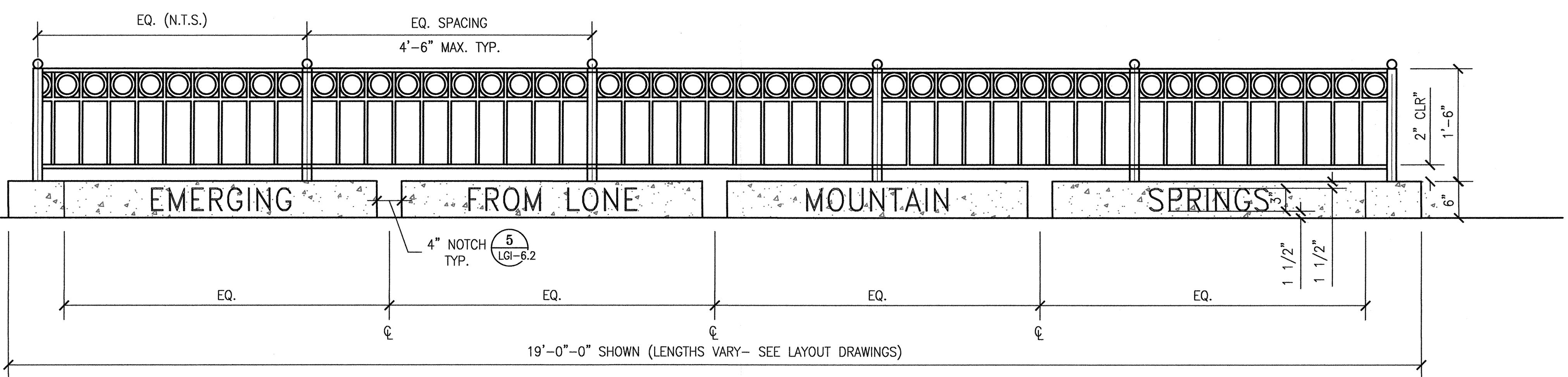
CONSTRUCTION NOTES:

1. AVOID COMPACTION OF EXISTING SUBGRADE BELOW PLANTER DURING CONSTRUCTION.
2. SCARIFY SUBGRADE TO A DEPTH OF 6 INCHES (MIN) IMMEDIATELY PRIOR TO PLACEMENT OF GRAVEL STORAGE AND BIORETENTION SOIL.
3. MAXIMUM DROP FROM TOP OF CURB TO TOP OF BIORETENTION SOIL SHALL INCLUDE CONSIDERATIONS FOR BIORETENTION SOIL SETTLEMENT.

**CONCRETE BIORETENTION PLANTER WALL
W/ PRECAST CONC CURBS**

SCALE: 1"=1'-0"

1



NOTES:

1. CURB LENGTHS FOR BIO-RETENTION UNITS VARY.
2. SEE TEXT ENGRAVING KEY PLAN FOR EACH BIO-RETENTION UNIT TEXT.
3. PROVIDE FULL SUBMITTAL DRAWING FROM PRE-CAST CURB MANUFACTURER INCLUDING TEXT LAYOUT FOR EACH UNIT.
4. SEE SPECS FOR MORE INFORMATION RELATED TO TEXT FONT, SHOP DRAWING, AND MOCK UP REQUIREMENTS.
5. SUBMIT SHOP DRAWINGS OF ALL ENGRAVING FOR ENGINEER'S REVIEW PRIOR TO WORK.

ENGRAVING TEXT KEY PLAN:

THE SPACES ARE INTENDED TO SHOW CURB NOTCHES. REFER TO LAYOUT PLANS FOR THE EXACT LOCATION OF CURB NOTCHES. THE ENGRAVING TEXT IS 3" HIGH AND 1 1/2" FROM THE TOP AND BOTTOM OF CURB AND SHALL BE CENTERED IN THE SPACE BETWEEN CURB NOTCHES. REFER TO LGI KEY PLAN FOR LOCATION OF GI FEATURES.

1. GI#1: EMERGING FROM LONE MOUNTAIN SPRINGS
2. GI#2: HAYES CREEK LIES HIDDEN BENEATH YOUR FEET
3. GI#3: WINTER RAINS REVEALED THE WELLSPRING BELOW
4. GI#4: ONCE WIDE AND BRAIDED MORE LIKE A RIVER
5. GI#5: NOW COVERED AND QUIETED
6. GI#6: BENEATH CIVIC CENTER IT STILL FLOWS

VAN NESS GI - TEXT AT PRE-CAST CURB-ELEVATION FACING SIDEWALK

SCALE: 1"=1'-0"

2

ELEVATION
DATUM
CITY



CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE DIVISION			
SECTION MANAGER	DESIGNED	DRAWN	BJ/SP
DEPUTY DIVISION MANAGER	DESIGNED	DRAWN	KP/SH
DIVISION MANAGER	CHECKED	DRAWN	JD
NO.	DATE	DESCRIPTION	BY
REVISIONS			

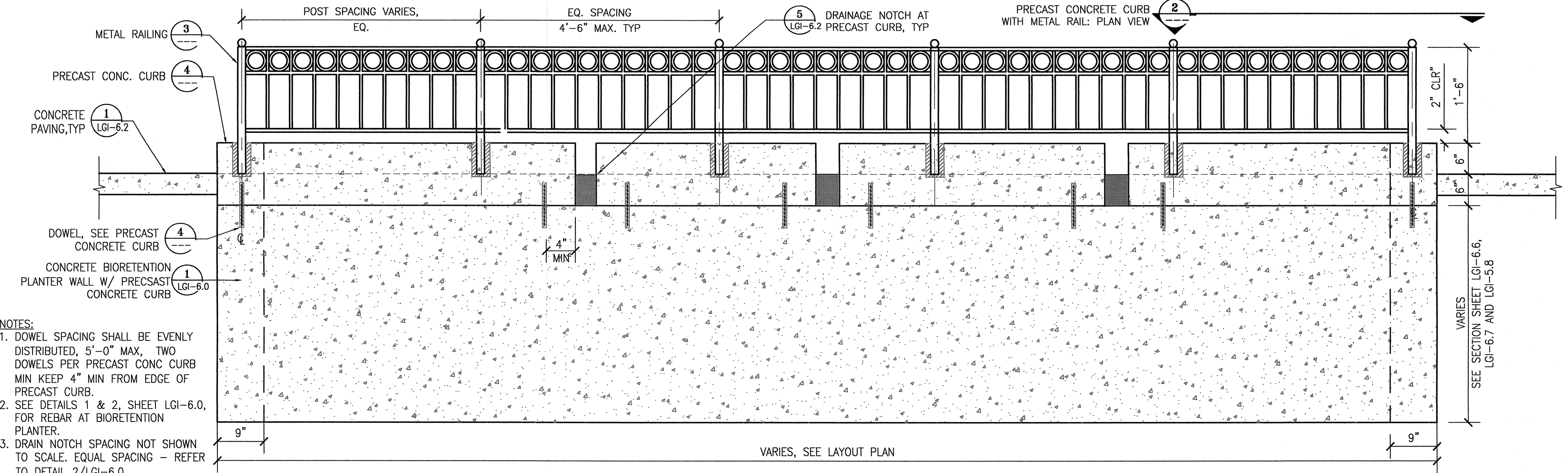
CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

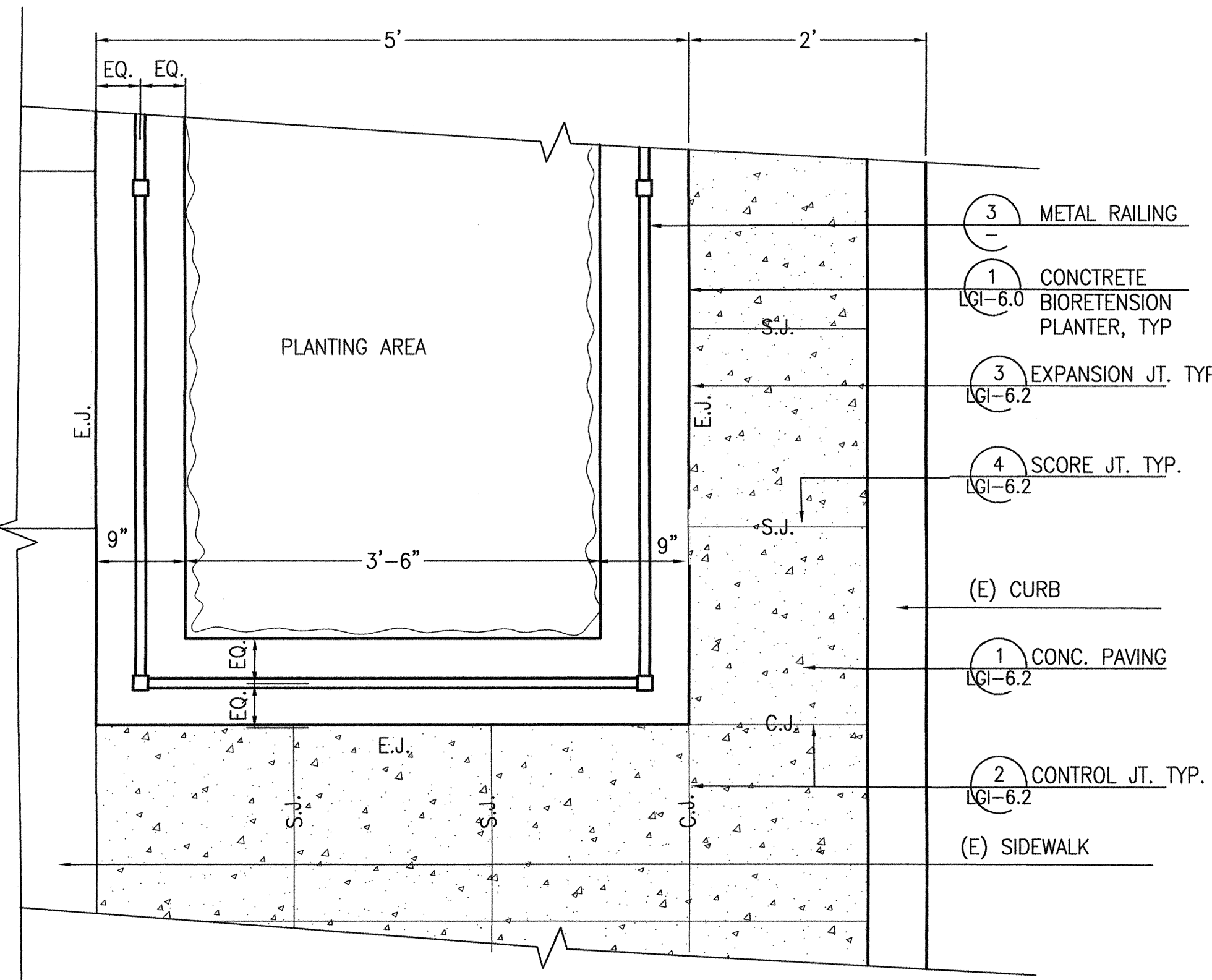
SECTION MANAGER	CHECKED	DRAWN	SCALE
DIVISION MANAGER	RECOMMENDED	DESIGNED	DATE
APPROVED	APPROVED	ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	REVISION NO.
SHEET		PLAN NO. 102,840	DRAWING NO. LGI-6.0
			0



BIORETENTION PLANTER WITH METAL RAILING – ELEVATION

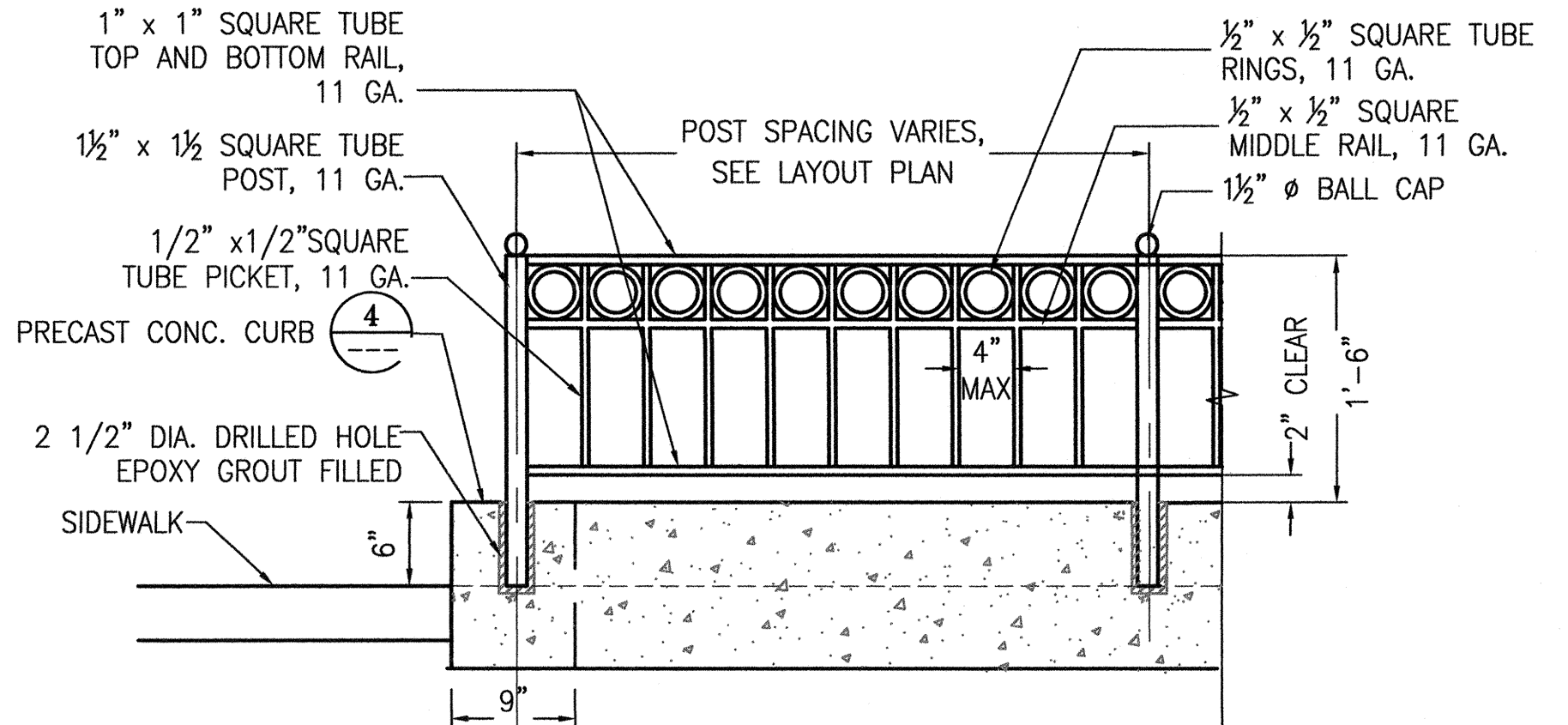
SCALE : 1"=1'-0" **1**

- NOTES:**
1. DOWEL SPACING SHALL BE EVENLY DISTRIBUTED, 5'-0" MAX, TWO DOWELS PER PRECAST CONC CURB MIN KEEP 4" MIN FROM EDGE OF PRECAST CURB.
 2. SEE DETAILS 1 & 2, SHEET LGI-6.0, FOR REBAR AT BIORETENTION PLANTER.
 3. DRAIN NOTCH SPACING NOT SHOWN TO SCALE. EQUAL SPACING – REFER TO DETAIL 2/LGI-6.0



PRECAST CONCRETE CURB WITH METAL RAILING: PLAN VIEW

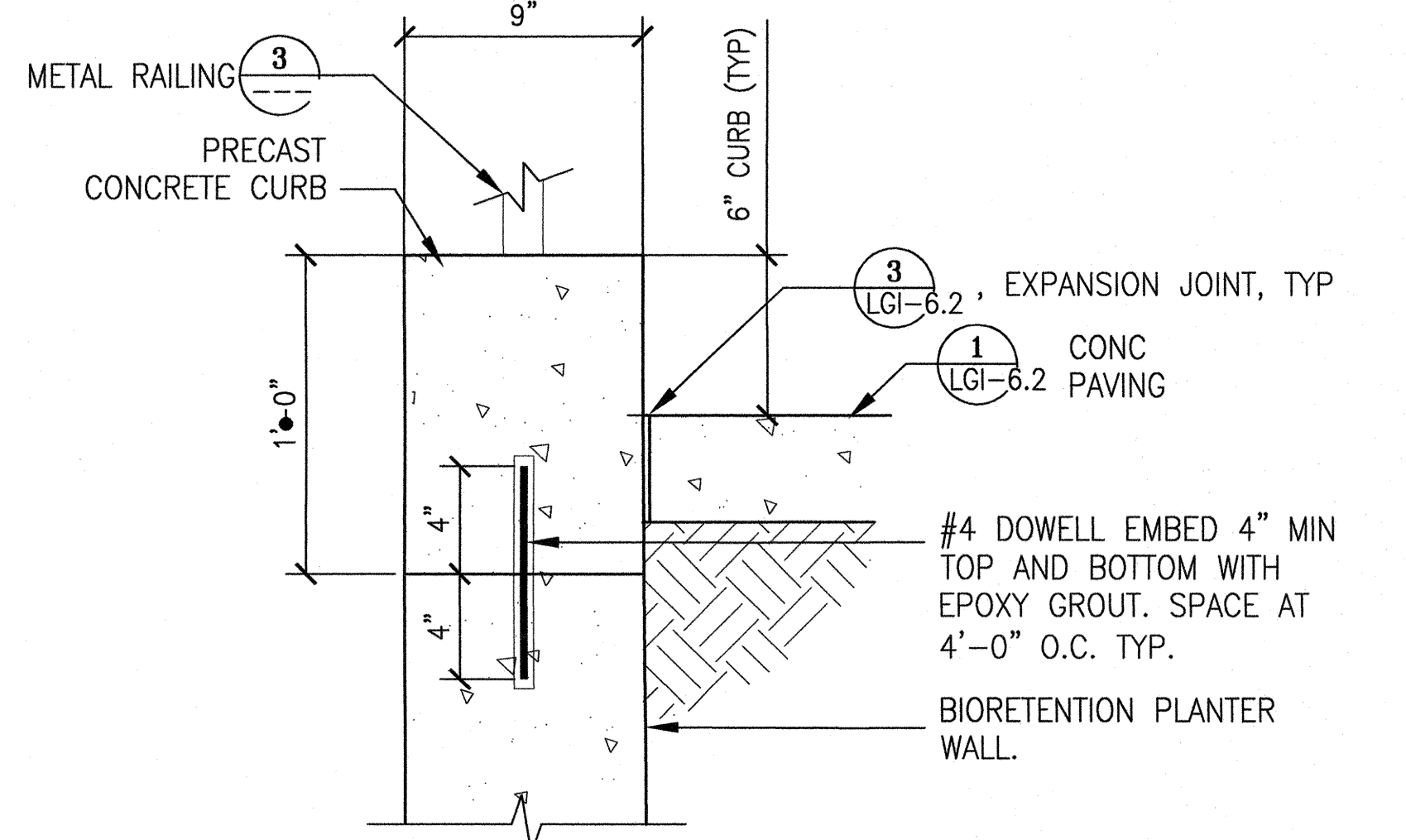
SCALE : 1"=1'-0" **2**



- NOTES:**
1. RAILING MATERIAL TO BE GALVANIZED STEEL
 2. RAILING MATERIAL TO BE PAINTED, COLOR: BLACK
 3. WELDS SHALL BE WEATHER-TIGHT, FULL LENGTH, GROUND SMOOTH, AND PAINTED WITH GALVANIZING PAINT.
 4. MANUFACTURER TO PROVIDE ASSEMBLY TAB CONNECTIONS FOR INSTALLATION BETWEEN RAILING UNITS AND POSTS. ASSEMBLY OF RAILING UNITS WITH CONNECTION SYSTEM SHALL BE REQUIRED IN LIEU OF FIELD WELDING.
 5. SUBMIT SHOP DRAWINGS OF ALL RAILING ELEVATIONS FOR CITY REPRESENTATIVE'S APPROVAL PRIOR TO FABRICATION.
 6. EPOXY GROUT COLOR TO MATCH PRECAST CURB. SUBMIT COLOR CHART.
 7. FENCE SHALL INCLUDE AT LEAST ONE 2 3/4" TALL "NO BIKE PARKING" SIGN INSERT PER 4'-4" SECTION PER CITY STANDARDS AND DIRECTION.

METAL RAILING

SCALE : 1"=1'-0" **3**



PRECAST CONC CURB

SCALE : 1"=1'-0" **4**



CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE DIVISION

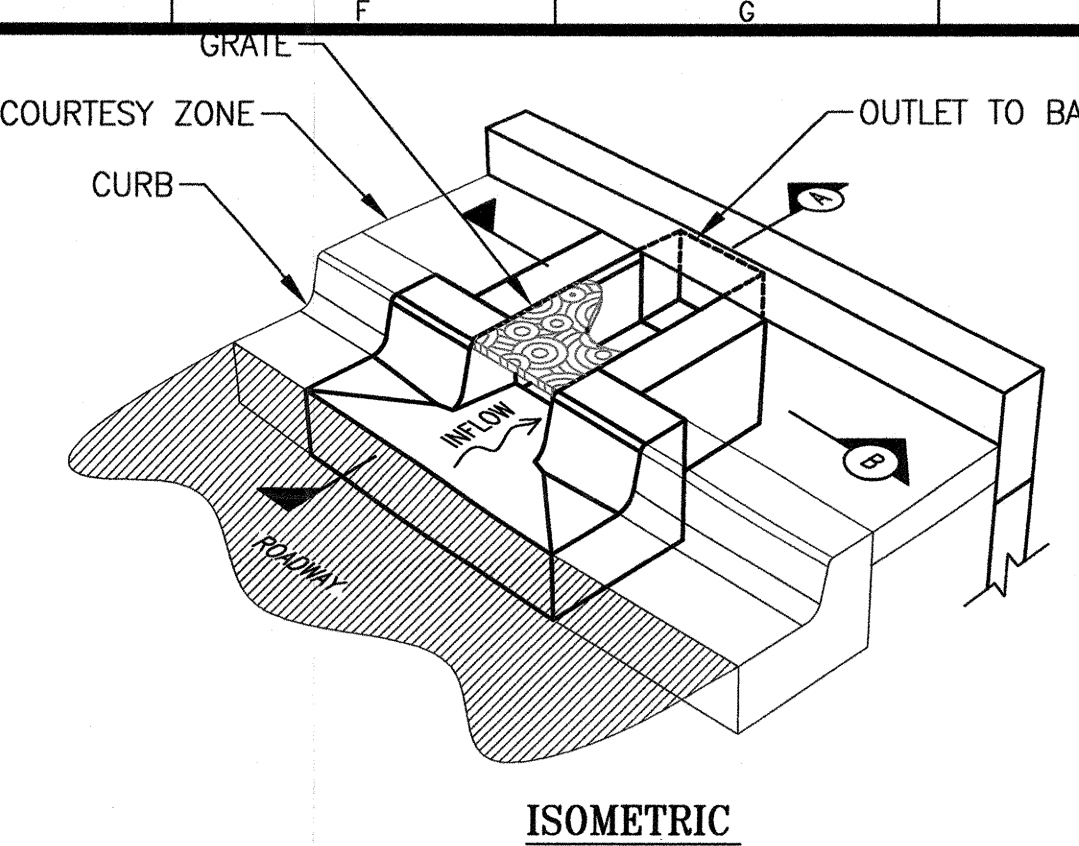
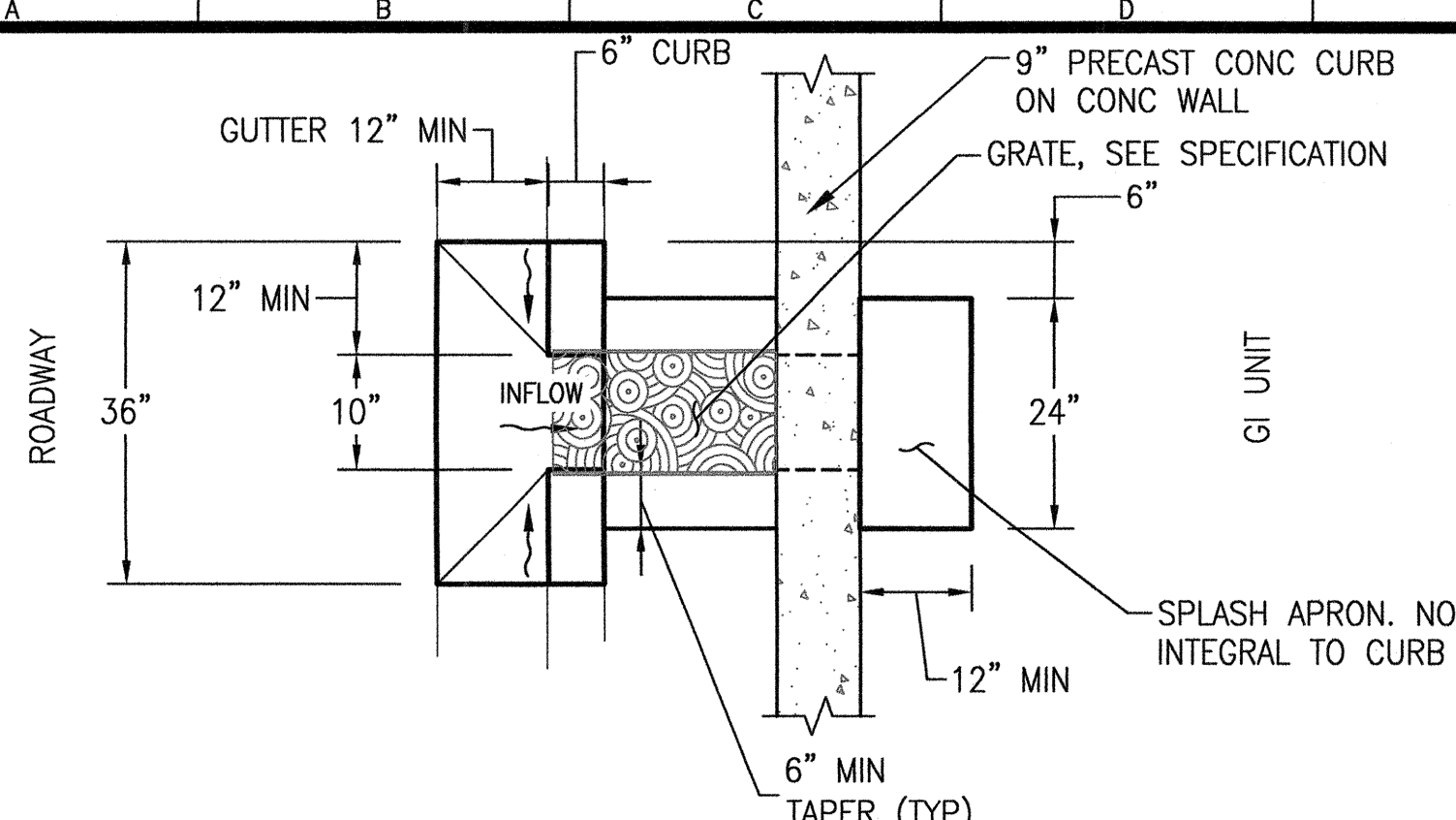
SECTION MANAGER	9/15	DRAWN	Bj/SP
DEPUTY DIVISION MANAGER		DESIGNED	KP/SH
DIVISION MANAGER		CHECKED	JD

CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

CONSTRUCTION DETAILS			
SECTION MANAGER	CHECKED	DRAWN	SCALE
DIVISION MANAGER	RECOMMENDED	DESIGNED	DATE
APPROVED		APPROVED	
NO.	DATE	DESCRIPTION	BY
REVISIONS			
SHEET	102,841	DRAWING NO.	LGI-6.1
		REVISION NO.	0

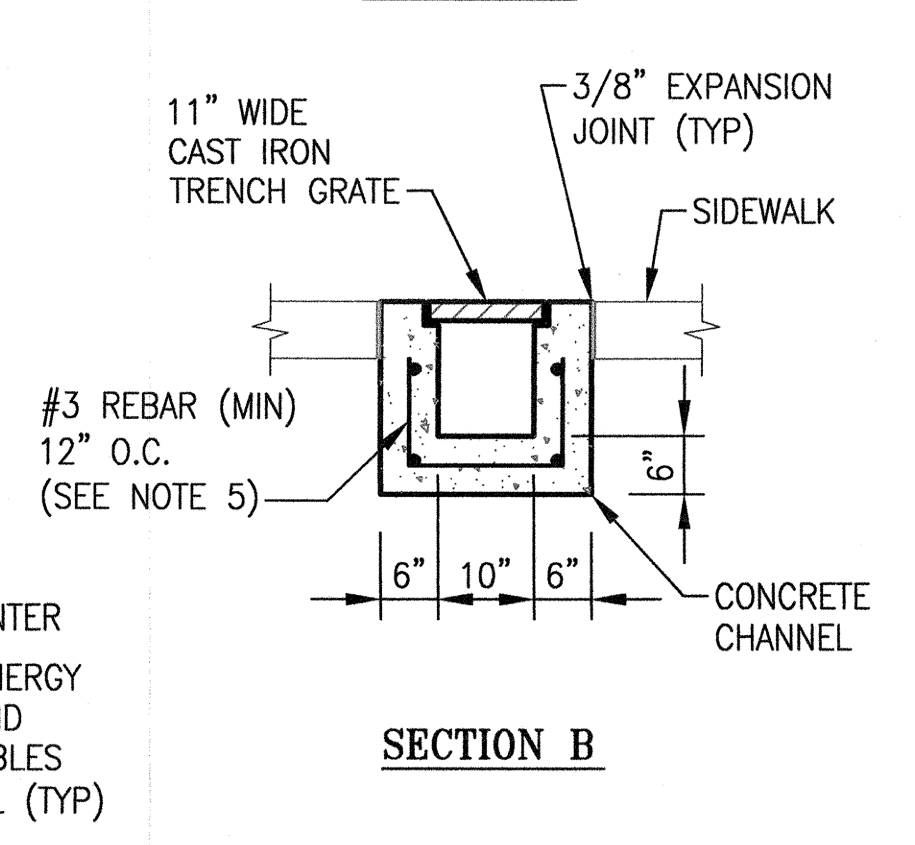
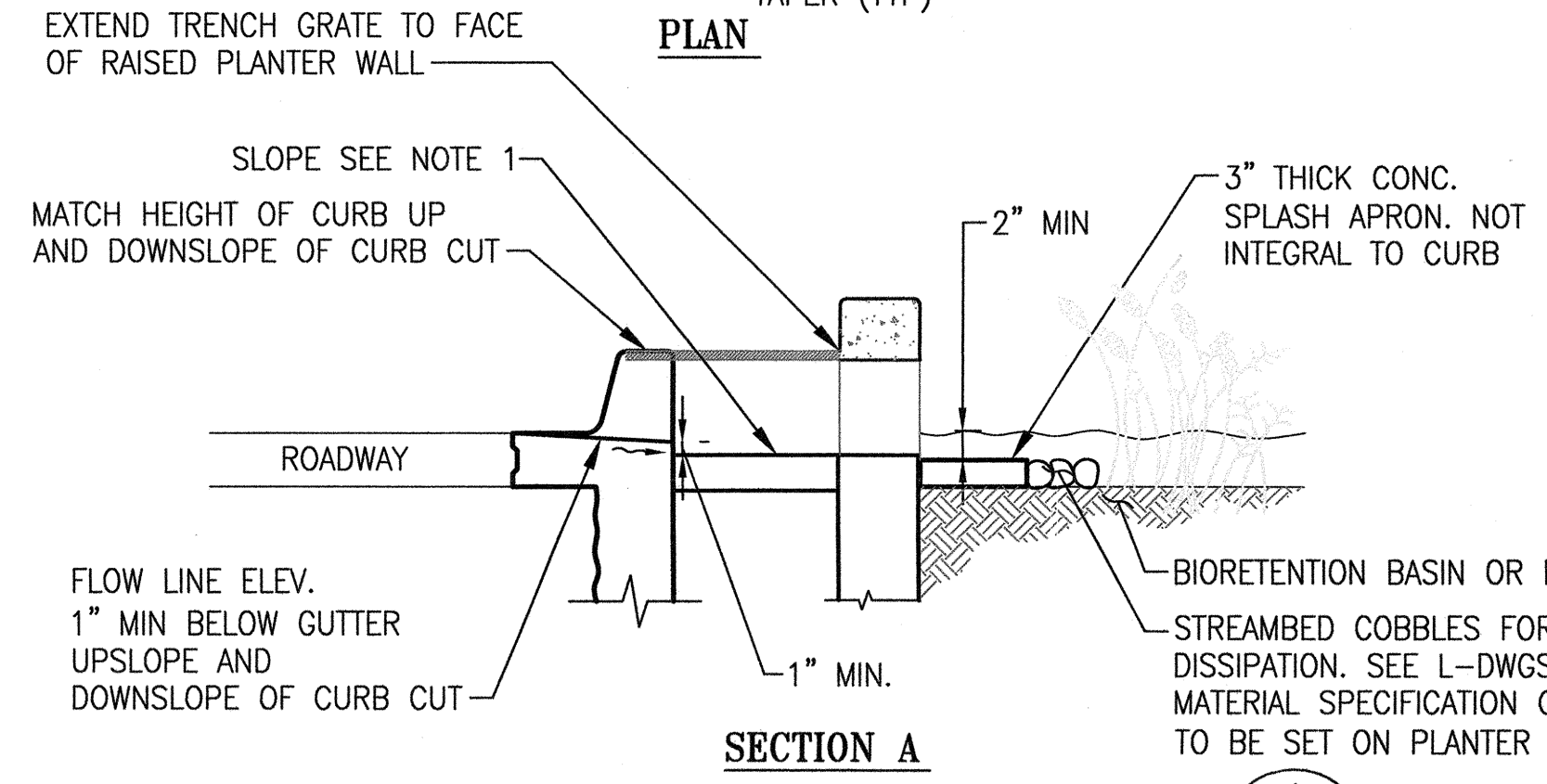


CONSTRUCTION NOTES:

1. SLOPE TO PROVIDE AT LEAST 1 INCH DROP OVER LENGTH OF CHANNEL OR A MINIMUM OF 2 PERCENT, WHICHEVER IS LARGER
2. ALL TRENCH GRATES SHALL BE REMOVABLE, RATED PER THE ANTICIPATED LOADING, AND BOLTED IN PLACE OR OUTFITTED WITH APPROVED TAMPER-RESISTANT LOCKING MECHANISM, FLUSH OR RECESSED IN GRATE.
3. HORIZONTAL CONTROL JOINTS SHALL BE PROVIDED EVERY 10 LINEAR FEET, OR PER MANUFACTURER'S RECOMMENDATIONS.

GENERAL NOTES:

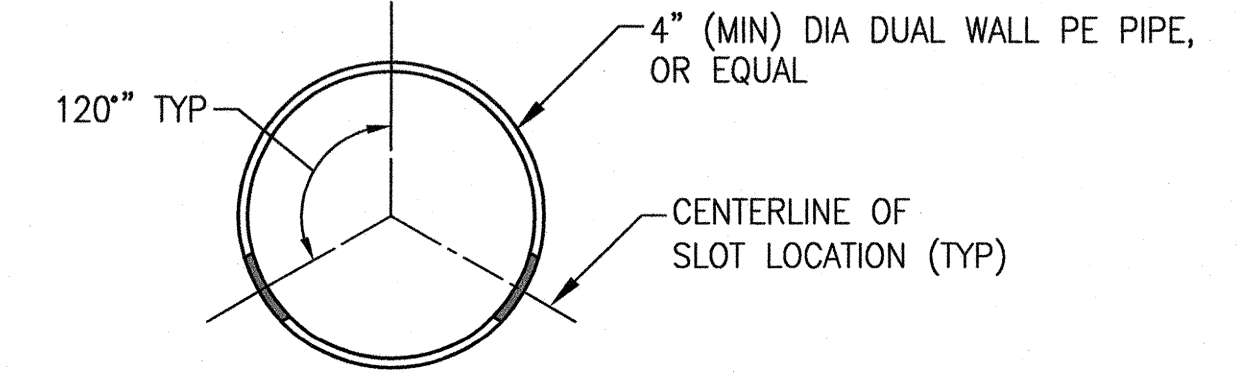
1. ALL MATERIAL AND WORKMANSHIP FOR TRENCH DRAIN ASSEMBLY SHALL CONFORM TO SAN FRANCISCO STANDARD SPECIFICATIONS AND APPLICABLE CODES PER SAN FRANCISCO DBI.
2. BOND NEW CURB AND GUTTER TO EXISTING CURB AND GUTTER WITH EPOXY AND DOWEL CONNECTION.
3. APPLY EPOXY BONDING AGENT AT ALL TRENCH DRAIN CONSTRUCTION COLD JOINTS.



1 GI INLETS CURB CUT WITH GRATE
— NTS

CONSTRUCTION NOTES:

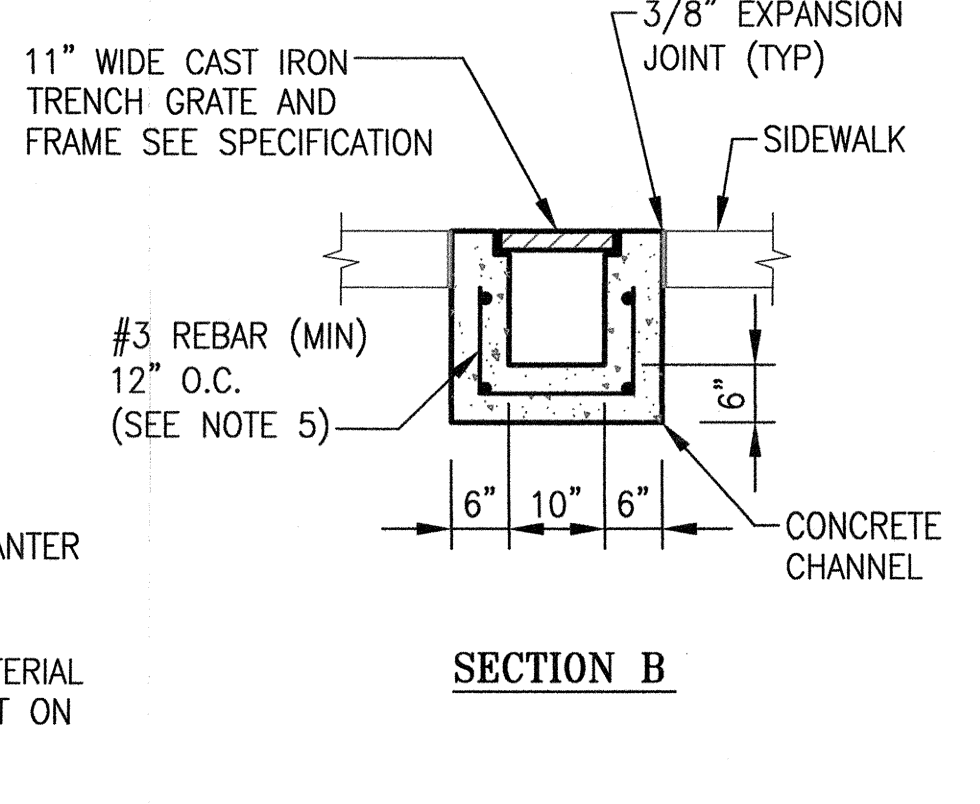
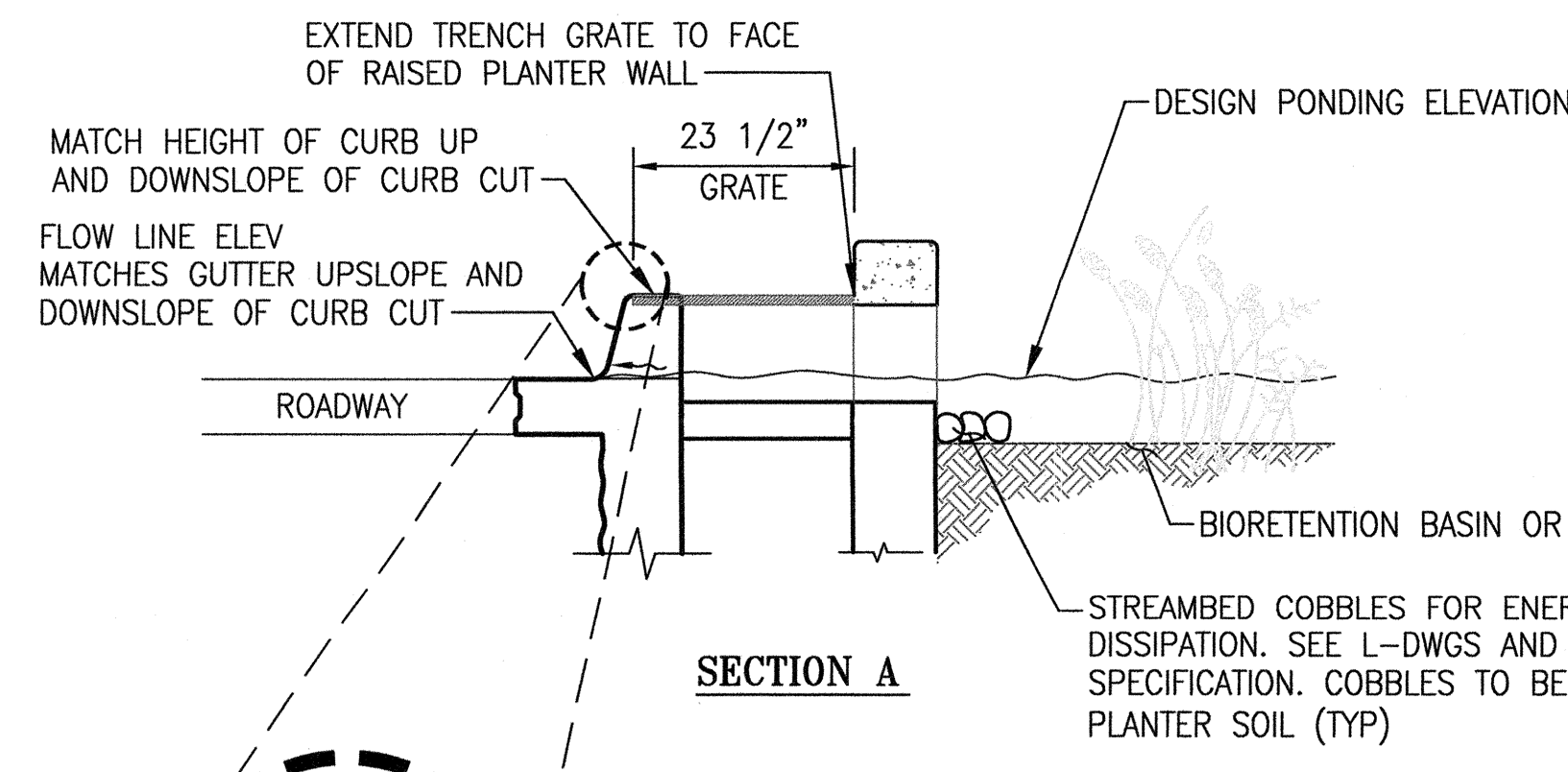
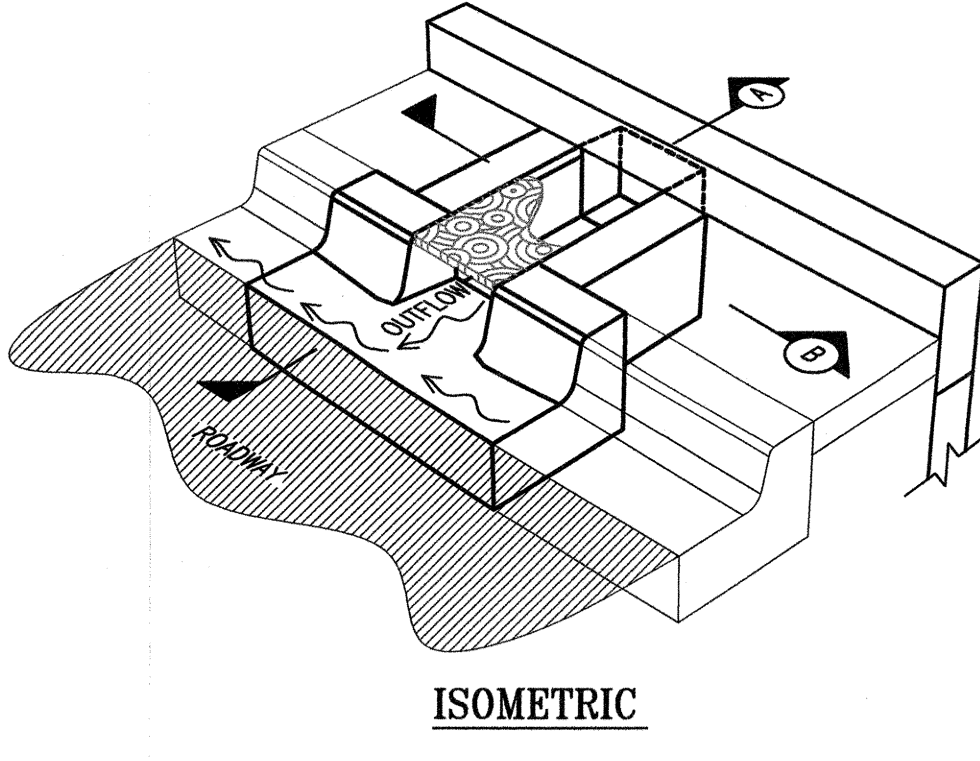
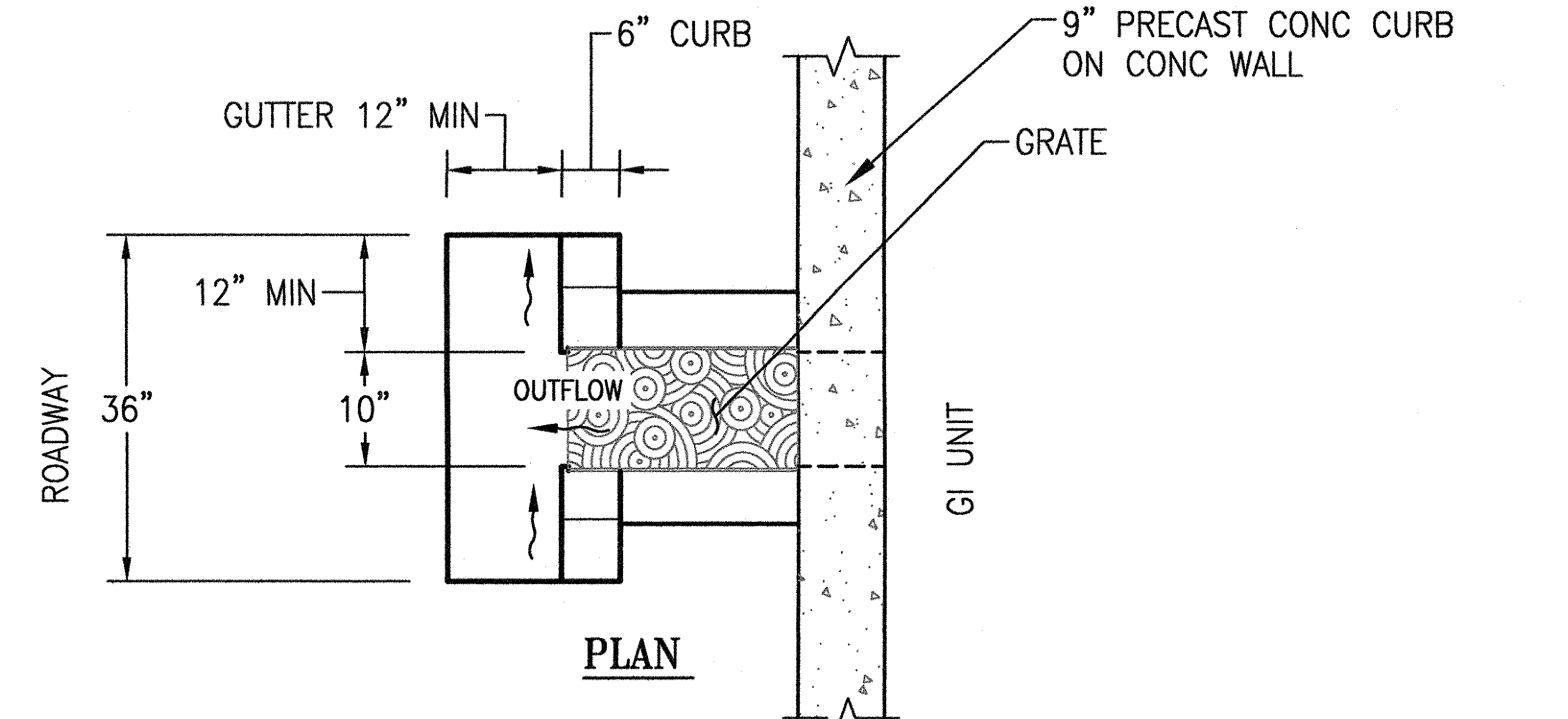
1. SET CROWN OF UNDERDRAIN PIPE AT OR BELOW BOTTOM OF CHOKING COURSE.
2. LONGITUDINAL SLOPE OF UNDERDRAIN PIPE SHALL BE 0.5% MINIMUM.
3. ALL MATERIALS AND WORKMANSHIP FOR UNDERDRAINS SHALL CONFORM TO SAN FRANCISCO STANDARD SPECIFICATIONS AND APPLICABLE CODES PER SAN FRANCISCO DBI.



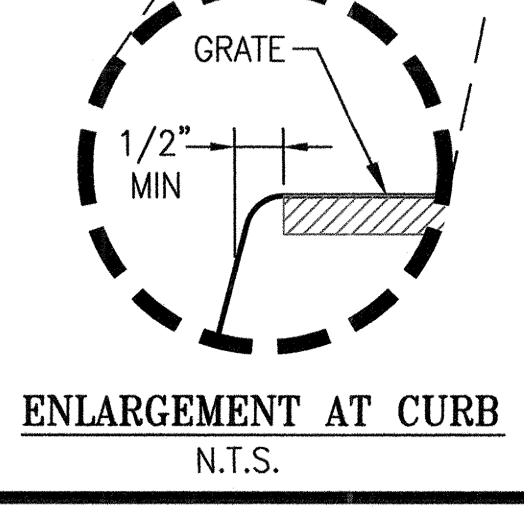
GENERAL NOTES:

1. ALL PERFORATIONS SHALL CONFORM TO AASHTO CLASS II SPECIFICATIONS AND 0.5-INCH DIA. HOLES AT 3-INCH SPACING.
2. PERFORATIONS SHALL BE LOCATED IN VALLEYS OF CORRUGATIONS, ORIENTED PERPENDICULAR TO LONG AXIS OF PIPE, AND EVENLY SPACED AROUND CIRCUMFERENCE AND LENGTH OF PIPE.

3 PERFORATED UNDERDRAIN PIPE
— NTS



2 GI OULET CURB CUT WITH GRATE
— NTS



ENLARGEMENT AT CURB
N.T.S.



ELEVATION DATUM CITY

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE DIVISION

SECTION MANAGER <i>[Signature]</i> 11/13/15	DRAWN C. HSIEH <i>cm</i>
DEPUTY DIVISION MANAGER <i>[Signature]</i> 11/13/15	DESIGNED C. HSIEH <i>cm</i>
DIVISION MANAGER <i>[Signature]</i> 11/15/15	CHECKED K. PICKERING <i>kl</i>
APPROVED <i>[Signature]</i> MANAGER	
NO. DATE	DESCRIPTION BY APPRD
REVISIONS	

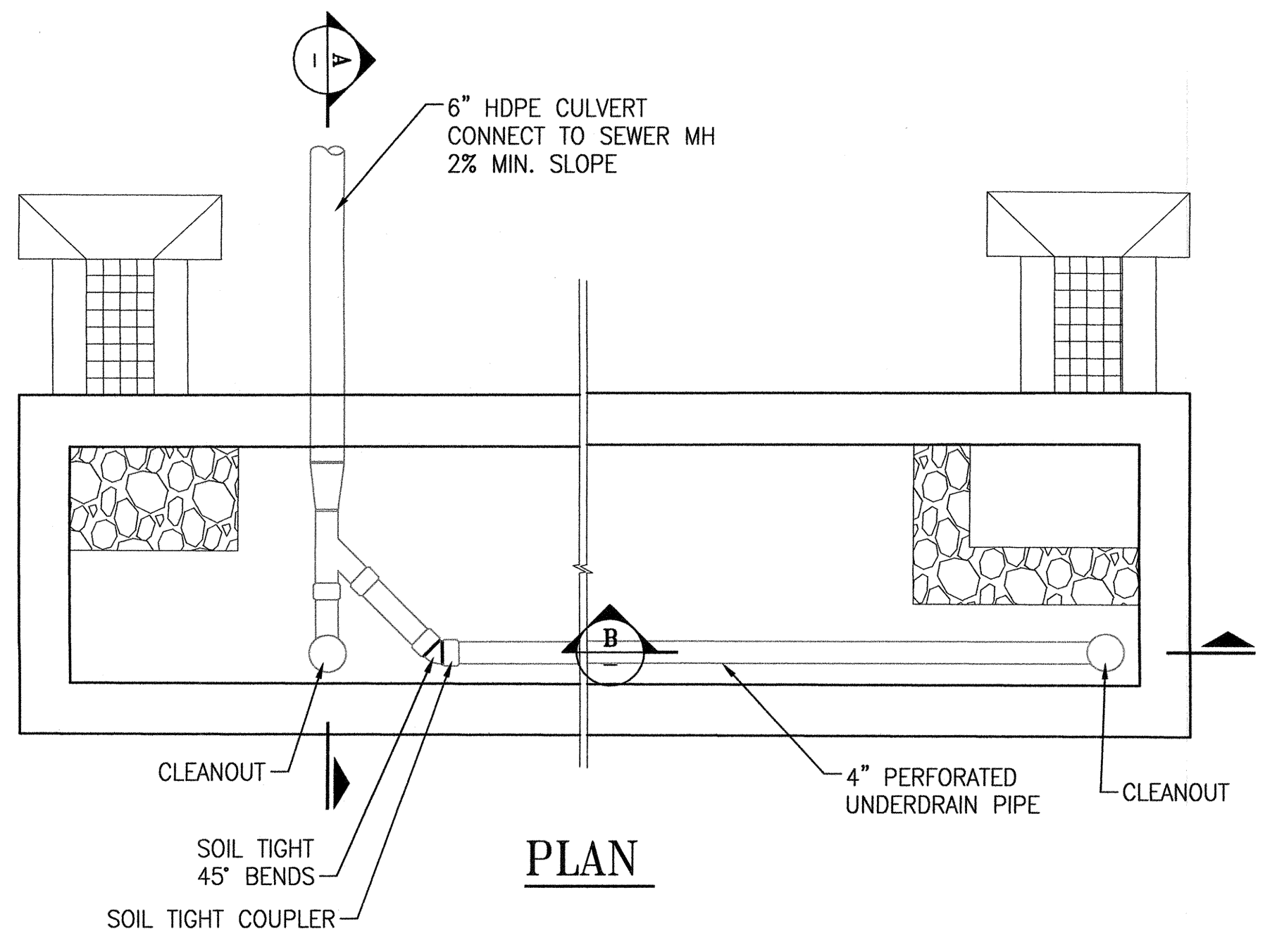
CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

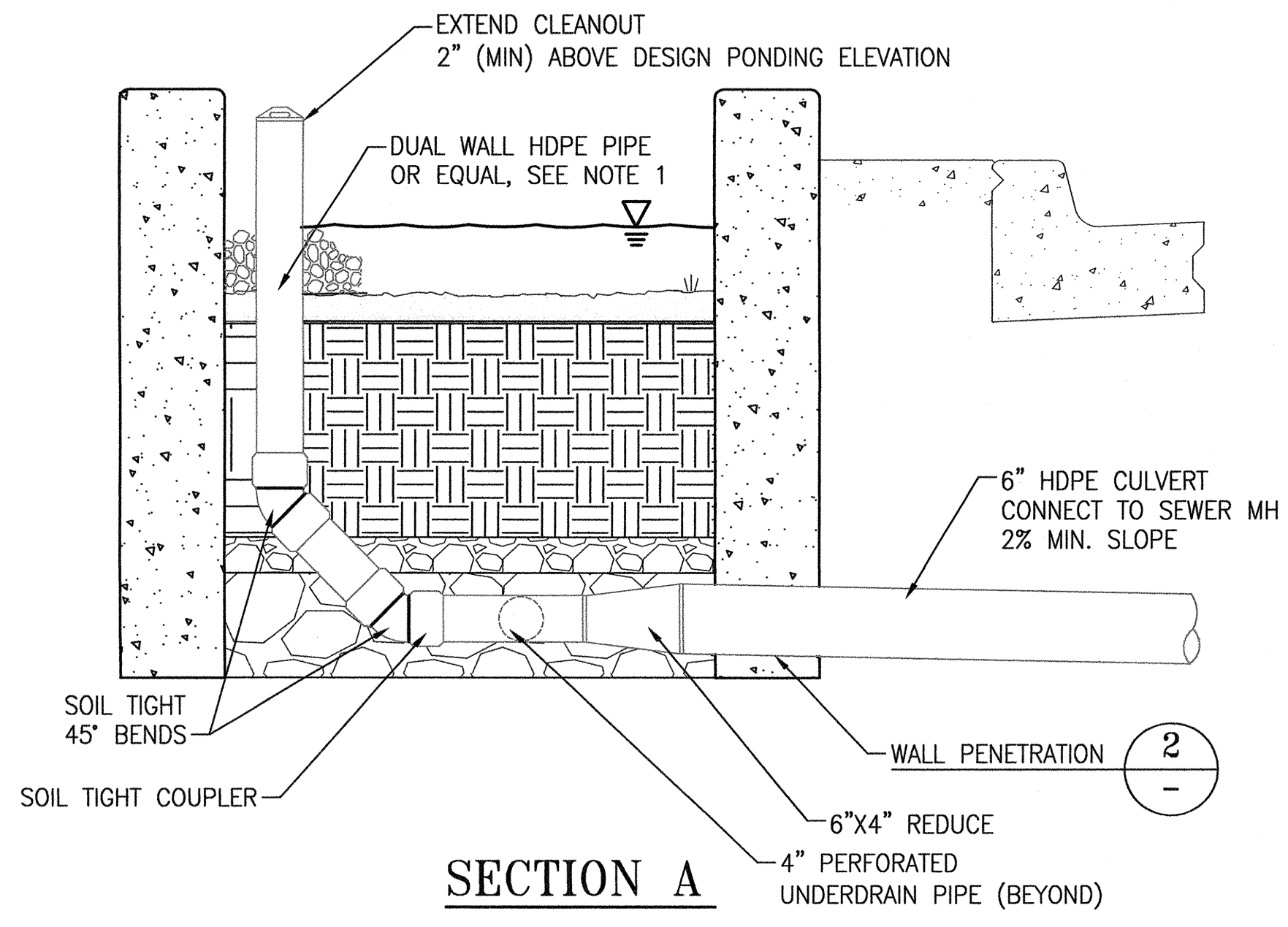
MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

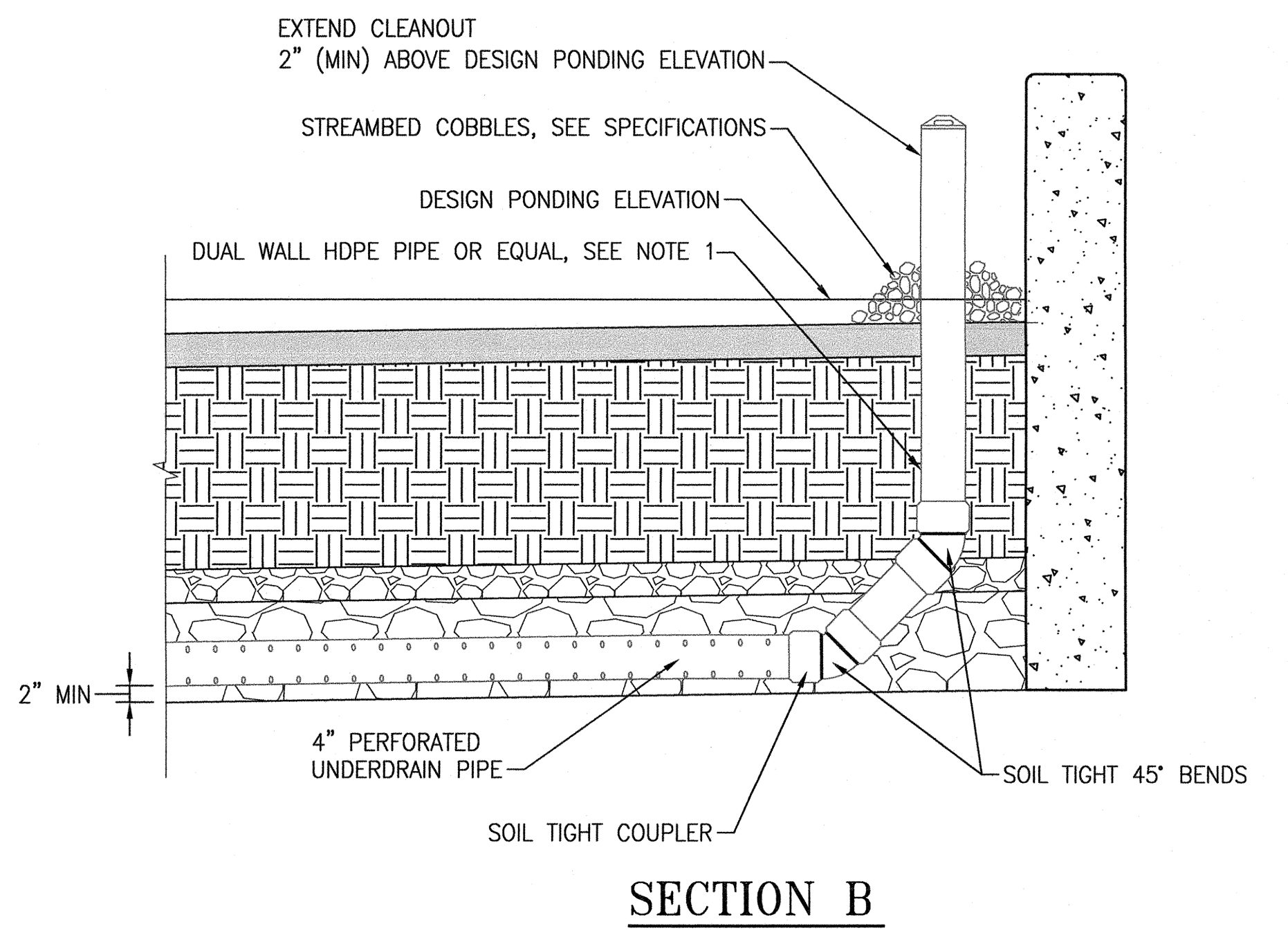
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DIVISION MANAGER <i>[Signature]</i>	RECOMMENDED <i>[Signature]</i>	DESIGNED <i>[Signature]</i>	DATE
APPROVED <i>[Signature]</i> MANAGER	APPROVED <i>[Signature]</i> ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	PLAN NO. 102,843	DRAWING NO. LGI-6.3
SHEET		REVISION NO.	0



PLAN



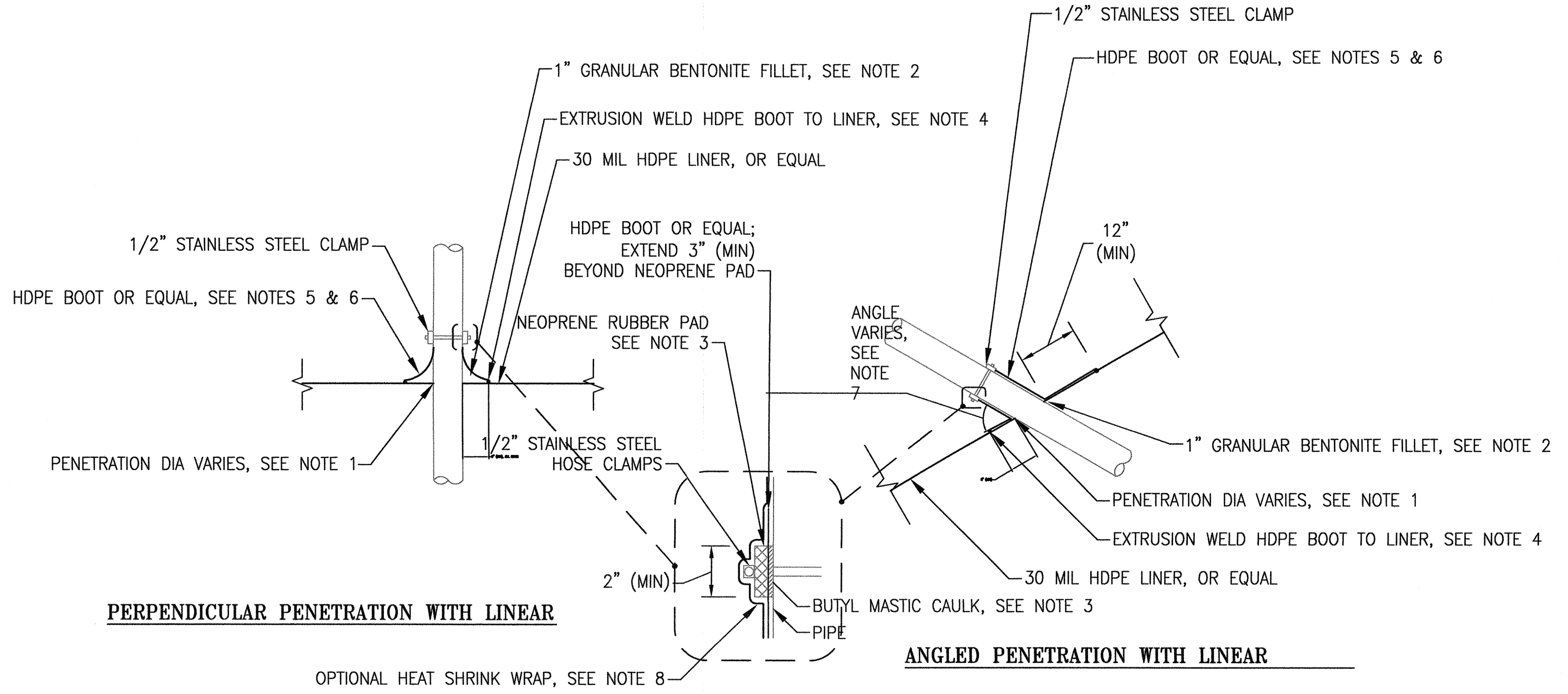
SECTION A



SECTION B

1 GI UNDERDRAIN AND CONNECTION TO SEWER SYSTEM (ADD ALT.)
N.T.S.

- (NOTES)
- INSTALL WATER TIGHT CONNECTOR AT ALL WALL PENETRATIONS PER MANUFACTURERS RECOMMENDATIONS.



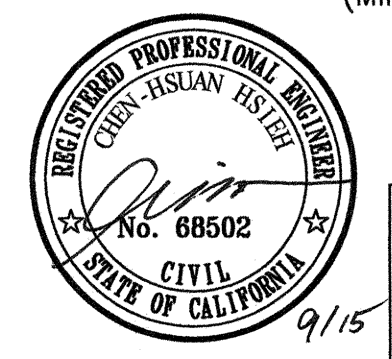
2 WALL PENETRATIONS
N.T.S.

GENERAL NOTES:

- CONTRACTOR MAY USE PREFABRICATED PIPE BOOTS IN LIEU OF FIELD-FABRICATED BOOTS. CONNECT PREFABRICATED BOOT TO LINER AND PIPE PER MANUFACTURER'S RECOMMENDATIONS.

CONSTRUCTION NOTES:

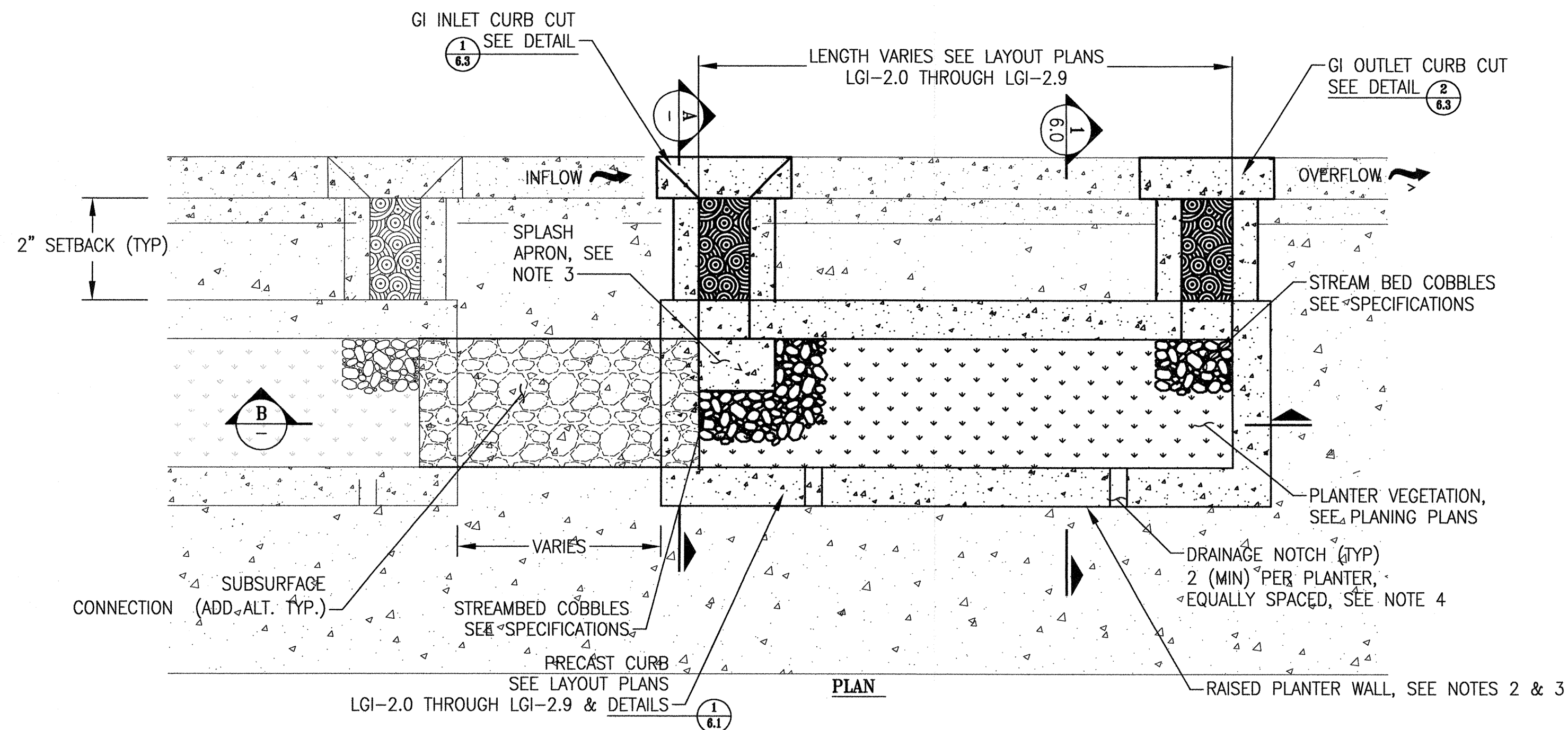
- CUT OPENING IN LINER FOR PIPE TO WITHIN 1/2" OF PIPE OUTSIDE DIAMETER.
- FILL ANNULAR SPACE WITH 1" MINIMUM GRANULAR BENTONITE FILLET AS SHOWN.
- APPLY BUTYL MASTIC CAULK AND NEOPRENE RUBBER PAD CONTINUOUSLY AROUND PIPE.
- PROVIDE CONTINUOUS EXTRUSION WELD AT PIPE BOOT/LINER INTERFACE.
- FORM BOOT WITH SUFFICIENT MATERIAL TO PREVENT OVERSTRESSING DURING BACKFILLING, BUT WITHOUT FOLDS OR WRINKLES.
- CONSTRUCT BOOT FROM SAME MATERIAL AS THE LINER.
- ANGLE SHOULD NOT BE LESS THAN 30°. IF ANGLE IS LESS THAN 30° ADD SOIL AROUND THE PIPE TO INCREASE THE ANGLE AND PREVENT STRESSING AND CRACKING.
- SEAL CLAMP AND END OF BOOT WITH HEAT SHRINK WRAP. EXTEND HEAT SHRINK WRAP ONE PIPE DIAMETER (MINIMUM) BEYOND CLAMP.



ELEVATION DATUM CITY

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE DIVISION			
SECTION MANAGER <i>[Signature]</i>	DRAWN C. HSIEH <i>CH</i>	CHECKED K. PICKERING <i>KP</i>	DESIGNED C. HSIEH <i>CH</i>
DESIGN DIVISION MANAGER <i>[Signature]</i>	CHECKED K. PICKERING <i>KP</i>	DESIGNED C. HSIEH <i>CH</i>	APPROVED <i>[Signature]</i>
NO.	DATE	DESCRIPTION	BY
REVISIONS			

CONTRACT NO. 1289			
CITY AND COUNTY OF SAN FRANCISCO PUBLIC UTILITIES COMMISSION ENGINEERING MANAGEMENT BUREAU			
MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT			
CONSTRUCTION DETAILS			
SECTION MANAGER <i>[Signature]</i>	CHECKED <i>[Signature]</i>	DRAWN <i>[Signature]</i>	SCALE AS SHOWN
DIVISION MANAGER <i>[Signature]</i>	RECOMMENDED <i>[Signature]</i>	DESIGNED <i>[Signature]</i>	DATE
APPROVED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	REVISION NO.
SHEET	102,844	DRAWING NO. LG1-6.4	0

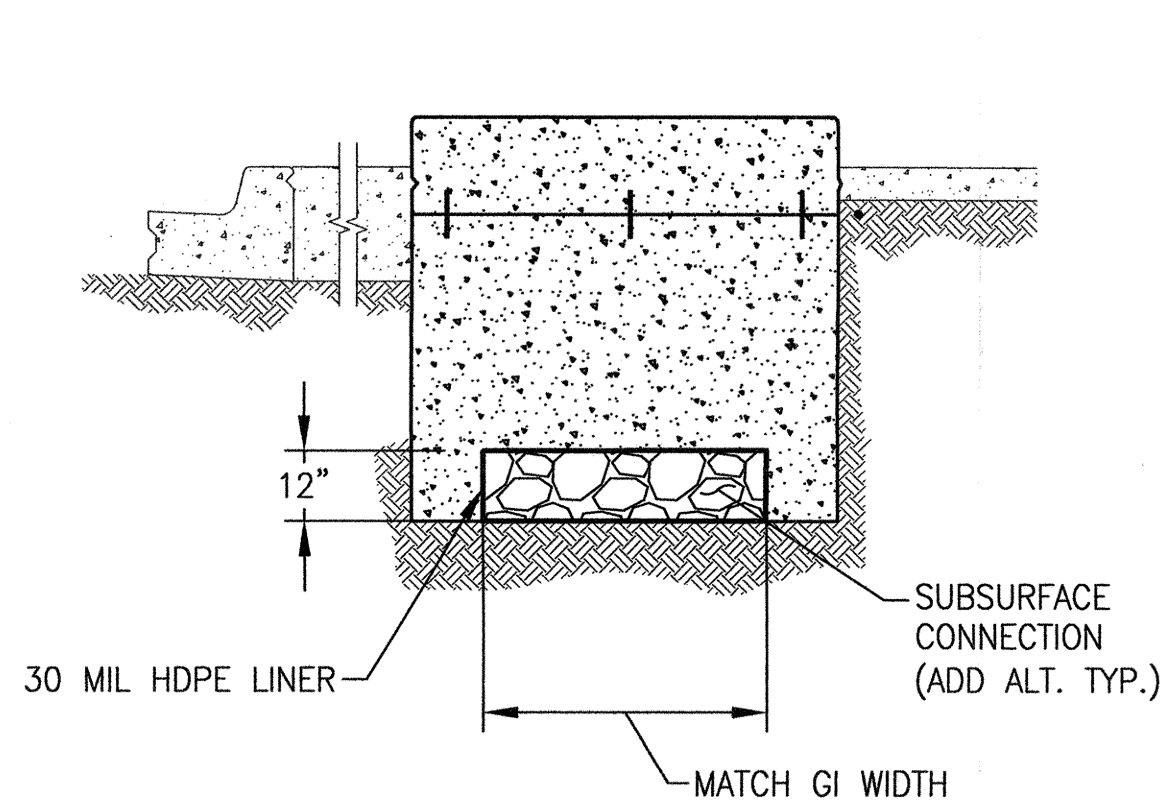


CONSTRUCTION NOTES:

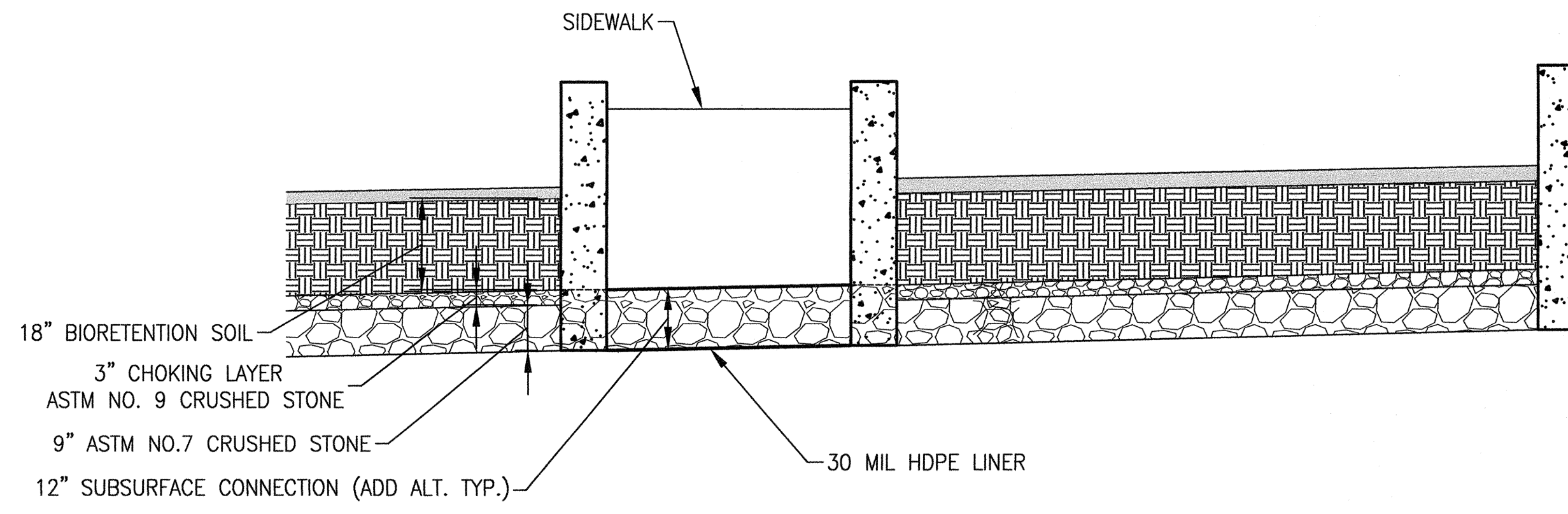
1. SLOPE TOP OF PLANTER WALL TO MATCH LONGITUDINAL SLOPE OF ADJACENT SURFACE.
2. FOR EDGE TREATMENT OPTIONS, REFER TO SFPUC GREEN STORMWATER INFRASTRUCTURE TYPICAL DETAILS BC 1.1 THROUGH BC 1.7.
3. SPLASH APRON SHALL NOT BE INTEGRAL TO PLANTER WALL OR OTHER ADJACENT CONCRETE ELEMENTS.
4. LAY OUT DRAINAGE NOTCHES TO PREVENT PONDING BEHIND PLANTER WALL.

GENERAL UTILITY NOTES:

1. UTILITY CONFLICTS SHALL BE MITIGATED PER SFPUC SURFACE IMPROVEMENT STANDARDS. INCLUDE MEASURES TO ENSURE WATER TIGHT UTILITY PENETRATIONS THROUGH PLANTER WALL (REFER TO SFPUC GREEN STORMWATER INFRASTRUCTURE TYPICAL DETAILS GC 2.2 AND GC 2.3) AND TO PREVENT PREFERENTIAL FLOW INTO UTILITY TRENCHES (E.G., WATER STOP, TRENCH BLOCK, OR TRENCH COLLAR). PROPOSED UTILITY LINES TO BE LOCATED OUTSIDE OF FACILITY.
2. ABANDONED UTILITIES WITHIN FOOTPRINT OF FACILITY AND OBSERVED DURING CONSTRUCTION MUST BE REMOVED. COORDINATE WITH MUNICIPAL OR PRIVATE OWNER AND ENGINEER.

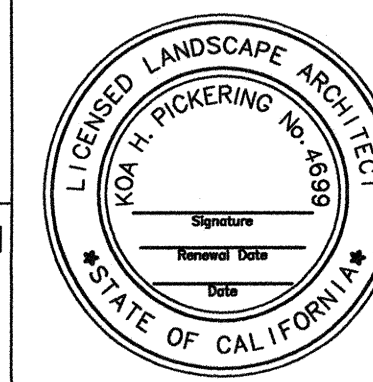


SECTION A (ADD ALTERNATE)



SECTION B (ADD ALTERNATE)

1 TYPICAL GI UNIT
NTS



ELEVATION
DATUM
CITY

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE DIVISION

SECTION MANAGER <i>[Signature]</i> 11/13/15	DRAWN C. HSIEH <i>[Signature]</i>
DEPUTY DIVISION MANAGER <i>[Signature]</i>	DESIGNED C. HSIEH <i>[Signature]</i>
DIVISION MANAGER <i>[Signature]</i>	CHECKED K. PICKERING <i>[Signature]</i>

NO.	DATE	DESCRIPTION	BY	APPR'D
REVISIONS				

CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

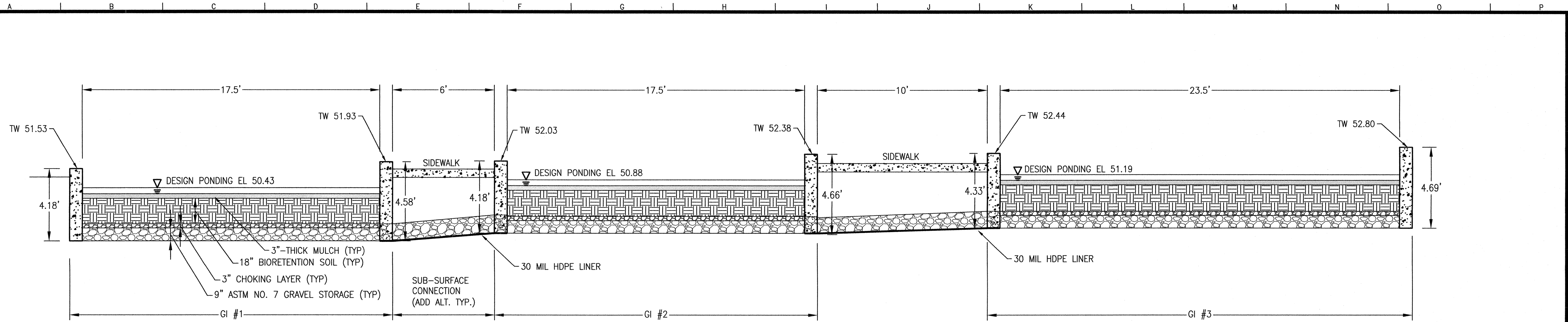
SECTION MANAGER <i>[Signature]</i>	CHECKED <i>[Signature]</i>	DRAWN <i>[Signature]</i>	SCALE AS SHOWN
DIVISION MANAGER <i>[Signature]</i>	RECOMMENDED <i>[Signature]</i>	DESIGNED <i>[Signature]</i>	DATE

APPROVED
[Signature]
MANAGER

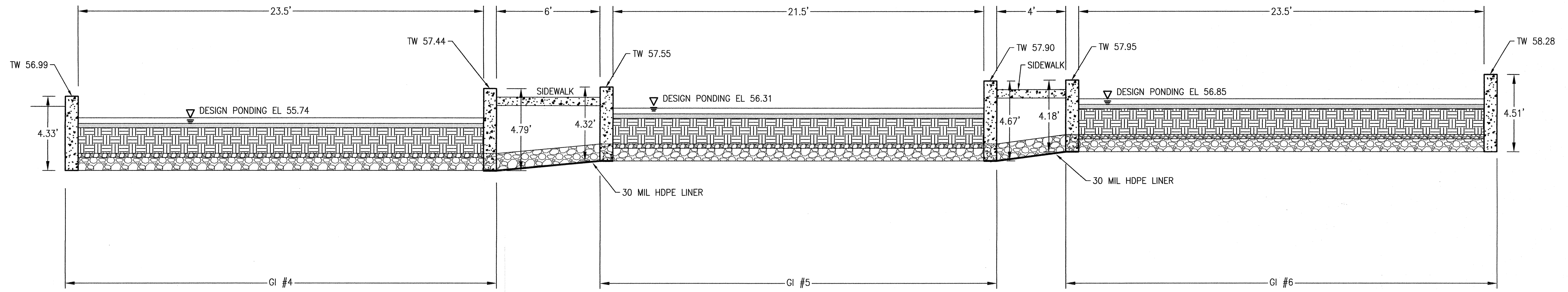
ASSISTANT GENERAL MANAGER
WASTEWATER ENTERPRISE
[Signature]

NO.	DATE	DESCRIPTION	BY	APPR'D
REVISIONS				

SHEET 102,845 LGI-6.5 0



1 SECTION AT GI UNITS 1, 2, & 3
1"=3'



2 SECTION AT GI UNITS 4, 5, & 6
1"=3'



ELEVATION DATUM CITY

CONTRACT NO. 1289

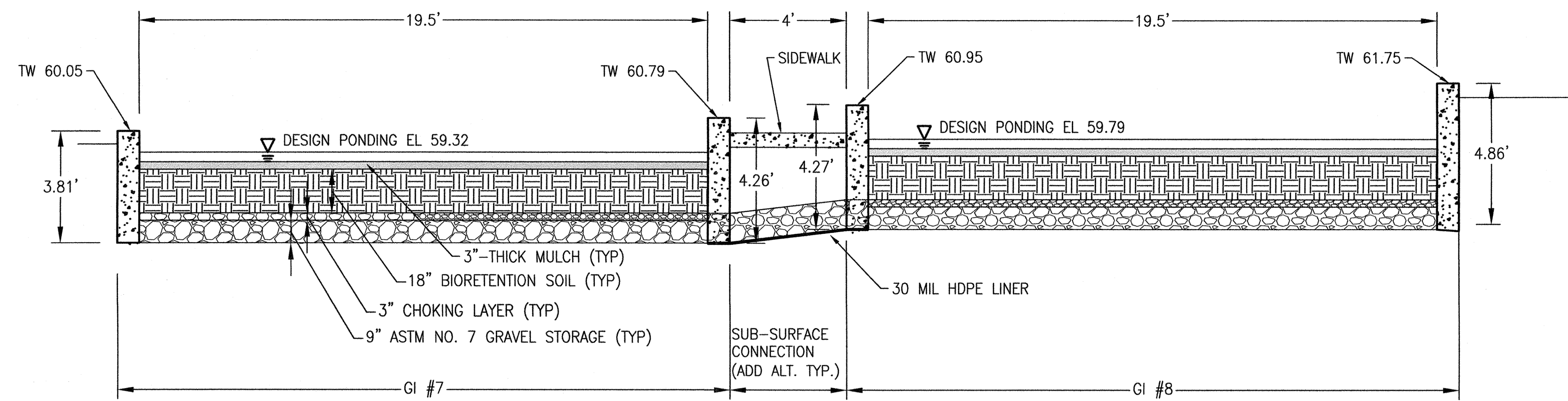
CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

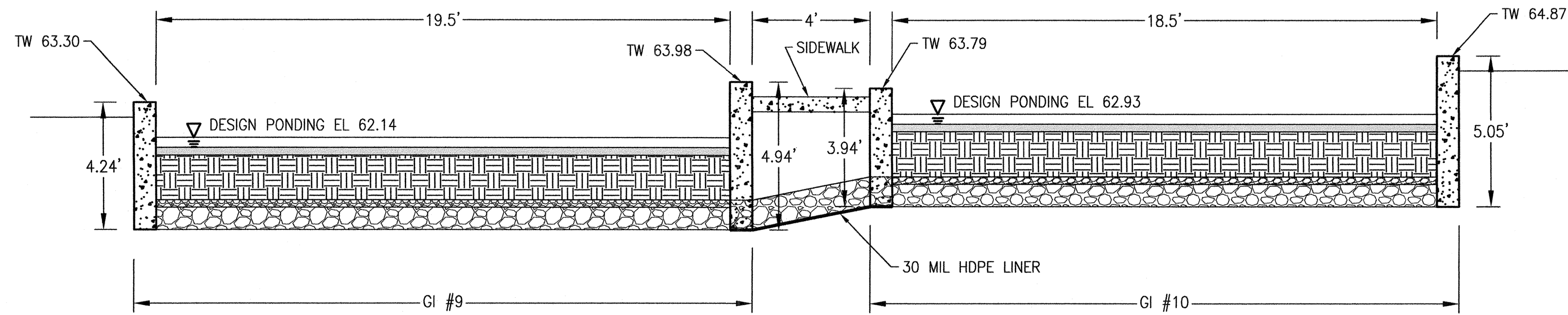
CONSTRUCTION DETAILS

SECTION MANAGER <i>[Signature]</i>	DRAWN C. HSIEH			
DEPUTY DIVISION MANAGER <i>[Signature]</i>	DESIGNED C. HSIEH			
DIVISION MANAGER <i>[Signature]</i>	CHECKED K. PICKERING			
NO.	DATE	DESCRIPTION	BY	APPR'D
REVISIONS				

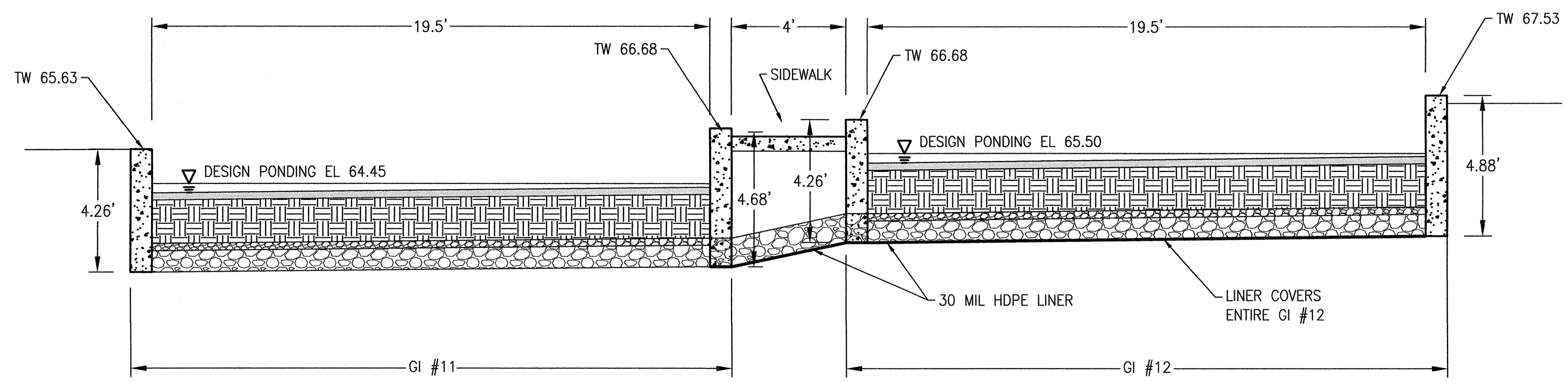
SECTION MANAGER <i>[Signature]</i>	CHECKED	DRAWN	SCALE AS SHOWN
DIVISION MANAGER <i>[Signature]</i>	RECOMMENDED	DESIGNED	DATE
APPROVED <i>[Signature]</i>	APPROVED <i>[Signature]</i>		
MANAGER	ASSISTANT GENERAL MANAGER WASTEWATER ENTERPRISE	PLAN NO. 102.846	DRAWING NO. LGI-6.6
SHEET	REVISION NO. 0		



1 SECTION AT GI UNITS 7 & 8
1"=3'



2 SECTION AT GI UNITS 9 & 10
1"=3'



3 SECTION AT GI UNITS 11 & 12
1"=3'



ELEVATION DATUM CITY

CONTRACT NO. 1289

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
ENGINEERING MANAGEMENT BUREAU

MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE DIVISION

SECTION MANAGER: *[Signature]*
DEPUTY DIVISION MANAGER: *[Signature]*
DIVISION MANAGER: *[Signature]*
DRAWN: A. C. HSIEH
DESIGNED: C. HSIEH
CHECKED: K. PICKERING

SECTION MANAGER	CHECKED	DRAWN	SCALE
DIVISION MANAGER	RECOMMENDED	DESIGNED	AS SHOWN
APPROVED		DATE	

NO.	DATE	DESCRIPTION	BY	APPR'D
REVISIONS				

MANAGER	PLAN NO.	DRAWING NO.	REVISION NO.
	102,847	LGI-6.7	0