

YUROK TRIBE
KE-NEK WATER TREATMENT PLANT
AND WATER MAIN

SANITATION FACILITIES CONSTRUCTION
IHS PROJECT NO. CA 21-F05

HUMBOLDT COUNTY
CALIFORNIA



DATE: _____

DATE	REVISIONS	INIT.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
INDIAN HEALTH SERVICE
SANITATION FACILITIES CONSTRUCTION
650 CAPITOL MALL, SUITE 7-100
SACRAMENTO, CA 95814
(916) 930-3945



**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
TITLE SHEET**
DRAWING NO: CA0-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN
FILE NAME: CA0-15-E56-DET
LAYOUT NAME: G101
PROJ ENG: JILLIAN TILLES

G101
SHEET
1 OF 58

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APPROVAL SIGNATURES:

Jillian G. Tilles 2/12/2025

JILLIAN TILLES, P.E., DATE
PROJECT ENGINEER, DSFC

Jillian G. Tilles 2/12/2025

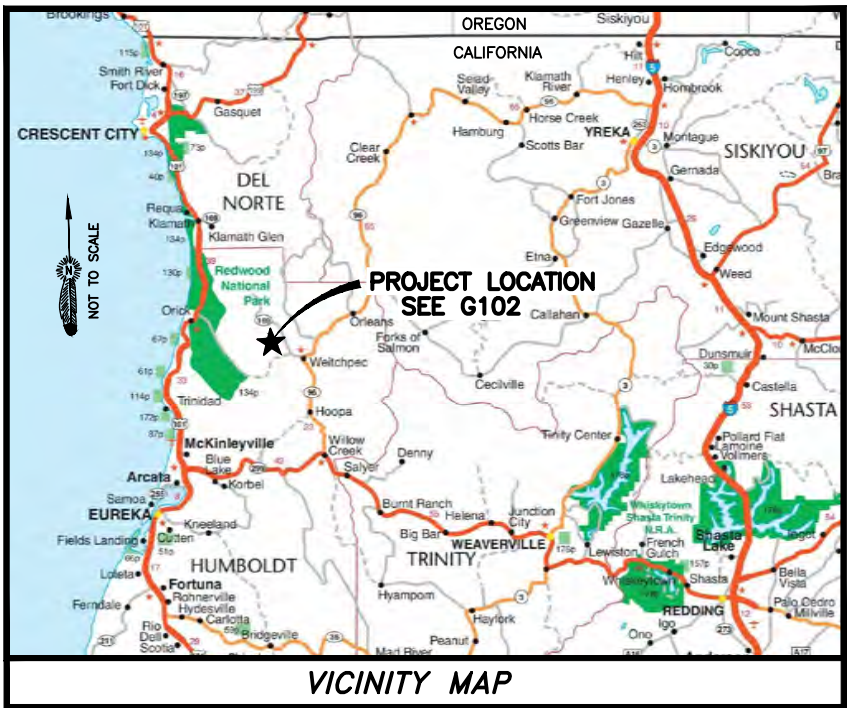
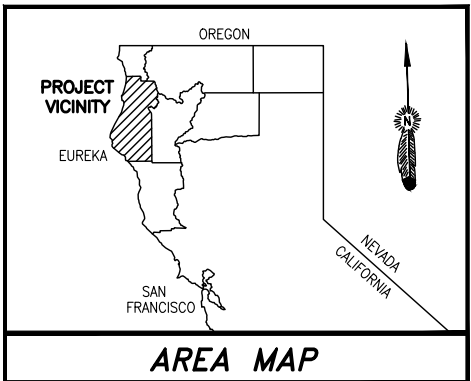
JILLIAN TILLES, P.E., DATE
DISTRICT ENGINEER, DSFC

J. David Mazzora 2/12/2025

J. DAVID MAZZORA, P.E. DATE
DIRECTOR, DSFC

PROJECT FUNDED BY:
U.S. ENVIRONMENTAL PROTECTION AGENCY,
2016 SDWA SET-ASIDE
AND
INDIAN HEALTH SERVICE

THIS PROJECT DESIGNED TO COMPLY
WITH THE REQUIREMENTS OF THE
C.B.C, U.P.C., U.M.C, & N.E.C (CURRENT EDITIONS)



ABBREVIATIONS

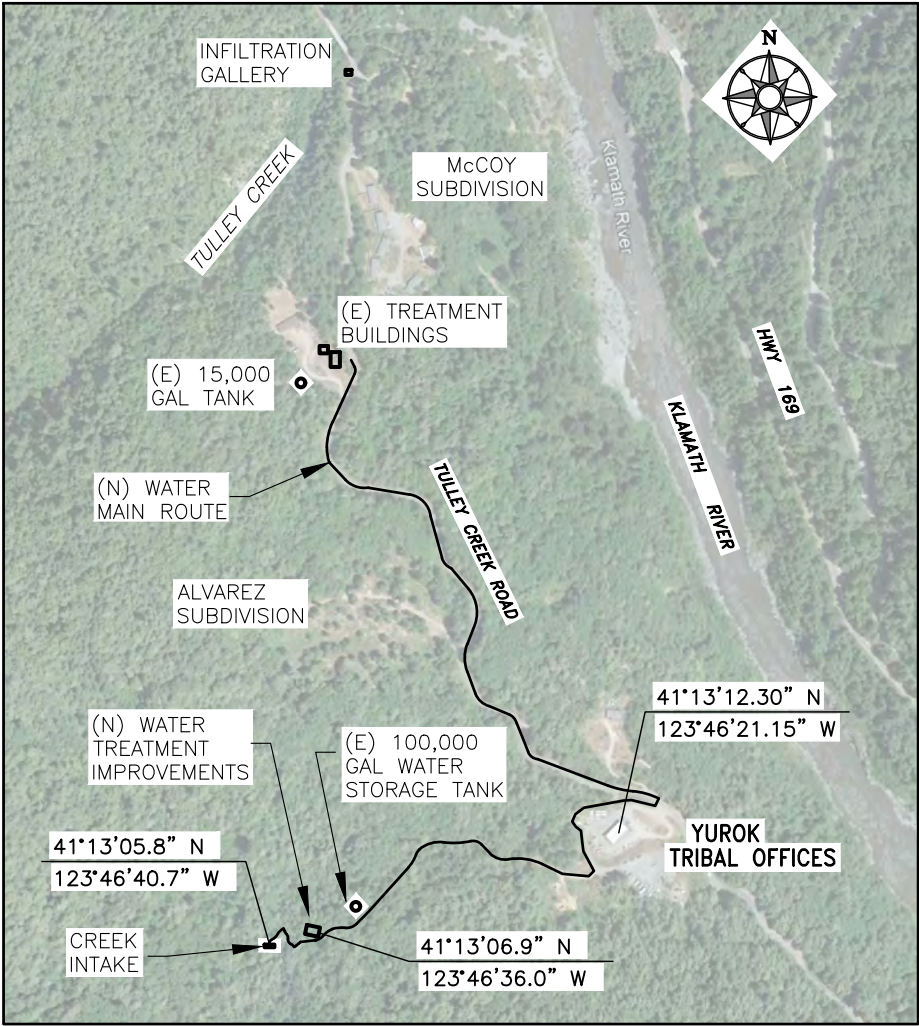
@	AT	GA	GAUGE	R	RADIUS
AB	ANCHOR BOLT	GALV	GALVANIZED	RCP	REINFORCED CONCRETE
AC	ASPHALT CONCRETE	GI	GALVANIZED IRON		PIPE
AFF	ABOVE FINISHED FLOOR	GR	GRADE	RD	ROAD
AFG	ABOVE FINISHED GRADE	GV	GATE VALVE	RDWD	REDWOOD
AGG	AGGREGATE			RF	ROUGHING FILTER
ARV	AIR/VAC RELEASE VALVE	HB	HOSE BIB	REIN	REINFORCE
ASSY	ASSEMBLY	HDPE	HIGH DENSITY PIPE	REQD	REQUIRED
		HWY	HIGHWAY	ROW	RIGHT OF WAY
		HYD	HYDRANT	RT	RIGHT
				RW	RAW WATER
		ID	INSIDE DIAMETER	S	SOUTH
BLDG	BUILDING	INSUL	INSULATION	SCH	SCHEDULE
BOTT	BOTTOM	INV	INVERT	SH	SHEET
BFFA	BACKFLOW PREVENTION ASSY	IPS	IRON PIPE SIZE	SIM	SIMILAR
		IR	IRON ROD	SIMP	SIMPSON
				SSM	SEWER MAIN
CB	CATCH BASIN	JT	JOINT TRENCH	SS	SANITARY SEWER
CBC	CALIFORNIA BLDG. CODE		JOINT TRENCH	SSF	SLOW SAND FILTER
CDX	VENEER PLYWOOD	KSI	KILOPOUND SQ INCH	SPEC	SPECIFICATION
CI	CAST IRON			SQ	SQUARE
CL	CENTER LINE	LF	LINEAR FEET	SSL	SEWER SERVICE LINE
CLR	CLEAR	LPG	LIQUID PROPANE GAS	SST	STAINLESS STEEL
COMM	COMMUNICATIONS	LT	LEFT	STA	STATION POINT
CMP	CORRUGATED METAL PIPE	(M)	MOTOR	STD	STANDARD
CMU	CONCRETE MASONRY UNIT	M	METER	STL	STEEL
CO	CLEAN OUT	MANUF	MANUFACTURED	SWPPP	STORM WATER PREVENTION/
CONC	CONCRETE	MAX	MAXIMUM		POLLUTION PLAN
CONT	CONTINUOUS	MFR	MANUFACTURER	SYM	SYMETRICAL
CP	CONTROL POINT	MH	MANHOLE		
CPP	CORRUGATED PLASTIC	MIN	MINIMUM	TEL	TELEPHONE
		MISC	MISCELLANEOUS	TNK	TANK
CU	COPPER	MJ	MECHANICAL JOINT	TYP	TYPICAL
				UBC	UNIFORM BUILDING CODE
DBL	DOUBLE	(N)	NEW	UGE	UNDERGROUND ELECTRIC
DET	DETAIL	N	NORTH		(SEE GENERAL NOTE 9)
DI	DUCTILE IRON	NEC	NATIONAL ELECTRIC	UGC	UNDERGROUND CONTROL CONDUIT
DIA	DIAMETER		CODE	UGT	UNDERGROUND TELEPHONE
DIM	DIMENSION	NIC	NOT IN CONTRACT	UPC	UNIFORM PLUMBING CODE
DIP	DUCTILE IRON PIPE	NO	NORMALLY OPEN	UMC	UNIFORM MECHANICAL
DR	DRAIN	NC	NORMALLY CLOSED		CODE
D/W	DRIVEWAY	NPT	NATIONAL PIPE THREAD	UNO	UNLESS NOTED OTHERWISE
		NTS	NOT TO SCALE	UTIL	UTILITY
EA	EACH				
ELEV	ELEVATION	OC	ON CENTER	WM	WEST
ELEC	ELECTRICAL	OD	OUTSIDE DIAMETER	WMT	WATER MAIN
EN	EDGE NAIL	OF	OVERFLOW	WMT	WATER METER
EOL	END OF LINE	OG	ORIGINAL GRADE	W/	WITH
EOP	EDGE OF PAVEMENT	OH	OVERHEAD	W/O	WITHOUT
EQ	EQUAL	OHE	OVERHEAD ELECTRIC	WSL	WATER SERVICE LINE
EQT	EQUALIZATION TANK			WST	WATER STORAGE TANK
(E)	EXISTING	PE	POLYETHELYNE	WT	WEIGHT
EXT	EXTERIOR	PL	PLACES	WTB	WATER TREATMENT BUILDING
		PLY	PLYWOOD	WTP	WATER TREATMENT PLANT
FF	FINISHED FLOOR	PP	POWER POLE		
FG	FINISHED GRADE	PSF	POUND SQUARE FOOT	YIHA	YUROK INDIAN HOUSING
FH	FIRE HYDRANT	PSI	POUND SQUARE INCH		AUTHORITY
FIN	FINISHED	PTDF	PRESSURE TREATED		
FL	FLANGE		DOUG FIR		
FLH	FLUSH HYDRANT	PRV	PRESSURE		
FND	FOUNDATION		REDUCING VALVE		
FT	FEET				
FTG	FOOTING				

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE CURRENT CALIFORNIA BUILDING CODE.
2. THESE NOTES SHALL APPLY TO ALL DRAWINGS UNLESS OTHERWISE NOTED OR SHOWN.
3. FEATURES OF CONSTRUCTION SHOWN ARE TYPICAL AND SHALL APPLY GENERALLY THROUGHOUT SIMILAR CONDITIONS.
4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS DEPICTED HEREIN PRIOR TO ORDERING ANY MATERIALS AND PRIOR TO COMMENCING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING.
5. ALL CONDITIONS SHOWN OR NOTED AS EXISTING ARE BASED ON BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE DRAWINGS, NO WARRANTY IS IMPLIED TO THEIR ACCURACY.
6. SAFETY MEASURES SHALL MEET THE REQUIREMENTS OF ALL LOCAL, STATE AND FEDERAL GUIDELINES.
7. ALL BUILDING MATERIAL SHALL BE NEW MATERIAL, UNLESS OTHERWISE APPROVED OR SPECIFIED BY ENGINEER.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATION AND CONSTRUCTION IN ANY AREA. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AT LEAST TWO WORKING DAYS IN ADVANCE OF ANY EXCAVATION. CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCIES IN RECORD INFORMATION TO THE PROJECT ENGINEER AND OWNER PRIOR TO THE START OF ANY CONSTRUCTION.

LEGEND

PROPOSED		EXISTING
	WATER MAIN	
	WATER SERVICE LINE	
	UNDERGROUND CONDUIT	
	OVERHEAD ELECTRIC	
	UNDERGROUND ELECTRIC	
	POWER POLE	
	GATE VALVE	
	WATER METER	
	CHECK VALVE	
	ALTITUDE VALVE	
	REDUCER	
	ARV	
	HYDRANT	
	FENCE	
	TO BE ABANDONED	
	PAVING PATCH	



GOOGLE EARTH IMAGE



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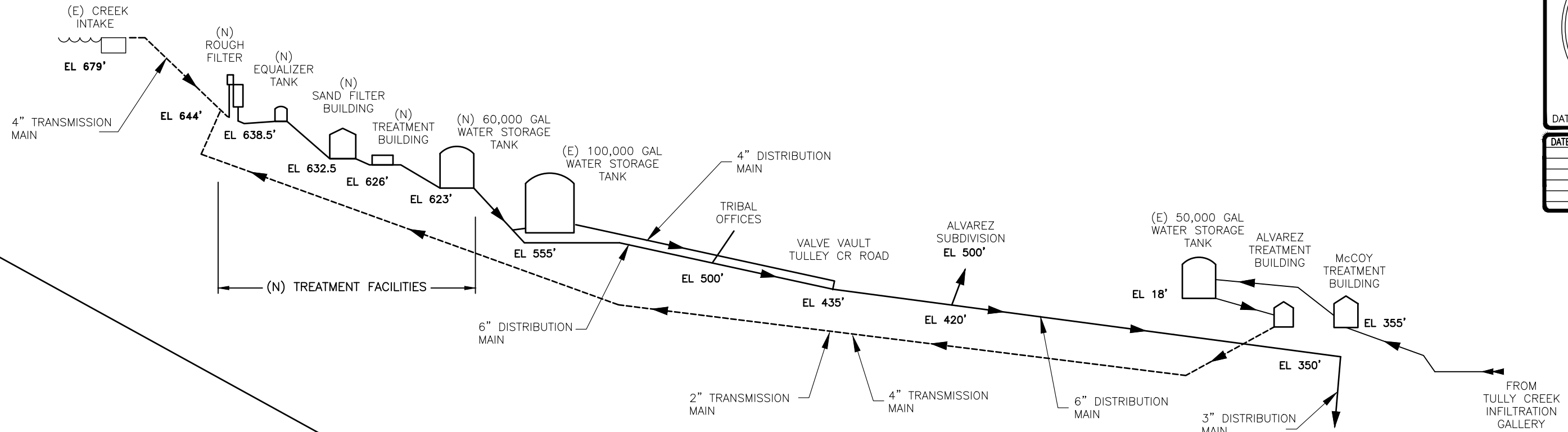


KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
GENERAL NOTES, LEGENDS

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: G102
SCALE: AS NOTED
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PROJ ENG: JILLIAN TILLES
DRAWN BY: D. O'GORMAN

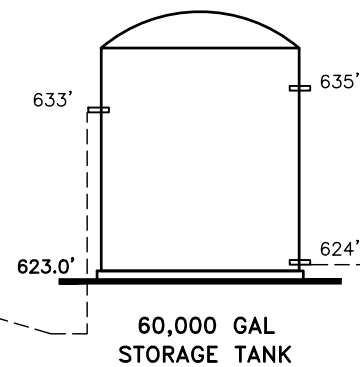
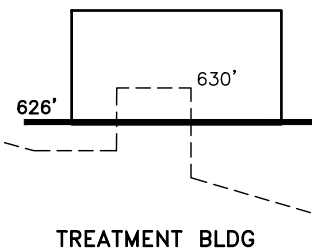
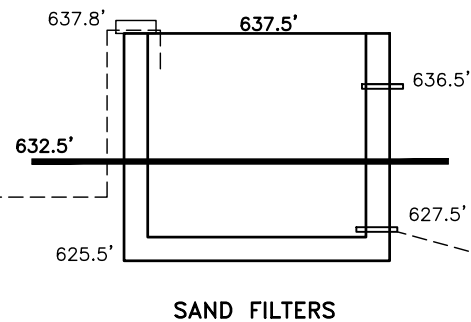
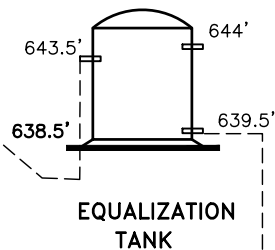
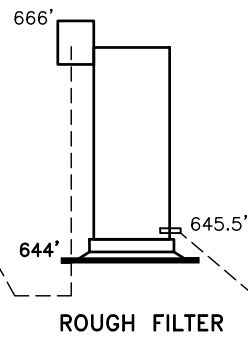
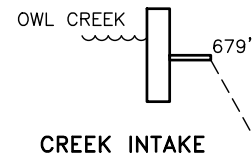
G102

SHEET
2 OF 58



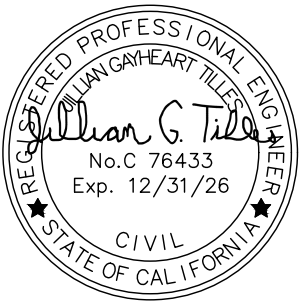
KE-NEK WATER SYSTEM,
PROPOSED TREATMENT SCHEMATIC
NOT TO SCALE

1
G103



PROPOSED TREATMENT SCHEMATIC
NOT TO SCALE

2
G103



DATE	REVISIONS	INIT.

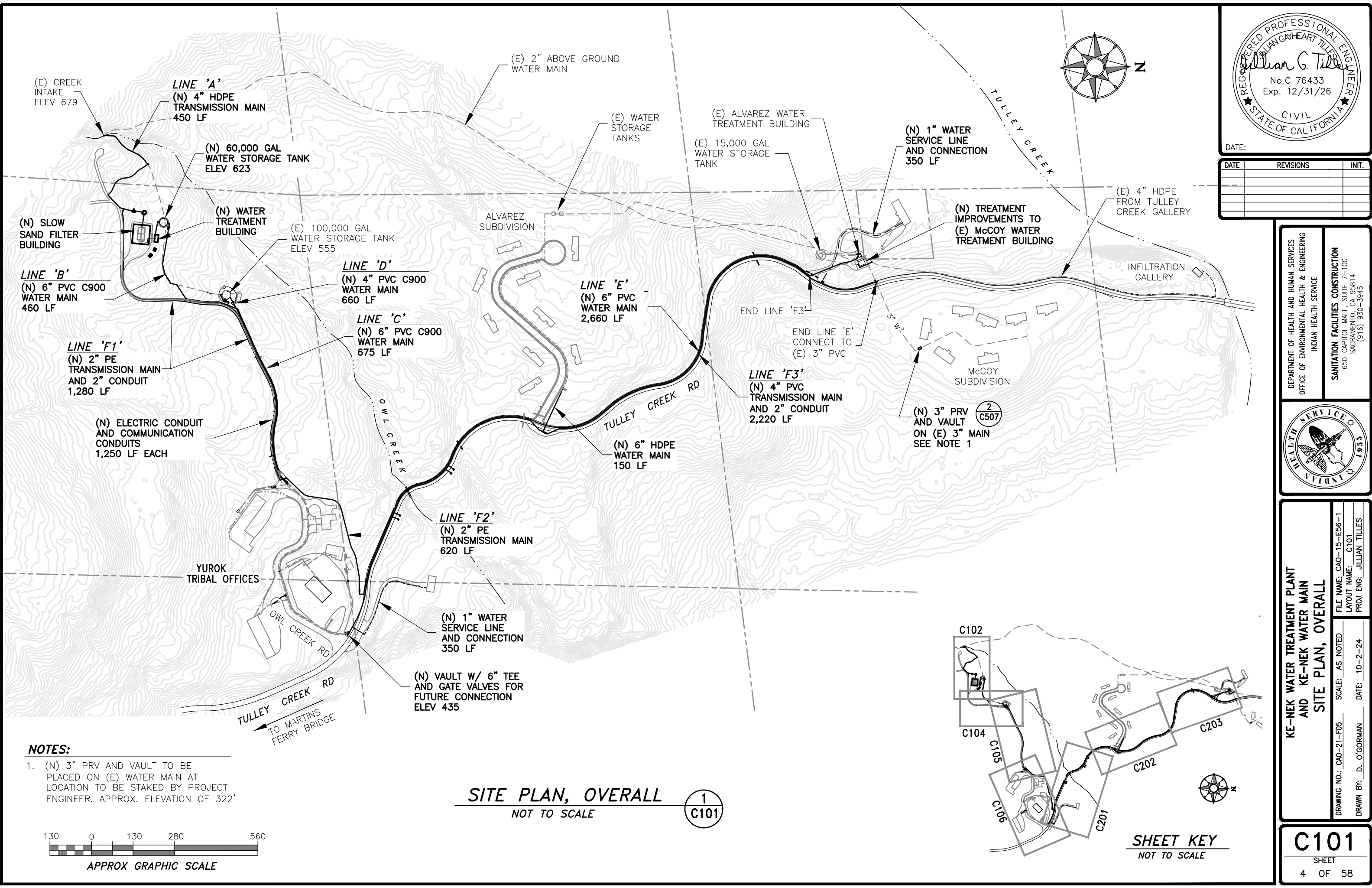
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AND KE-NEK WATER MAIN
WATER SYSTEM SCHEMATIC
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PROJ ENG: JILLIAN TILLES

G103

SHEET
3 OF 58



REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No.C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

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INDIAN HEALTH SERVICE
1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
SITE PLAN, OVERALL

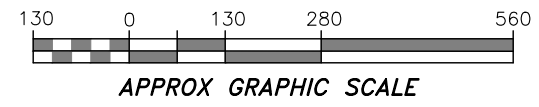
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C101

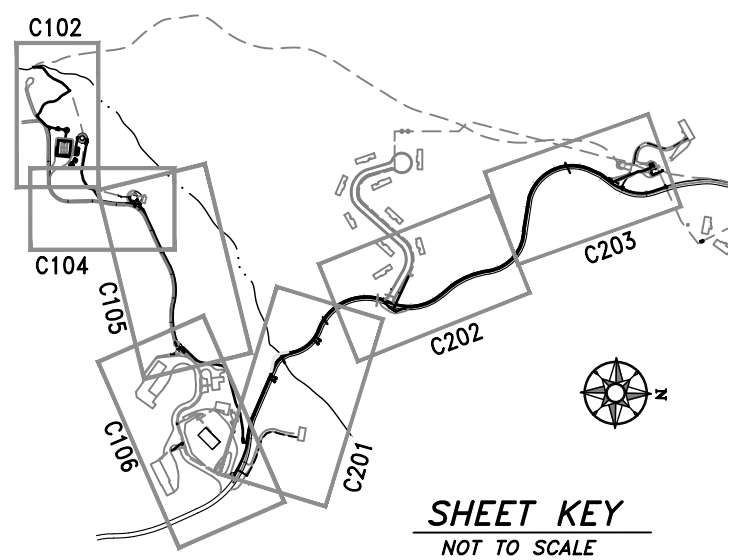
SHEET
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- NOTES:**
- (N) 3" PRV AND VAULT TO BE PLACED ON (E) WATER MAIN AT LOCATION TO BE STAKED BY PROJECT ENGINEER. APPROX. ELEVATION OF 322'

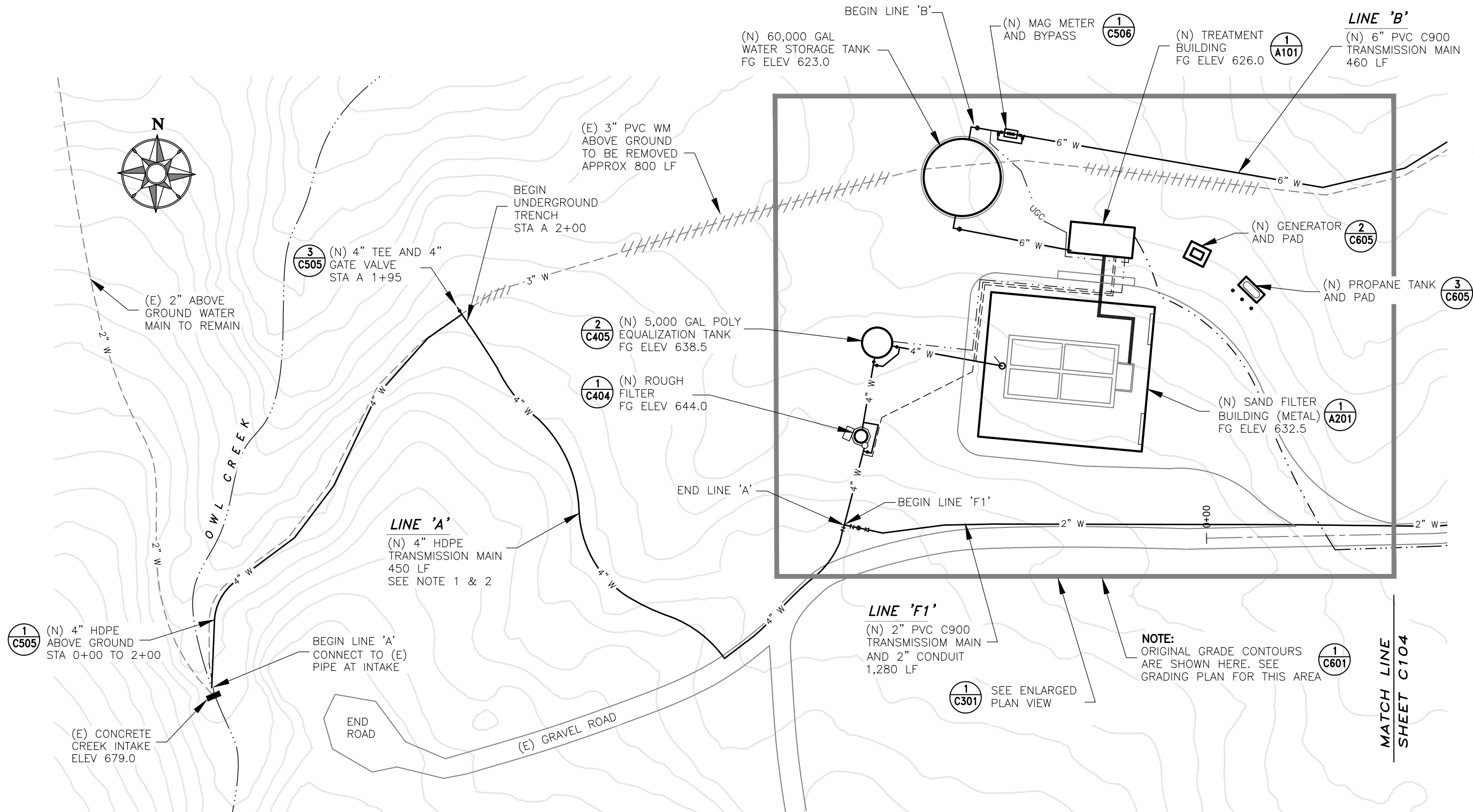


SITE PLAN, OVERALL
NOT TO SCALE

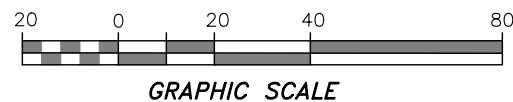
1
C101



SHEET KEY
NOT TO SCALE

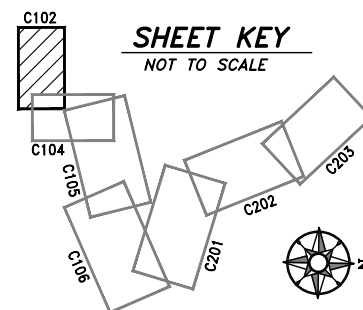


- NOTES:**
- LINE 'A' ALIGNMENT TO BE STAKED IN THE FIELD BY PROJECT ENGINEER.
 - SEE SHEET C103 FOR PROFILES OF LINES 'A' AND 'B'.



**PLAN VIEW,
UPPER ACCESS ROAD**
SCALE: 1" = 40'

1
C102



REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA
DATE: _____

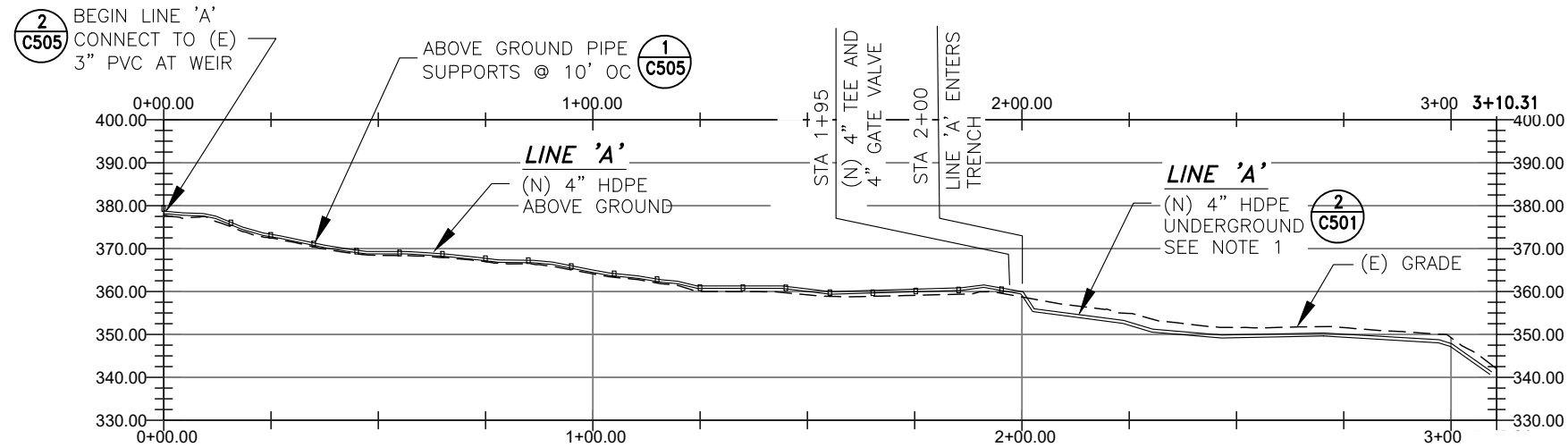
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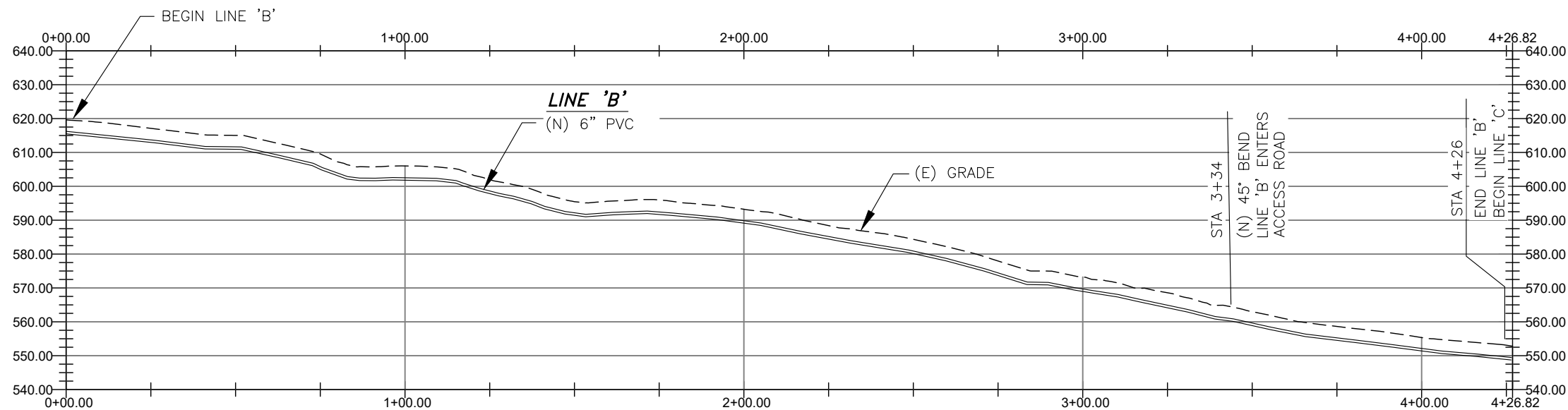
**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN VIEW, UPPER ACCESS ROAD**
FILE NAME: CAO-15-E56-1
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C102
SHEET
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PROFILE, LINE 'A'
HORIZ SCALE: 1" = 40'
VERT SCALE: 1" = 20'

- NOTES:**
1. MAINTAIN A POSITIVE SLOPE THROUGH GRADING OR DEEPER TRENCH WORK.



PROFILE, LINE 'B'
HORIZ SCALE: 1" = 40'
VERT SCALE: 1" = 20'



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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PROFILES, LINE 'A' AND 'B'

DRAWING NO.: CAO-21-F05
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SHEET C102
MATCH LINE



(E) 3" PVC WM
ABOVE GROUND -
TO BE REMOVED
APPROX 800 LF

LINE 'F1'
(N) 2" PVC C900
TRANSMISSION MAIN
AND 2" CONDUIT
1,280 LF

LINE 'B'
(N) 6" PVC C900
WATER MAIN
460 LF

2-(E) POLY TANKS
TO BE REMOVED

(E) 100,000 GAL
WATER STORAGE TANK
ELEV 550.00

LINE 'D'

— (N) 4" PVC C900
WATER MAIN
660 LF

SEE NOTE 2

22.5° BEND
2 PLACES

LINE 'C'
— (N) 6" PVC C900
WATER MAIN
675 LF

LINE 'F1'

(N) 2" PVC C900
TRANSMISSION MAIN
AND 2" CONDUIT
1,280 LF

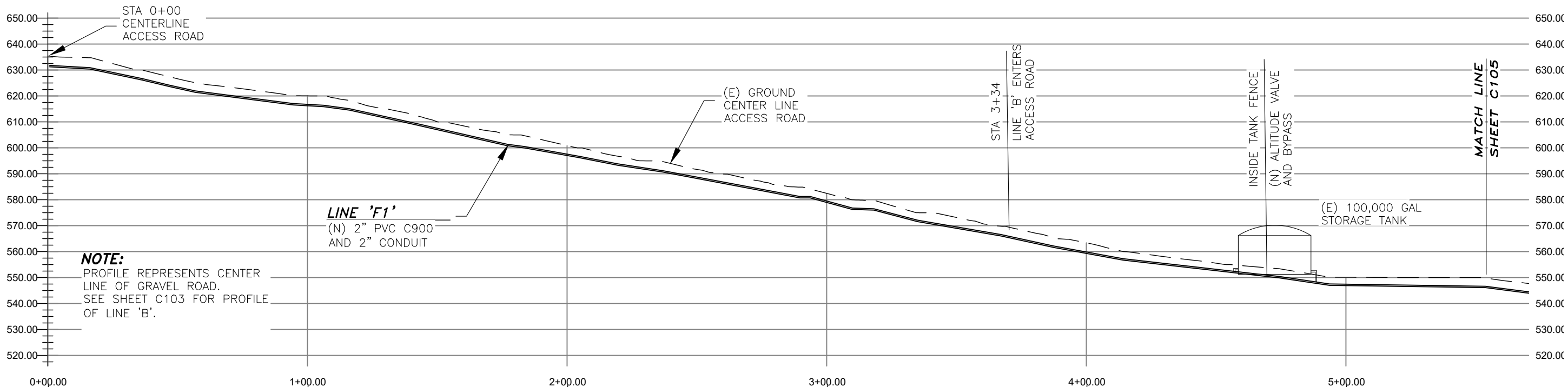
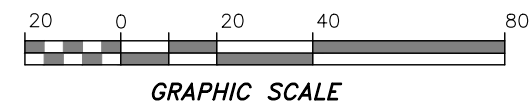
TYPICAL SECTION
STA 5+50 TO 11+25
ACCESS ROAD

NOTES:

1. MAINTAIN 4 FT MIN HORIZONTAL DISTANCE BETWEEN LINE 'F1' AND ANY OTHER MAIN OR CONDUIT TRENCH. LINE 'F1' SHALL REMAIN 1 FT BELOW ANY OTHER LINE.
2. LINE 'C' TO RUN UNDER LINE 'D' WITH 12" VERTICAL CLEARANCE BETWEEN THE TWO.

PLAN VIEW, ACCESS ROAD

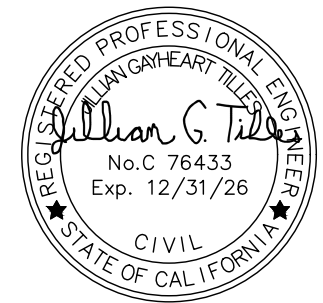
SCALE: 1" = 40'



NOTE:
 _ PROFILE REPRESENTS CENTER
 _ LINE OF GRAVEL ROAD.
 _ SEE SHEET C103 FOR PROFILE
 _ OF LINE 'B'.

PROFILE, ACCESS ROAD

HORIZ SCALE: 1" = 40'
VERT SCALE: 1" = 40'



DATE: _____

[illegible]

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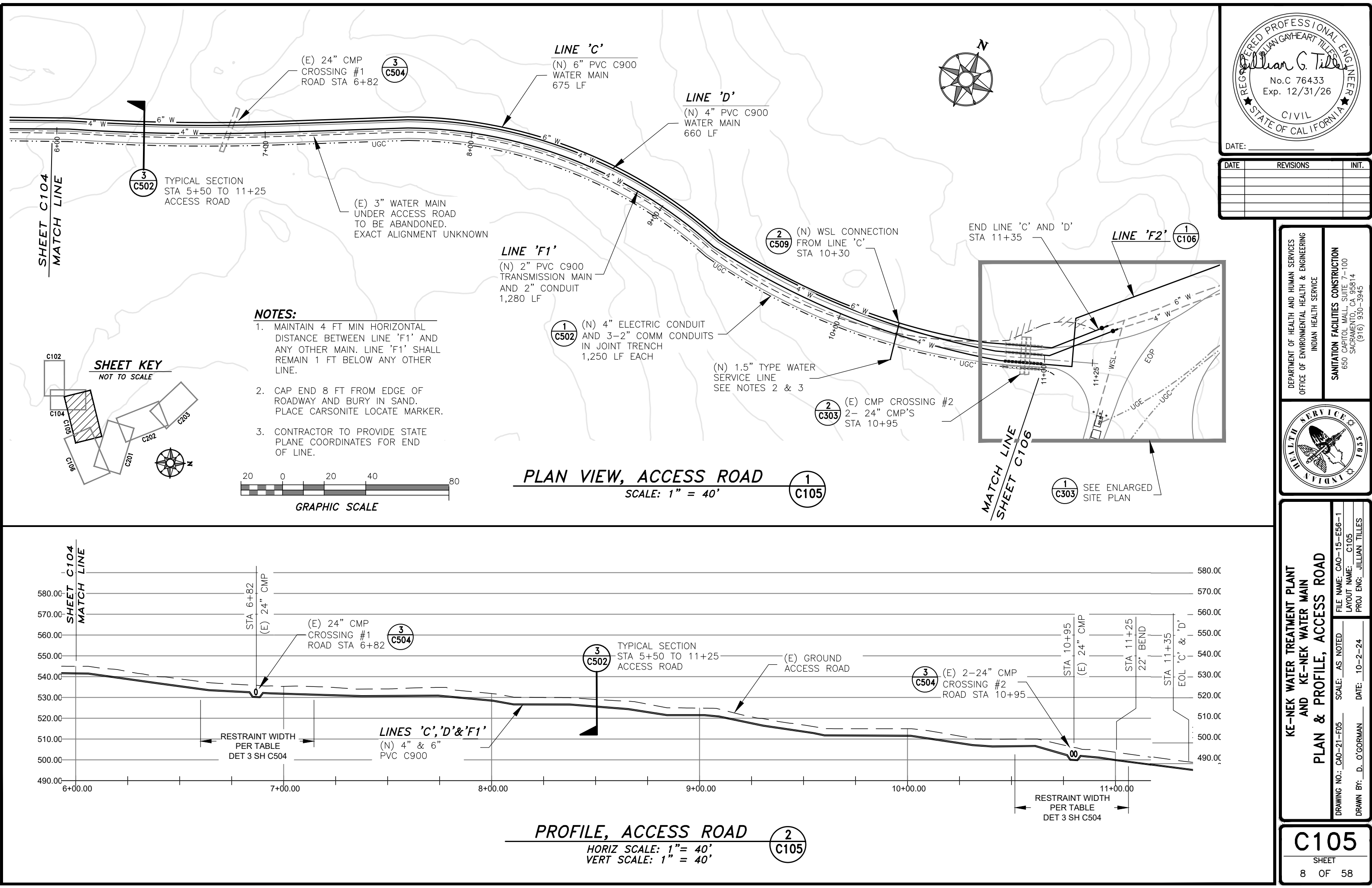


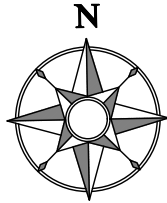
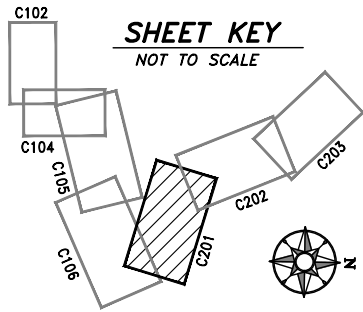
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AND KE-NEK WATER MAIN
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C104

SHEET
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LINE 'E'
(N) 6" PVC
WATER MAIN
2,620 LF

LINE 'F3'
(N) 4" PVC
TRANSMISSION MAIN
AND 2" CONDUIT
2,220 LF

LINE 'F2'
(N) 2" PE
TRANSMISSION MAIN
AND 2" CONDUIT
620 LF
SEE NOTE 3

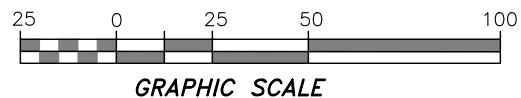
NOTES:

1. REMOVE (E) WSL CONNECTION ON 6" WATER MAIN AND RECONNECT TO (E) 4" WATER MAIN. CAP (E) 6"
2. MAINTAIN 10 FT MIN SEPARATION FROM SEPTIC SYSTEM AND LPG TANK.
3. ALIGNMENT OF LINE 'F2' TO BE STAKED IN THE FIELD BY PROJECT ENGINEER.

END OF LINES 'D' AND 'E'
CONNECT TO (E)
4" & 6" HDPE
STA 11+35

END LINE 'F1'
BEGIN LINE 'F2'

MATCH LINE
SHEET C105



TULLEY CREEK RD

**YUROK
TRIBAL OFFICES**

2
C509 (N) WATER METER
AND CONNECTION

(N) VALVE CLUSTER,
CHECK VALVE AND
6" BLIND FLANGE
FOR FUTURE
CONNECTION **2**
C304

SHEET C201
MATCH LINE

SEE ENLARGED PLAN
VIEW OF THIS AREA **1**
C304

(E) FIRE
HYDRANT

(E) FIRE AND
FITNESS CENTER

(E) FLUSH
HYDRANT

(E) PAVED ACCESS
ROAD AVAILABLE
DURING CONSTRUCTION

(E) WSL AND GATE
VALVE TO BE
ABANDONED IN PLACE
CLOSE VALVE AND CAP END

2
C509 (N) WATER SERVICE
CONNECTION
SEE NOTE 1

2
C509 (N) WATER SERVICE
CONNECTION TO 4" WM
AND (N) 1" GATE VALVE

(N) 1" WSL, 40 LF
CONNECT TO
(E) 1" WSL

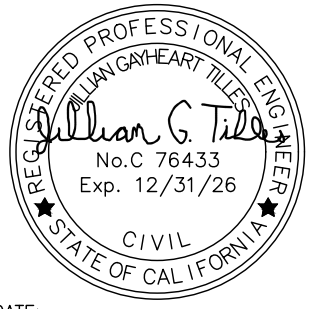
(E) TRANSPORTATION BUILDING

(E) EMERGENCY
SERVICES BUILDING

PLAN VIEW, TRIBAL OFFICES

SCALE: 1" = 50'

1
C106



DATE	REVISIONS	INIT.

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OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
INDIAN HEALTH SERVICE

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(916) 930-3945

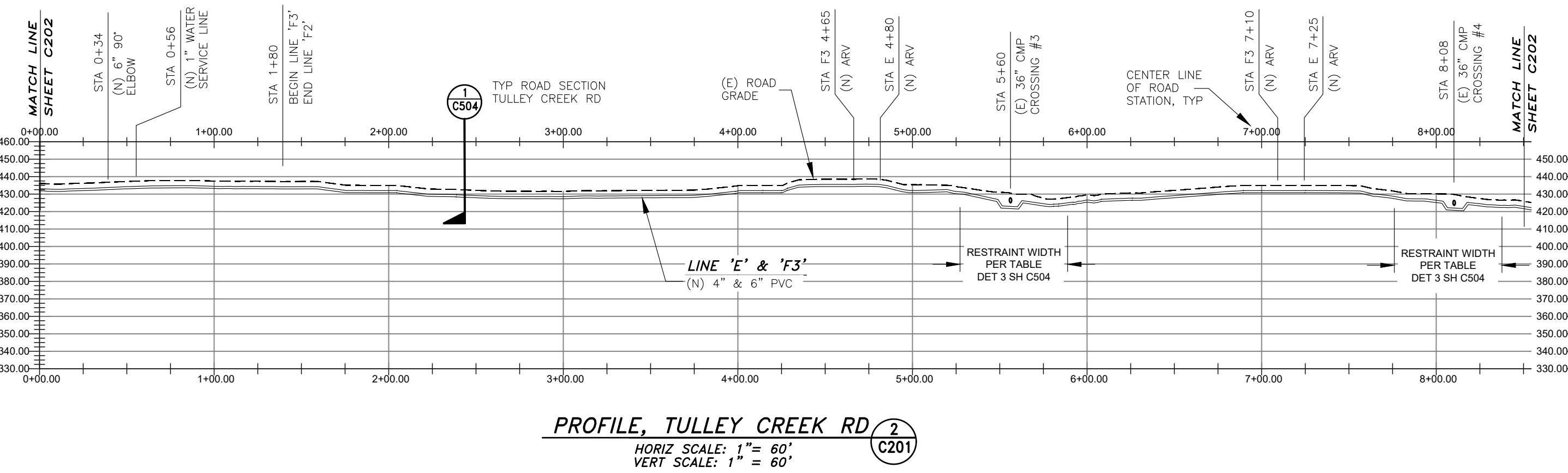
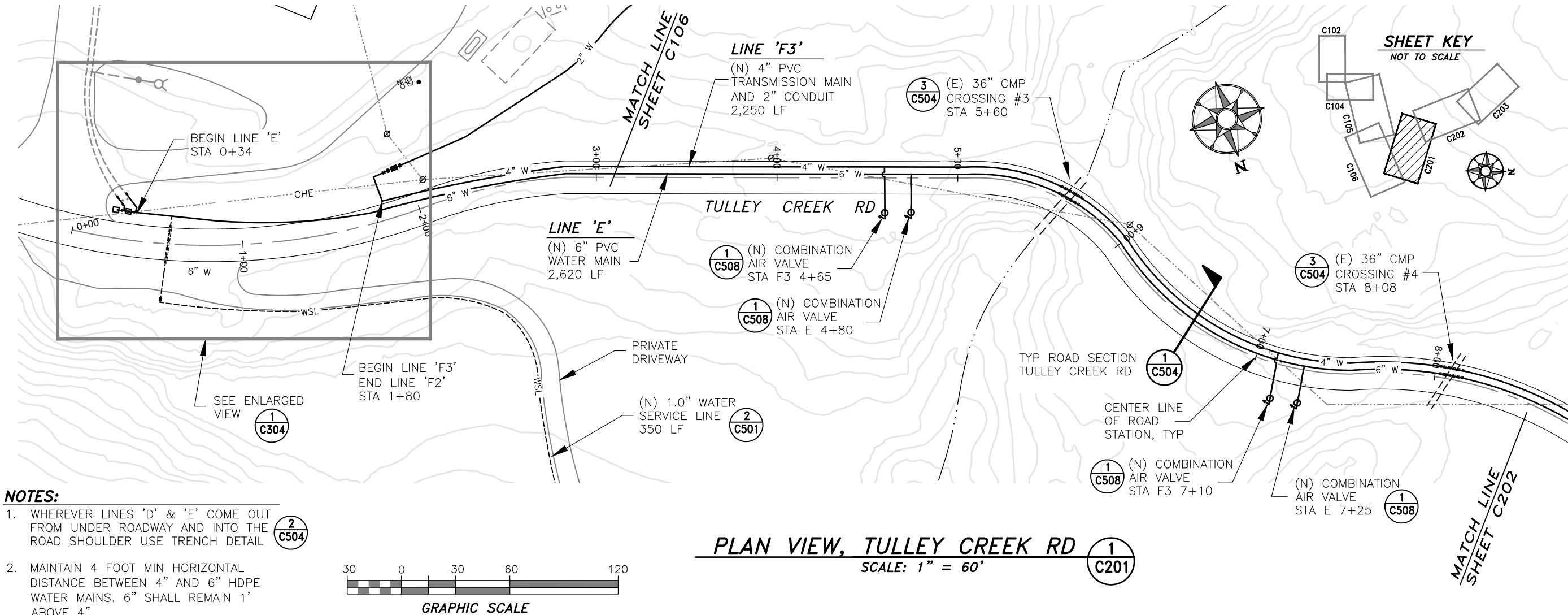


**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN VIEW, TRIBAL OFFICES**

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C106
PROJ ENG: JILLIAN TILLES
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

C106

SHEET
9 OF 58



REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.

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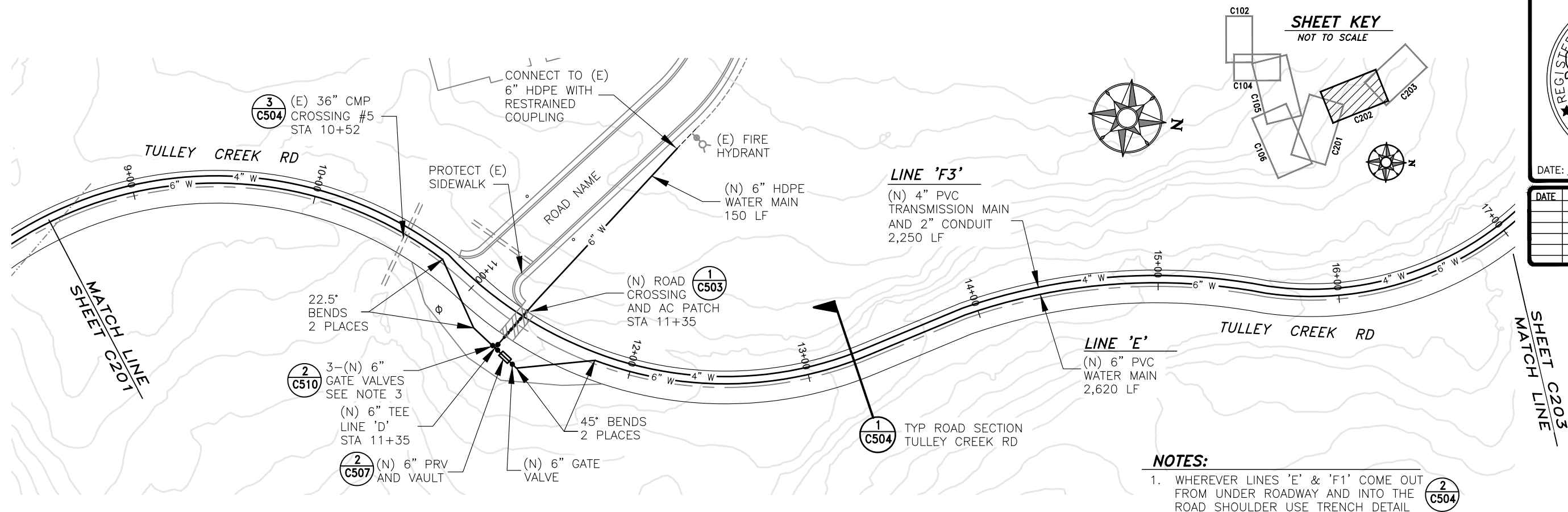
INDIAN HEALTH SERVICE
1955

**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN & PROFILE, TULLEY CREEK RD**

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-1
LAYOUT NAME: C201
PROJ ENG: JILLIAN TILLES

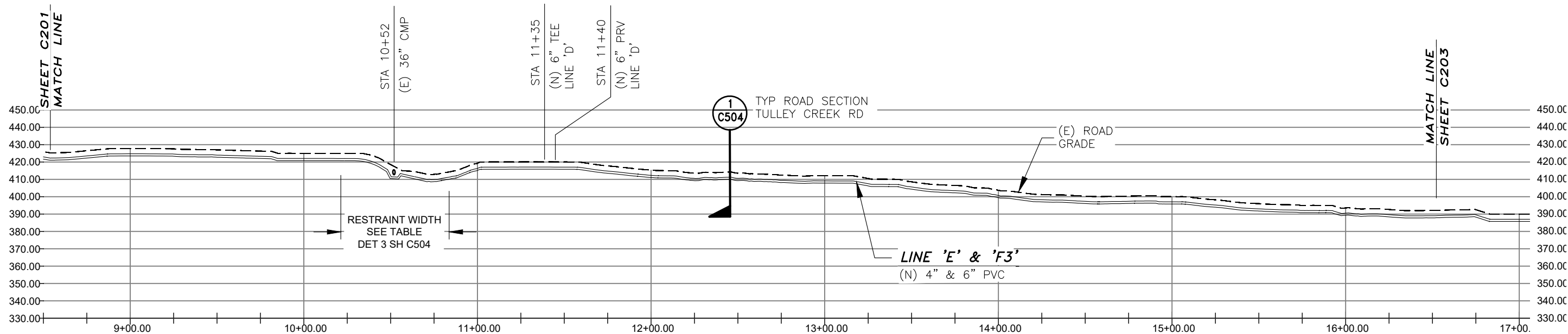
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

C201
SHEET
10 OF 58

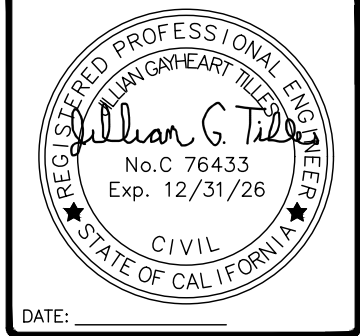
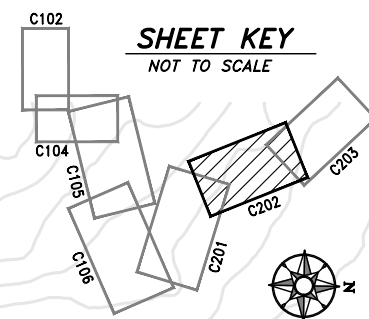


PLAN VIEW, TULLEY CREEK RD
SCALE: 1" = 60'

- NOTES:
- WHEREVER LINES 'E' & 'F1' COME OUT FROM UNDER ROADWAY AND INTO THE ROAD SHOULDER USE TRENCH DETAIL
 - MAINTAIN 4 FOOT MIN HORIZONTAL DISTANCE BETWEEN 4" AND 6" HDPE WATER MAINS. 6" SHALL REMAIN 1' ABOVE 4".
 - GATE VALVE CLUSTER TO BE A MIN OF 5' FROM EDGE OF PAVEMENT.



PROFILE, TULLEY CREEK RD
HORIZ SCALE: 1" = 60'
VERT SCALE: 1" = 50'



DATE	REVISIONS	INIT.

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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN & PROFILE, TULLEY CREEK RD

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C202
PROJ ENG: JILLIAN TILLES

NOTES:

- WHEREVER LINES 'E' & 'F3' COME OUT FROM UNDER ROADWAY AND INTO THE ROAD SHOULDER USE TRENCH DETAILS
- MAINTAIN 4 FOOT MIN HORIZONTAL DISTANCE BETWEEN 4" AND 6" HDPE WATER MAINS. 6" SHALL REMAIN 1' ABOVE 4".
- EXACT LOCATION OF 3" WATER MAIN CROSSING IS UNKNOWN. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION IN THIS AREA.

2
C504

TYP ROAD SECTION
TULLEY CREEK RD

1
C504

LINE 'F3'

(N) 4" PVC
TRANSMISSION MAIN
AND 2" CONDUIT
2,250 LF

LINE 'E'

(N) 6" PVC
WATER MAIN
2,620 LF

3
C504

(E) 36" CMP
CROSSING #6
STA 21+50

2
C509

(N) WATER SERVICE
LINE CONNECTION
AND WATER METER
STA 23+90

1
C509

(N) FLUSH
HYDRANT
STA 24+00

1
C305

SEE ENLARGED
VIEW

1
C511

END OF LINE 'E'
STA 25+80

REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA
DATE: _____

REVISIONS	INIT.

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INDIAN HEALTH SERVICE
1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN & PROFILE, TULLEY CREEK RD

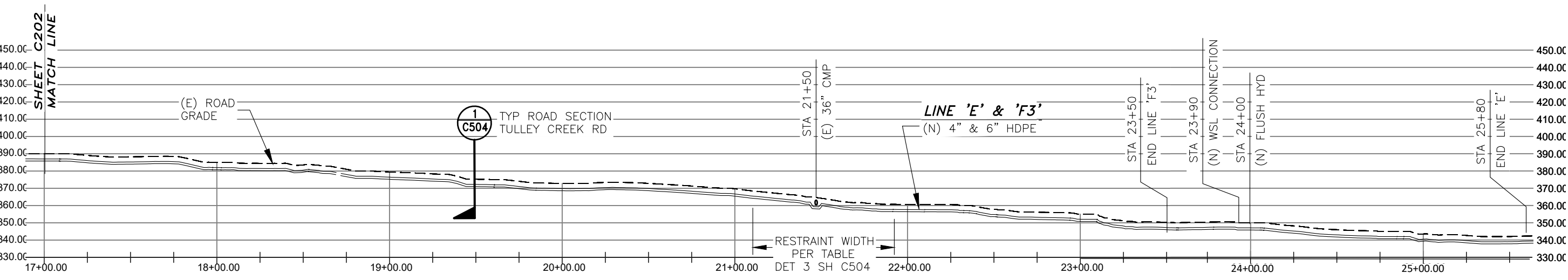
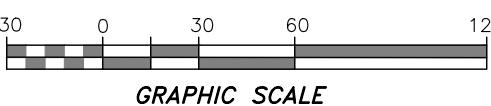
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C203
PROJ ENG: JILLIAN TILLES

C203
SHEET
12 OF 58

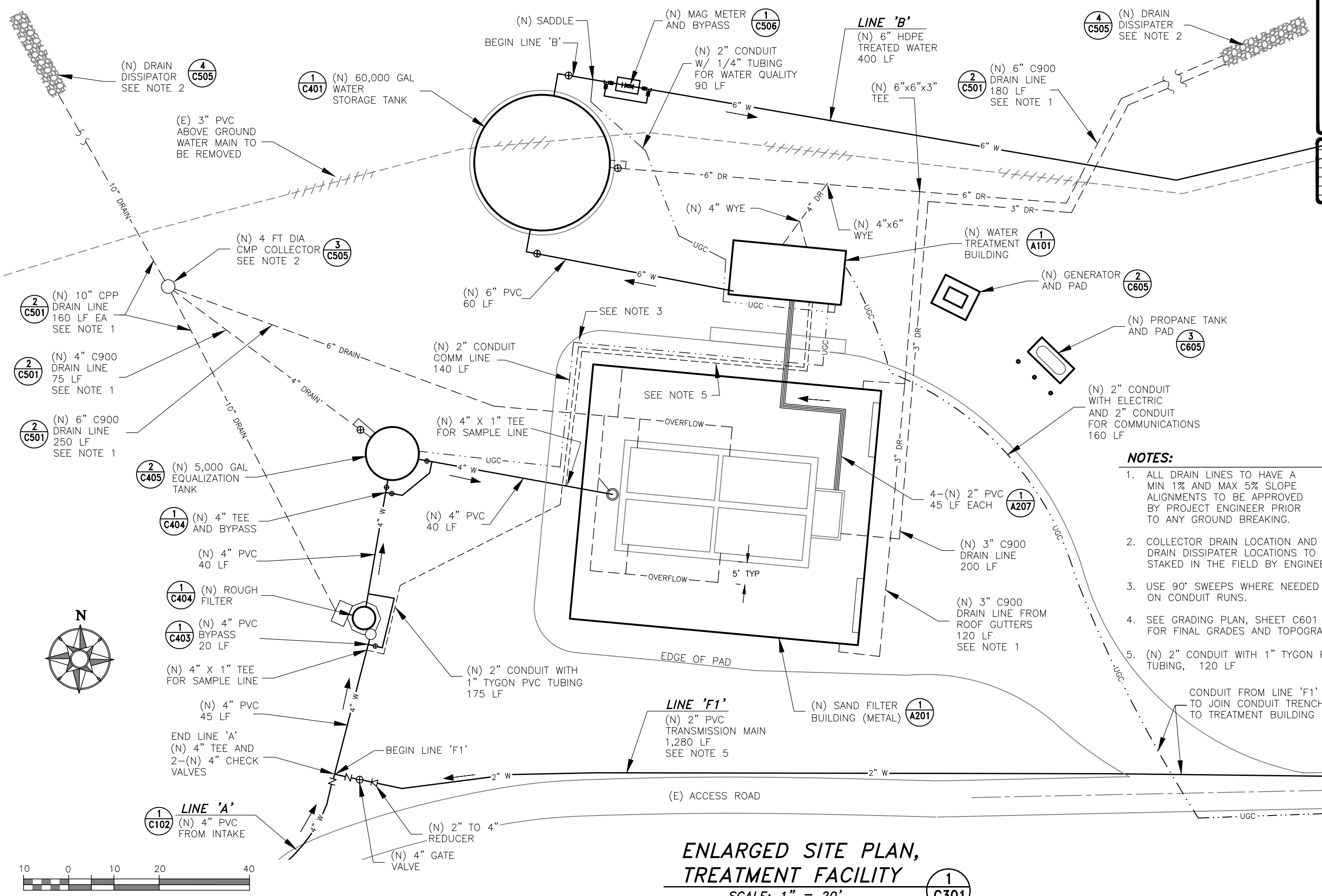
SHEET KEY
NOT TO SCALE

C102
C104
C105
C202
C203
C201
30'



PROFILE, TULLEY CREEK RD
HORIZ SCALE: 1" = 60'
VERT SCALE: 1" = 50'

2
C203



REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.

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OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
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1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ENLARGED SITE PLAN, TREATMENT FACILITY

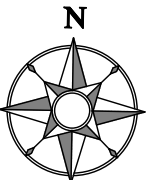
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C301
PROJ. ENG: JILLIAN TILLES

C301

SHEET
13 OF 58

- NOTES:**
- ALL DRAIN LINES TO HAVE A MIN 1% AND MAX 5% SLOPE ALIGNMENTS TO BE APPROVED BY PROJECT ENGINEER PRIOR TO ANY GROUND BREAKING.
 - COLLECTOR DRAIN LOCATION AND DRAIN DISSIPATER LOCATIONS TO BE STAKED IN THE FIELD BY ENGINEER.
 - USE 90° SWEEPS WHERE NEEDED ON CONDUIT RUNS.
 - SEE GRADING PLAN, SHEET C601 FOR FINAL GRADES AND TOPOGRAPHY.
 - (N) 2" CONDUIT WITH 1" TYGON PVC TUBING, 120 LF
- CONDUIT FROM LINE 'F1' TO JOIN CONDUIT TRENCH TO TREATMENT BUILDING HERE

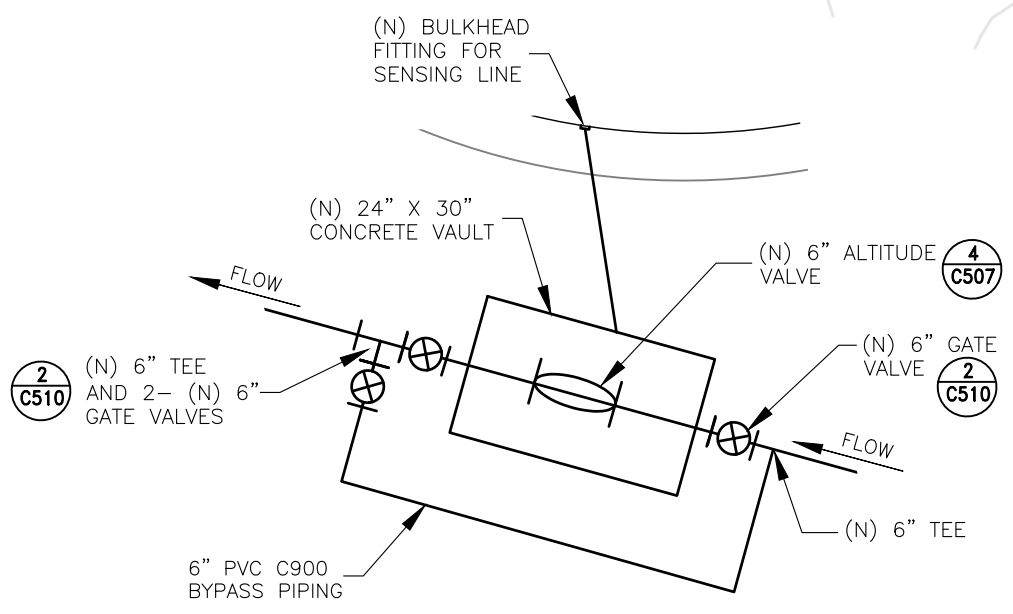
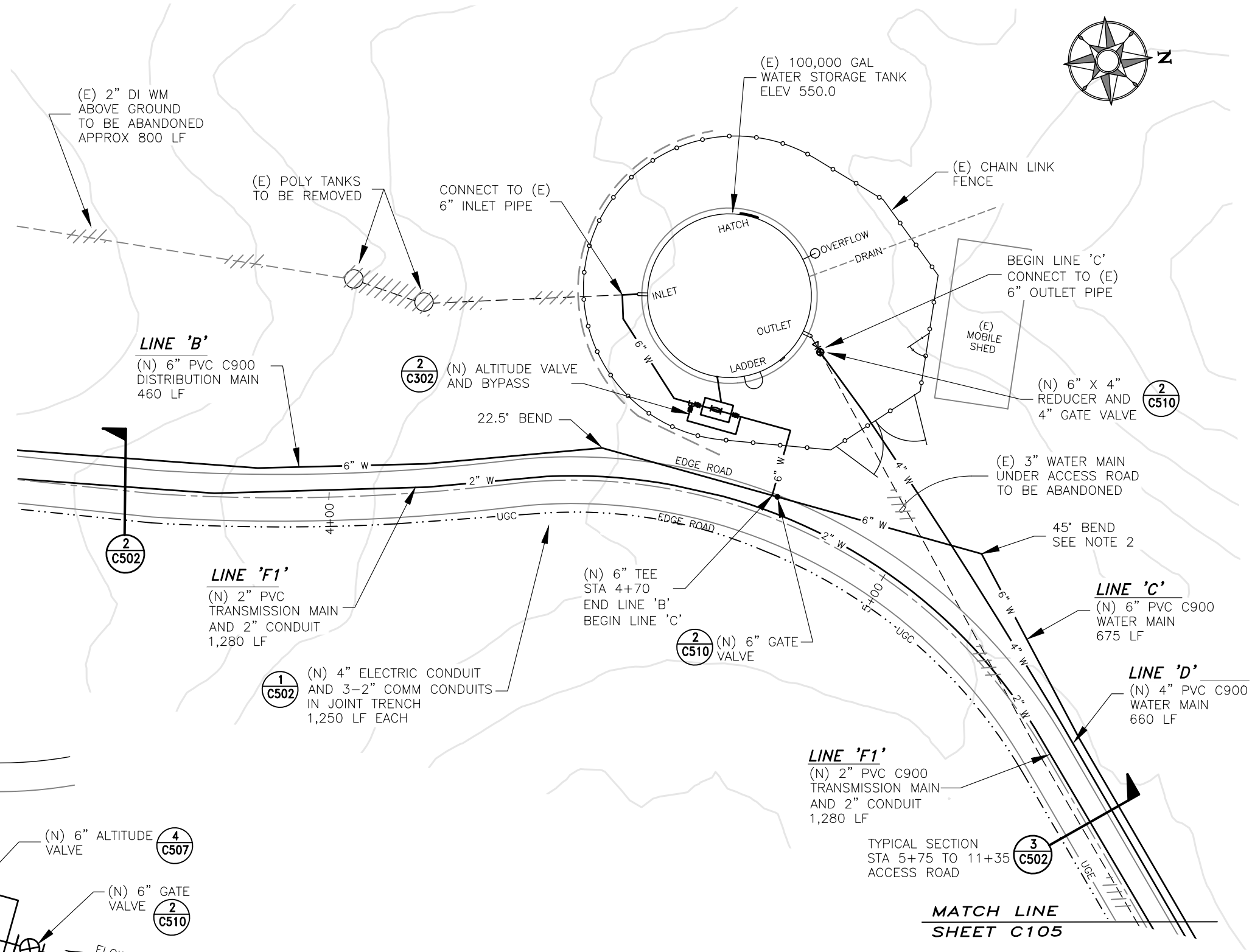

N


10 0 10 20 40
GRAPHIC SCALE

**ENLARGED SITE PLAN,
TREATMENT FACILITY**
SCALE: 1" = 20'
1
C301

NOTES:

1. MAINTAIN 4 FT MIN HORIZONTAL DISTANCE BETWEEN LINE 'F1' AND ANY OTHER MAIN. LINE 'F1' SHALL REMAIN 1 FT BELOW ANY OTHER LINE.
2. WIDEN OUT HORIZ SEPARATION BETWEEN LINE 'C' AND 'D' TO ALLOW ROOM FOR ELBOW. LINE 'C' TO GO UNDER 'D' WITH 1 FT VERTICAL SEPARATION.



ALTITUDE VALVE DETAIL
NOT TO SCALE

2
C302

**ENLARGED SITE PLAN,
100,000 GAL TANK**

SCALE: 1" = 20'

1
C302

REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.

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1955

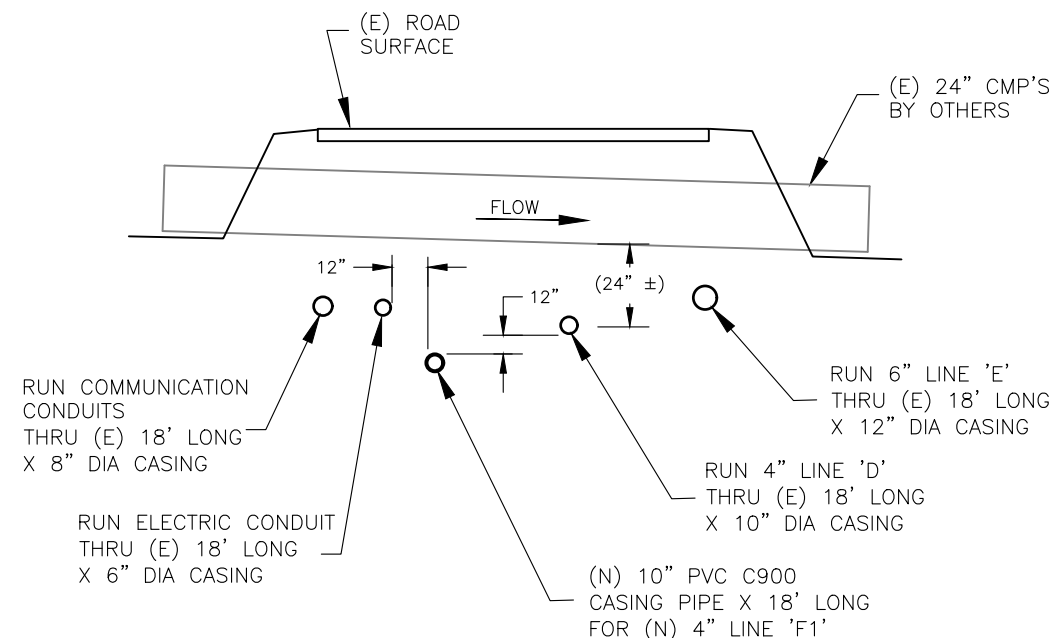
KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ENLARGED SITE PLAN, 100,000 GAL TANK

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-1
LAYOUT NAME: C302
PROJ ENG: JILLIAN TILLES

SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

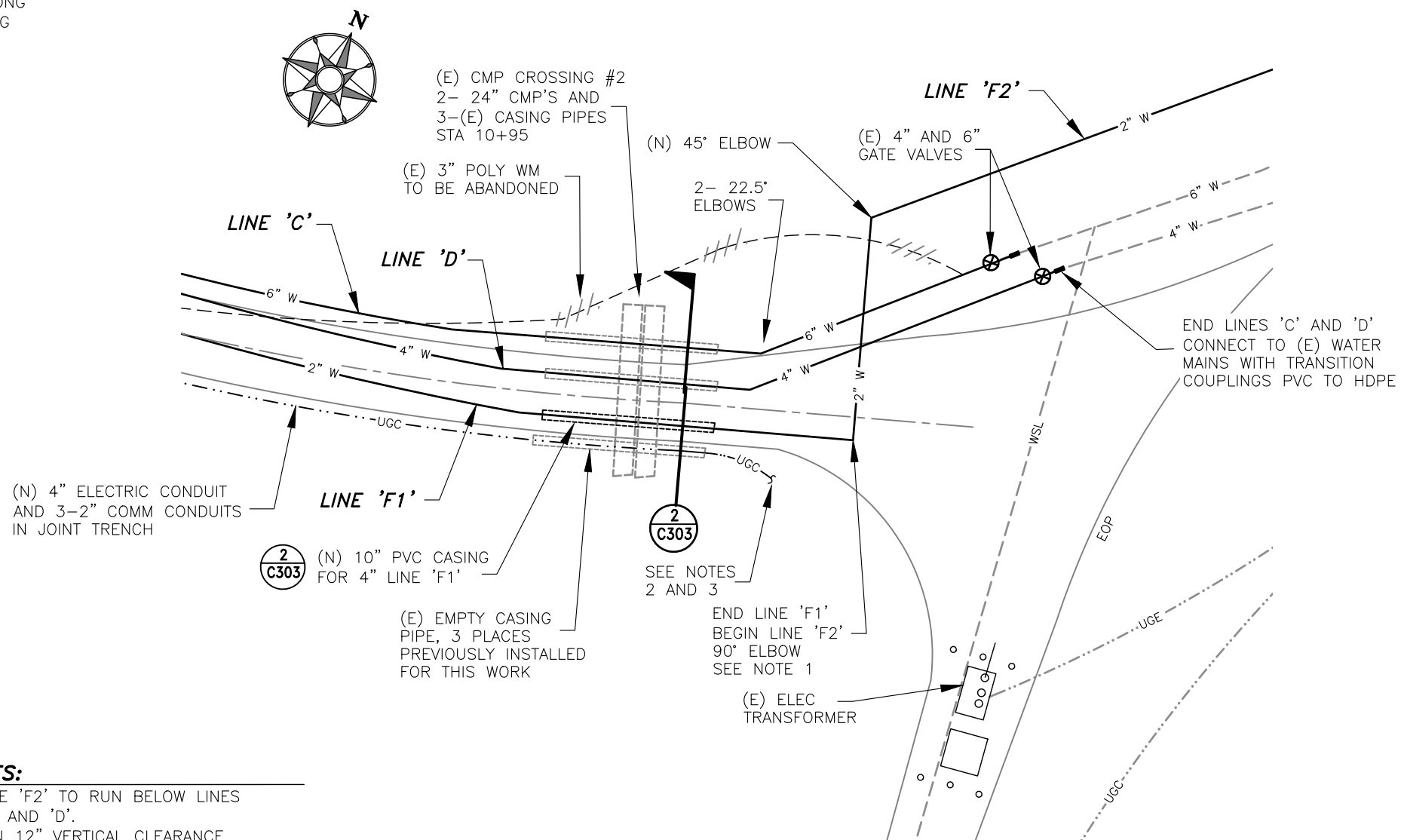
C302

SHEET
14 OF 58



DETAIL, CMP CROSSING
NOT TO SCALE

2
C303



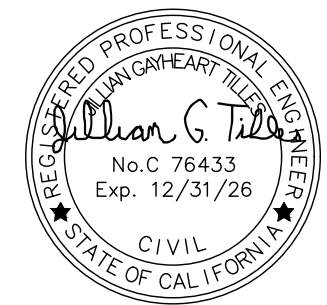
NOTES:

1. LINE 'F2' TO RUN BELOW LINES 'C' AND 'D'. MIN 12" VERTICAL CLEARANCE
2. COORDINATE END POINT CONNECTIONS FOR ELECTRIC CABLES FROM TREATMENT PLANT WITH YUROK PLANNING DEPARTMENT.
2. COORDINATE END POINT CONNECTIONS FOR COMMUNICATIONS CABLES FROM TREATMENT PLANT WITH YUROK CONNECT.

**ENLARGED PLAN VIEW,
END OF ACCESS RD**

SCALE: 1" = 40'

1
C303



DATE: _____

DATE	REVISIONS	INIT.

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**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ENLARGED SITE PLAN, TULLEY CREEK RD**

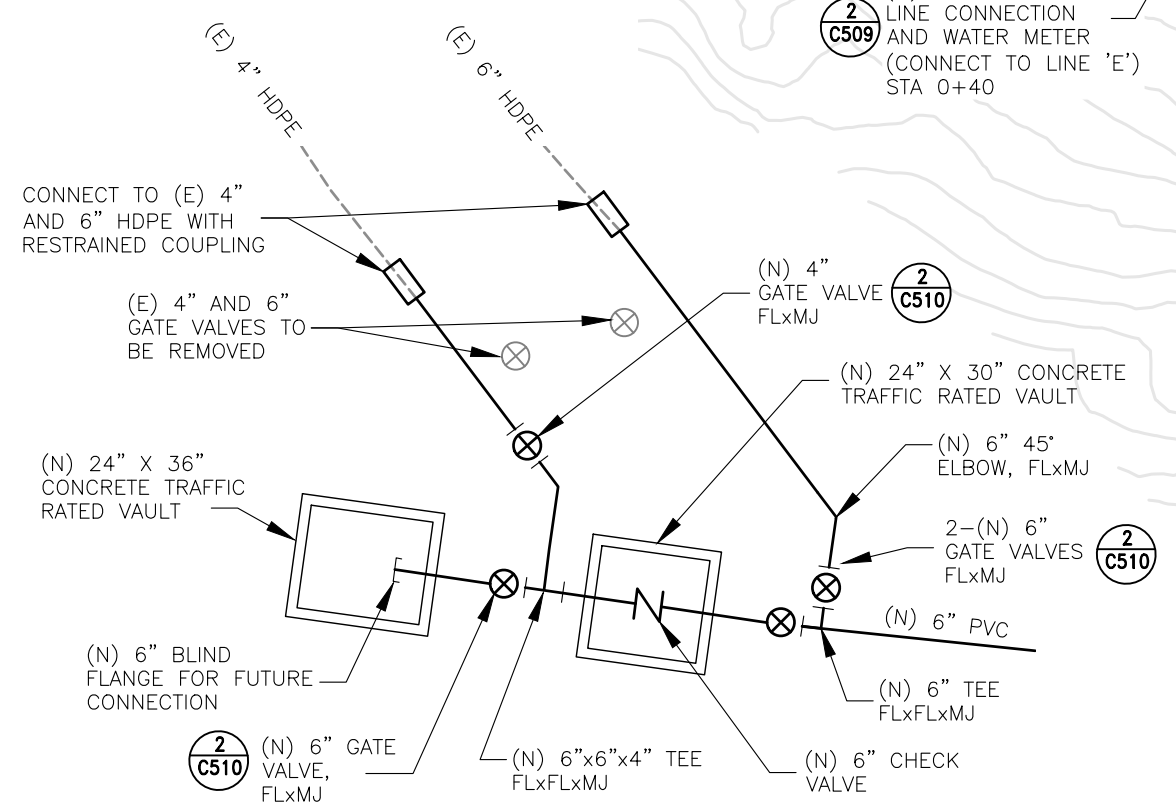
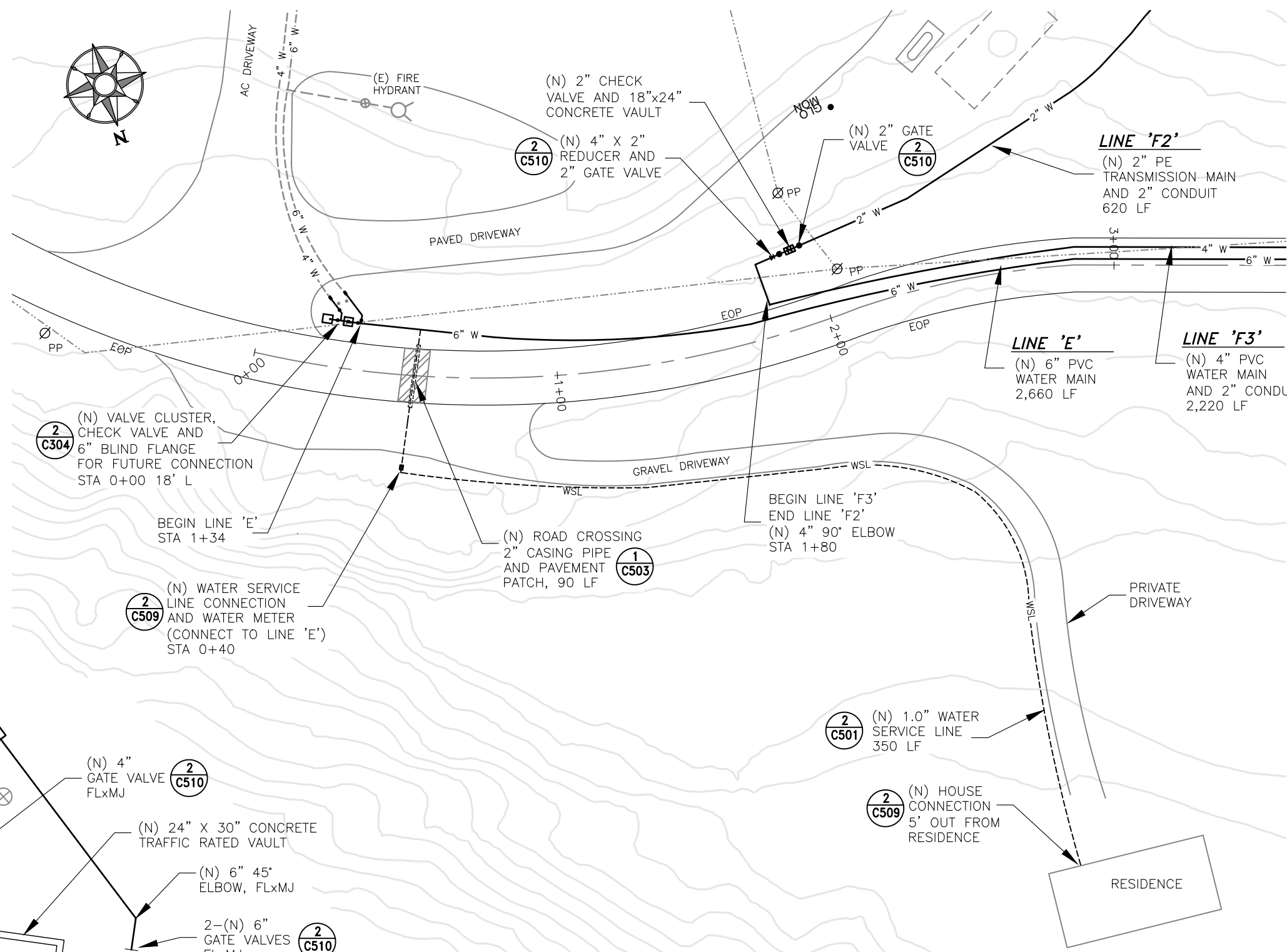
FILE NAME: CAO-15-E56-1
LAYOUT NAME: C303
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

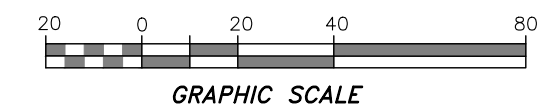
DRAWN BY: D. O'GORMAN

C303

SHEET
15 OF 58



ENLARGED SITE PLAN,
TULLEY CREEK ROAD
SCALE: 1" = 40'



VALVE BYPASS DETAIL
NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

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DATE	REVISIONS	INIT.

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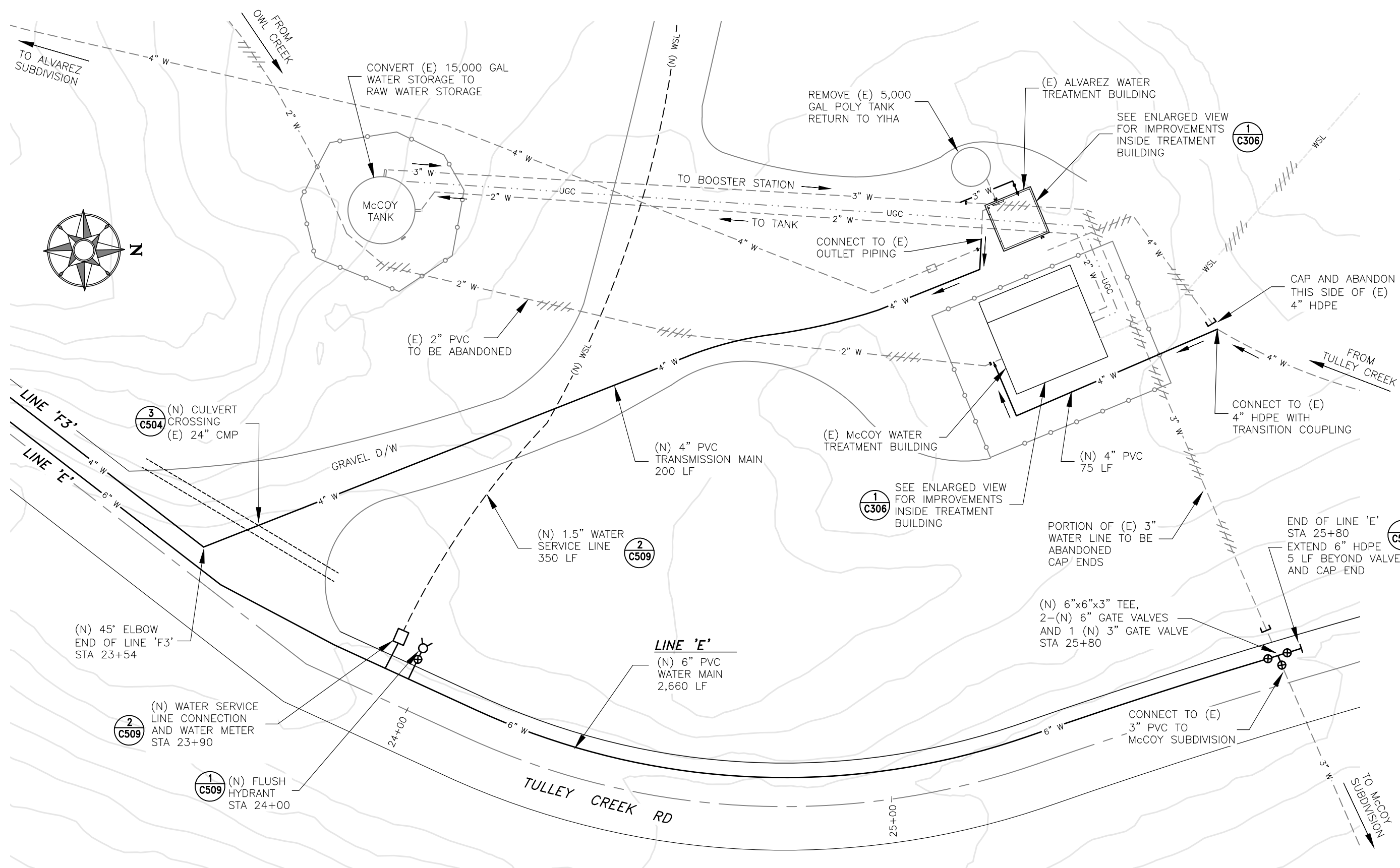
KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ENLARGED SITE PLAN, TULLEY CREEK RD

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C304
PROJ. ENG: JILLIAN TILLES

C304

SHEET
16 OF 58



REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No.C 76433
Exp. 12/31/26
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STATE OF CALIFORNIA

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REVISIONS	INIT.

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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ENLARGED SITE PLAN, TREATMENT IMPROVEMENTS

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-1
LAYOUT NAME: C305
PROJ. ENG: JILLIAN TILLES

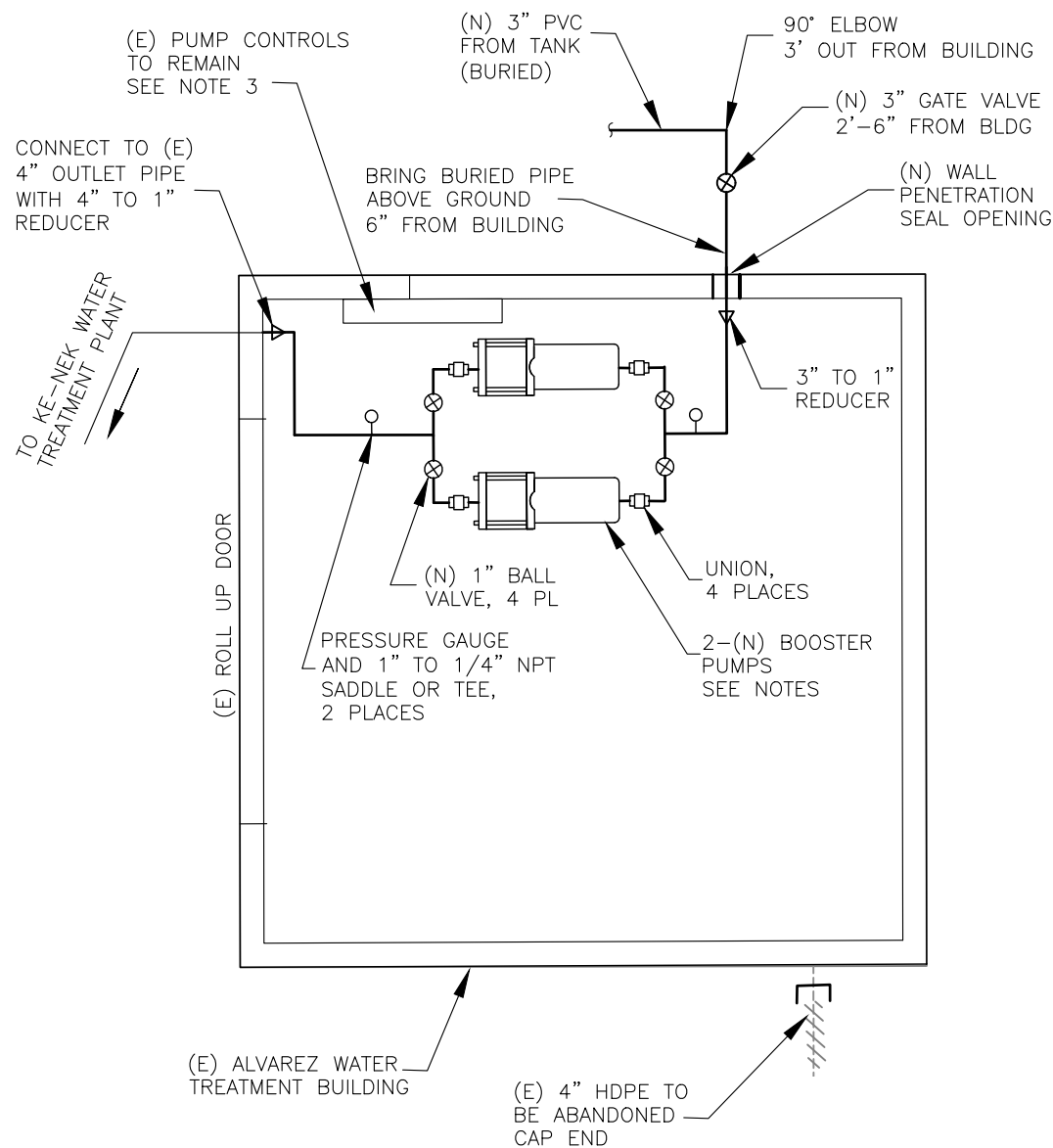
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN

C305

SHEET
17 OF 58

ENLARGED SITE PLAN
TREATMENT IMPROVEMENTS
SCALE: 1" = 20'



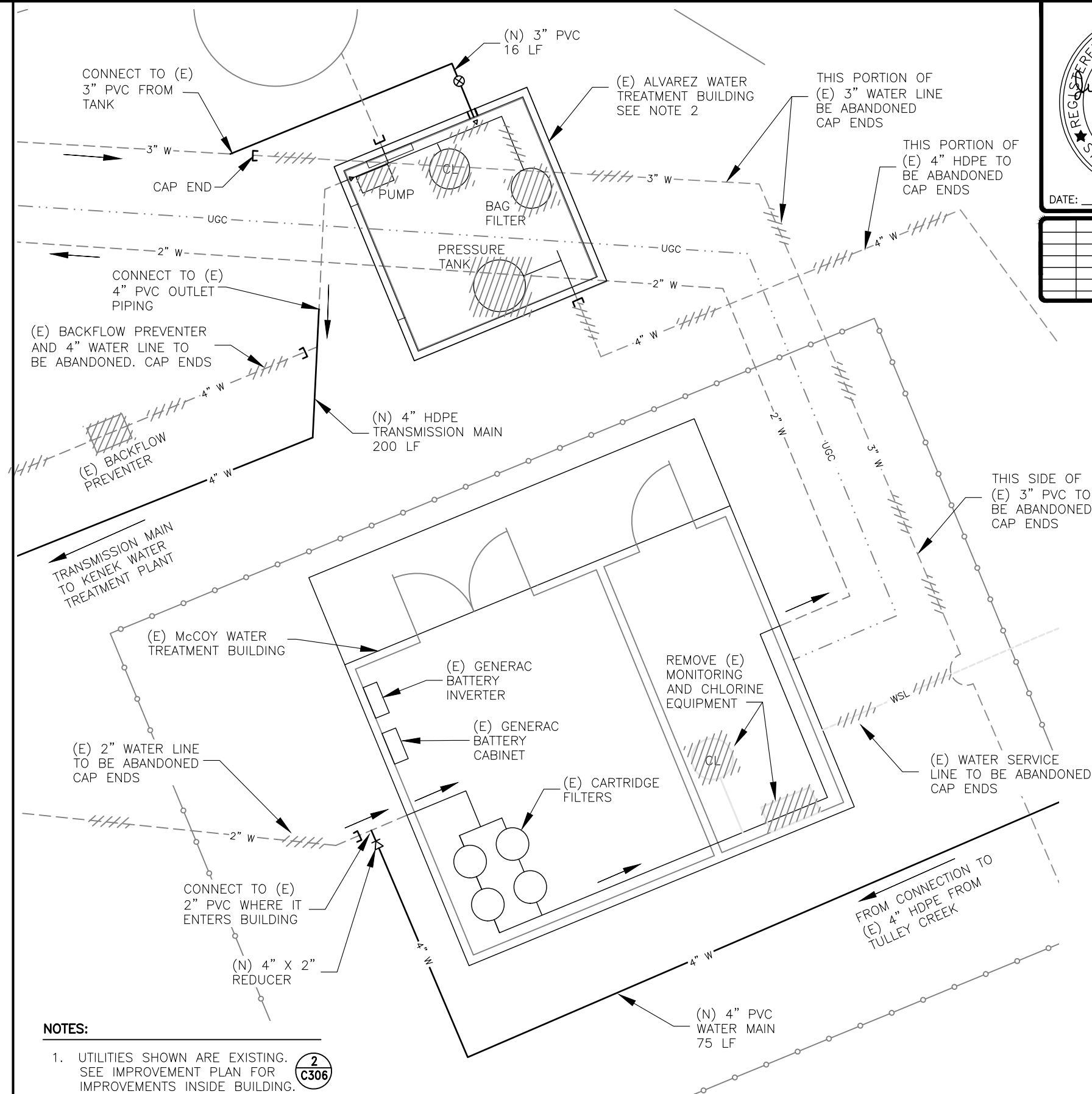
NOTES:

1. MOUNT BOOSTER PUMPS TO FLOOR PER MANUFACTURER.
2. USE 1" NPT PIPE AND FITTINGS.
3. (E) PUMP CONTROLS TO RECIEVE EQUALIZATION TANK FLOAT TRIGGERS (DET 1, SH C405) AND McCOY TANK FLOAT TRIGGERS (DET1, SH C305)

ALVAREZ TREATMENT BLDG, IMPROVEMENT PLAN

NOT TO SCALE

2
C306



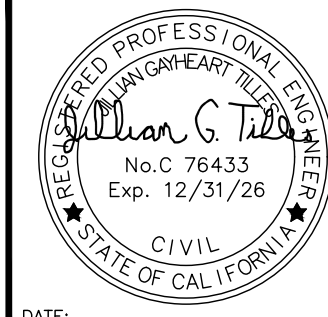
NOTES:

1. UTILITIES SHOWN ARE EXISTING. SEE IMPROVEMENT PLAN FOR IMPROVEMENTS INSIDE BUILDING.
2. INTERIOR PIPING AND APPURTENANCES (EXCEPT FOR PUMP CONTROLS) TO BE REMOVED. COORDINATE WITH YPUD AND YIHA.
3. VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO ANY IMPROVEMENTS.

ENLARGED SITE PLAN TREATMENT IMPROVEMENTS

NOT TO SCALE

1
C306



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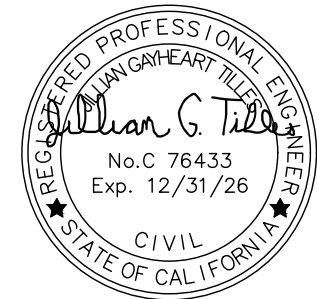
**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ENLARGED SITE PLAN, TREATMENT IMPROVEMENTS**

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C306
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN

C306
SHEET
18 OF 58



DATE: _____

DATE	REVISIONS	INIT.

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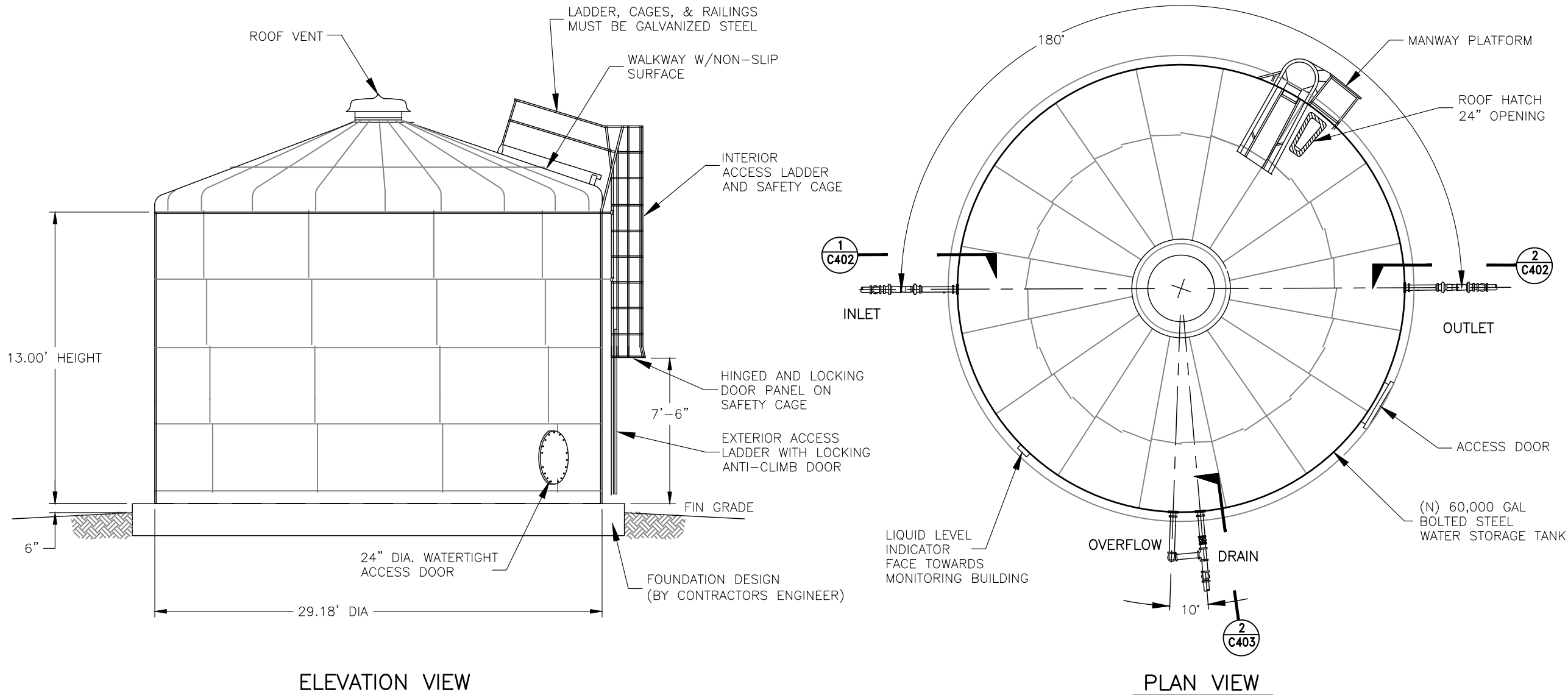
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SACRAMENTO, CA 95814
(916) 930-3945



KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
60,000 GAL WATER STORAGE TANK

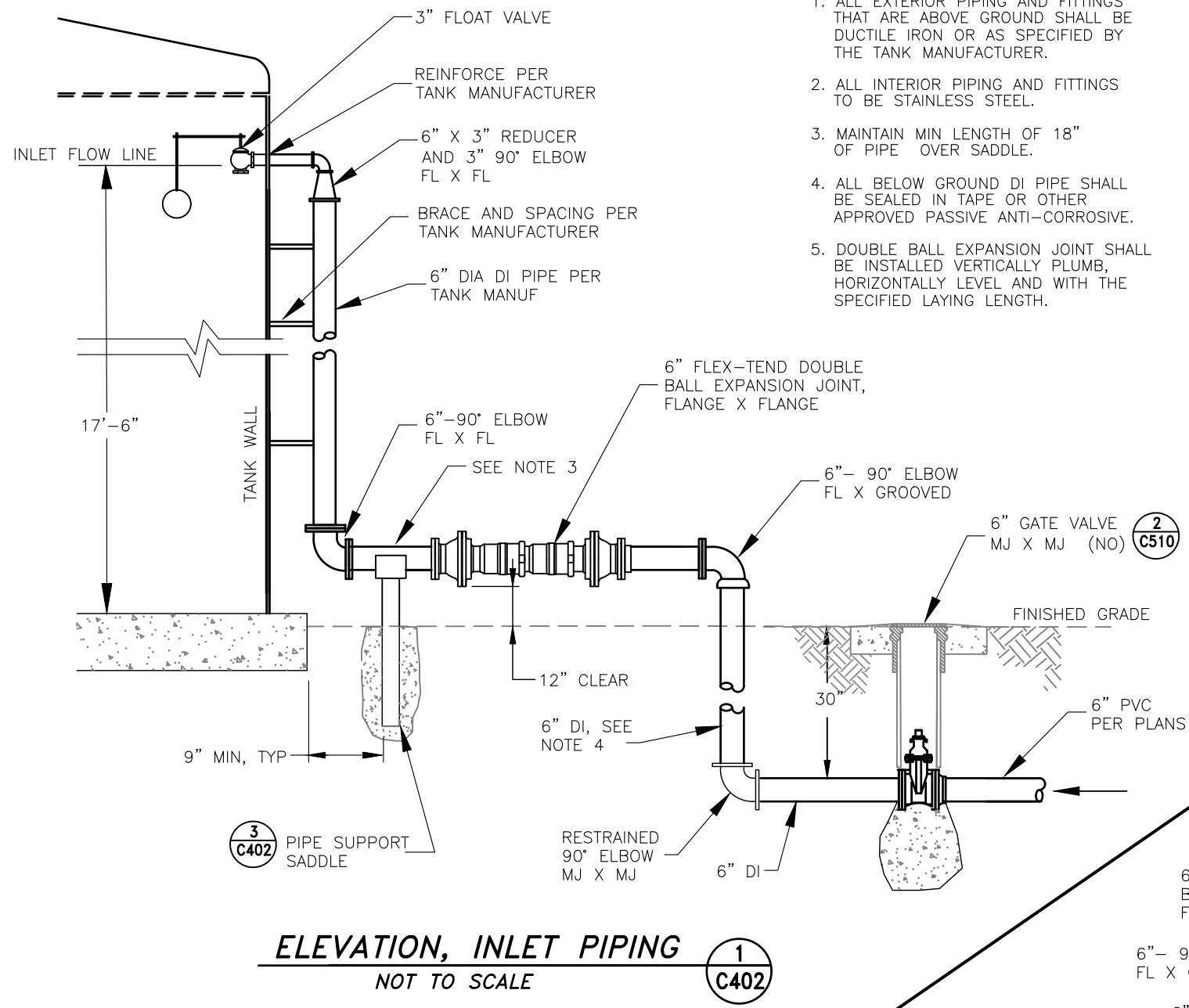
DRAWING NO.: CAO-21-F05 SCALE: AS NOTED DATE: 10-2-24
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C401
PROJ ENG: JILLIAN TILLES

C401
SHEET
19 OF 58

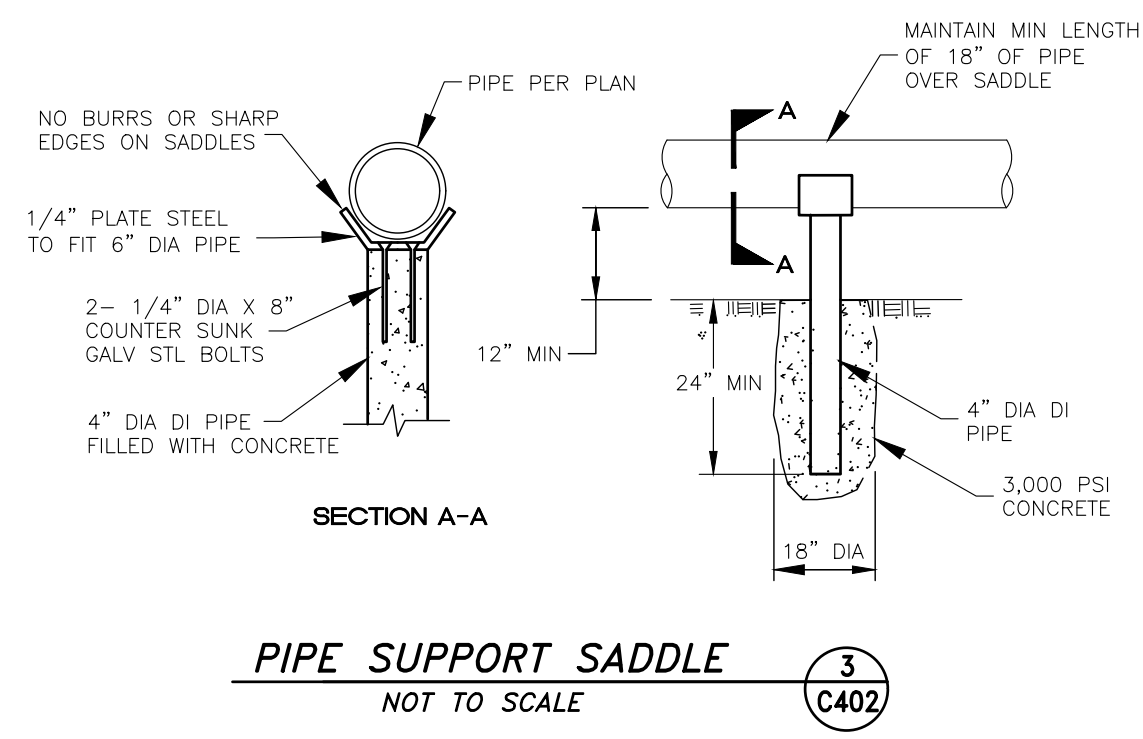


**60,000 GALLON
WATER STORAGE TANK**
NOT TO SCALE

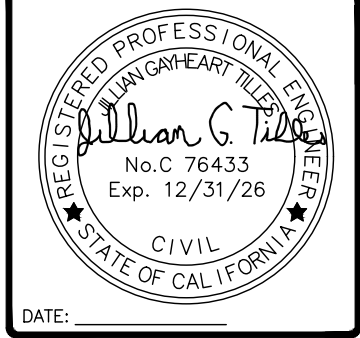
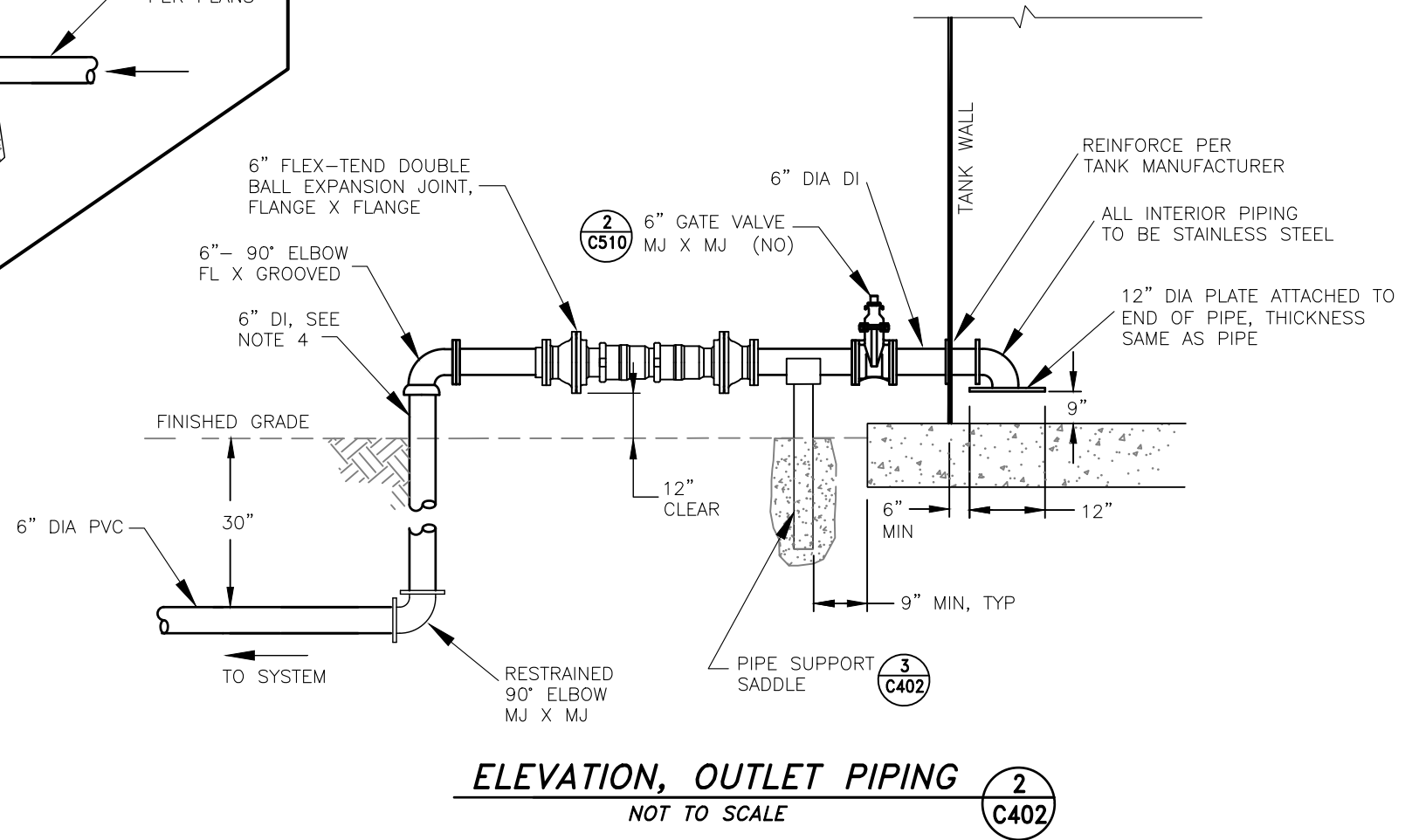
1
C401



- NOTES:**
1. ALL EXTERIOR PIPING AND FITTINGS THAT ARE ABOVE GROUND SHALL BE DUCTILE IRON OR AS SPECIFIED BY THE TANK MANUFACTURER.
 2. ALL INTERIOR PIPING AND FITTINGS TO BE STAINLESS STEEL.
 3. MAINTAIN MIN LENGTH OF 18" OF PIPE OVER SADDLE.
 4. ALL BELOW GROUND DI PIPE SHALL BE SEALED IN TAPE OR OTHER APPROVED PASSIVE ANTI-CORROSIVE.
 5. DOUBLE BALL EXPANSION JOINT SHALL BE INSTALLED VERTICALLY PLUMB, HORIZONTALLY LEVEL AND WITH THE SPECIFIED LAYING LENGTH.



- NOTES:**
1. ALL EXTERIOR PIPING AND FITTINGS THAT ARE ABOVE GROUND SHALL BE DUCTILE IRON OR AS SPECIFIED BY THE TANK MANUFACTURER.
 2. ALL INTERIOR PIPING AND FITTINGS TO BE STAINLESS STEEL.
 3. MAINTAIN MIN LENGTH OF 18" OF PIPE OVER SADDLE.
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DATE	REVISIONS	INIT.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
INDIAN HEALTH SERVICE

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SACRAMENTO, CA 95814
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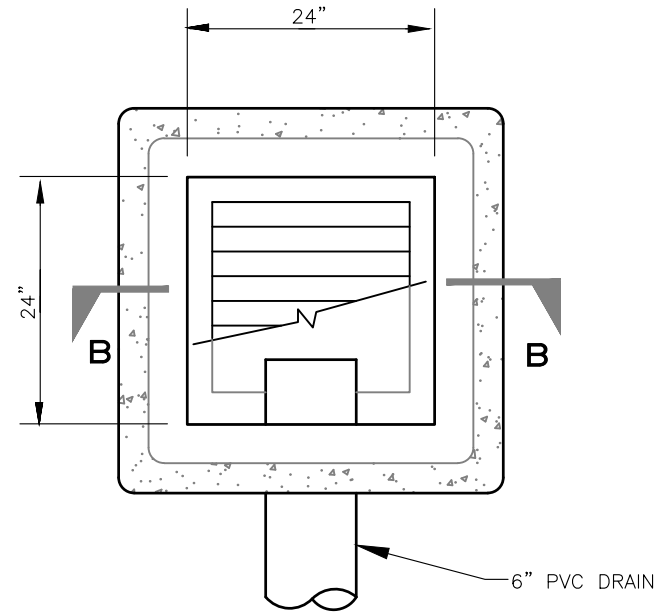


**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
WATER STORAGE TANK DETAILS**

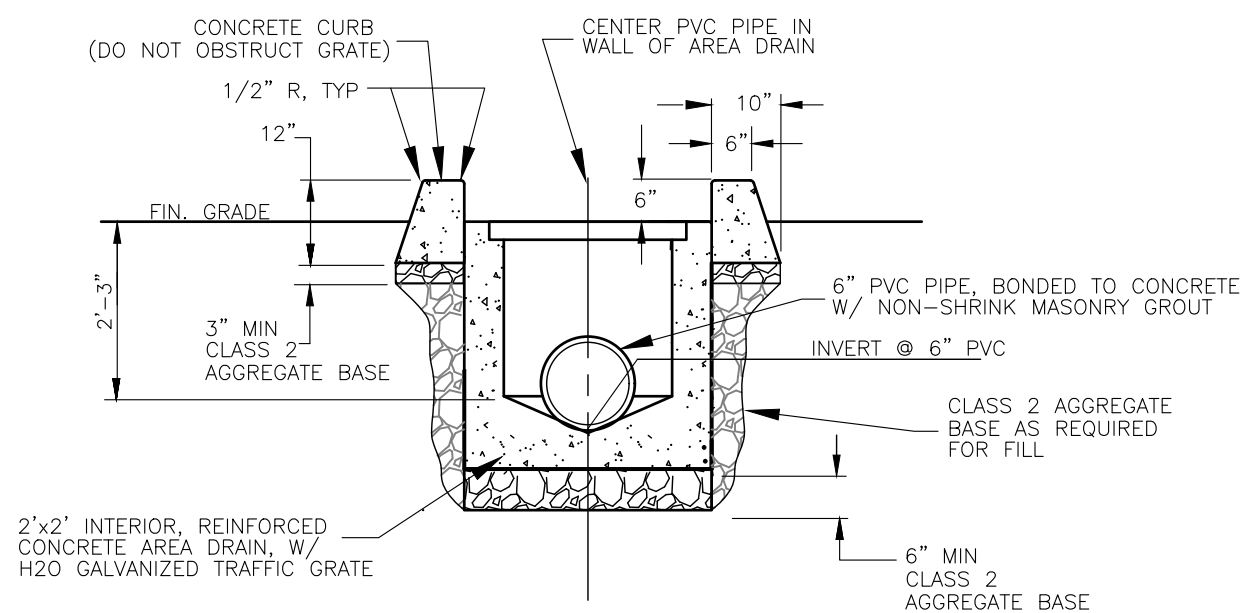
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C509
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN



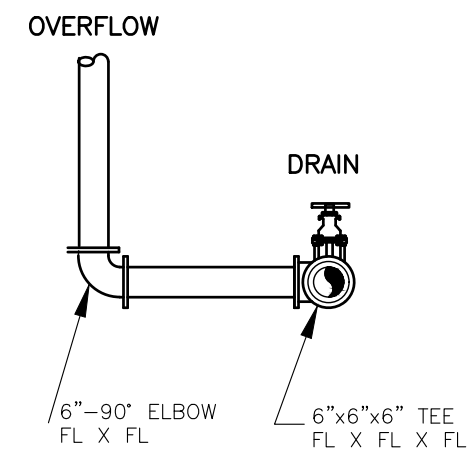
PLAN VIEW



SECTION B-B

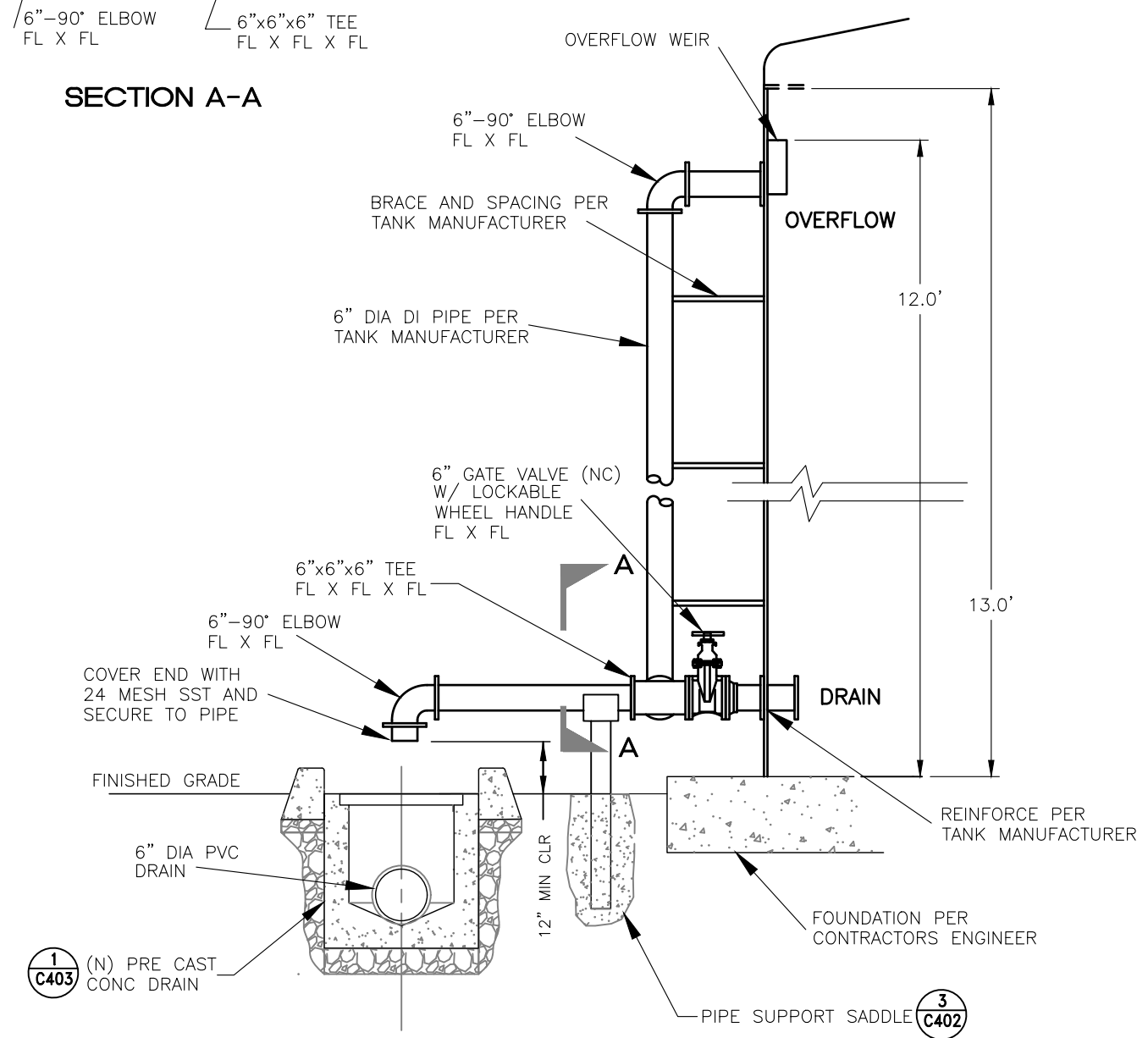
DRAIN & CURB DETAIL
NOT TO SCALE

1
C403



SECTION A-A

- NOTES:**
1. ALL EXTERIOR PIPING AND FITTINGS THAT ARE ABOVE GROUND SHALL BE DUCTILE IRON OR AS SPECIFIED BY THE TANK MANUFACTURER.
 2. ALL INTERIOR PIPING AND FITTINGS TO BE STAINLESS STEEL.



ELEVATION,
DRAIN, OVERFLOW PIPING
NOT TO SCALE

1
C403

3
C402

REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
INDIAN HEALTH SERVICE

SANITATION FACILITIES CONSTRUCTION
650 CAPITOL MALL, SUITE 7-100
SACRAMENTO, CA 95814
(916) 930-3945

INDIAN HEALTH SERVICE
1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
WATER STORAGE TANK DETAILS

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

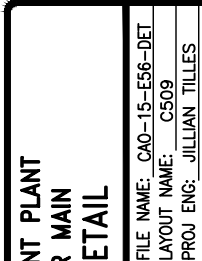
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: CS09
PROJ. ENG: JILLIAN TILLES

C403
SHEET
21 OF 58



DEPARTMENT OF HEALTH AND HUMAN SERVICES
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KE-NEK WATER TREATMENT PLANT AND KE-NEK WATER MAIN ROUGH FILTER DETAIL

DRAWING NO.: CA0-21-F05	SCALE: AS NOTED	FILE NAME: CA0-15-E56-DET
DRAWN BY: D. O'ORMAN	DATE: 10-2-24	LAYOUT NAME: C509
		PROJ ENG: JILLIAN TILLES

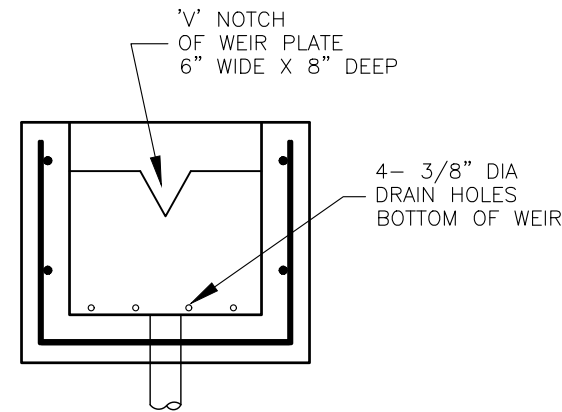
SHEET
2 OF 58



1. LOCATE THE SUMP DRAIN STRUCTURE SO THAT THE CENTER OF THE BACK WASH PIPE IS CENTERED OVER THE SUMP DRAIN AS SHOWN.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL PIPE SIZES, TYPES AND FITTINGS FOR ALL CONNECTIONS TO THE ROUGH FILTER AS SUPPLIED BY THE FILTER MANUFACTURER.



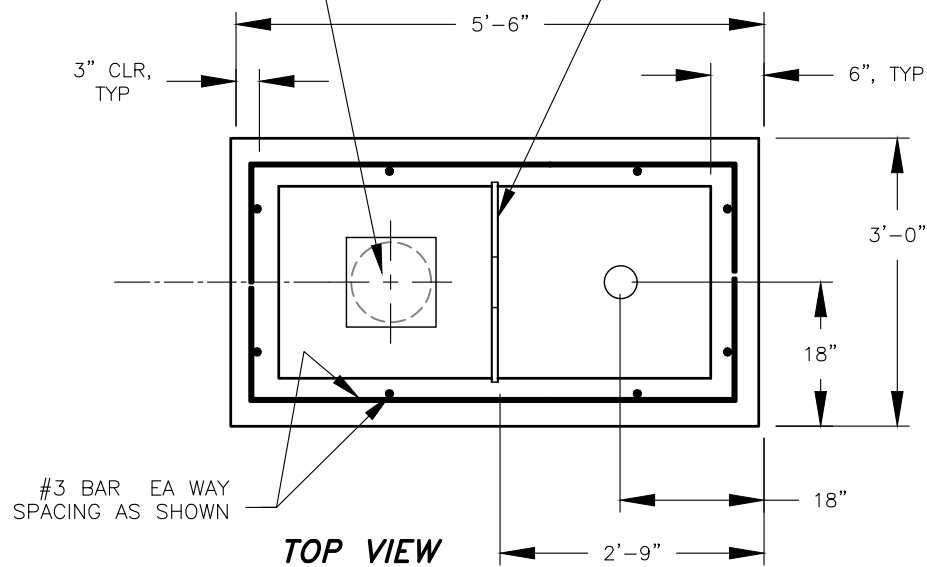
1
C404



SECTION A-A

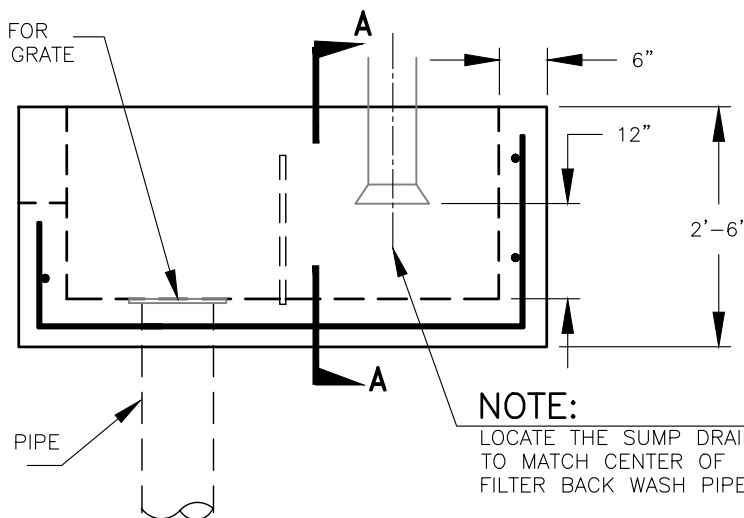
LOCATE THE SUMP DRAIN TO MATCH CENTER OF FILTER BACK WASH PIPE

3/8" STEEL WEIR PLATE EMBEDDED INTO CONC BOX MIN OF 1/2". SEAL AROUND ALL EDGES TO MAKE A WATERTIGHT SEAL



TOP VIEW

FORM FOR DRAIN GRATE

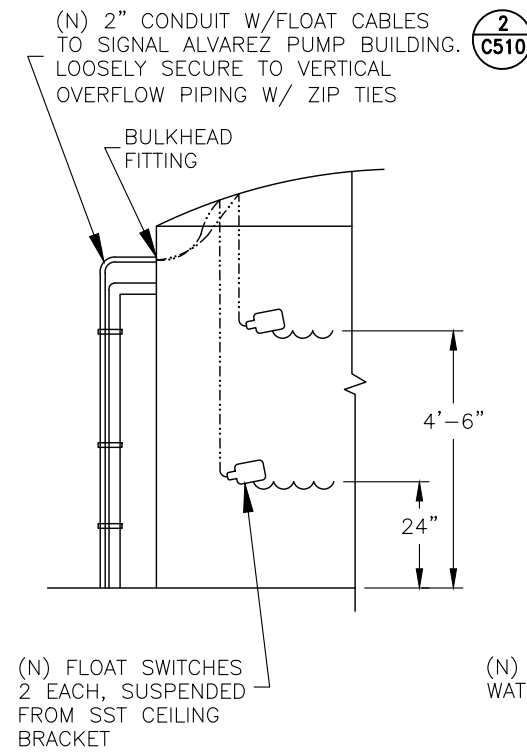


SIDE VIEW

NOTE: LOCATE THE SUMP DRAIN TO MATCH CENTER OF FILTER BACK WASH PIPE

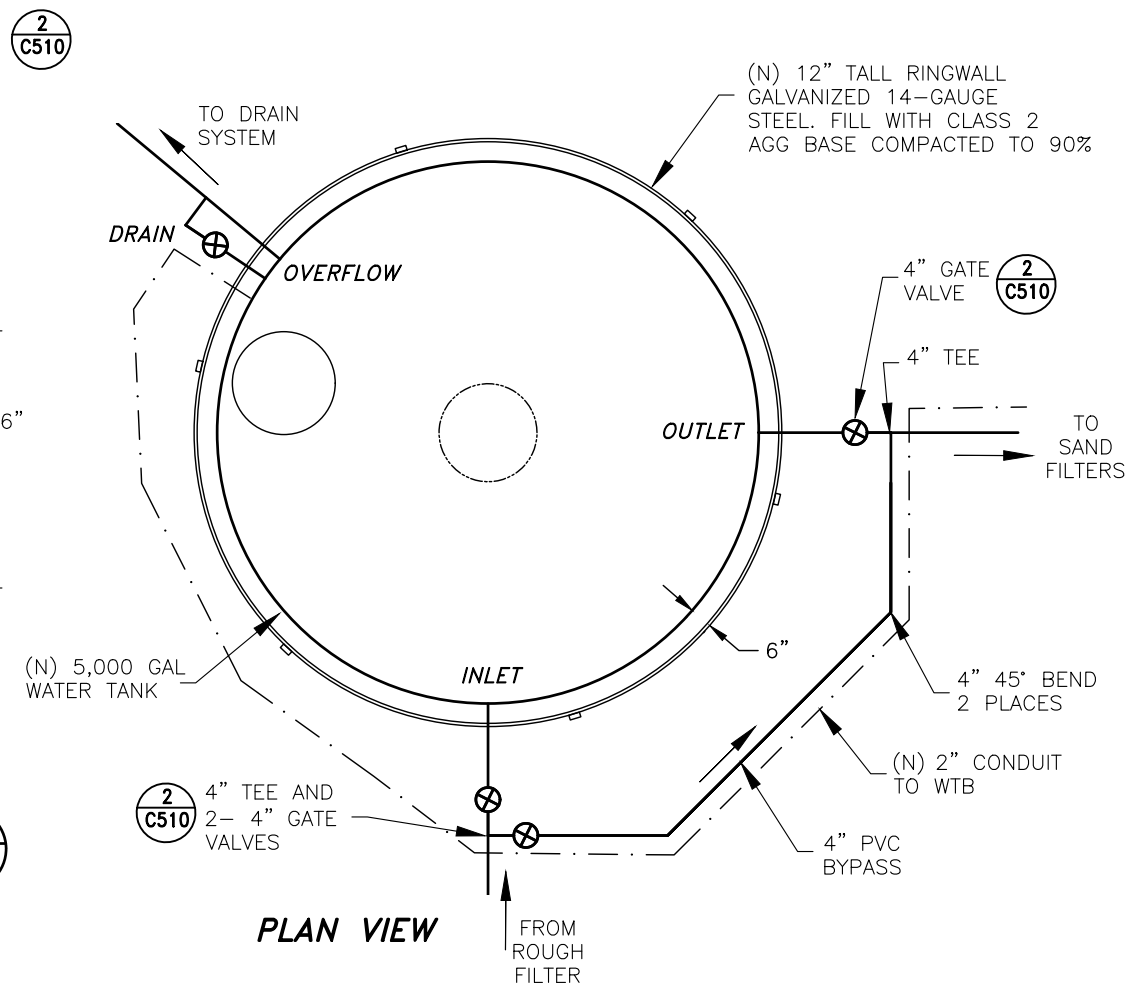
SUMP DRAIN DETAIL
NOT TO SCALE

1
C405

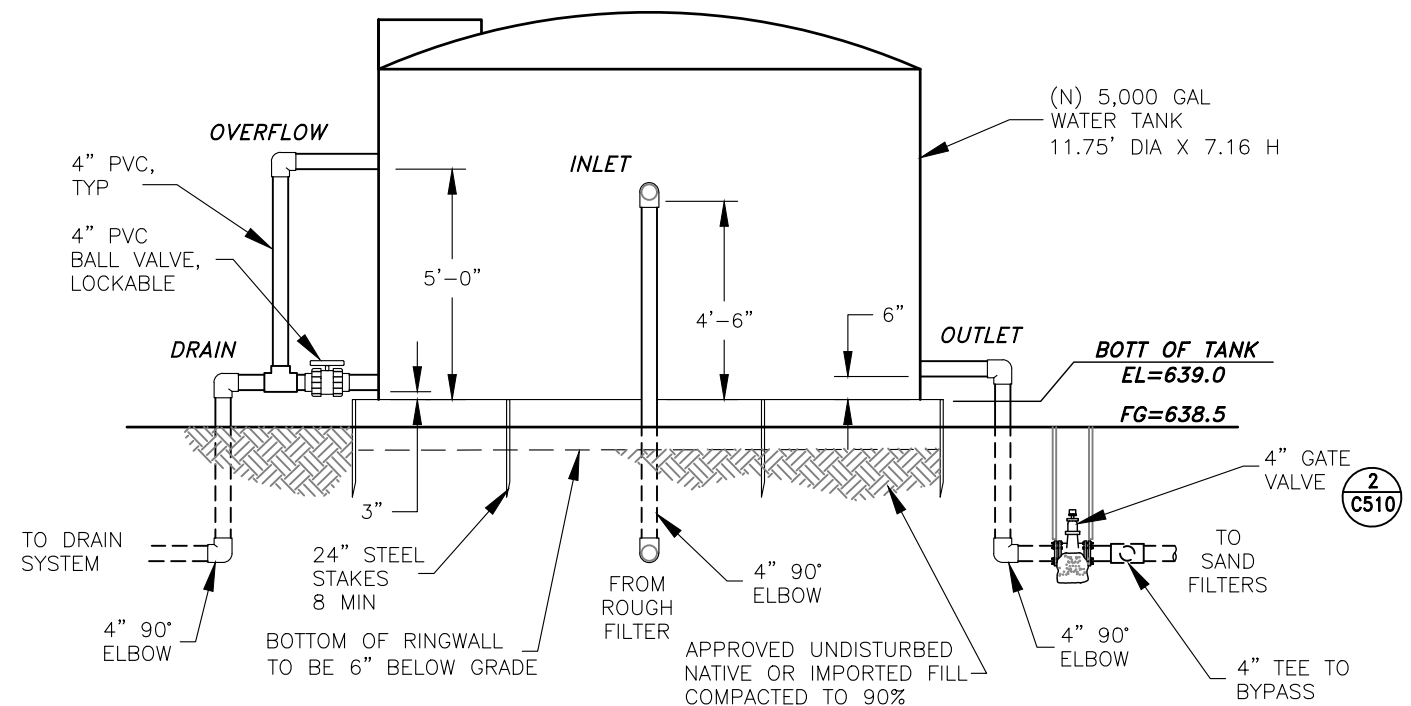


FLOAT DETAIL
NOT TO SCALE

1
C405



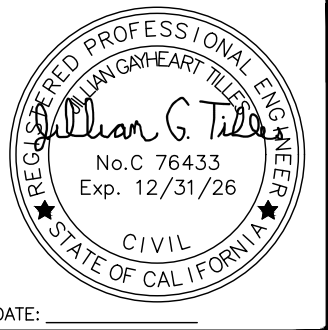
PLAN VIEW



ELEVATION VIEW

EQUALIZATION TANK DETAIL
NOT TO SCALE

2
C405



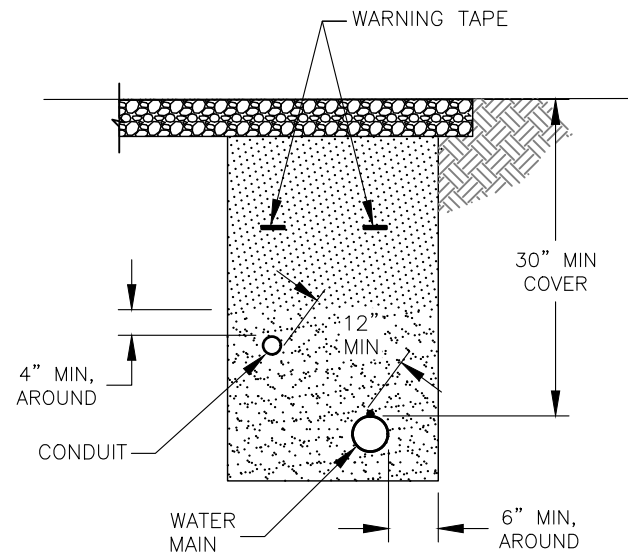
DATE	REVISIONS	INIT.

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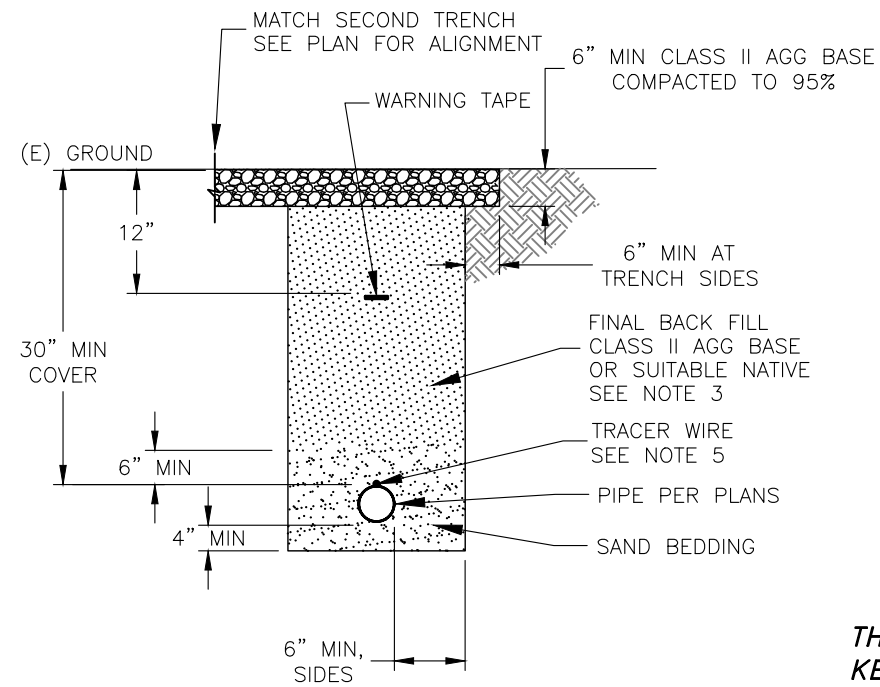


KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
EQUALIZATION TANK DETAIL
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C405
PROJ ENG: JILLIAN TILLES
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

C405
SHEET
23 OF 58



TRENCH WITH CONDUIT



TYPICAL TRENCH DETAIL
WITHIN ACCESS ROAD

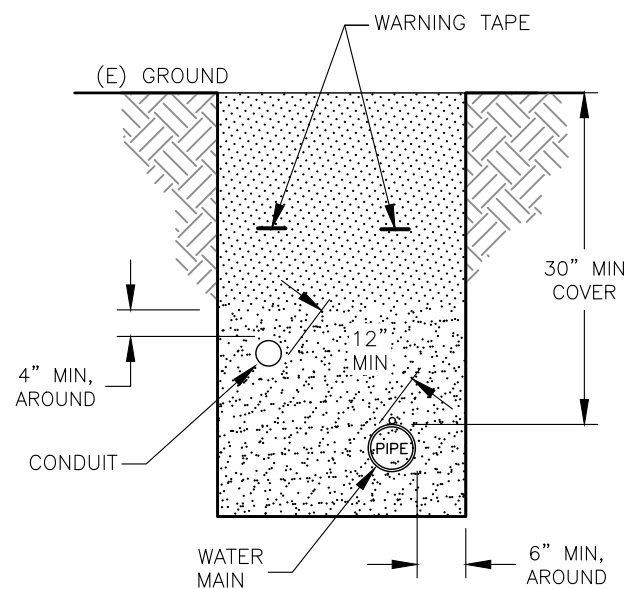
NOT TO SCALE

1
C501

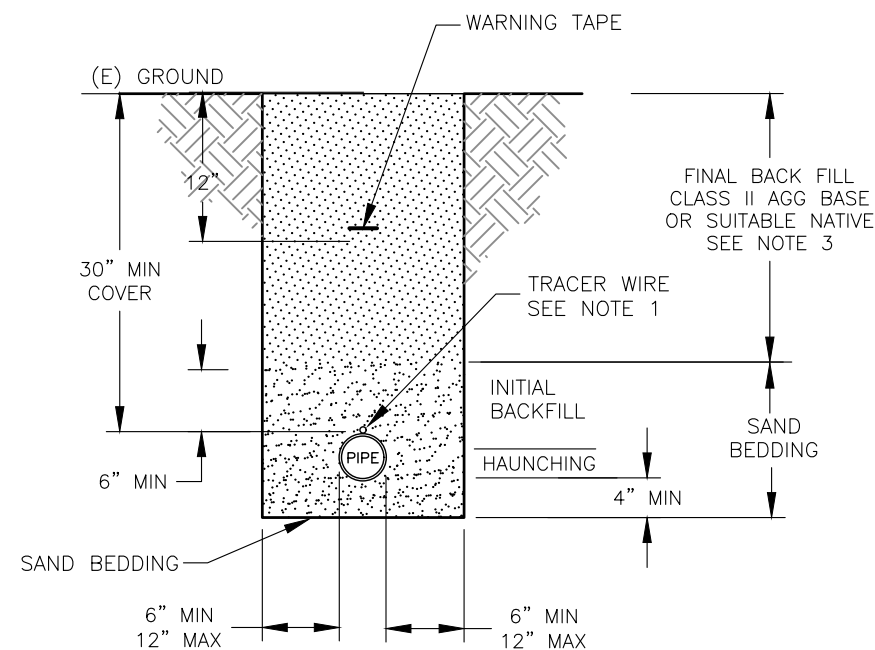
NOTES:

1. USE 10 GA TRACER WIRE. SECURE TO TOP OF PIPE WITH ZIP TIES EVERY 10 FEET.
2. SEE SPECIFICATION 31 23 17 FOR ADDITIONAL INFORMATION ON PIPE EMBEDMENT ZONE, BACKFILL MATERIAL, COMPACTION, ETC.
3. NATIVE SOIL REMOVED FROM TRENCHES MAY BE USED FOR BACK FILL IF APPROVED AS SUITABLE BY PROJECT ENGINEER. COMPACT TO 90%.
4. WHERE TRENCHES RUN IN THE ACCESS ROAD PRISM, TOP WITH 6 IN OF CLASS 2 AGGREGATE AS SHOWN IN TYPICAL ROAD SECTIONS SHEET C502.

THIS DETAIL FOR USE ON
KENEK GRAVEL ACCESS ROAD ONLY
SEE SEPARATE DETAILS FOR COUNTY ROAD



TRENCH WITH CONDUIT



STANDARD TRENCH DETAIL
OUTSIDE OF ROAD OR SHOULDER

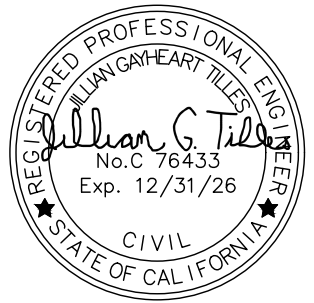
NOT TO SCALE

2
C501

NOTES:

1. USE 10 GA TRACER WIRE. SECURE TO TOP OF PIPE WITH ZIP TIES EVERY 10 FEET.
2. SEE SPECIFICATION 31 23 17 FOR ADDITIONAL INFORMATION ON PIPE EMBEDMENT ZONE, BACKFILL MATERIAL, COMPACTION, ETC.
3. NATIVE SOIL REMOVED FROM TRENCHES MAY BE USED FOR BACK FILL IF APPROVED AS SUITABLE BY PROJECT ENGINEER. COMPACT TO 90%.
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THIS DETAIL FOR USE ON
KENEK GRAVEL ACCESS ROAD ONLY
SEE SEPARATE DETAILS FOR COUNTY ROAD



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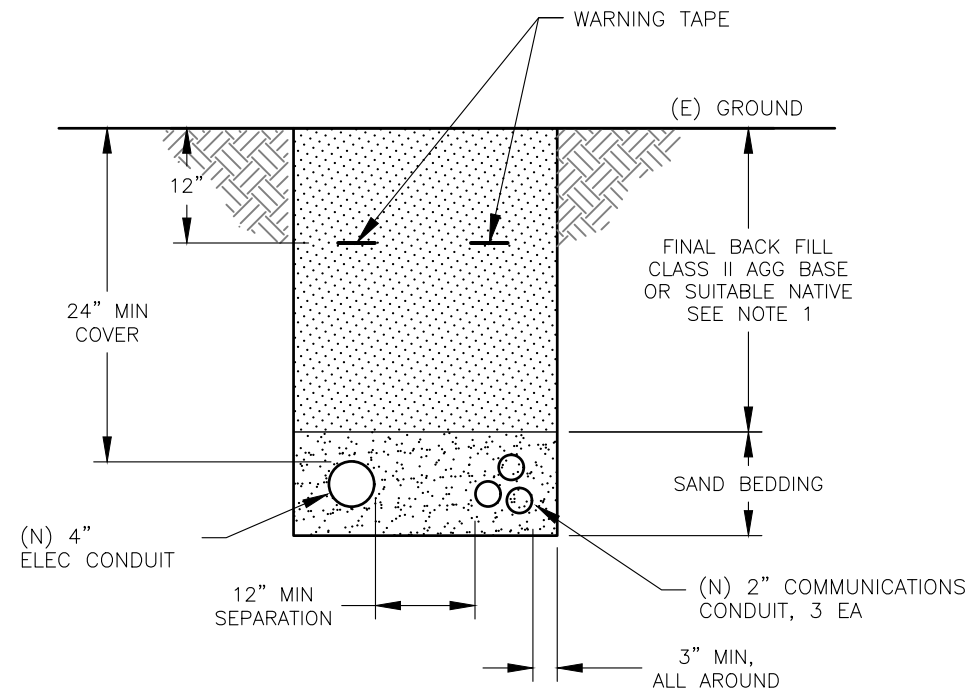
KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C501
PROJ ENG: JILLIAN TILLES
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

C501

SHEET
24 OF 58

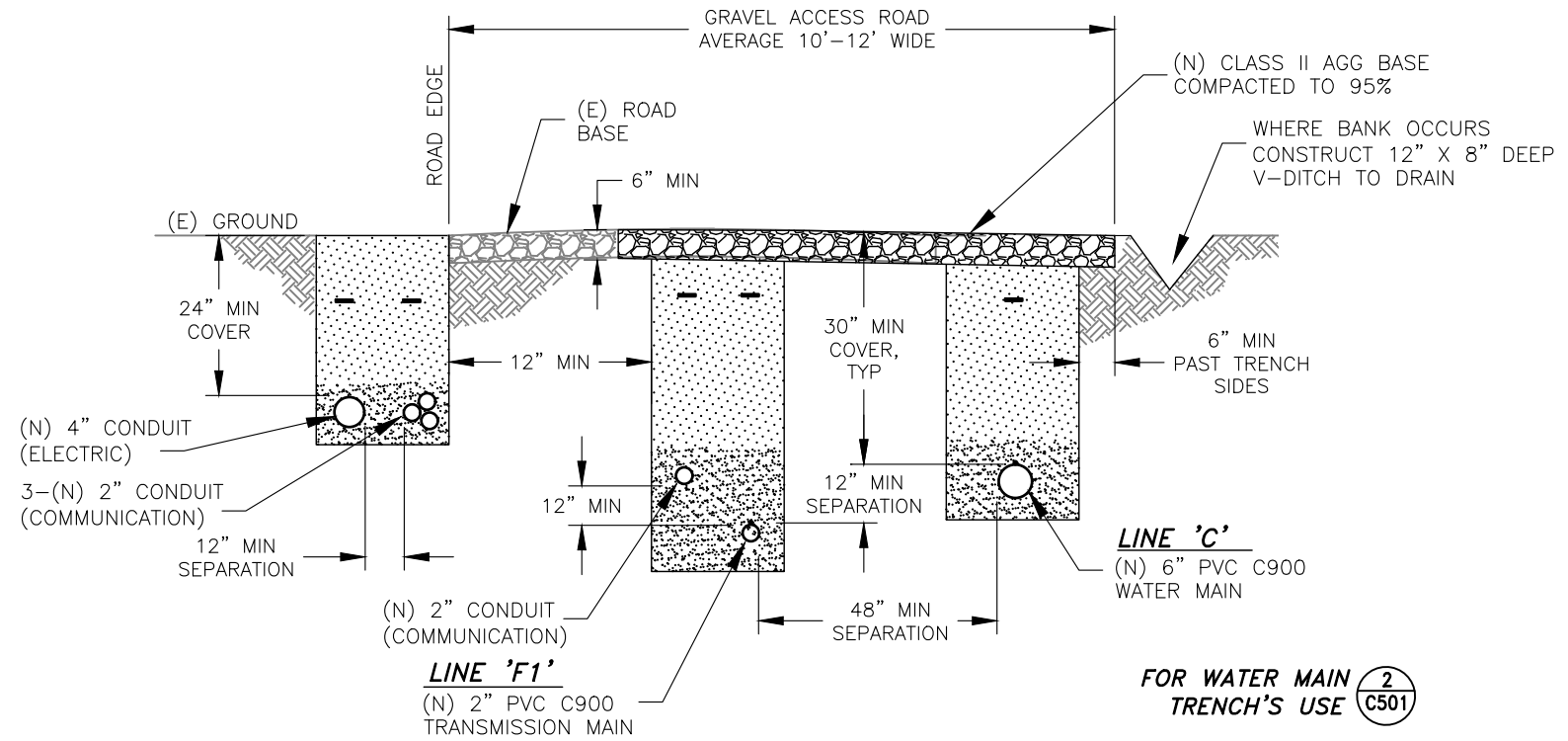
NOTES:

1. NATIVE SOIL REMOVED FROM TRENCHES MAY BE USED FOR BACK FILL IF APPROVED AS SUITABLE BY PROJECT ENGINEER.
2. SEE SPECIFICATION 31 23 17 FOR ADDITIONAL INFORMATION ON PIPE EMBEDMENT ZONE, BACKFILL MATERIAL, COMPACTION, ETC.



DUAL CONDUIT TRENCH
NOT TO SCALE

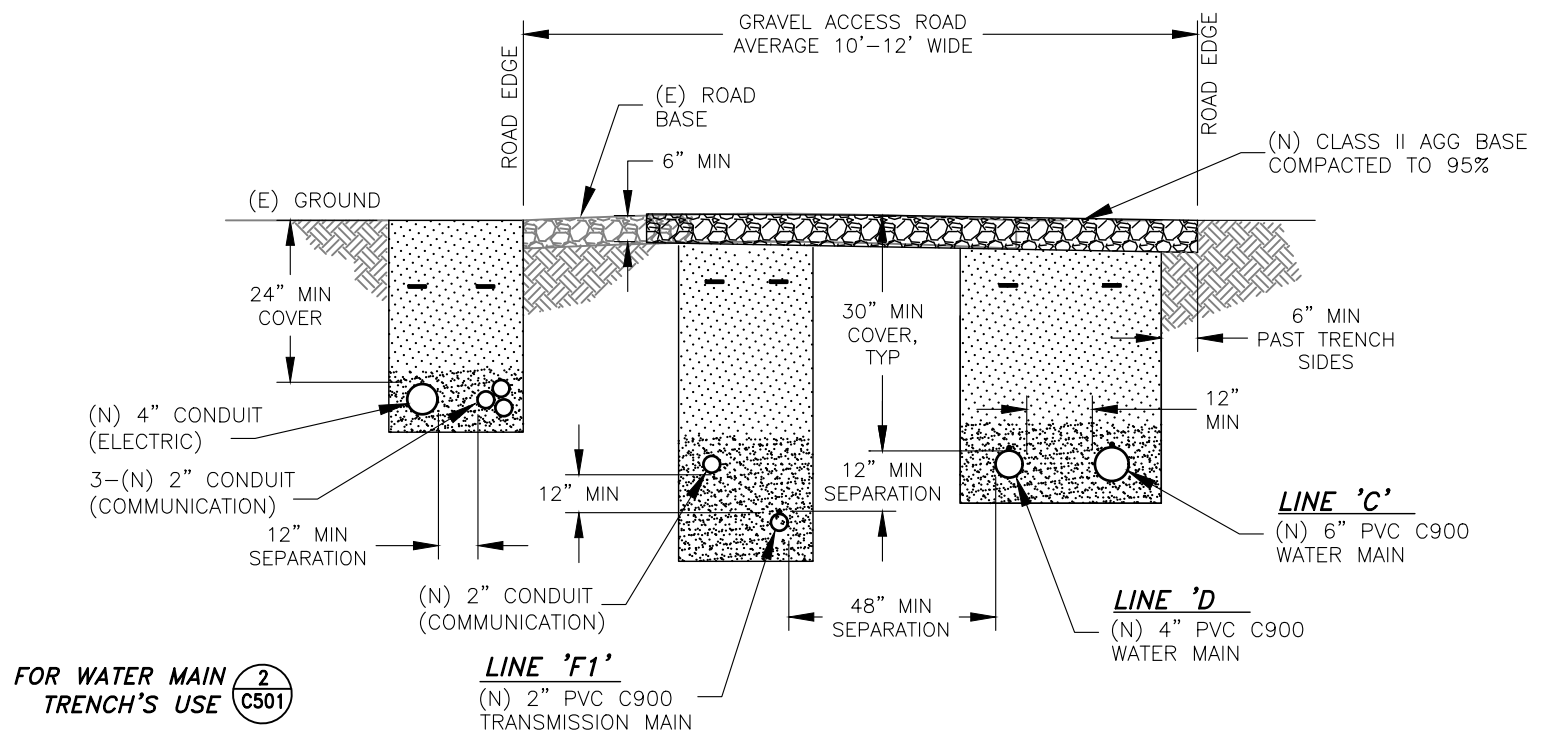
1
C502



TYPICAL SECTION, ACCESS ROAD
ROAD STA 3+30 TO 5+10

NOT TO SCALE

2
C502



TYPICAL SECTION, ACCESS ROAD
ROAD STA 5+50 TO 11+25

NOT TO SCALE

3
C502



DATE	REVISIONS	INIT.

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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS

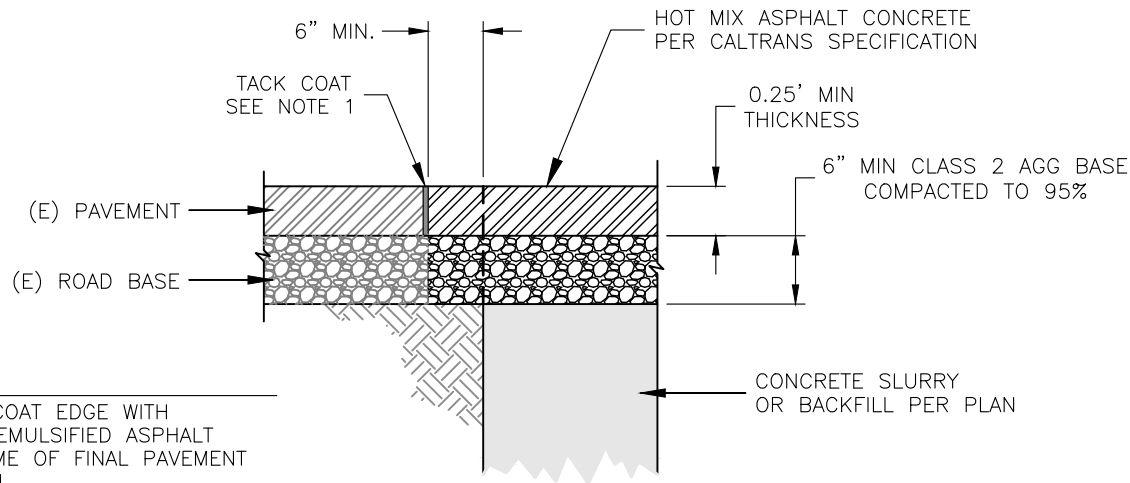
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C501
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN

C502

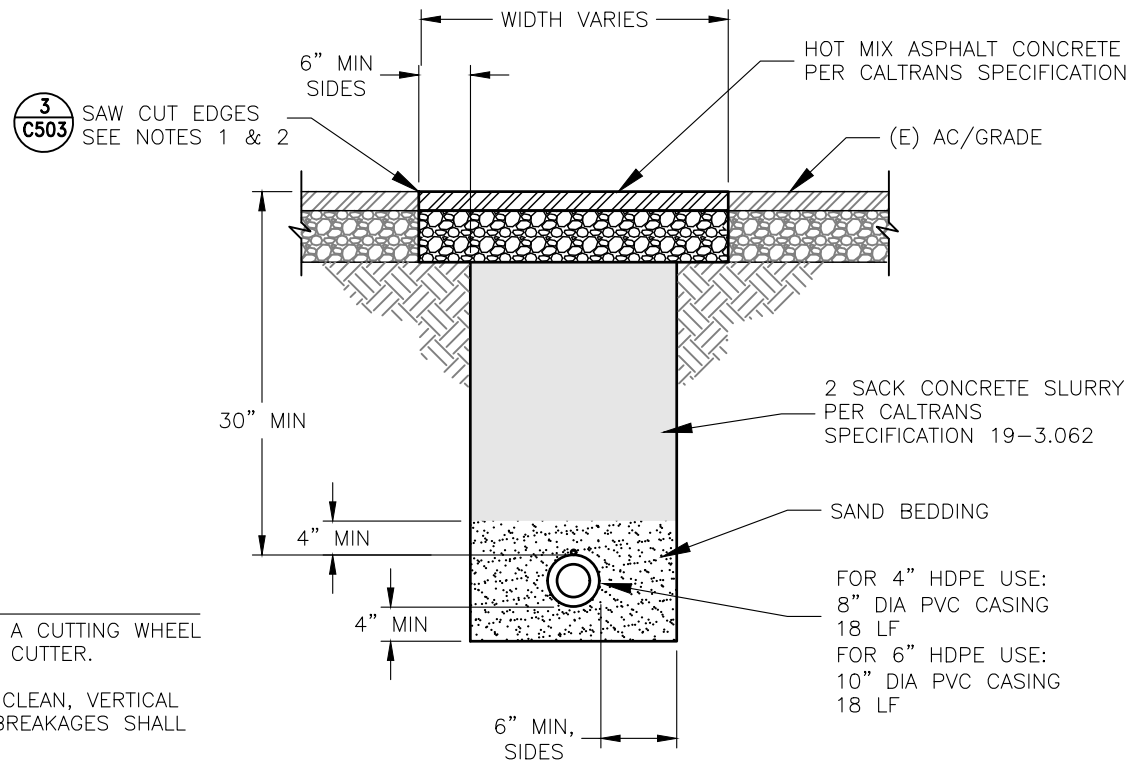
SHEET
25 OF 58



NOTES:
1. TACK COAT EDGE WITH SS1-EMULSIFIED ASPHALT AT TIME OF FINAL PAVEMENT PATCH.

PAVEMENT CUT DETAIL
NOT TO SCALE

3
C503



NOTES:
1. CUTS SHALL BE MADE WITH A CUTTING WHEEL OR A PNEUMATIC PAVEMENT CUTTER.
2. PAVEMENT CUTS SHALL BE CLEAN, VERTICAL AND STRAIGHT. IRREGULAR BREAKAGES SHALL BE REPLACED.
3. TRENCH SHALL CROSS PERPENDICULAR TO ROAD.
4. THE TRENCH SHALL HAVE AT LEAST 3 INCHES OF TEMPORARY COLD MIX BEFORE OPENING ROAD TO TRAFFIC.
5. IF REMAINING PART OF EXISTING EDGE IS LESS THAN 12 IN WIDE, EXTEND CAP TO EDGE OF PAVED ROAD.
6. IF EXISTING EDGE OF PAVEMENT IS DAMAGED DURING CONSTRUCTION THEN, REPAVE A MINIMUM 2 FT WIDE STRIP AT EDGE OF PAVED ROAD.
7. REFER TO THE HUMBOLDT COUNTY ENCROACHMENT PERMIT FOR SPECIFIC REQUIREMENTS.

**ROAD CROSSING DETAIL,
TULLEY CREEK ROAD**
NOT TO SCALE

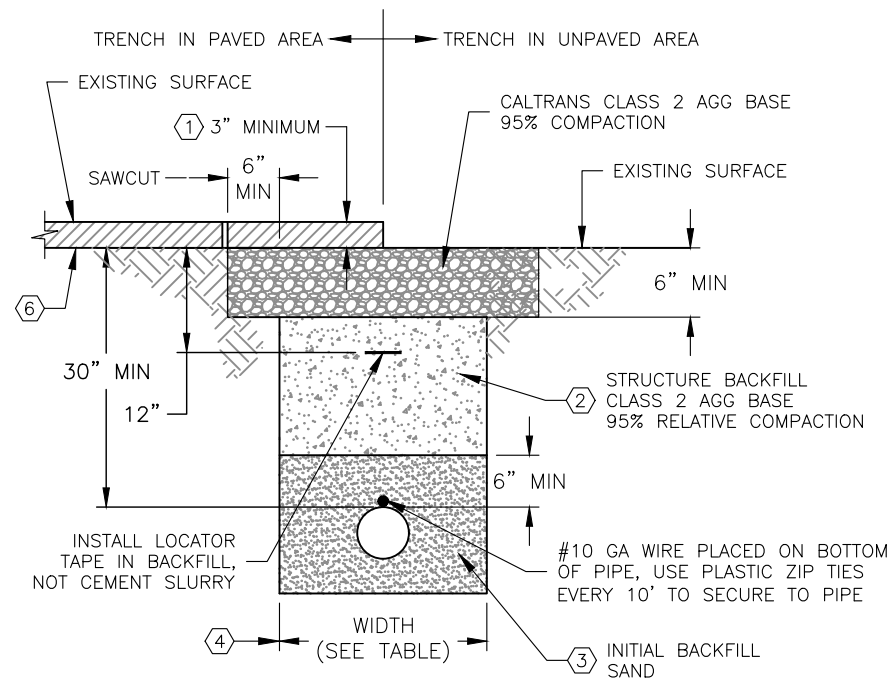
1
C503

NOTE:

- ① CONCRETE OR ASPHALT PAVING THICKNESS TO MATCH EXISTING OR 3" MINIMUM, WHICHEVER IS GREATER. PAVING TO BE PLACED IN LIFTS NOT EXCEEDING 2" IN THICKNESS.
- ② WHEN SLURRY CEMENT BACKFILL IS USED IN PAVED AREAS CLASS 2 A.B. MAY BE ELIMINATED.
- ③ INITIAL BACKFILL MUST BE LEVELED AND COMPACTED PRIOR TO BACKFILLING.
- ④ IF WIDTH IS LESS THAN 16" SLURRY CEMENT BACKFILL SHALL BE USED.
- ⑤ SELECT BACKFILL MATERIAL AS APPROVED BY APPROPRIATE COUNTY DEPT OF TRANSPORTATION.
- ⑥ IF NEAREST SAW CUT IS LESS THAN 2 1/2 FEET OR LESS FROM EDGE OF PAVEMENT, REPLACE EXISTING PAVEMENT W/ 3" THICKNESS PAVING.
- ⑦ ALL WORK WITHIN THE COUNTY ROAD RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATION, LATEST EDITION, AND APPROPRIATE COUNTY DEPARTMENT OF TRANSPORTATION (DOT) ENCROACHMENT PERMIT GENERAL PROVISIONS, SPECIAL PROVISIONS, EXHIBIT 'A' AND EXHIBIT 'B'. IN THE EVENT OF A DISCREPANCY BETWEEN THESE PLANS AND THE ENCROACHMENT PERMIT, THE ENCROACHMENT PERMIT SHALL TAKE PRECEDENCE AS APPROVED BY DOT.
- ⑧ MINIMUM VERTICAL CLEARANCE OF TWELVE INCHES (12 INCHES) SHALL BE MAINTAINED BETWEEN THE PROPOSED WATER MAIN AND EXISTING UNDERGROUND UTILITIES.
- ⑨ MINIMUM VERTICAL CLEARANCE OF TWENTY-FOUR INCHES (24 INCHES) SHALL BE MAINTAINED BETWEEN THE PROPOSED WATER MAIN AND ANY DRAINAGE FACILITIES (INCLUDING, BUT NOT LIMITED TO DRAINAGE DITCHES, DRAINAGE INLETS, UNDERDRAINS AND CULVERTS). IF LESS THAN 24 INCHES IS NECESSARY, APPROVAL MUST BE OBTAINED FROM DOT AND THE WATER MAIN SHALL BE ENCASED IN STEEL CONDUIT EXTENDING TEN FEET (10 FEET) EACH SIDE OF THE DRAINAGE FACILITY.

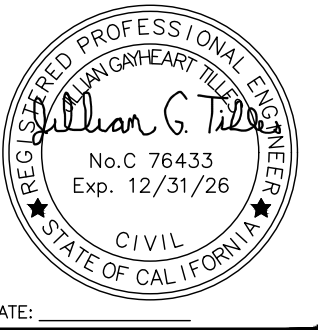
WIDTH OF TRENCH	
PIPE OD	MIN WIDTH
<6 IN	24 IN
6-18 IN	O.D. + 20 IN
>18 IN	O.D. + 36 IN

NOTE: TRENCH WIDTH MAY BE REDUCED TO O.D. + 12 INCHES IF SLURRY CEMENT BACKFILL IS USED.



TRENCH IN ROADWAY OR SHOULDER
NOT TO SCALE

2
C503



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**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS**
FILE NAME: CAO-15-E56-1
LAYOUT NAME: C504
PROJ ENG: JILLIAN TILLES
DRAWING NO.: CAO16E56/17E65
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

C503
SHEET
26 OF 58

REGISTERED PROFESSIONAL ENGINEER
JILLIAN TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.

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INDIAN HEALTH SERVICE
1955

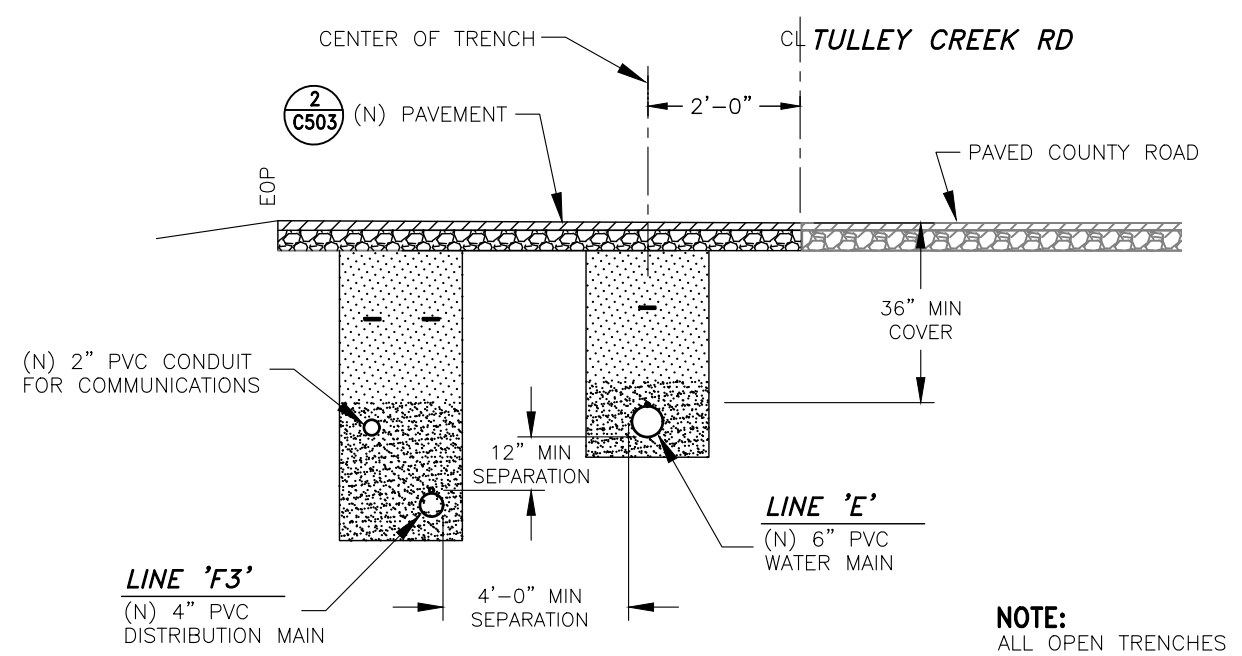
KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C504
PROJ. ENG: JILLIAN TILLES

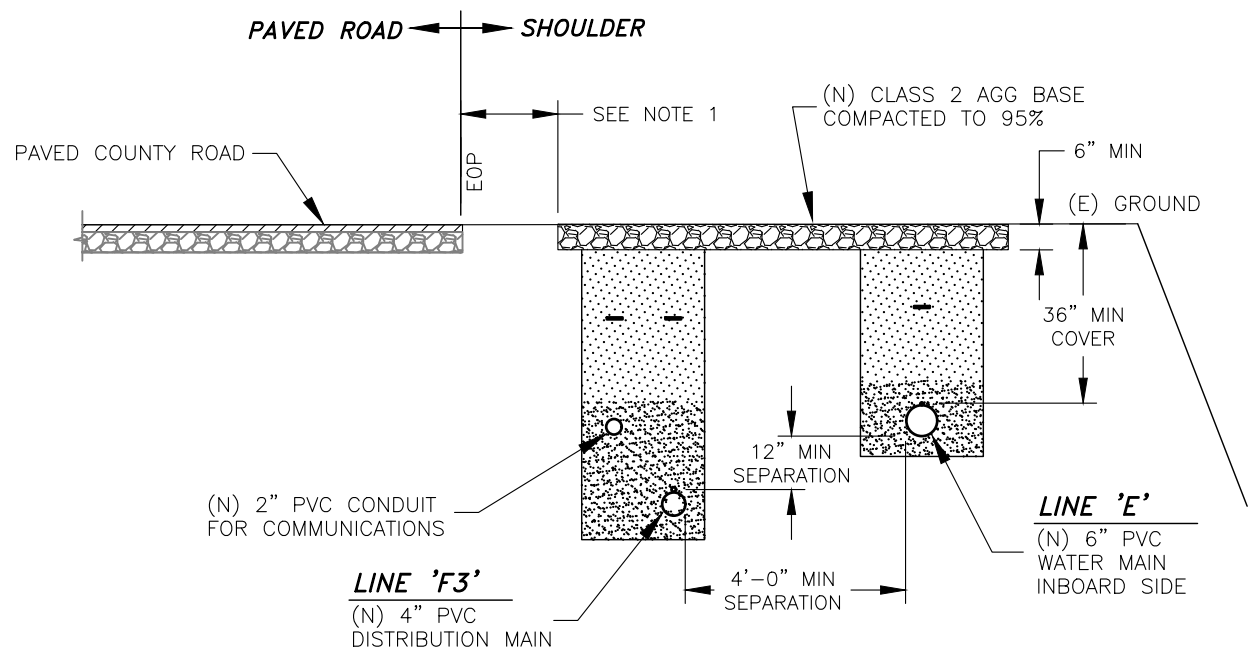
C504

SHEET
27 OF 58



NOTE:
ALL OPEN TRENCHES
ALONG TULLEY CREEK
ROAD TO USE
TRENCH DETAIL
2
C503

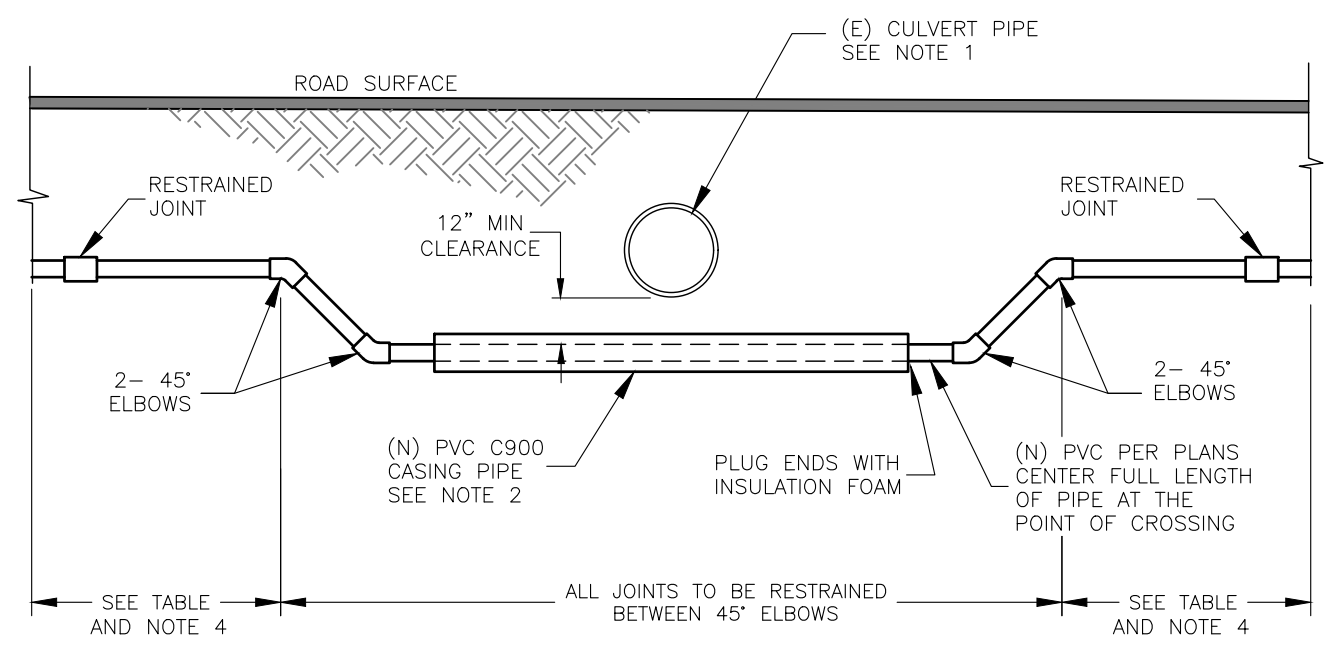
**TYPICAL ROAD SECTION,
TULLEY CREEK ROAD**
NOT TO SCALE
1
C504



NOTE:
ALL OPEN TRENCHES
ALONG TULLEY CREEK
ROAD TO USE
TRENCH DETAIL
2
C503

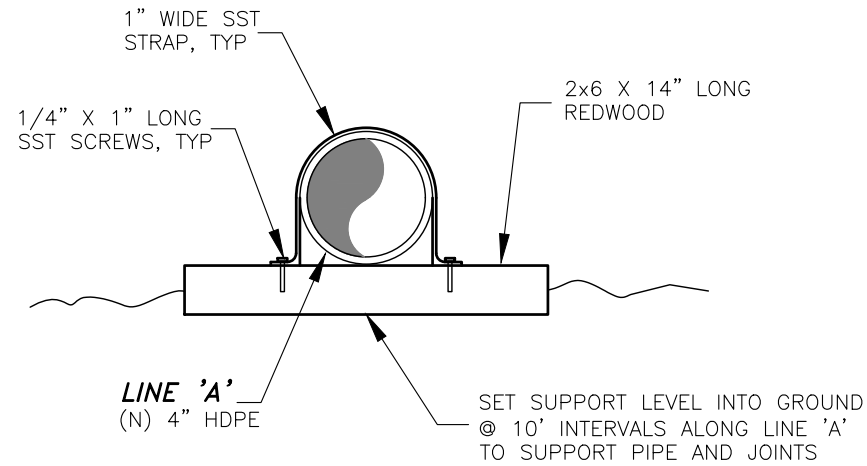
**TYPICAL SECTION,
AT ROAD SHOULDER**
NOT TO SCALE
2
C504

- NOTES:**
- CONTRACTOR TO VERIFY DEPTHS, SIZES, AND TYPE OF CULVERTS PRIOR TO SUBMITTING HORIZONTAL DIRECTIONAL DRILLING PLAN.
 - 18 FT LONG PVC C900 CASING SIZE AS FOLLOWS;
FOR 2" PIPE USE 6" DIA CASING
FOR 4" PIPE USE 10" DIA CASING
FOR 6" PIPE USE 12" DIA CASING
 - 2" COMMUNICATIONS/ELECTRIC CONDUIT DOES NOT NEED RESTRAINTS.
 - ALL JOINTS WITHIN LENGTHS SPECIFIED WITHIN TABLE TO BE RESTRAINED.



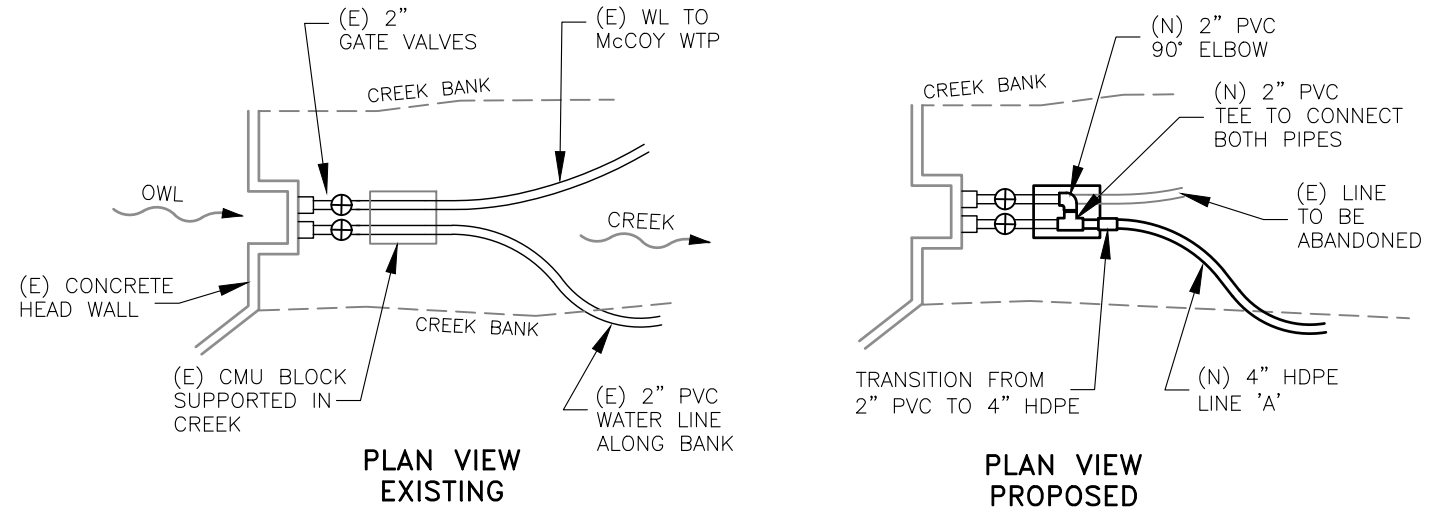
DETAIL, CULVERT CROSSING
NOT TO SCALE
3
C504

CROSSING #	AND SHEET	RESTRAINED LENGTH	
		4" PIPE	6" PIPE
1,2	C105	11'	16'
3,4,5	C201,C202	14'	19'
6	C203	17'	23'



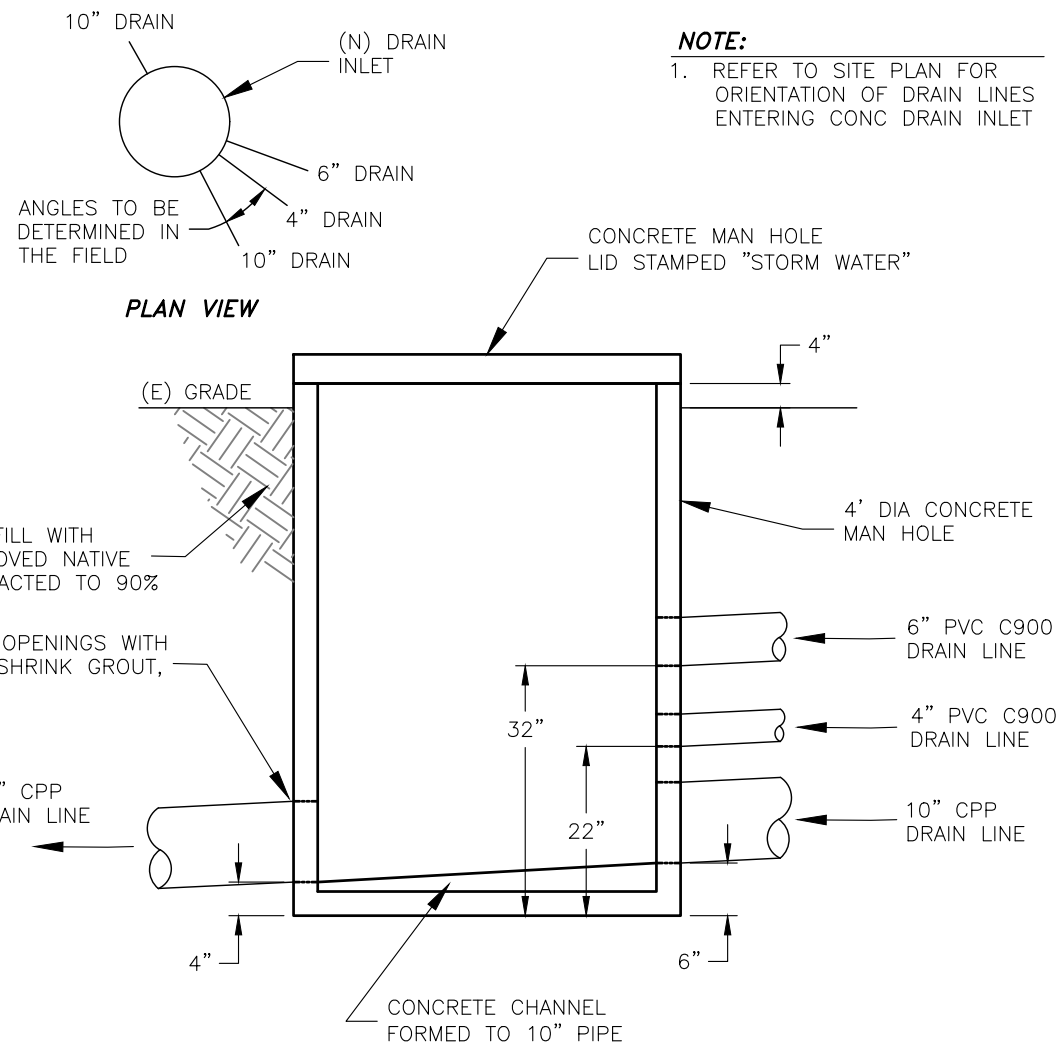
PIPE SUPPORT DETAIL
NOT TO SCALE

1
C505



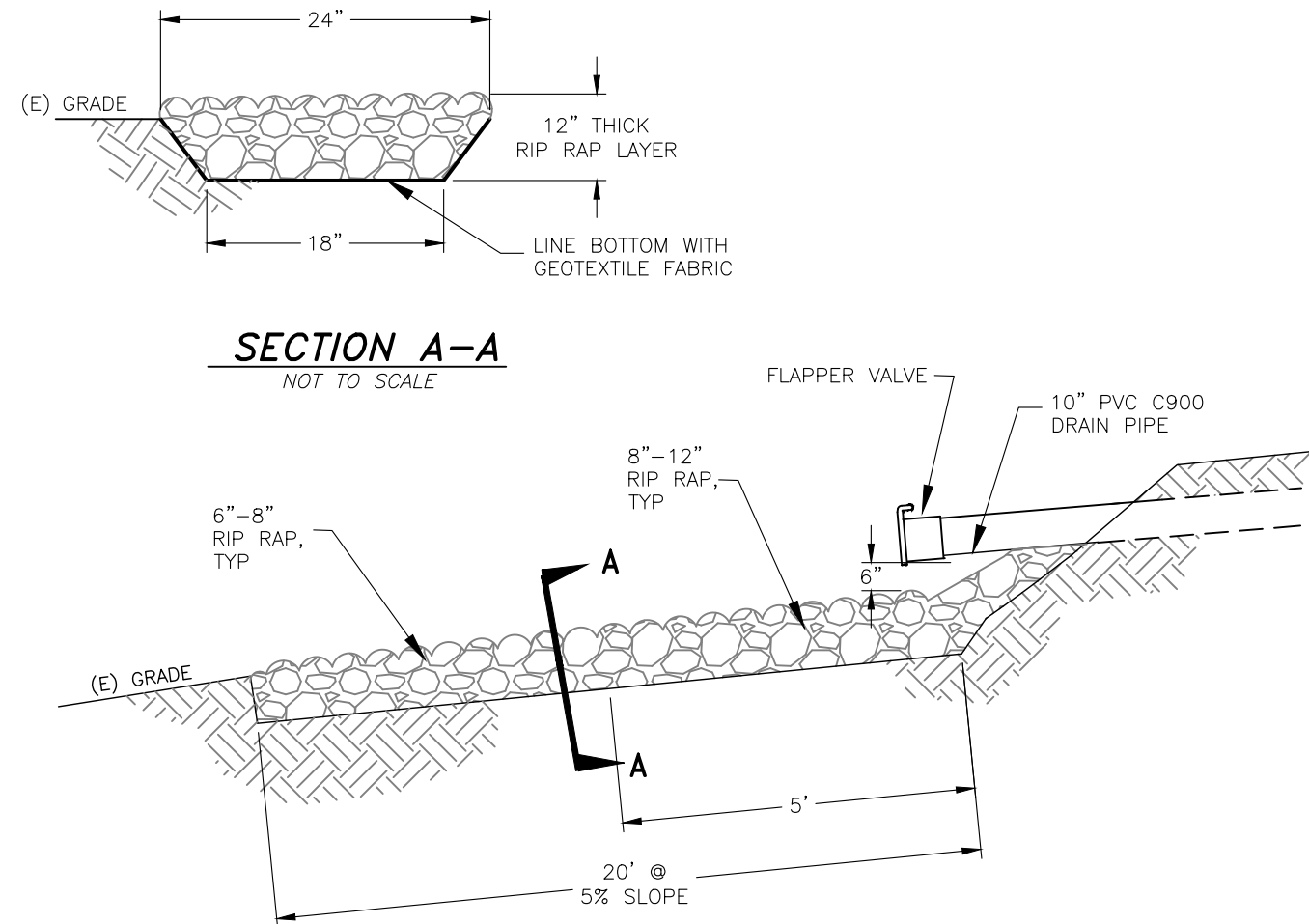
CONNECTION AT INTAKE
NOT TO SCALE

2
C505



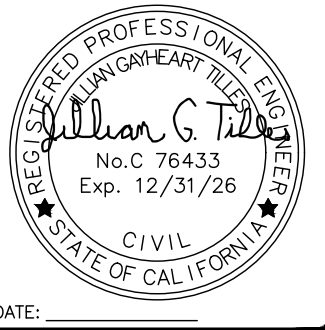
DETAIL, DRAIN INLET
NOT TO SCALE

3
C505



DETAIL, DRAIN DISSIPATOR
NOT TO SCALE

4
C505



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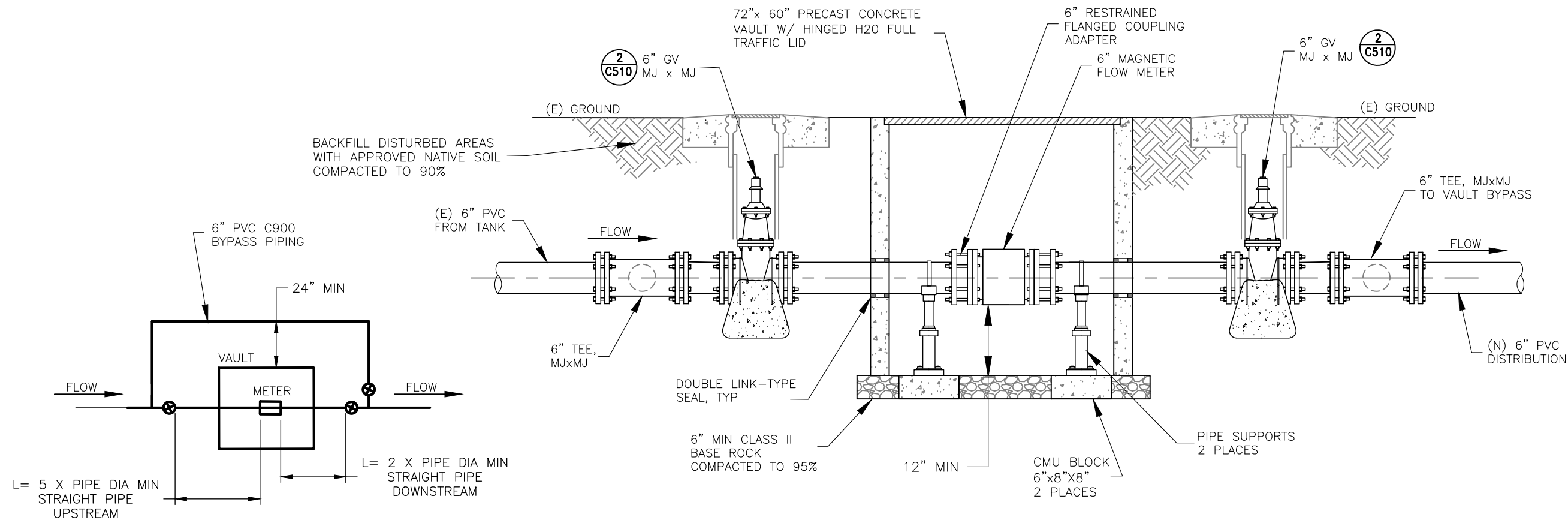
**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS**

FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C503
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN

C505
SHEET
28 OF 58

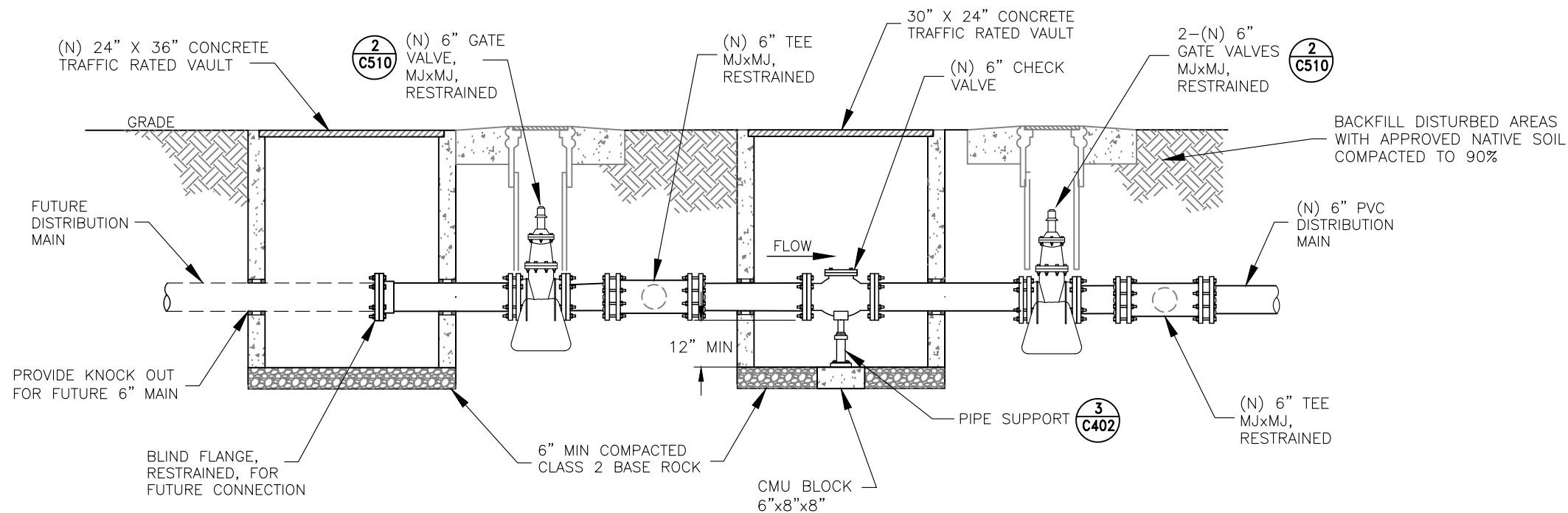


PLAN VIEW SCHEMATIC

METER VAULT AND BYPASS

NOT TO SCALE

1
C506



VALVE VAULT DETAIL

NOT TO SCALE

2
C506



DATE: _____

DATE	REVISIONS	INIT.

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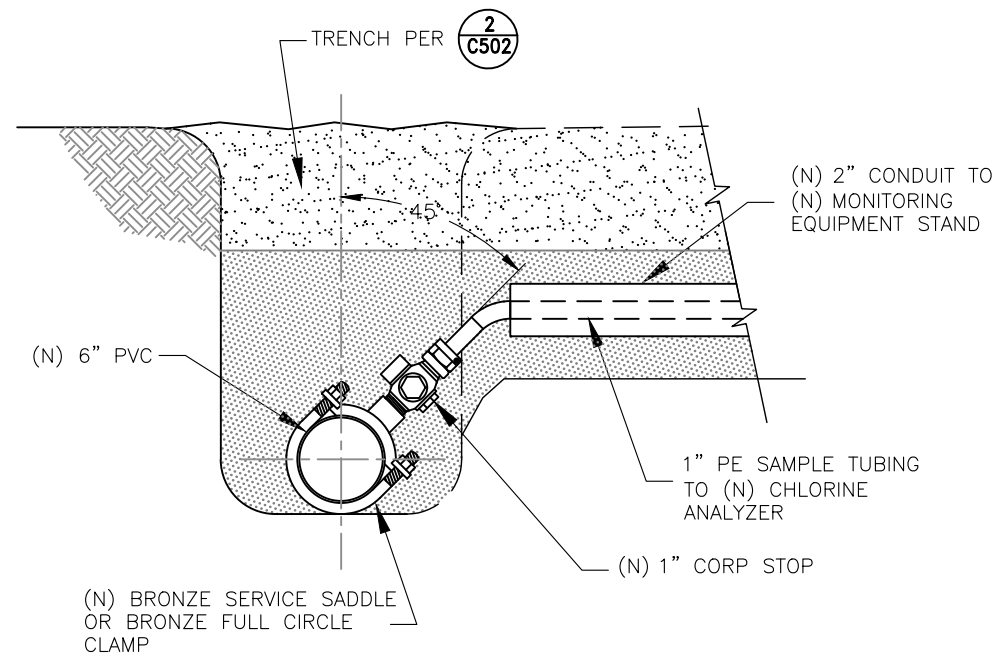


KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
DRAWN BY: D. O'GORMAN

FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C506
PROJ ENG: JILLIAN TILLES

C506
SHEET
29 OF 58

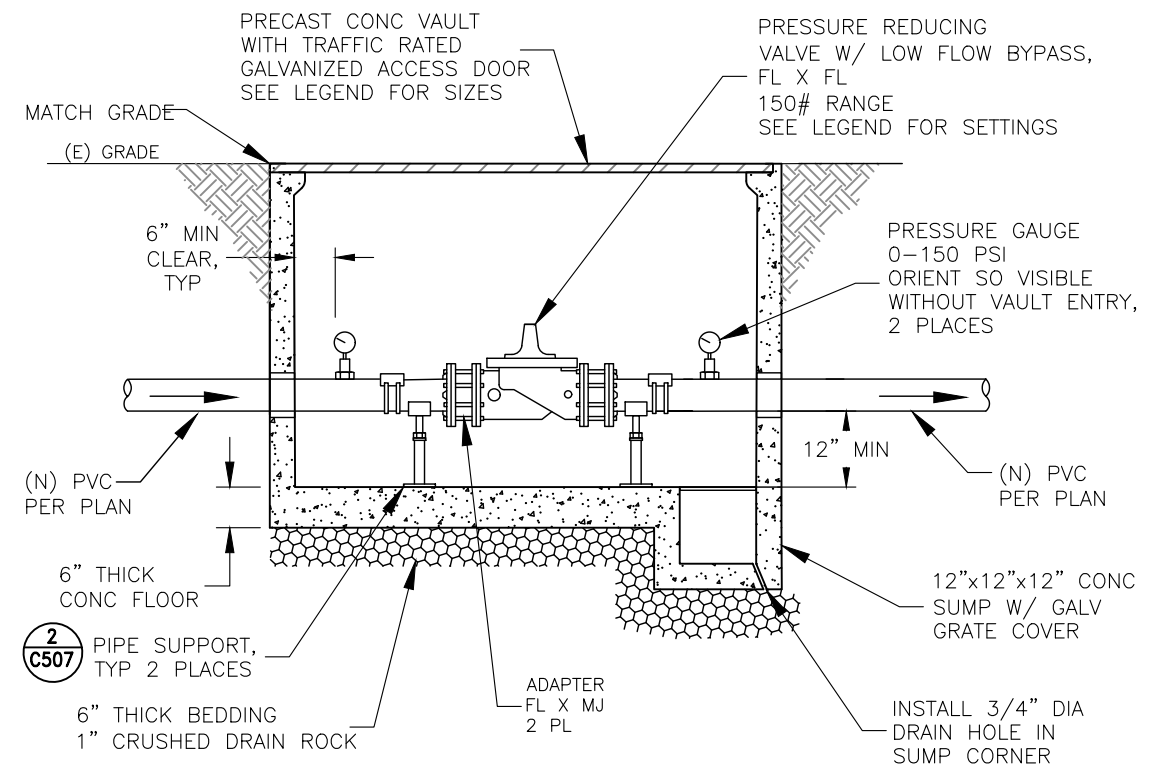


SAMPLE TAP DETAIL

NOT TO SCALE

1
C507

6" PRV (SH C202)
PRESSURE GAUGE SET PRESSURE=45 psi LOW-FLOW=50 psi
VAULT SIZE= 4'-0" X 30" MIN
3" PRV (SH C101)
PRESSURE GAUGE SET PRESSURE=65 psi LOW-FLOW=70 psi
VAULT SIZE= 4'-0" X 30" MIN



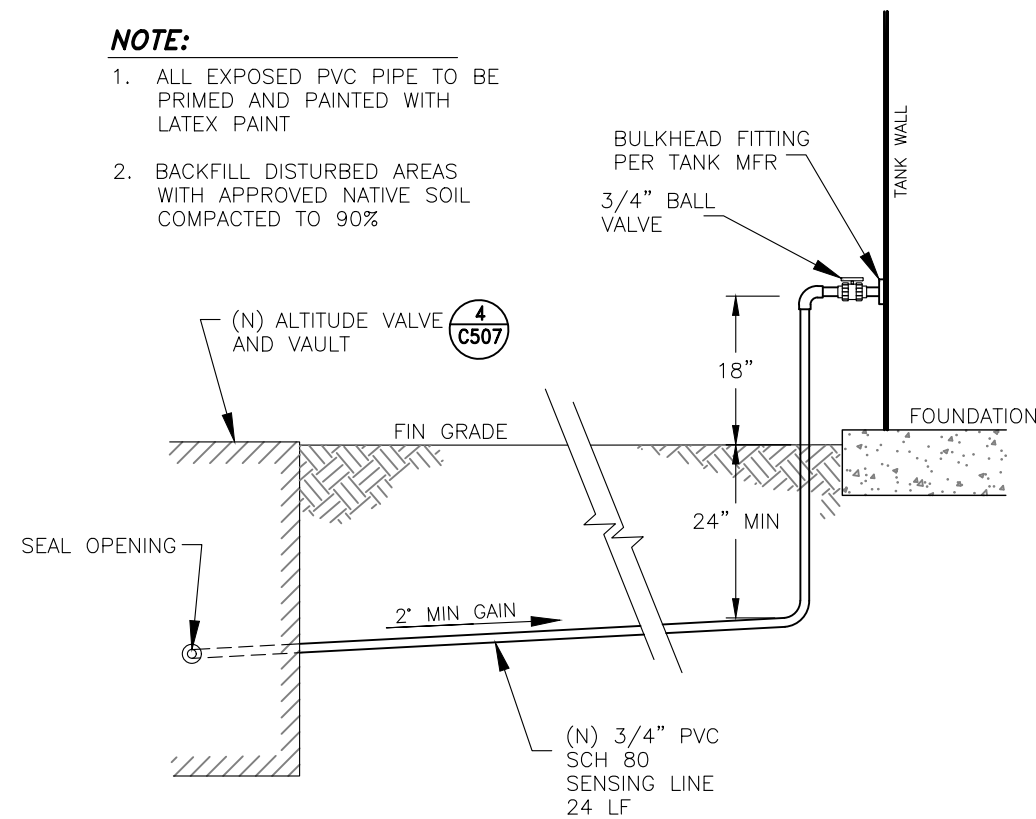
PRESSURE RELIEF VALVE DETAIL

NOT TO SCALE

2
C507

NOTE:

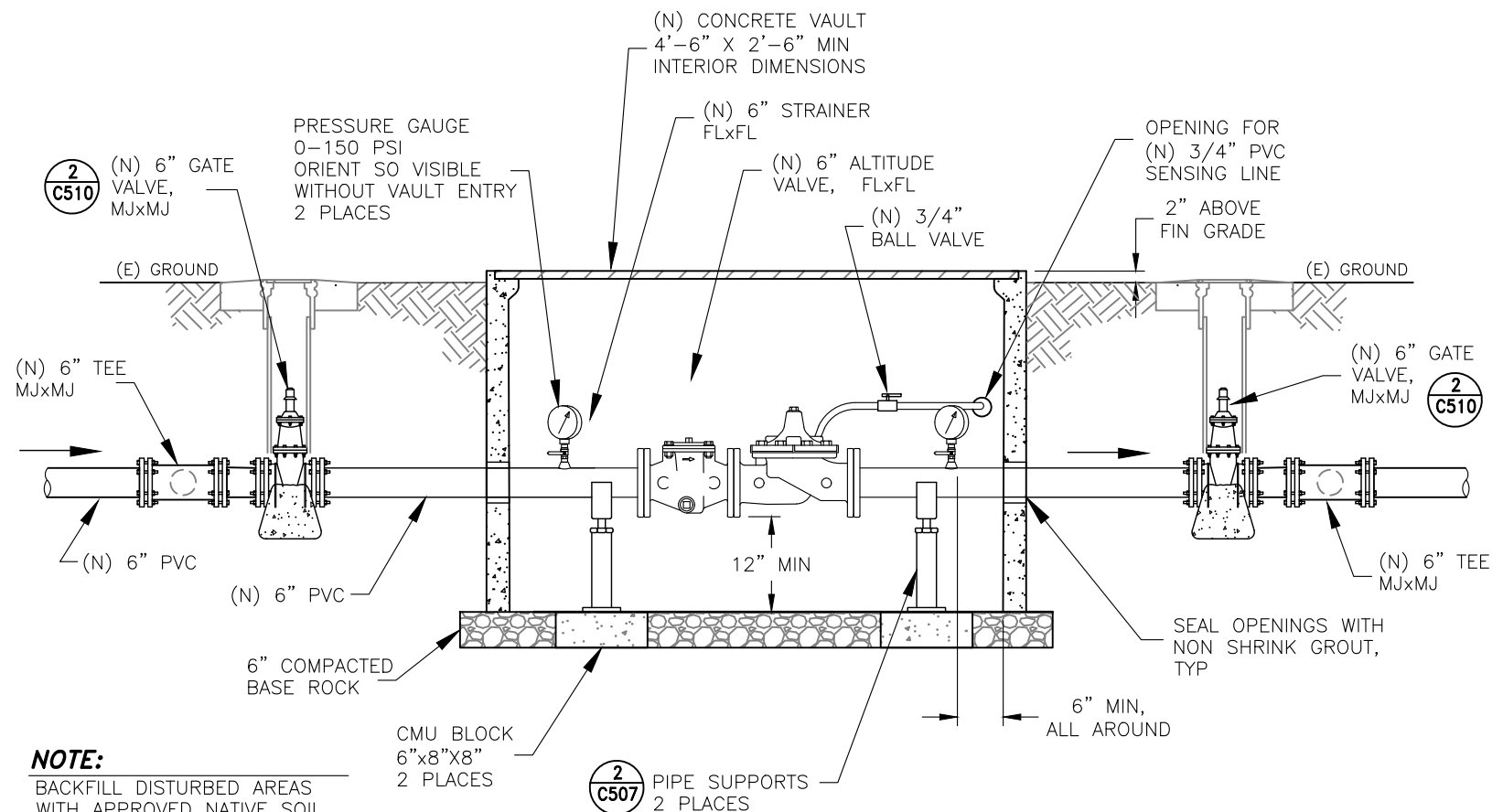
- ALL EXPOSED PVC PIPE TO BE PRIMED AND PAINTED WITH LATEX PAINT
- BACKFILL DISTURBED AREAS WITH APPROVED NATIVE SOIL COMPACTED TO 90%



ALTITUDE VALVE SENSING LINE DETAIL

NOT TO SCALE

3
C507



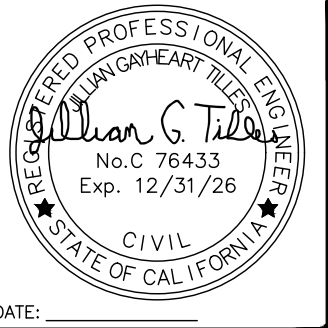
NOTE:

- BACKFILL DISTURBED AREAS WITH APPROVED NATIVE SOIL COMPACTED TO 90%

ALTITUDE VALVE DETAIL

NOT TO SCALE

4
C507



DATE	REVISIONS	INIT.

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SACRAMENTO, CA 95814
(916) 930-3945



KE-NEK WATER TREATMENT PLANT AND KE-NEK WATER MAIN CIVIL DETAILS

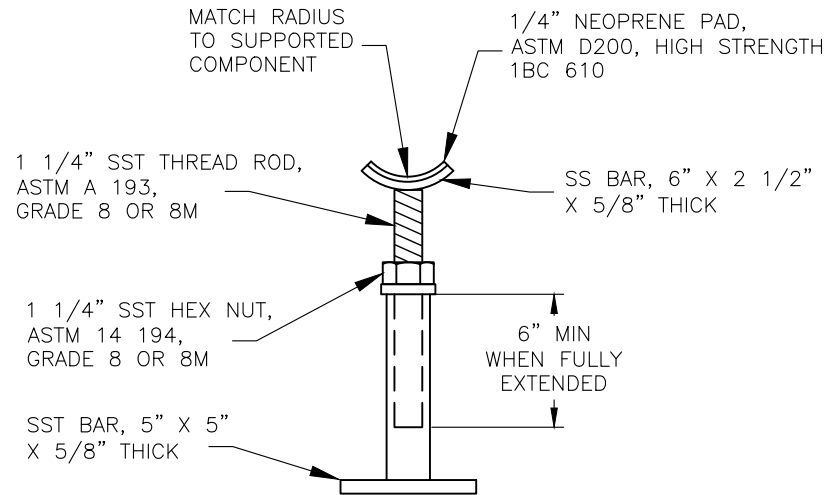
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C507
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN

C507

SHEET
30 OF 58

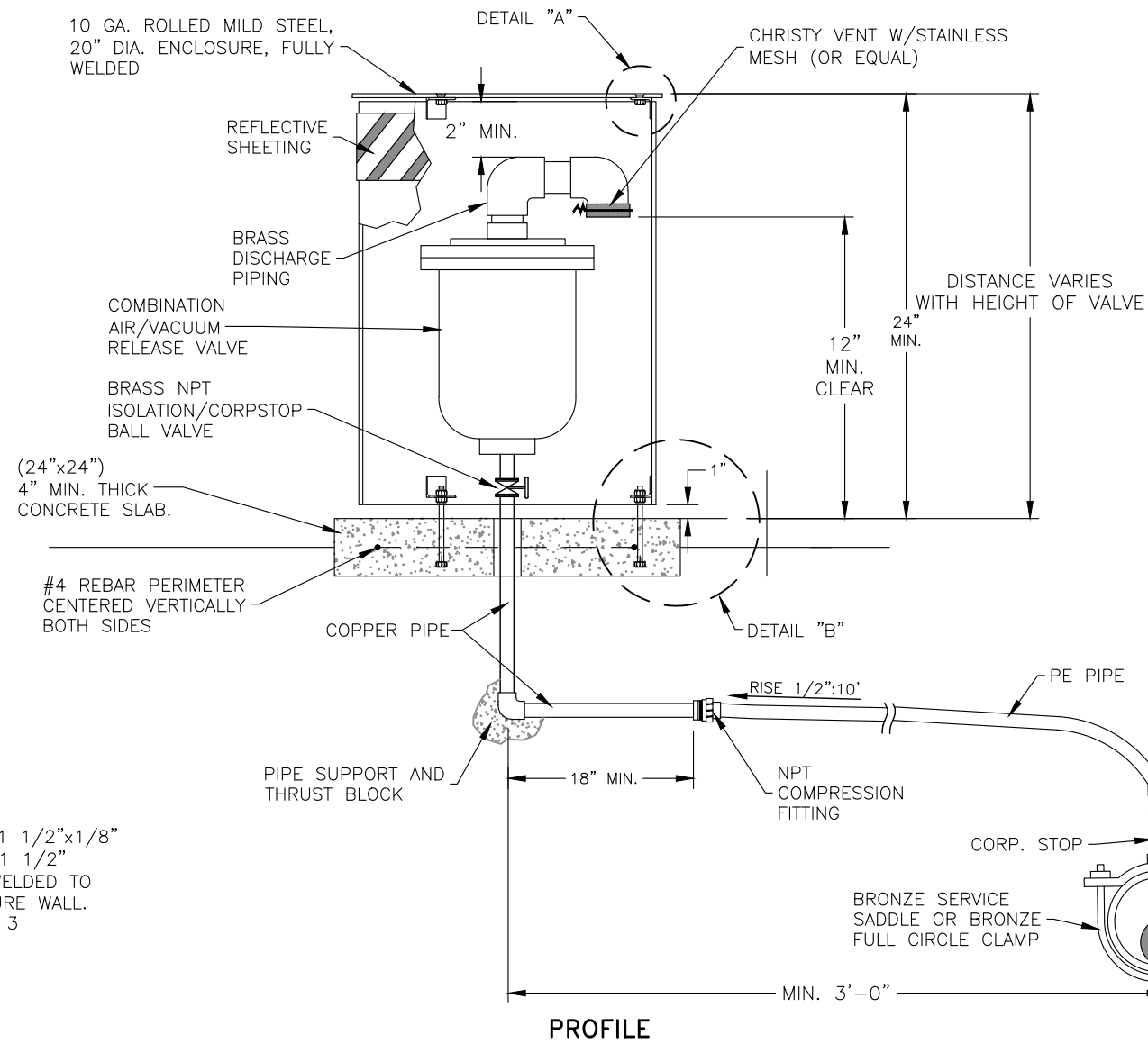


PIPE SUPPORT DETAIL
NOT TO SCALE

2
C508

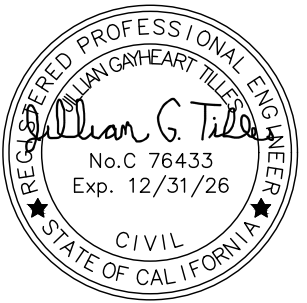
NOTES:

1. ALL BOLTS, NUTS, ETC. TO BE STAINLESS STEEL.
2. ALL METAL SURFACES NOT GALVANIZED SHALL BE PAINTED WITH POWDER COAT PAINT (COLOR TO MATCH EXISTING FACILITIES).
3. PLACE PVC PIPE SLEEVE THROUGH SLAB. PIPE SLEEVE SIZE SHALL BE 1/2" LARGER THAN RISER. SEAL WITH EXPANDING FOAM.
4. PROVIDE CONCRETE SUPPORT OF ADEQUATE SIZE TO SUPPORT WEIGHT OF AIR VALVE.
5. ENCLOSURE DESIGN IS FOR 1" THROUGH 4" VALVES. FOR 6" OR LARGER, ENCLOSURE MUST BE ENLARGED TO ACCOMMODATE LARGER VALVES.
6. REFLECTIVE SHEETING SHALL BE INSTALLED AT TOP OF EXTERIOR SIDEWALL. WRAP SHEETING 360° AROUND ENCLOSURE
7. ALL ABOVE GRADE PIPING AND COMBINATION AIR VALVE SHALL BE WRAPPED WITH ADEQUATE PIPE INSULATION TO PREVENT FREEZING. METHOD SHALL REQUIRE PRIOR APPROVAL.
8. PIPE AND FITTING DIAMETER TO MATCH AIR VALVE DIAMETER.
9. AIR RELIEF VALVE TO BE 8' MIN FROM EDGE OF PAVEMENT.



**TYPICAL COMBINATION
AIR VALVE INSTALLATION**
NOT TO SCALE

1
C508



DATE	REVISIONS	INIT.

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**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS**

FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C508
PROJ ENG: JILLIAN TILLES

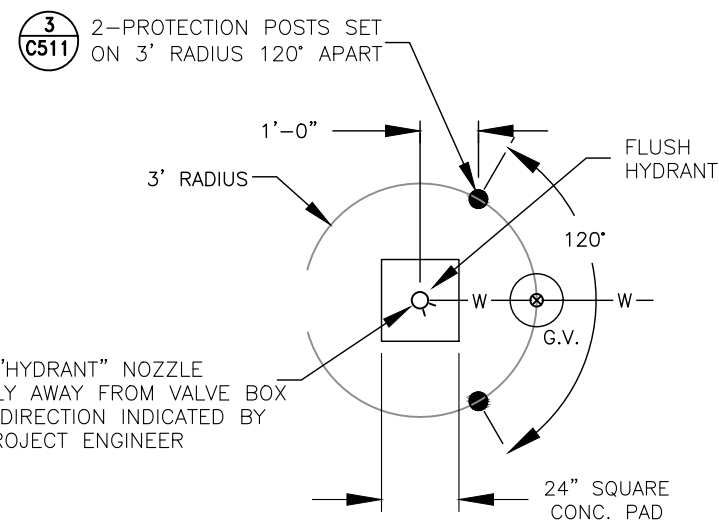
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN

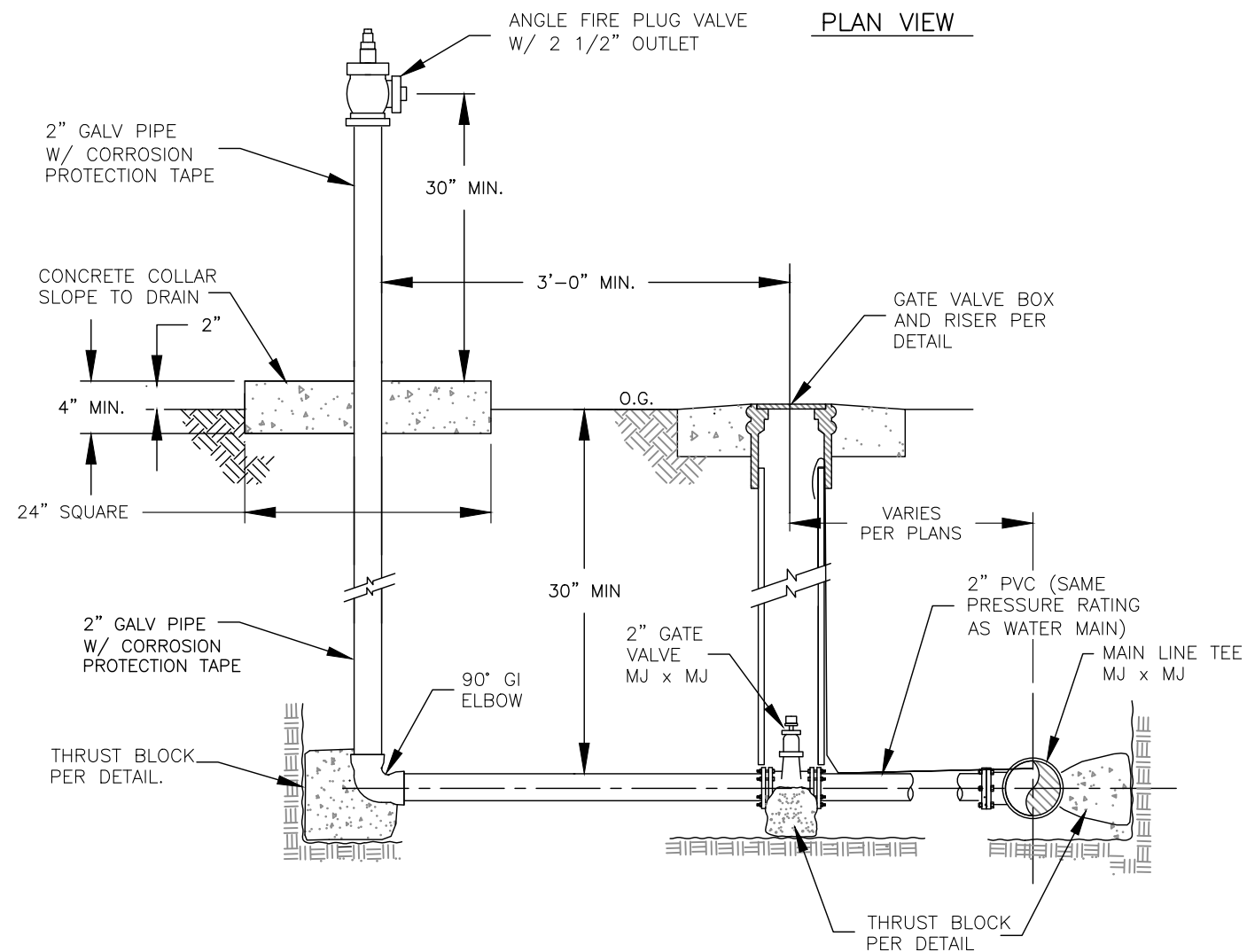
C508

SHEET
31 OF 58

1. THRUST BLOCKS TO BE CAST AGAINST UNDISTURBED EARTH.
2. ALL JOINTS AND FITTINGS TO BE FLANGED OR UNRESTRAINED.
3. TEE TO HYDRANT AND THE GATE VALVE ASSEMBLY MUST BE FLANGED.
4. HYDRANT AND/OR GATE VALVE SHALL NOT BE LOCATED WITHIN FIVE FEET OF THE FLOWLINE OF ANY DRAINAGE DITCH.
5. BOLLARDS ARE NOT REQUIRED FOR HYDRANTS ON PUBLIC ROADS.
6. ALL GALV. PIPE TO BE WRAPPED WITH CORROSION PROTECTION TAPE.



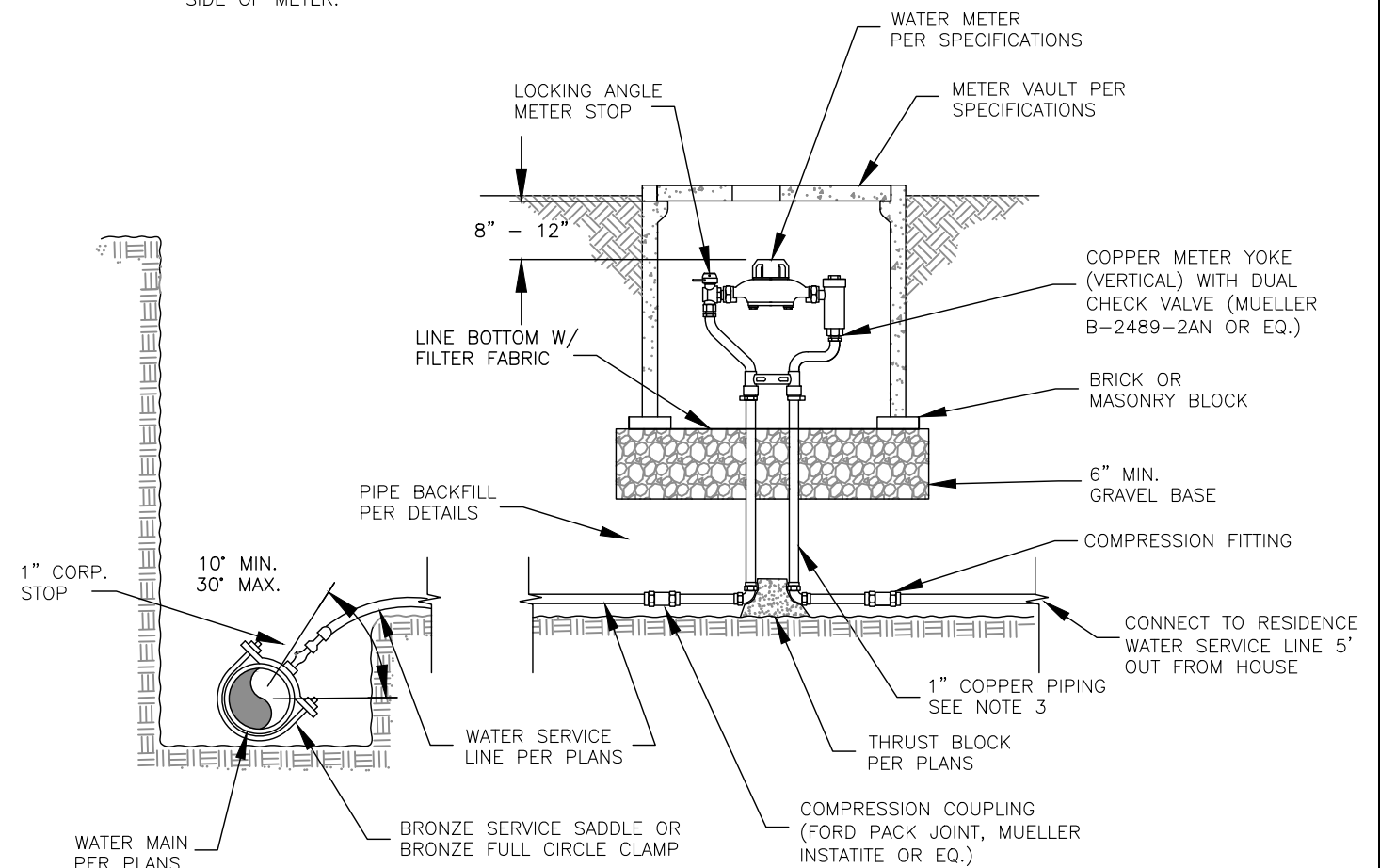
PLAN VIEW



NOT TO SCALE

1
C509

1. ALL THREADED FITTINGS (CORP STOP/PE CONNECTORS) FOR PE PIPE ARE TO BE 1" IPS THREADS. (AWWA OR OTHER SPECIAL THREADS ARE NOT ALLOWED)
2. OUTLET TO COPPER SETTER TO HAVE A TEST/DRAIN VALVE TO ALLOW DRAINING OF HOUSE LINES.
3. ALL VERTICAL AND HORIZONTAL PIPING WITHIN 6" OF THRUST BLOCKS SHALL BE ASTM B88 COPPER TUBING.
4. DOUBLE CHECK VALVE ON HOMEOWNERS SIDE OF METER.



WATER SERVICE CONNECTION WITH WATER METER DETAIL

NOT TO SCALE

2
C509



DATE: _____

[illegible]

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CIVIL DETAILS

FILE NAME: CAU-13-E36-DEI
LAYOUT NAME: C509
PROJ ENG: JILLIAN TILLES

SCALE. AS NOTED

DATE: 10-2-24

DRAWN BY: D. O'GORMAN

C509

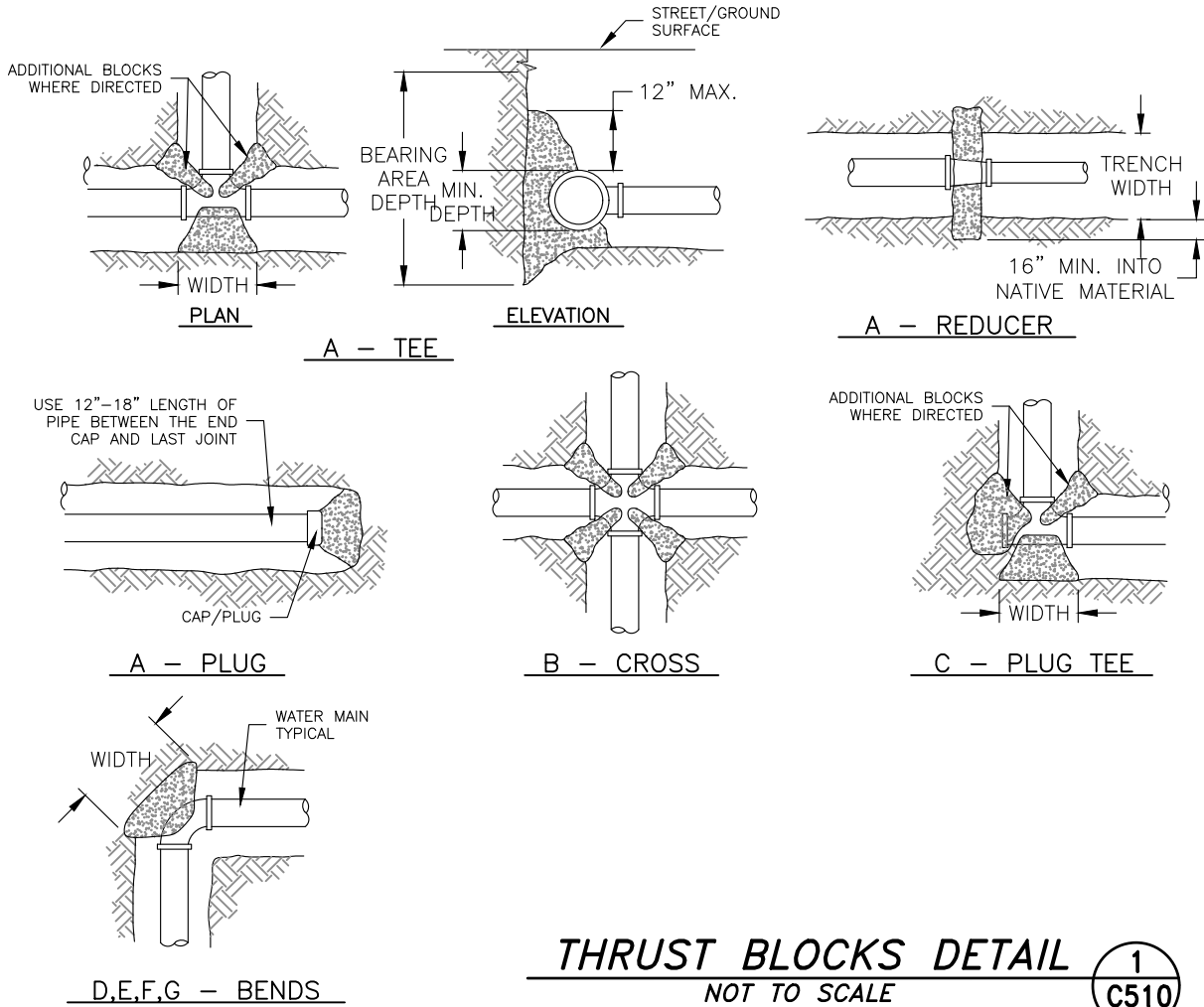
HEET

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NOTES:

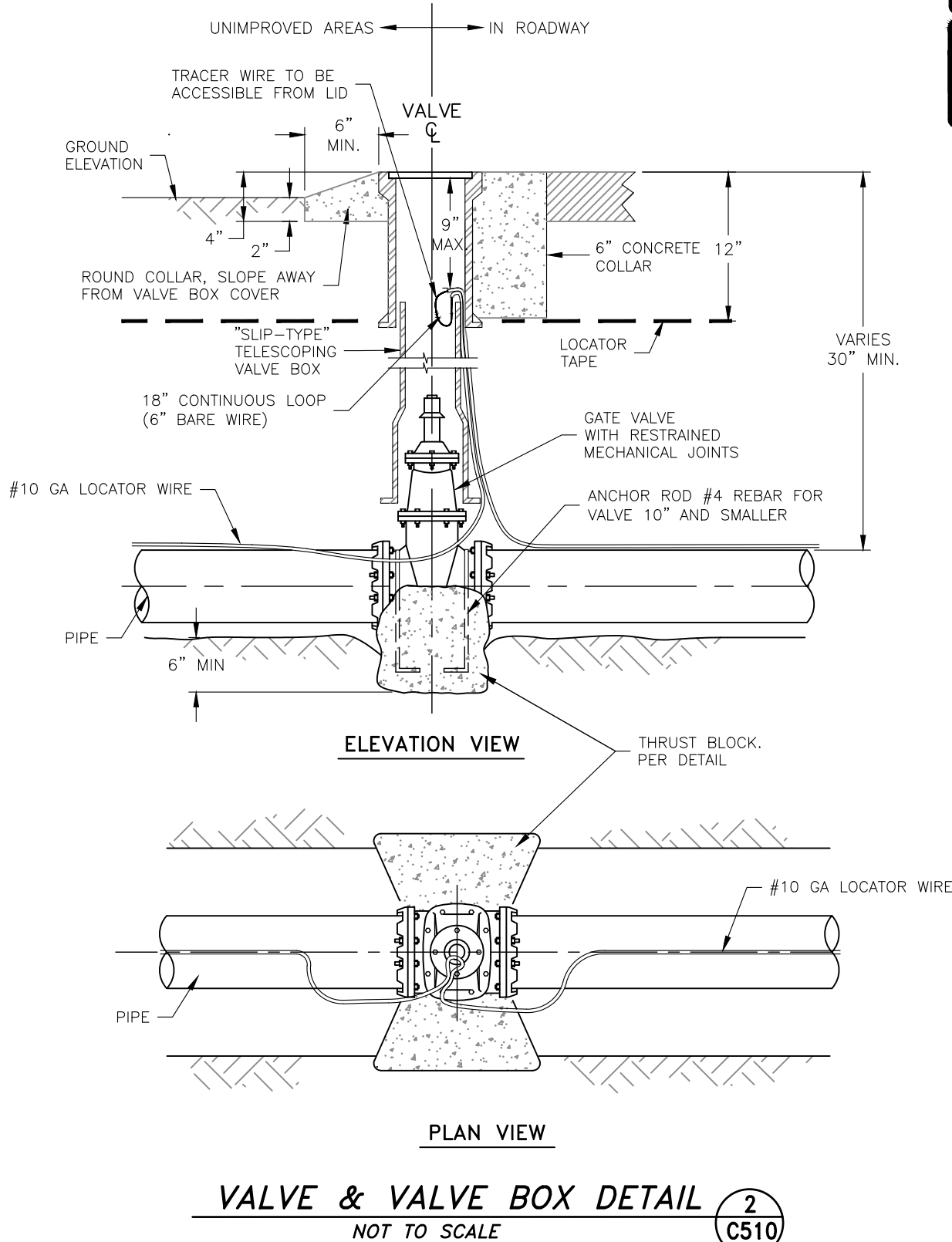
- 1. ALL VALUES SHOWN ARE MINIMUM FOR A HYDROSTATIC PRESSURE OF 200 PSI AND 2,000 PSF SOIL BEARING CAPACITY.
- 2. CONCRETE SHALL PASS 4,000 PSI CYLINDER TEST PRIOR TO WATER LINE PRESSURE TEST.
- 3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
- 4. JOINTS AND FACE OF PIPE PLUGS SHALL BE KEPT CLEAR OF CONCRETE.
- 5. REQUIRED THRUST BLOCK SURFACE AREA SHALL BE MET BY CONSTRUCTING BLOCKS WITH REQUIRED HEIGHT AND WIDTH WHILE MAINTAINING REQUIRED THICKNESS.
- 6. MIN. SOIL COVER SHALL BE 30" (GENERAL)

SIZE OF THRUST FACE (DIMS IN INCHES)							
PIPE NOM. SIZE	A TEE, PLUG, OR 60° BEND	B CROSS (EACH)	C PLUG, TEE (EACH)	D 90° BEND	E 45° BEND	F 22-1/2° BEND	G 11-1/4° BEND
2"	9 x 9	8 x 8	9 x 9	10 x 10	8 x 8	6 x 6	4 x 4
4"	17 x 17	15 x 15	17 x 17	20 x 20	15 x 15	11 x 11	8 x 8
6"	25 x 25	22 x 22	25 x 25	30 x 30	22 x 22	16 x 16	11 x 11
8"	33 x 33	29 x 29	33 x 33	40 x 40	29 x 29	21 x 21	15 x 15
10"	42 x 42	36 x 36	42 x 42	49 x 49	37 x 37	26 x 26	19 x 19
12"	50 x 50	43 x 43	50 x 50	59 x 59	44 x 44	31 x 31	22 x 22
14"	58 x 58	50 x 50	58 x 58	69 x 69	51 x 51	37 x 37	26 x 26
16"	66 x 66	57 x 57	66 x 66	79 x 79	58 x 58	42 x 42	30 x 30
18"	75 x 75	64 x 64	75 x 75	89 x 89	65 x 65	47 x 47	33 x 33



NOTES:

- 1. THRUST BLOCK DIMENSIONS PER THRUST BLOCK TABLE DETAIL
- 2. INSTALLED IN PAVED ROADWAY, CONCRETE PAD SHALL BE FLUSH WITH PAVEMENT.
- 3. ALL CONCRETE COLLARS TO BE A MINIMUM OF 18" ROUND X 12" DEPTH REINFORCED W/#4 REBAR LOOP IF INSTALLED IN ROADWAYS AND 1" MAXIMUM ABOVE FINISHED SURFACE.
- 4. ALL CONCRETE COLLARS TO BE A MINIMUM OF 18" ROUND X 4" DEPTH REINFORCED W/#4 REBAR LOOP NOT INSTALLED IN ROADWAYS AND 2" MAXIMUM ABOVE FINISHED SURFACE.
- 5. VALVE BOX AND RISER SHALL BE SET PLUMB AND CENTERED OVER WATER VALVE NUT.
- 6. LIDS SHALL BE LABELED WITH CAST OR BEAD WELDED LETTERS: "WATER" FOR POTABLE, "RAW WATER" FOR RAW WATER.
- 7. WRAP VALVES WITH POLY VINYL PRIOR TO POURING CONCRETE THRUST BLOCK.



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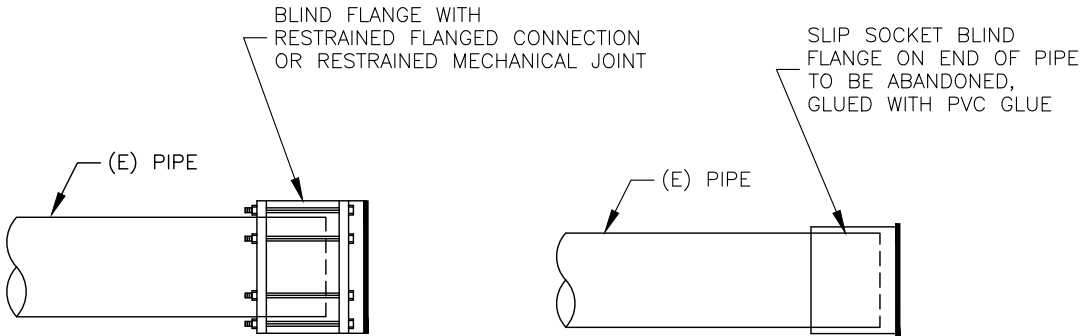
INDIAN HEALTH SERVICE
1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C510
PROJ ENG: JILLIAN TILLES

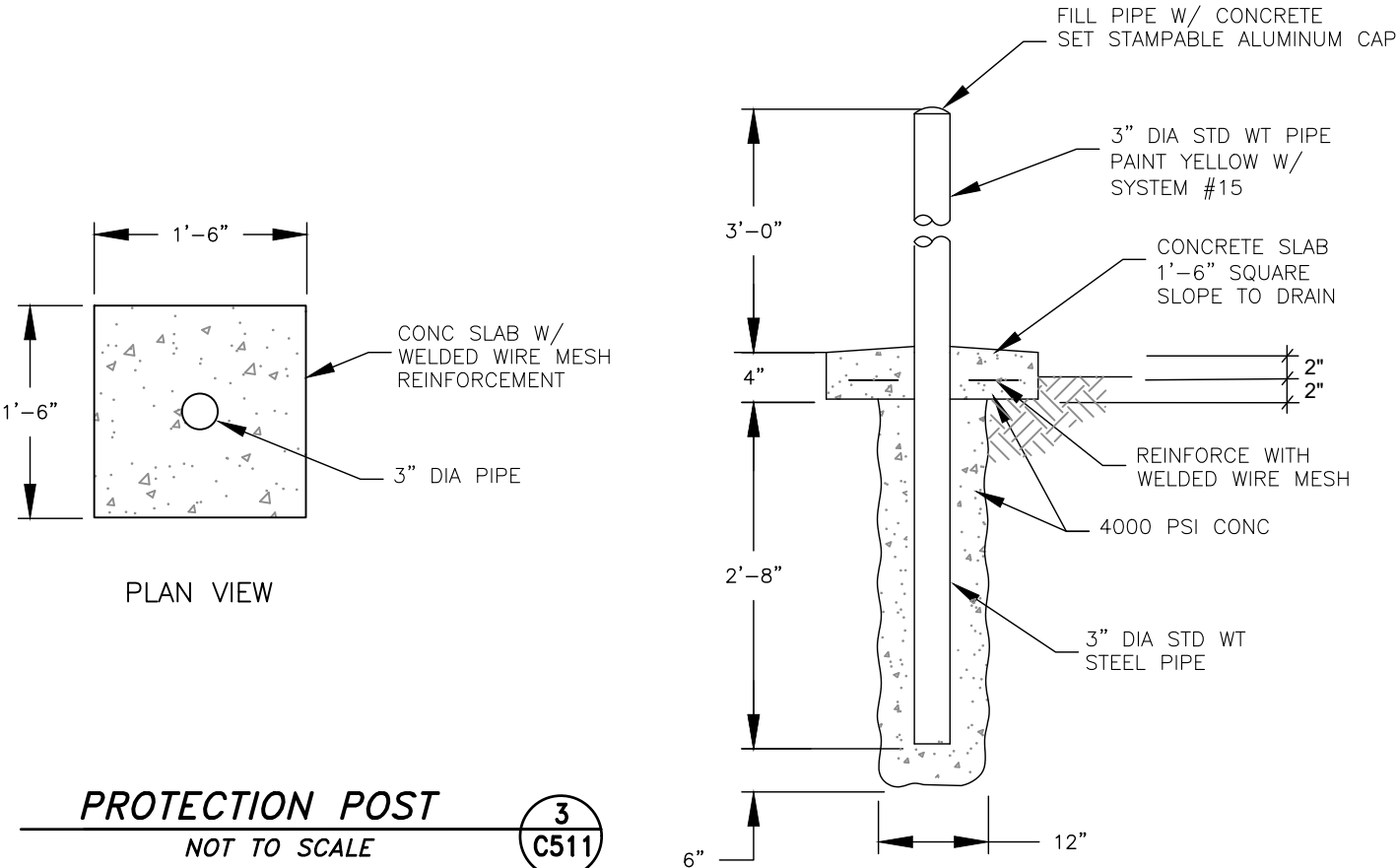
- NOTES:
1. BLIND FLANGES INSTALLED ON THE ENDS OF PIPE THAT WILL REMAIN ACTIVE MUST BE SPRAYED OR SWABBED WITH 1 TO 5 PERCENT SOLUTION OF CHLORINE NO MORE THAN 30 MINUTES PRIOR TO INSTALLATION. THE INTERIOR AND EXTERIOR OF EXISTING FITTING OR PIPE JOINT AND CUT END OF EXISTING PIPE SHALL BE CLEANED AND DISINFECTED.
 2. INSTALL BLIND FLANGE ON END OF PIPE. BLIND FLANGE CAN BE EITHER SLIP JOINT, FLANGED, OR MECHANICAL JOINT.
 3. ALL JOINTS SHALL BE WATERTIGHT. IF PART OF WATER MAIN WILL REMAIN ACTIVE, PRIOR TO BACKFILLING, INSTALL A THRUST BLOCK, AND PRESSURE TEST THE WATER MAIN.



END CAP DETAIL

NOT TO SCALE

1
C511

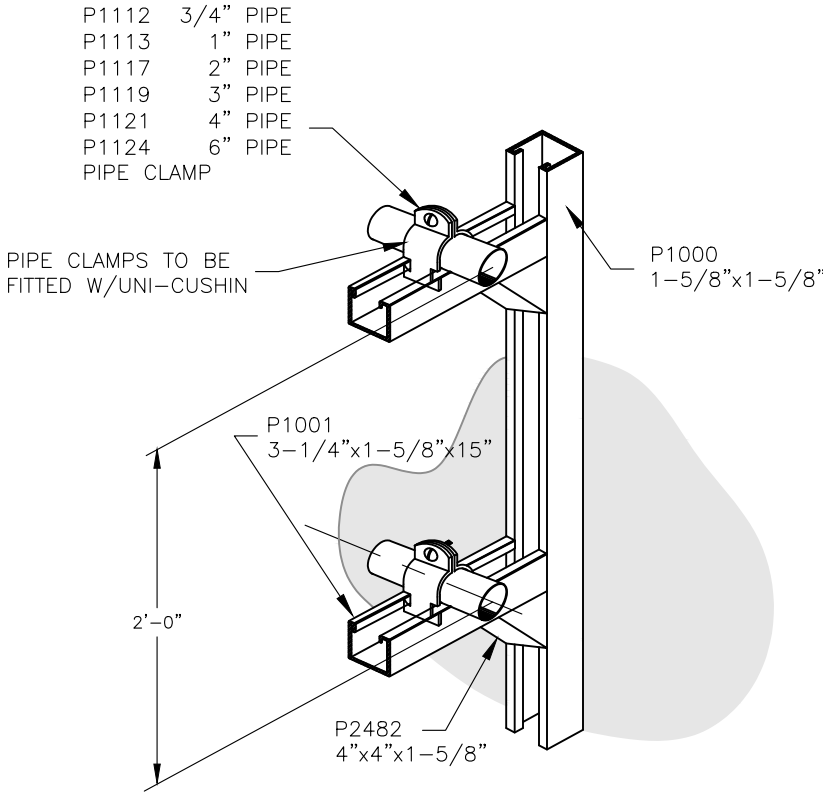


PROTECTION POST

NOT TO SCALE

3
C511

- NOTES:
1. ALL COMPONENTS FOR PIPE SUPPORT SHALL BE UNISTRUT ALL PURPOSE METAL FRAMING OR APPROVED EQUAL. WALL ATTACHED PIPE SUPPORTS SHALL BE INSTALLED ON INSIDE WALLS ON 4' SPACING ADJACENT TO PIPE ROUTES. ATTACH P1000 CHANNEL TO WALL W/ THREE 1/4"x3" BOLTS w/ MASONRY ANCHORS. BEGIN 1'-0" FROM CHANNEL TOP AT 1'-0" SPACING.
 2. UNISTRUT TO BE USED FOR WATER LINES INSIDE TREATMENT AND CHEMICAL ROOMS.

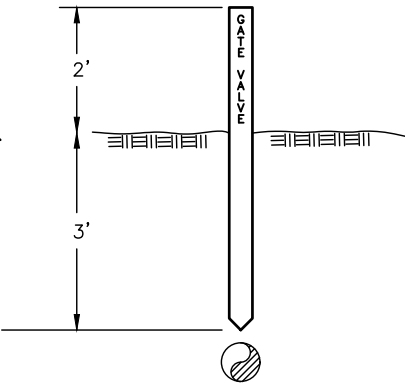


PIPE SUPPORT DETAIL

NOT TO SCALE

3
C511

- NOTES:
1. FLEXIBLE TRAFFIC MARKER-CARSONITE WHITE W/SILVER REFLECTIVE LETTERS: "GATE VALVE", "CLEANOUT", "TEE", ETC.
 2. PLACEMENT AND SPACING OF POSTS PER SPECIFICATION 01 11 90 AND APPROVAL OF ENGINEER.



MARKER POST DETAIL

NOT TO SCALE

4
C511



DATE: _____

DATE	REVISIONS	INIT.

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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
CIVIL DETAILS

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24
FILE NAME: CAO-15-E56-DET
LAYOUT NAME: C511
PROJ ENG: JILLIAN TILLES

C511

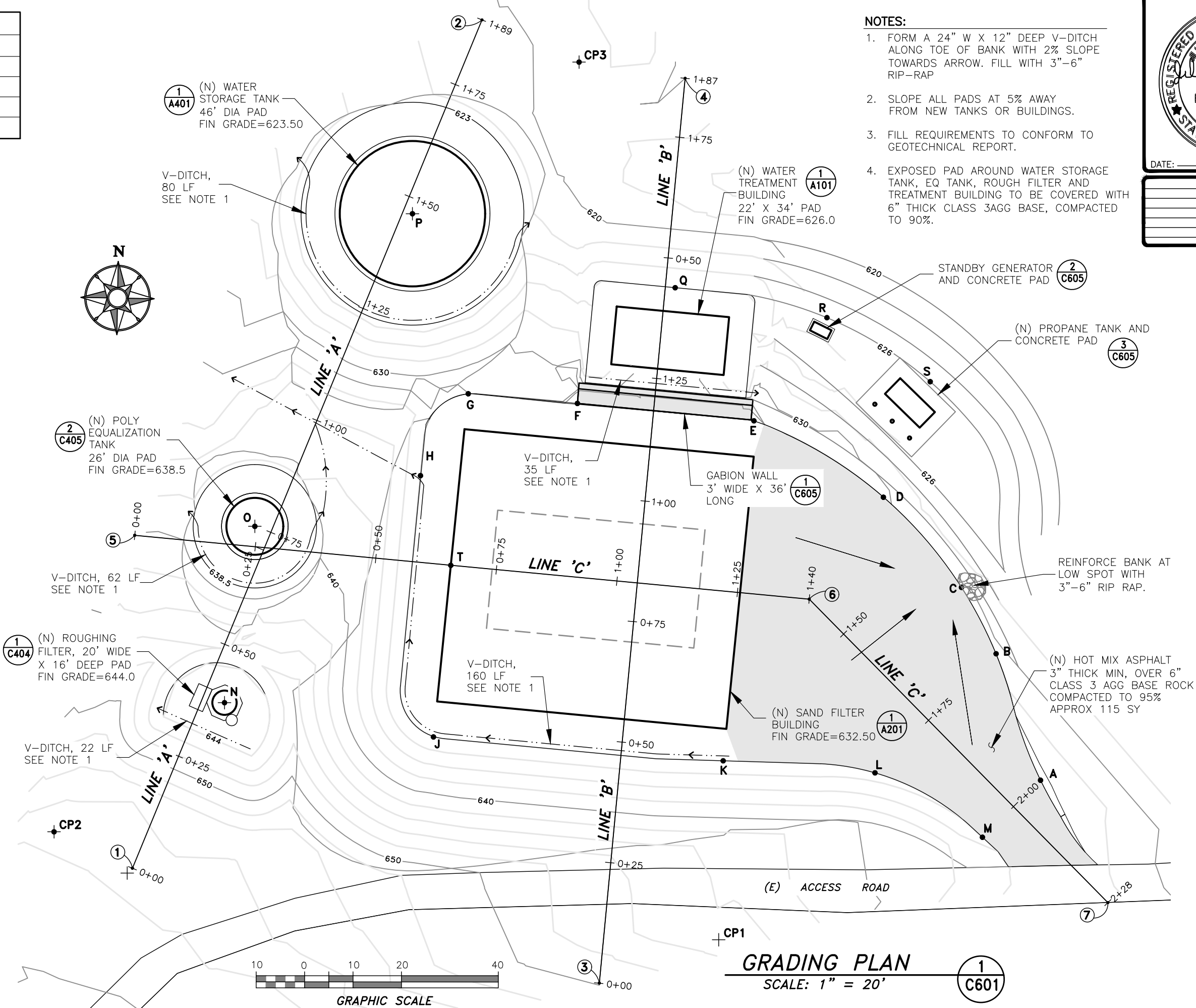
SHEET
34 OF 58

ALIGNMENT LEGEND		
LINE	DISTANCE	BEARING
LINE A	189.00	N 22° 24' 06" E
LINE B	187.00	N 05° 26' 00" E
LINE C	140.00	S 84° 35' 39" E
	88.00	S 44° 32' 51" E

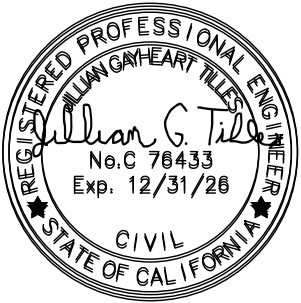
FINISHED GRADE POINTS		
PT	STA & OFFSET	FIN GRADE
A	C-2+00 9.18 R	632.50
B	C-1+75 19.58 L	632.00
C	C-1+50 25.60 L	631.75
D	C-1+40 26.00 L	631.50
E	C-1+25 35.75 L	632.10
F	C-0+89 35.75 L	632.10
G	C-0+65 35.75 L	632.40
H	C-0+57 27.78 L	632.40
J	C-0+65 35.75 R	632.40
K	C-1+25.5 35.75 R	632.40
L	C-1+75 15.50 R	632.70
M	C-2+00 9.20 R	632.90
N	A-0+38.6 4.65 R	644.00
O	A-0+75 3.50 L	638.50
P	C-0+24.5 4.25 L	638.50
	A-1+47 2.00 R	623.50
Q	B-1+44 2.00 R	626.00
T	C-0+65.5	632.50

COORDINATE LEGEND		
PT	NORTHING	EASTING
CP1	1000.00	1000.00
CP2	1015.15	906.49
CP3	9.87	7.57
1	1014.78	878.92
2	10.30	6.57
3	991.06	975.34
4	9.70	8.66
5	1083.51	879.41
6	1070.33	1018.69
7	1007.68	1080.35
N	1048.95	897.94
O	1085.37	904.20
P	1149.91	936.75
Q	7.54	8.56
R	7.10	10.31
S	6.32	11.41
T	1077.31	944.67

CONTROL IS USING ASSUMED
CP1-CP3 ARE SET IN FIELD



- NOTES:**
- FORM A 24" W X 12" DEEP V-DITCH ALONG TOE OF BANK WITH 2% SLOPE TOWARDS ARROW. FILL WITH 3"-6" RIP-RAP
 - SLOPE ALL PADS AT 5% AWAY FROM NEW TANKS OR BUILDINGS.
 - FILL REQUIREMENTS TO CONFORM TO GEOTECHNICAL REPORT.
 - EXPOSED PAD AROUND WATER STORAGE TANK, EQ TANK, ROUGH FILTER AND TREATMENT BUILDING TO BE COVERED WITH 6" THICK CLASS 3AGG BASE, COMPACTED TO 90%.



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**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
GRADING PLAN, TREATMENT FACILITY**

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024
DRAWN BY: D. O'GORMAN

FILE NAME: CAO-15-E56-Grd
LAYOUT NAME: C601
PROJ ENG: JILLIAN TILLES

C601
SHEET
35 OF 58



REVISIONS	INIT.

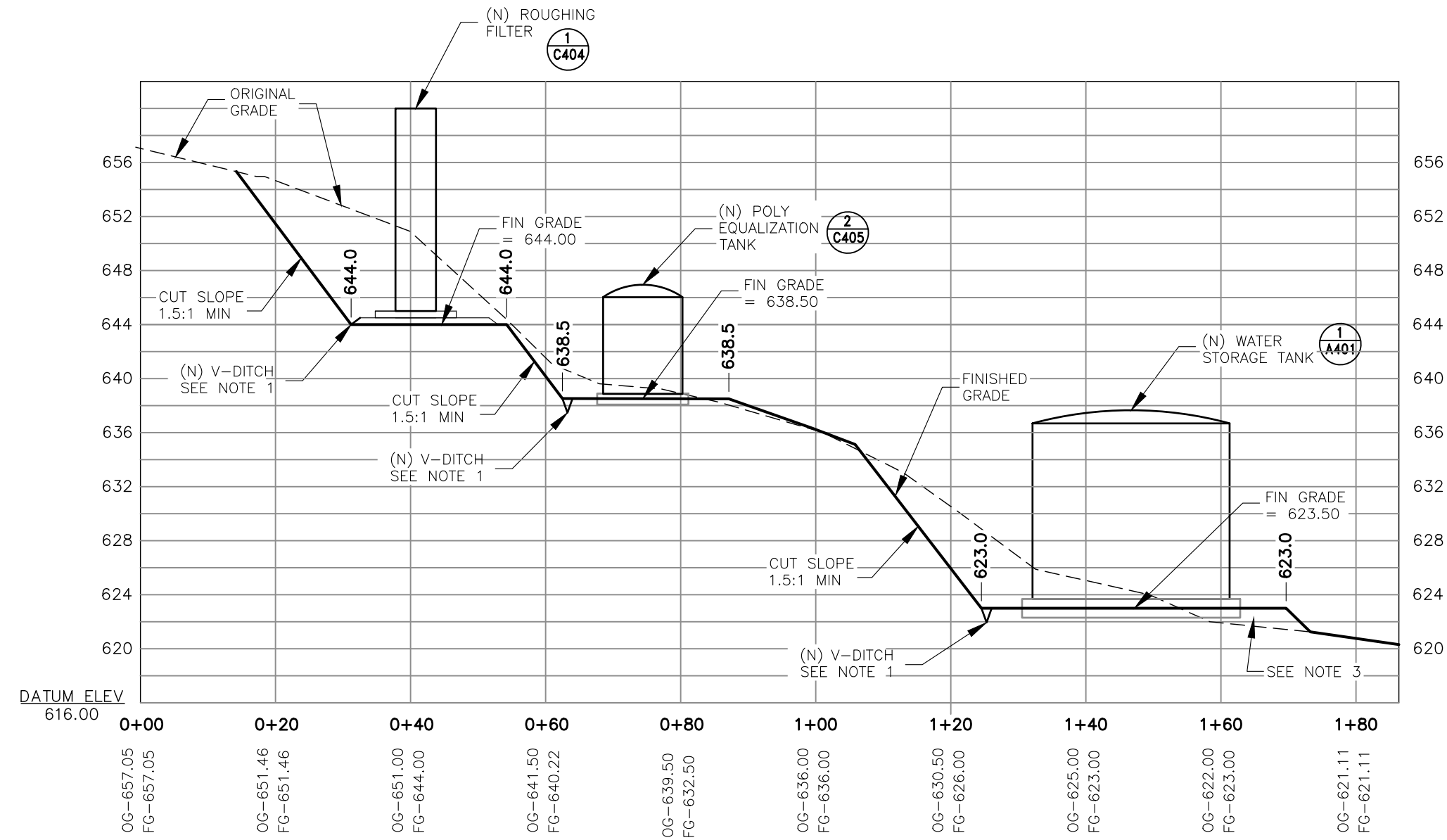
DEPARTMENT OF HEALTH AND HUMAN SERVICES
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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PROFILE, ALIGNMENT 'A'

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-Grd
LAYOUT NAME: C602

DRAWN BY: D. O'GORMAN
SCALE: AS NOTED
DATE: 10-2-2024
PROJ ENG: JILLIAN TILLES



PROFILE, ALIGNMENT 'A'

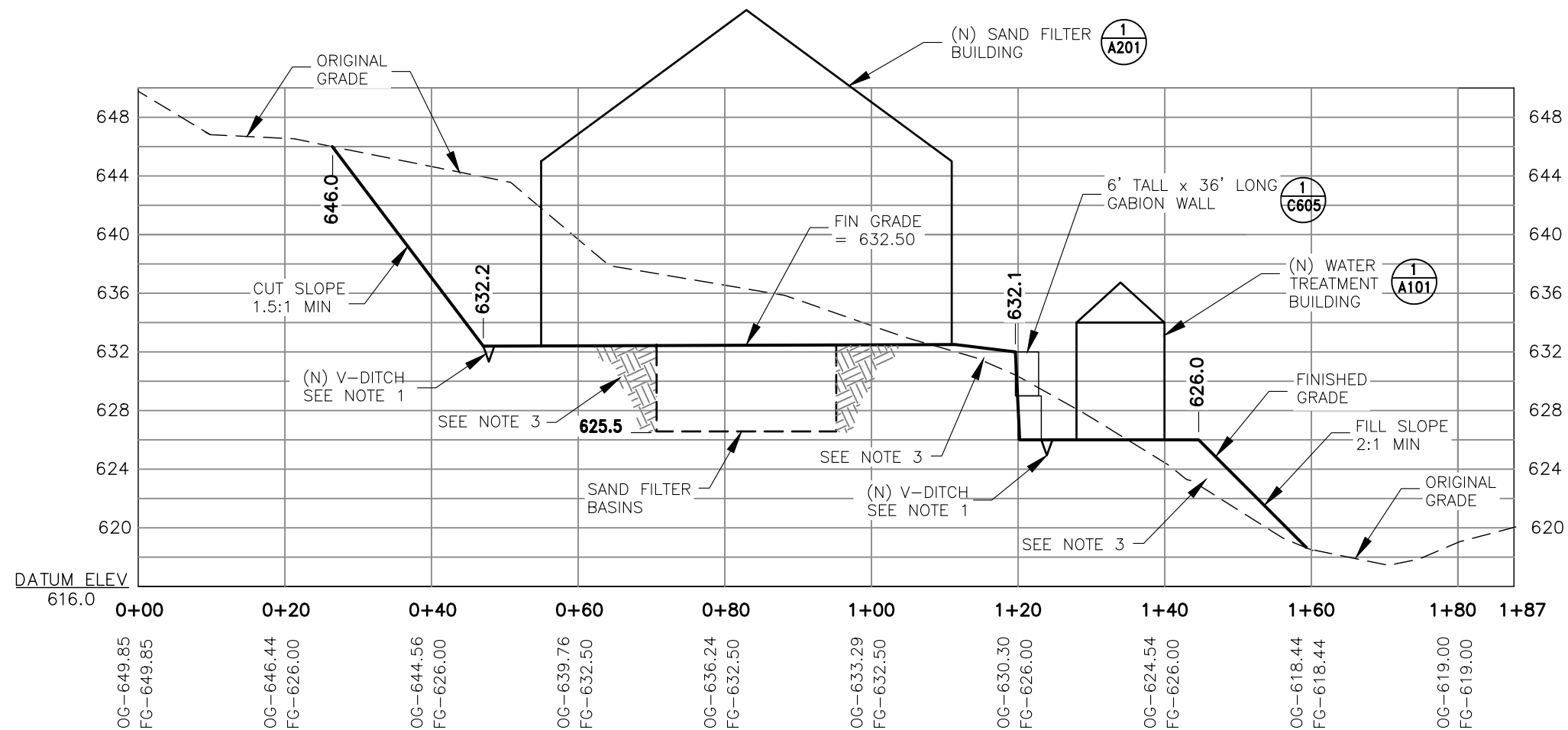
HORIZ SCALE: 1" = 20'
VERT SCALE: 1" = 10'

- NOTES:
- FORM A 24" W X 12" DEEP V-DITCH ALONG TOE OF BANK WITH 2% SLOPE TOWARDS EAST. FILL WITH 3"-6" RIP-RAP
 - SLOPE ALL PADS AT 5% AWAY FROM NEW TANKS OR BUILDINGS.
 - IMPORTED FILL ONLY TO BE USED FOR FILL UNDERNEATH TANK. PLACE IN 6" LIFTS AND COMPACT TO 95%. FILL TO OBEY GEOTECHNICAL REPORT REQUIREMENTS.



DATE: _____

REVISIONS	INIT.



NOTES:

1. FORM A 24" W X 12" DEEP V-DITCH ALONG TOE OF BANK WITH 2% SLOPE TOWARDS EAST. FILL WITH 3"-6" RIP-RAP
2. SLOPE ALL PADS AT 5% AWAY FROM NEW TANKS OR BUILDINGS.
3. BACKFILL AROUND SAND FILTER BASINS WITH APPROVED NATIVE OR IMPORTED FILL COMPACTED TO 90%. FILL TO OBEY GEOTECHNICAL REPORT REQUIREMENTS.

PROFILE, ALIGNMENT 'B'

HORIZ SCALE: 1" = 20'
VERT SCALE: 1" = 10'

1
C603

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**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PROFILE, ALIGNMENT 'B'**

DRAWING NO.: CAO-21-F05 SCALE: AS NOTED DATE: 10-2-2024
FILE NAME: CAO-15-E56-Gra
LAYOUT NAME: C603
PROJ ENG: JILLIAN TILLES

DRAWN BY: D. O'GORMAN

C603

SHEET

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DATE: _____

REVISIONS	INIT.

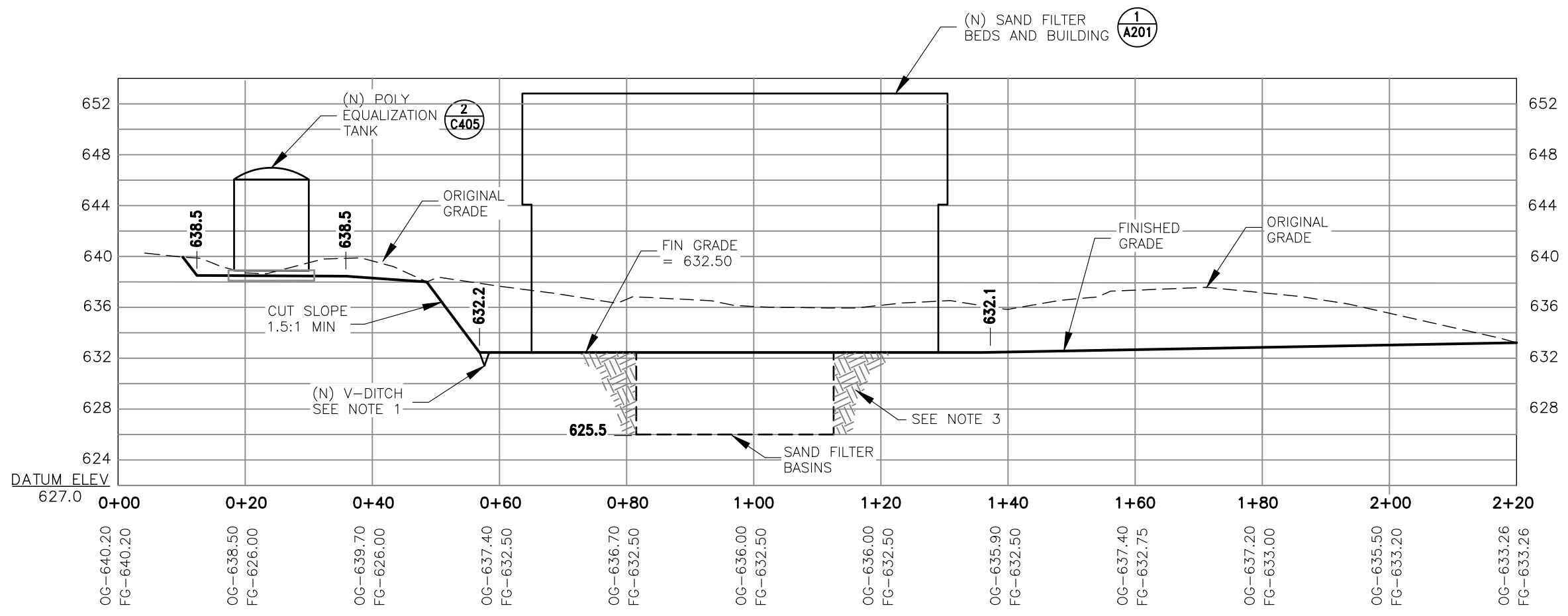
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1955

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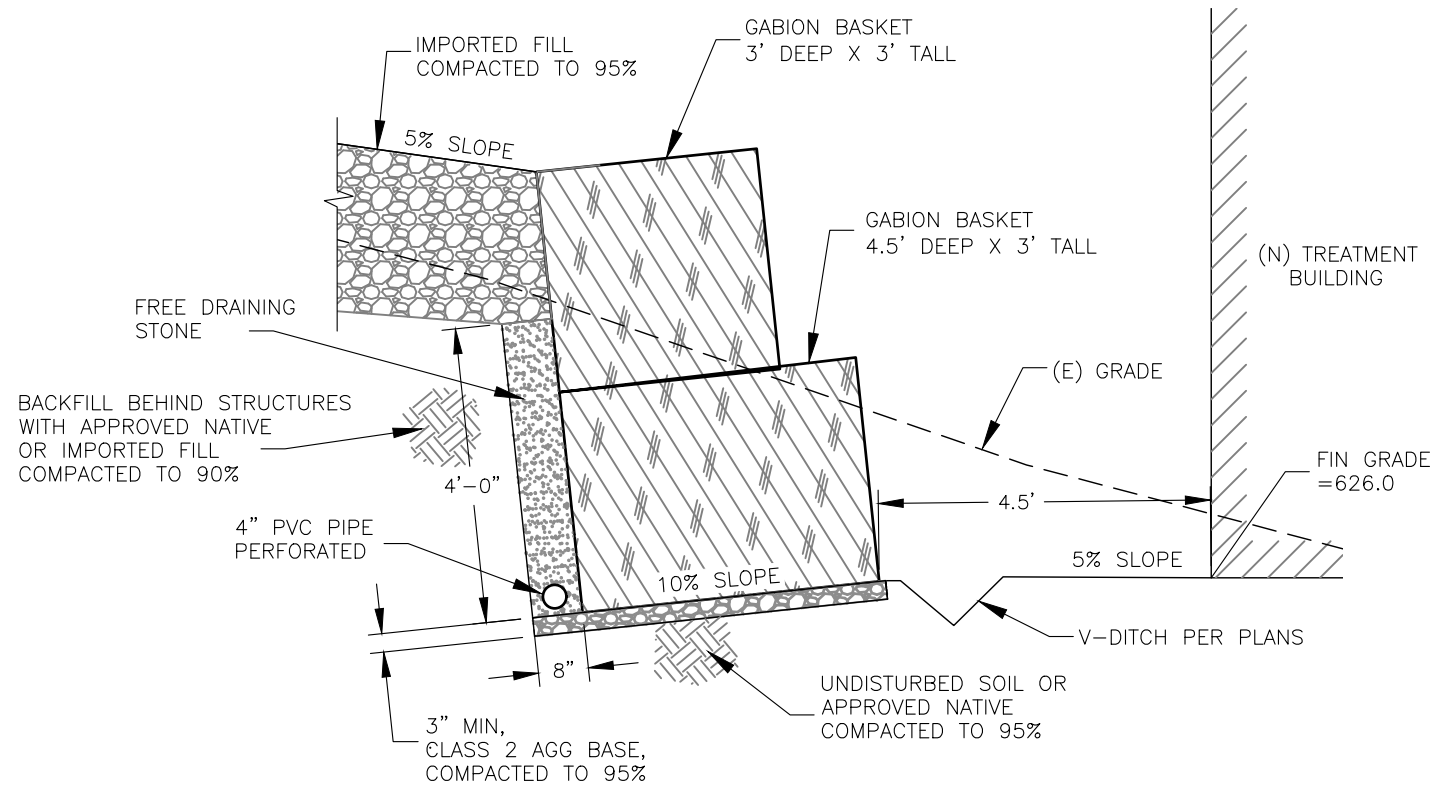
KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PROFILE, ALIGNMENT 'C'

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-Gra
LAYOUT NAME: C604
DRAWN BY: D. O'GORMAN
SCALE: AS NOTED
DATE: 10-2-2024
PROJ. ENG: JILLIAN TILLES



PROFILE, ALIGNMENT 'C'
HORIZ SCALE: 1" = 20'
VERT SCALE: 1" = 10'

- NOTES:
- FORM A 24" W X 12" DEEP V-DITCH ALONG TOE OF BANK WITH 2% SLOPE TOWARDS EAST. FILL WITH 3"-6" RIP-RAP
 - SLOPE ALL PADS AT 5% AWAY FROM NEW TANK OR BUILDING.
 - BACKFILL AROUND SAND FILTER BASINS WITH APPROVED NATIVE OR IMPORTED FILL COMPACTED TO 90%. FILL TO OBEY GEOTECHNICAL REPORT REQUIREMENTS.



GABION WALL DETAIL
NOT TO SCALE

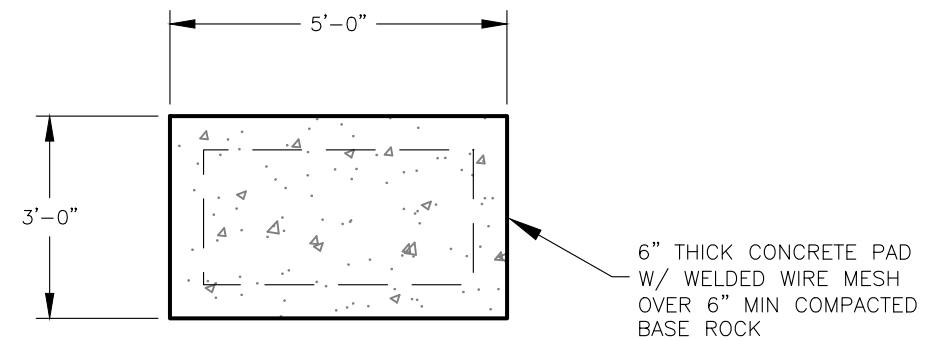
1
C605

NOTES:

1. FINAL GABION WALL DESIGN TO BE SUBMITTED BY CONTRACTOR.
2. CENTER 36' LONG GABION WALL ON (N) WATER TREATMENT BLDG. SEE SHEET C601

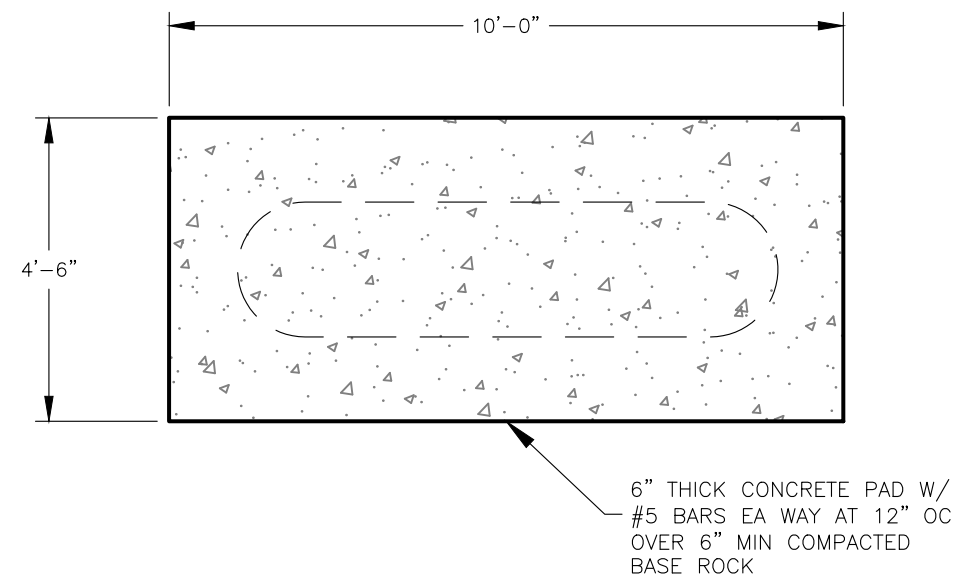
NOTES:

1. PADS MUST MEET REQUIREMENTS OF TANK/GENERATOR PROVIDER. DIVERGENCES FROM THIS DETAIL SHALL OBEY MANUFACTURERS REQUIREMENT.



GENERATOR PAD DETAIL
NOT TO SCALE

2
C605



PROPANE TANK PAD DETAIL
NOT TO SCALE

3
C605

NOTES:

1. PADS MUST MEET REQUIREMENTS OF TANK/GENERATOR PROVIDER. DIVERGENCES FROM THIS DETAIL SHALL OBEY MANUFACTURERS REQUIREMENT.



DATE: _____

REVISIONS	INIT.

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**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
GRADING DETAILS**

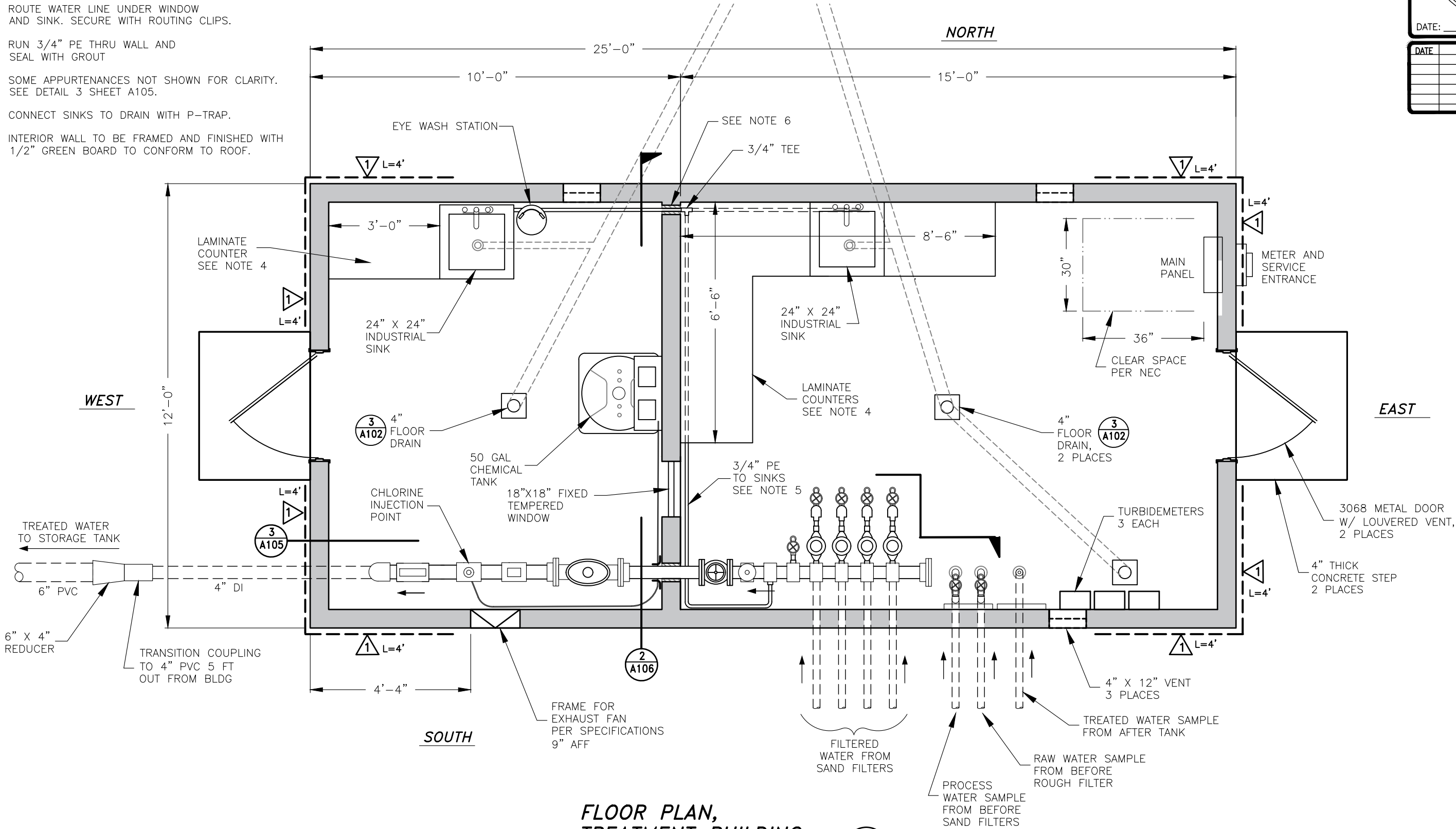
DRAWING NO.: CAO-21-F05	SCALE: AS NOTED	DATE: 10-2-2024
FILE NAME: CAO-15-E56-Gra	LAYOUT NAME: C605	PROJ ENG: JILLIAN TILLES

C605
SHEET
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NOTES:

1. WALLS ARE TO BE 2x6 WOOD CONSTRUCTION
2. FINISH INTERIOR WALLS WITH 1/2" GREEN BOARD.
3. INSULATION IN WALLS = R11
4. LAMINATE COUNTERS TO BE 24" DEEP AND 36" ABOVE FINISHED FLOOR
5. ROUTE WATER LINE UNDER WINDOW AND SINK. SECURE WITH ROUTING CLIPS.
6. RUN 3/4" PE THRU WALL AND SEAL WITH GROUT
7. SOME APPURTENANCES NOT SHOWN FOR CLARITY. SEE DETAIL 3 SHEET A105.
8. CONNECT SINKS TO DRAIN WITH P-TRAP.
9. INTERIOR WALL TO BE FRAMED AND FINISHED WITH 1/2" GREEN BOARD TO CONFORM TO ROOF.

1 = SHEAR PANELS: 5/8" STRUCTURAL-1 PLY
10D NAILS SPACED 4" OC AT PANEL EDGES
AND 12" OC ALONG INTERMEDIATE SUPPORTS.



FLOOR PLAN,
TREATMENT BUILDING

SCALE: 3/8" = 1'

1
A101



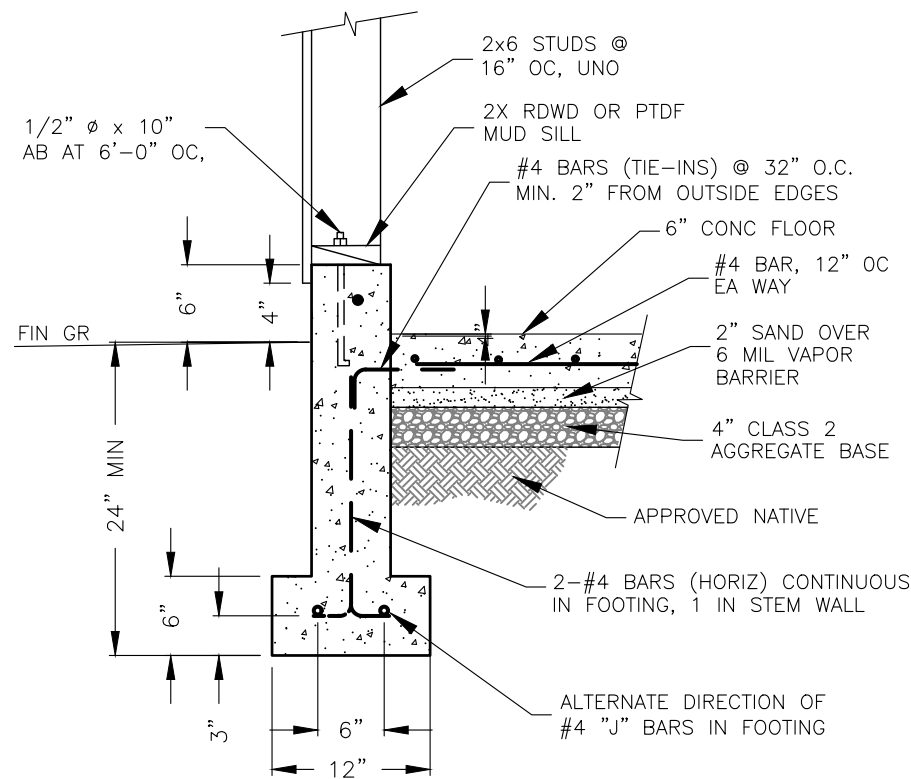
DATE	REVISIONS	INIT.

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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
FLOOR PLAN, TREATMENT BUILDING
FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A101
PROJ ENG: JILLIAN TILLES
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024
DRAWN BY: D. O'GORMAN

A101
SHEET
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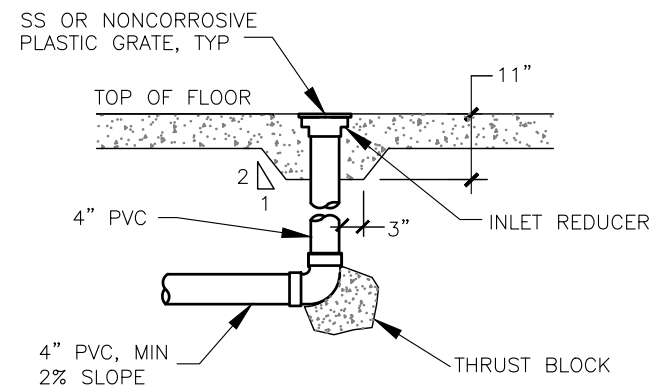
FOOTING SECTION

NOT TO SCALE

2
A102

FOUNDATION NOTES:

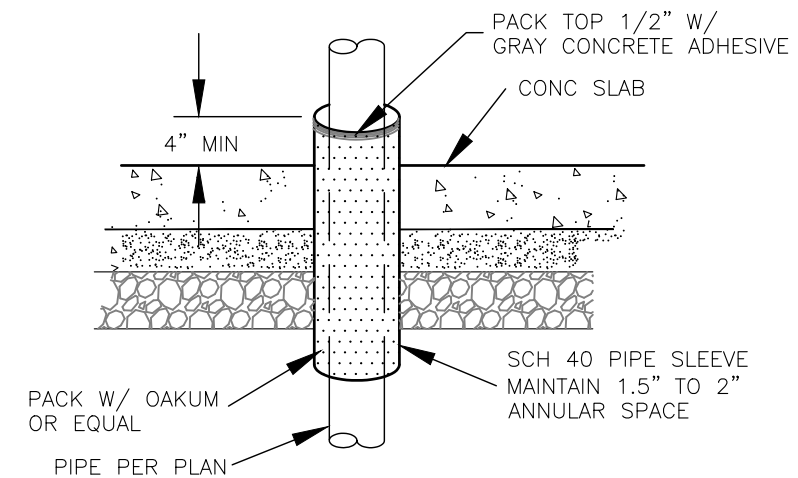
1. ALL CONCRETE MUST HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS.
2. ALL REBAR MUST BE #4, 60 ksi STEEL.
3. ANCHOR BOLTS TO BE 1/2" DIA. X 10" LONG W/ 7" MIN EMBEDMENT INTO CONCRETE. USE 2" SQ X 3/16" PLATE WASHER, TYP.
4. SLOPE FLOOR TOWARDS DRAIN. SLOPE CONCRETE STEPS AWAY FROM BUILDING. FINISHED FLOOR TO BE BROOM FINISHED.
5. FORM FOR DOOR PER PLANS, 2 PLACES. CONTRACTOR TO VERIFY SIZE.



DETAIL, FLOOR DRAIN

NOT TO SCALE

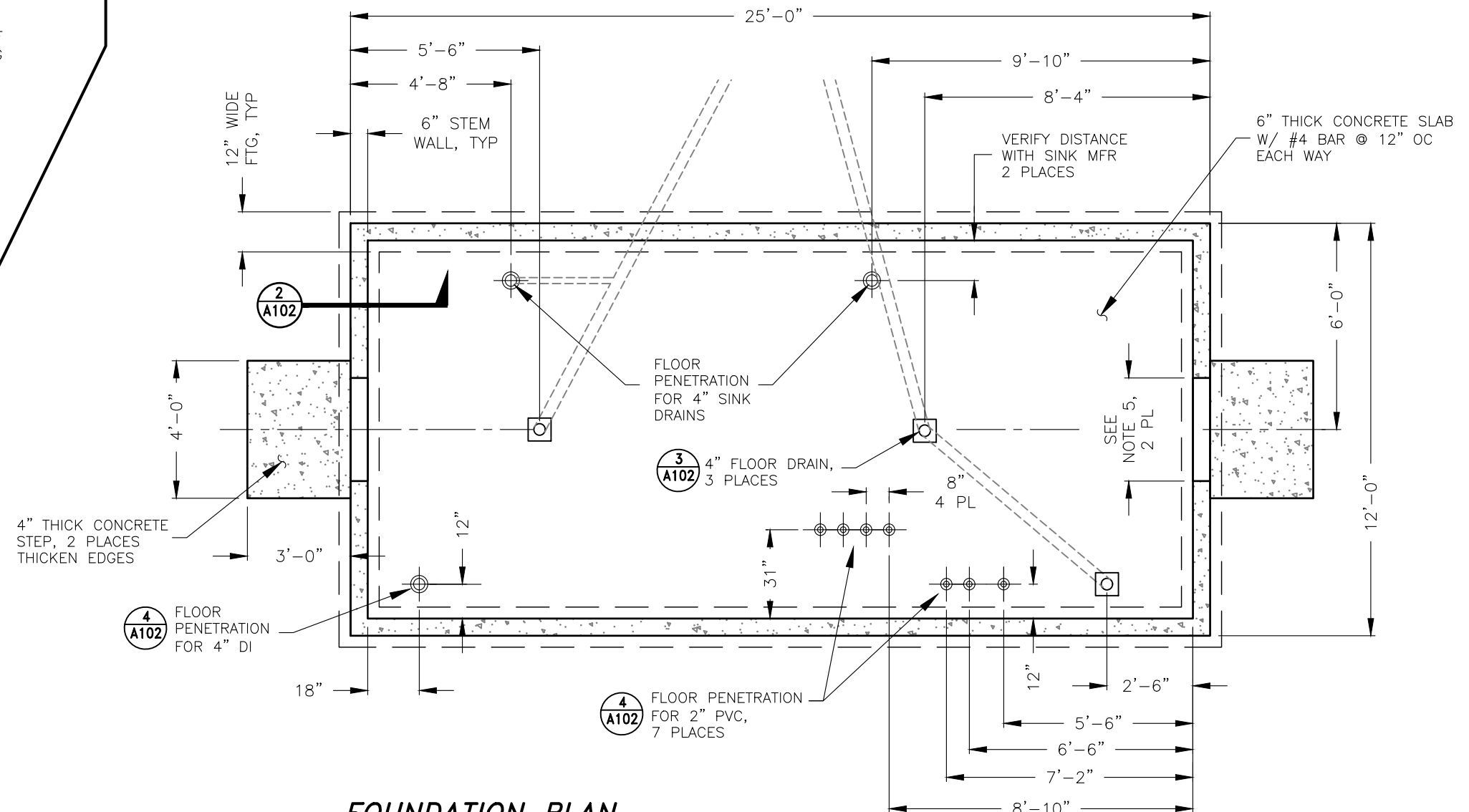
3
A102



TYP, FLOOR PENETRATION

NOT TO SCALE

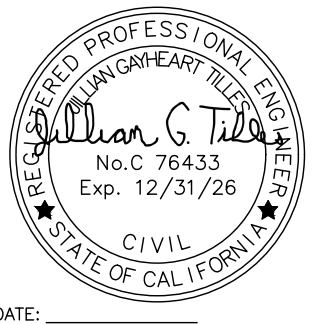
4
A102



**FOUNDATION PLAN,
CHLORINE BUILDING**

SCALE: 1/4" = 1'

1
A102



DATE	REVISIONS	INIT.

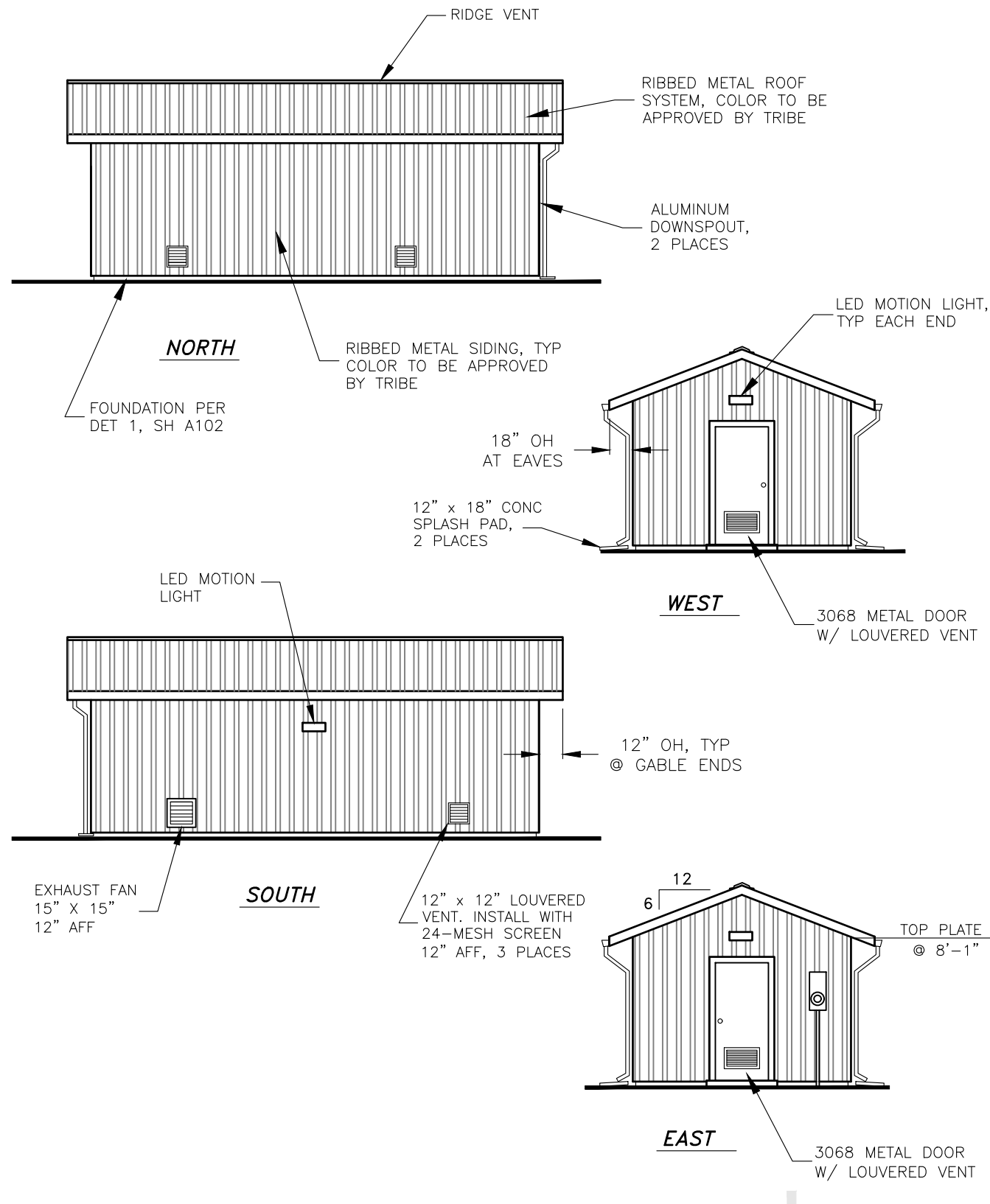
DEPARTMENT OF HEALTH AND HUMAN SERVICES
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
INDIAN HEALTH SERVICE
SANITATION FACILITIES CONSTRUCTION
650 CAPITOL MALL, SUITE 7-100
SACRAMENTO, CA 95814
(916) 930-3945



**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
FOUNDATION PLAN, DETAILS, TREATMENT BUILDING**
FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A102
PROJ ENG: JILLIAN TILLES
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024
DRAWN BY: D. O'GORMAN

A102

SHEET
41 OF 58

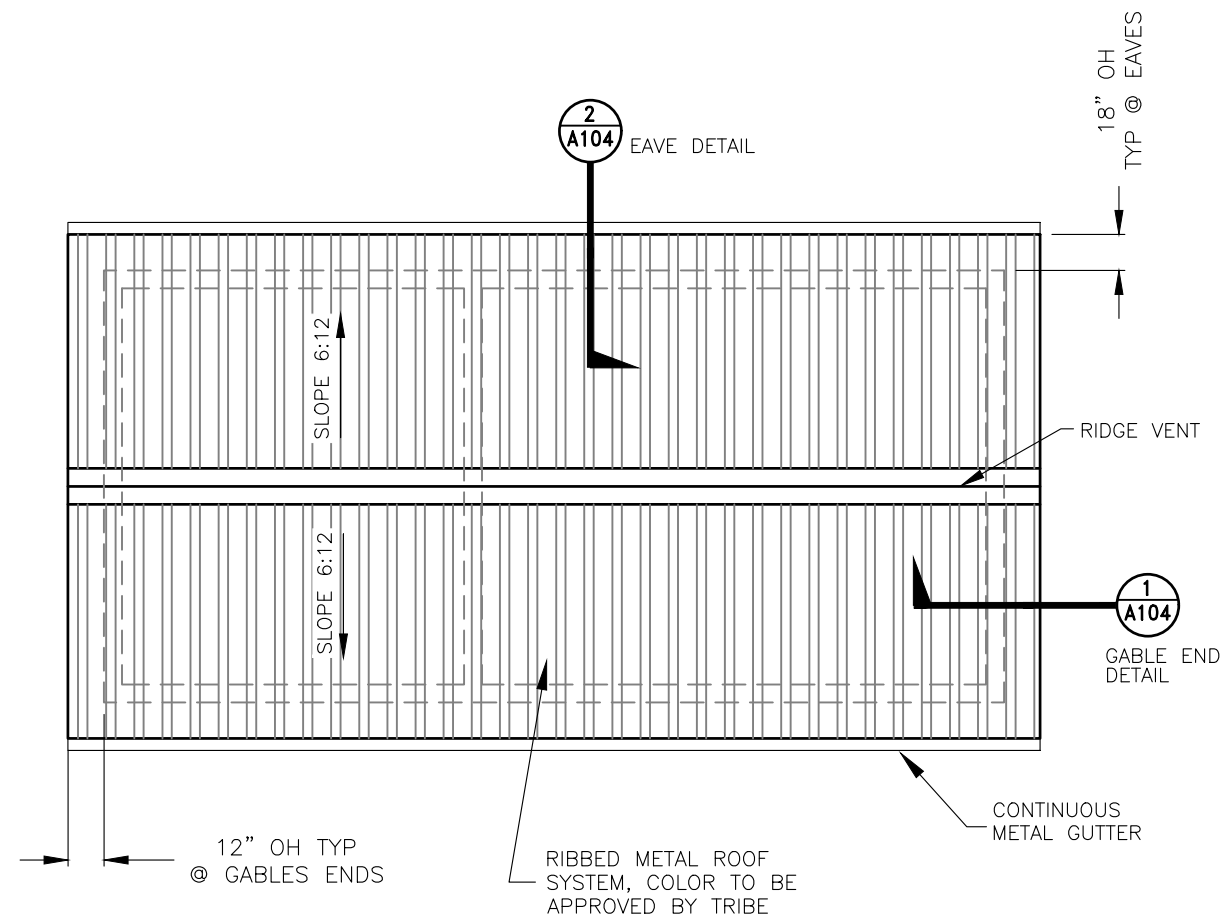


BUILDING ELEVATIONS
SCALE: 1/8" = 1'

1
A103

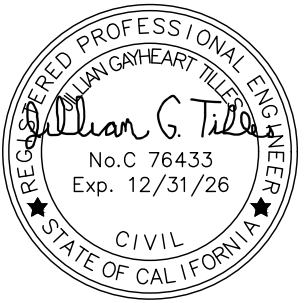
ROOF NOTES:

1. MANUFACTURED WOOD TRUSSES @ 24" OC DESIGN TO BE SUBMITTED FOR APPROVAL BY PROJECT ENGINEER.
2. METAL ROOFING PER SPECIFICATIONS, OVER 30 LB FELT OVER 3/4" PLYWOOD SHEATHING STAGGERED, GLUED AND NAILED. 8d COMMON @ 6" OC EDGES, 12" OC FIELD.
3. SNOWLOAD = 25 PSF
4. PROVIDE ADEQUATE VENTILATION PER SECTION 1505.3 UBC



ROOF PLAN
SCALE: 3/16" = 1'

2
A103



DATE: _____

DATE	REVISIONS	INIT.

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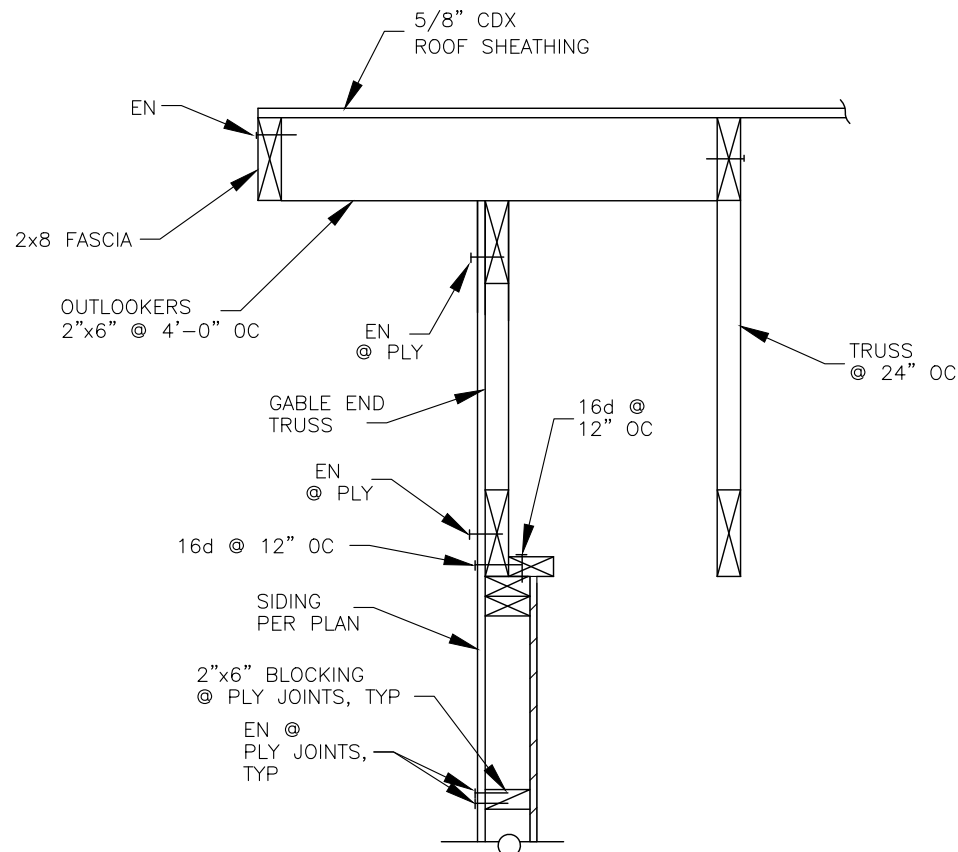
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**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ELEVATIONS, ROOF PLAN, TREATMENT BUILDING**

DRAWING NO.: CAO-21-F05 SCALE: AS NOTED DATE: 10-2-2024
FILE NAME: CAO-15-E56-ARCH LAYOUT NAME: A103
PROJ ENG: JILLIAN TILLES

A103
SHEET
42 OF 58



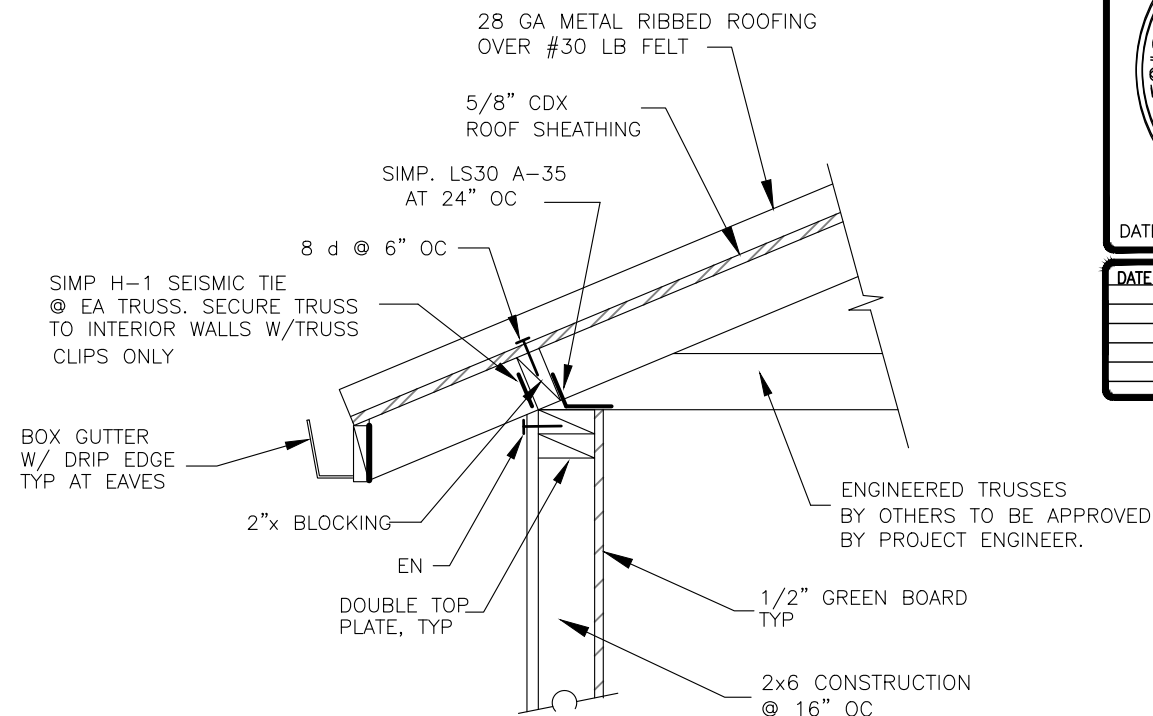
GABLE END DETAIL

NOT TO SCALE

1
A104

NOTES:

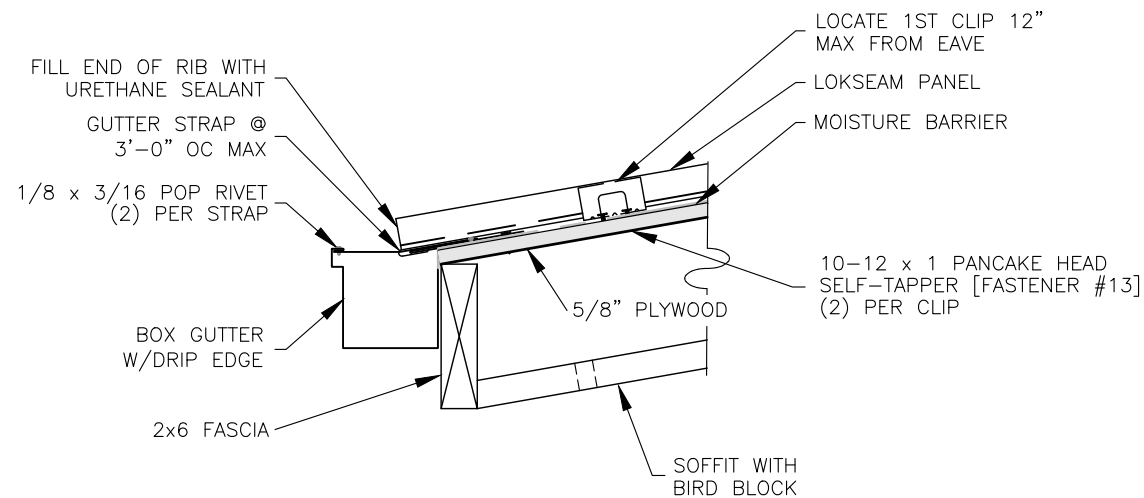
1. ALL FRAMING LUMBER SHALL BE DOUGLAS FIR #2 OR HIGHER.
2. EXTERIOR WALLS TO BE 2x6 CONSTRUCTION.
3. ALL FRAMING ANCHORS, CLIPS, STRAPS, HANGERS, HOLD DOWNS, ETC. TO BE 'SIMPSON' OR APPROVED EQUIVALENT.
4. TERMITE SHIELDS SHALL BE USED
5. SIDING: RIBBED METAL SIDING
6. ALL EXPOSED WOOD (EXTERIOR) TO BE SEALED WITH STAIN, PAINT OR SEALER.
7. NO WOOD SURFACE WITHIN 4" OF GROUND.



DETAIL AT EAVE

NOT TO SCALE

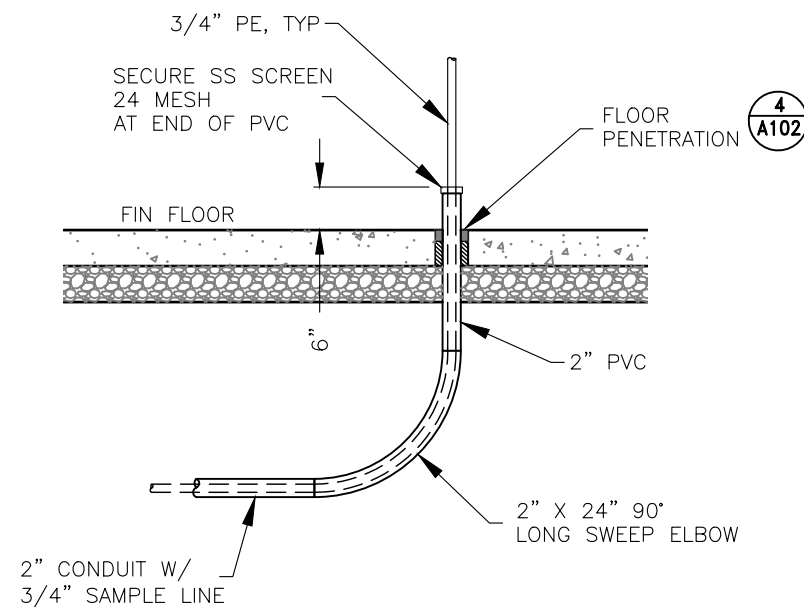
2
A104



FASCIA DETAIL

NOT TO SCALE

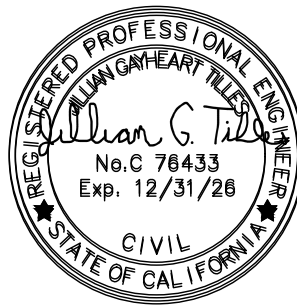
3
A104



SECTION, SAMPLE LINES

NOT TO SCALE

4
A104



DATE	REVISIONS	INIT.

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**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
BUILDING SECTION, DETAILS**

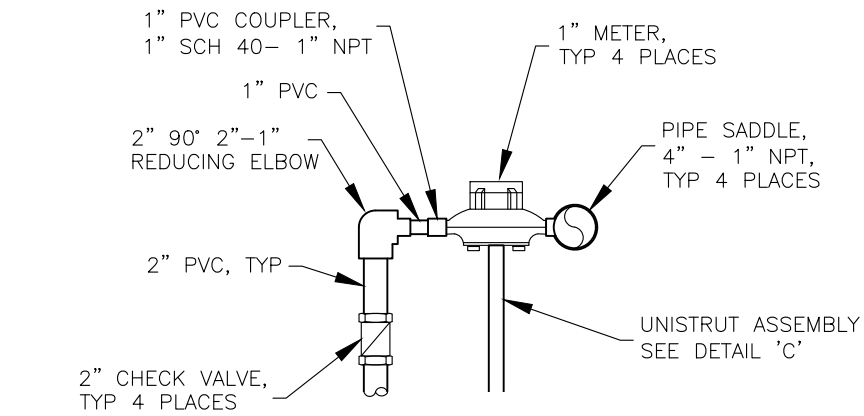
FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A104
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024

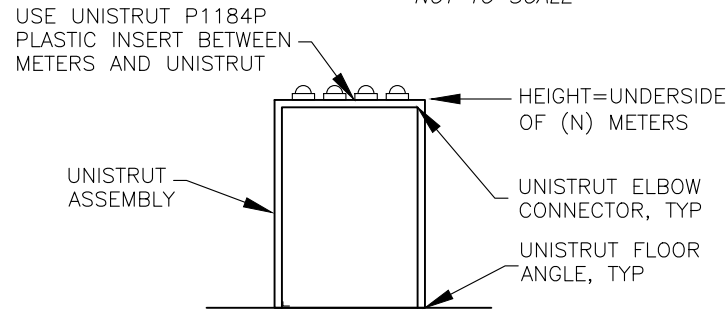
DRAWN BY: D. O'GORMAN

A104

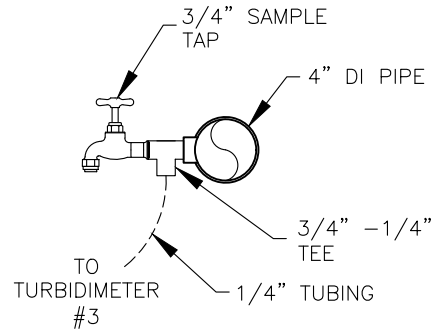
SHEET
43 OF 58



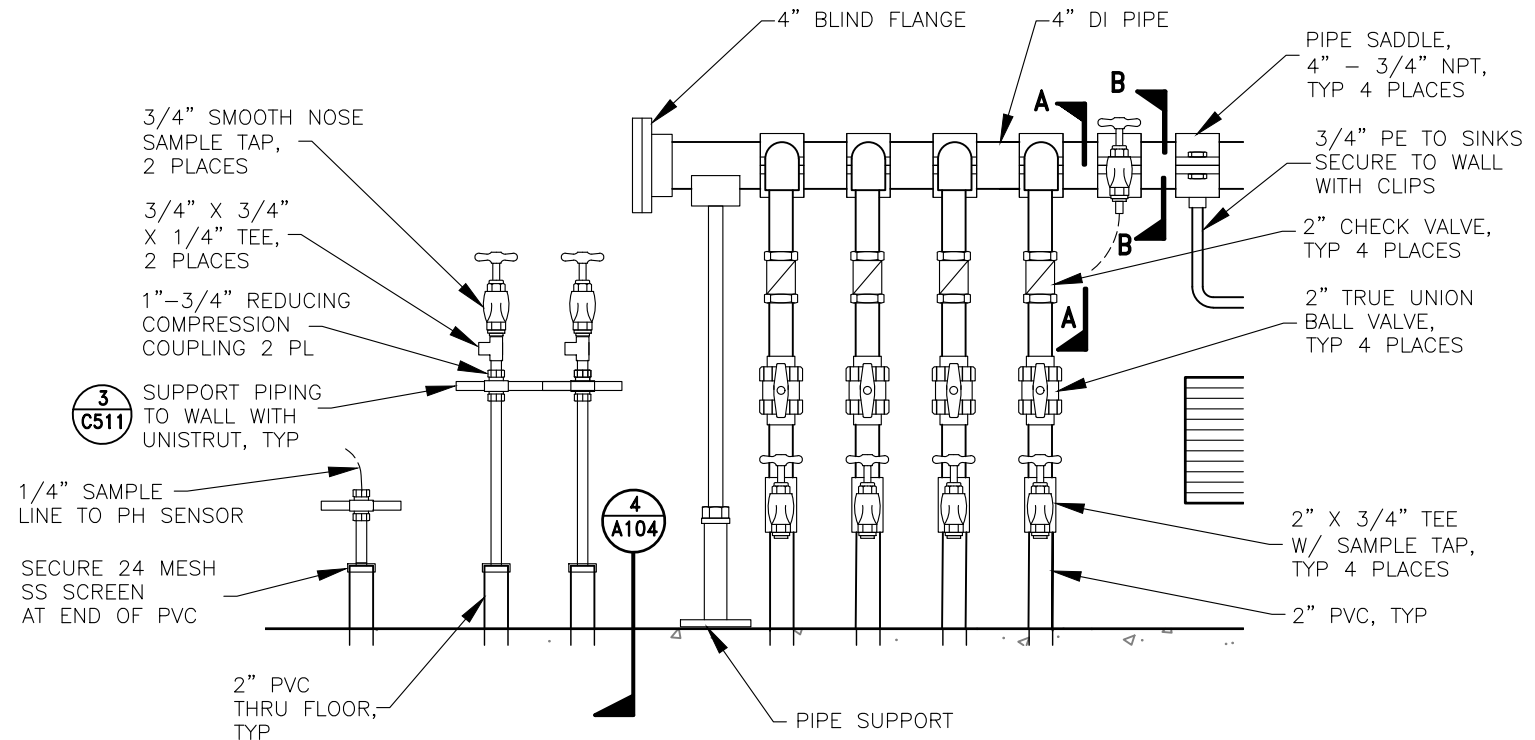
SECTION A-A
NOT TO SCALE



DETAIL C
NOT TO SCALE

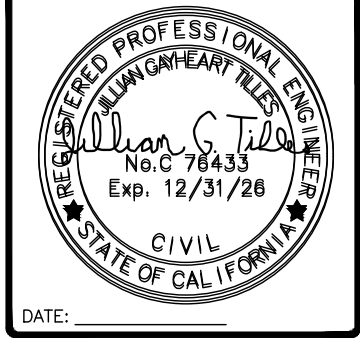


SECTION B-B
NOT TO SCALE



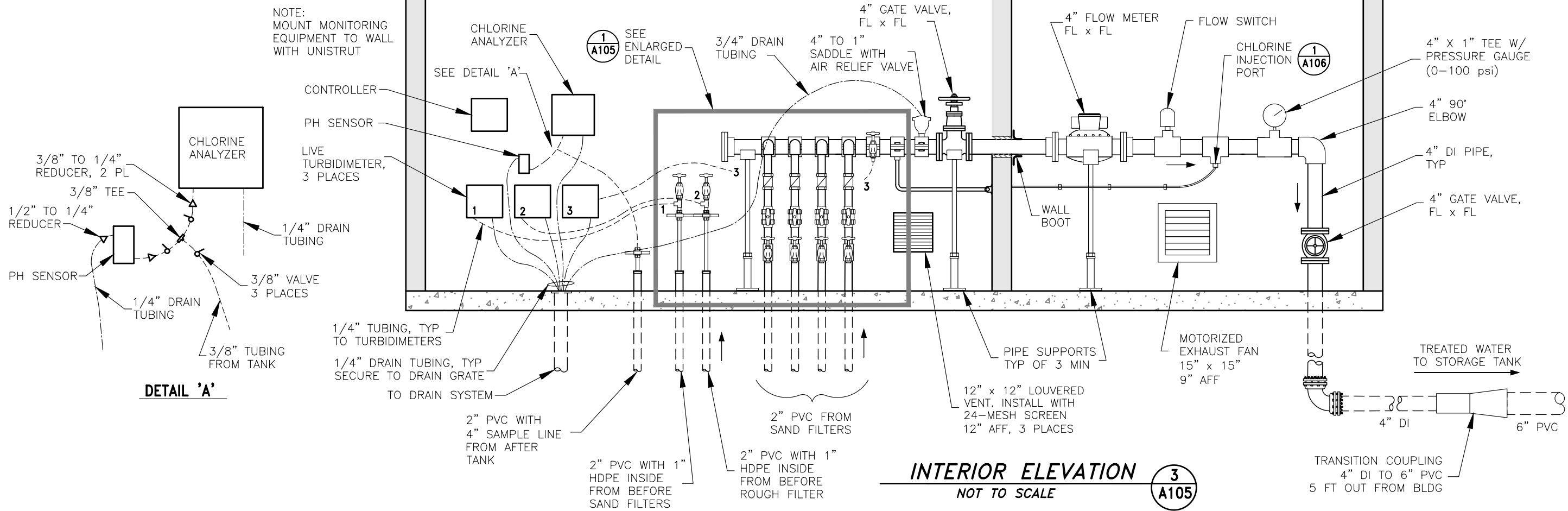
ENLARGED VIEW
NOT TO SCALE

1
A105



DATE	REVISIONS	INIT.

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INTERIOR ELEVATION
NOT TO SCALE

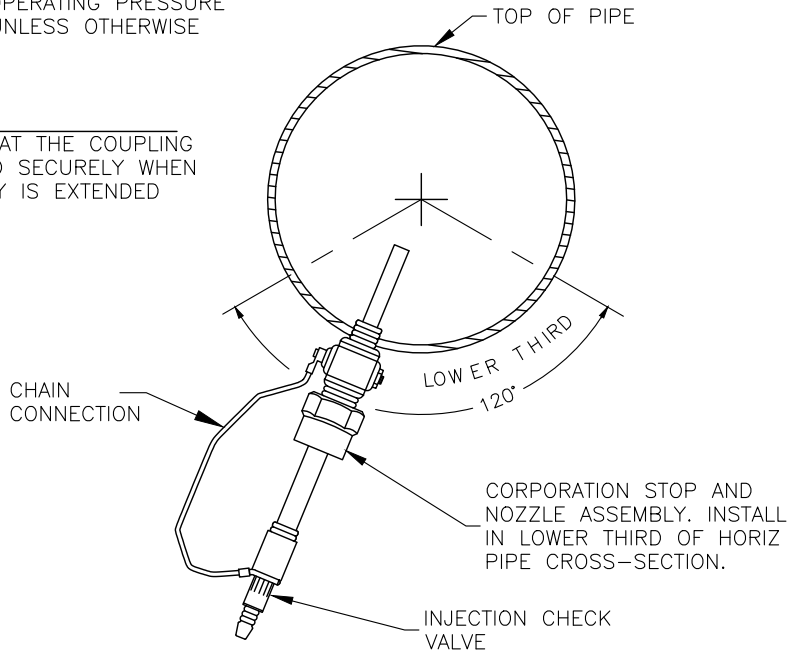
3
A105

**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PIPING DETAILS, TREATMENT BUILDING**
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024
DRAWN BY: D. O'GORMAN
FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A105
PROJ ENG: JILLIAN TILLES

A105
SHEET
44 OF 58

NOTE:
1. DESIGN FOR OPERATING PRESSURE
OF 150 PSI UNLESS OTHERWISE
SPECIFIED.

CAUTION:
MAKE CERTAIN THAT THE COUPLING
NUT IS TIGHTENED SECURELY WHEN
NOZZLE ASSEMBLY IS EXTENDED
INTO PIPE.

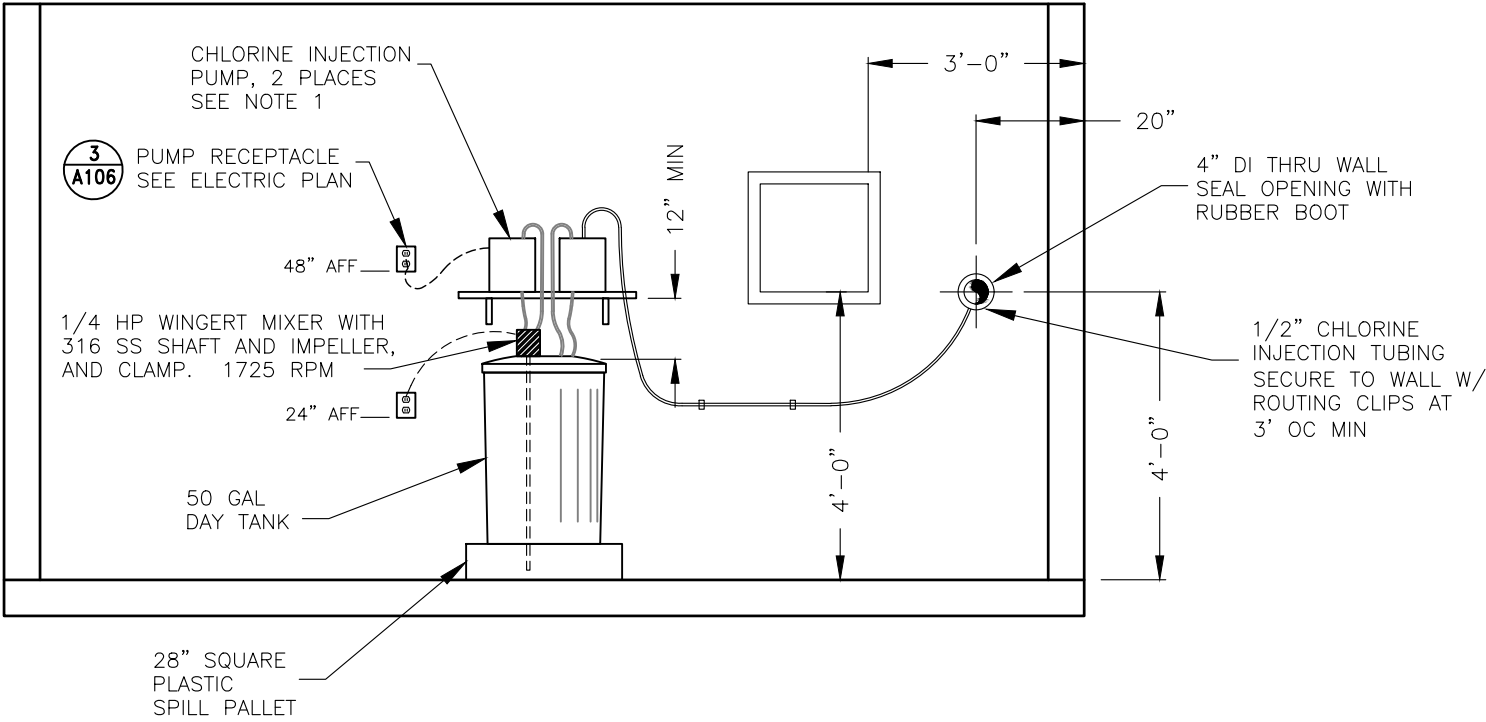


PIPE CROSS-SECTION

CHEMICAL FEED INJECTION
NOT TO SCALE

1
A106

NOTE:
1. PROVIDE WALL SHELF ADEQUATE
FOR TWO INJECTION PUMPS

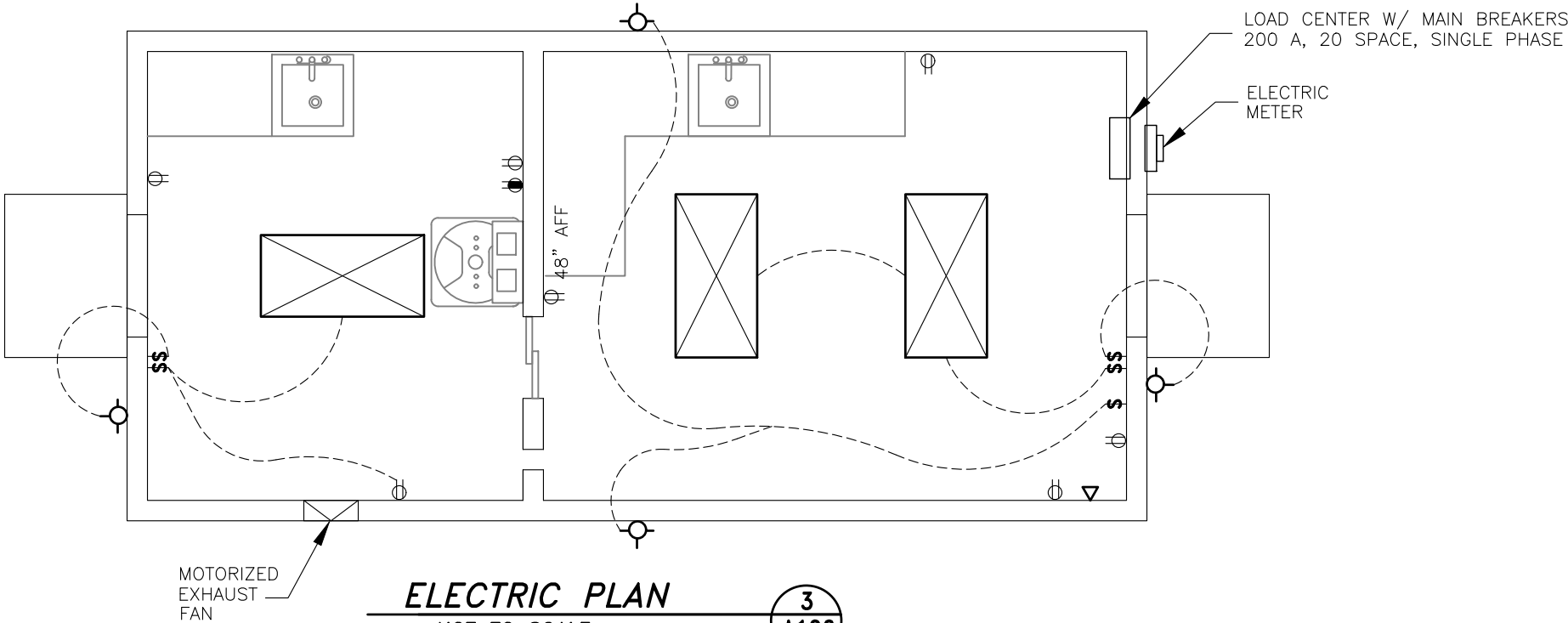


INTERIOR ELEVATION
NOT TO SCALE

2
A106

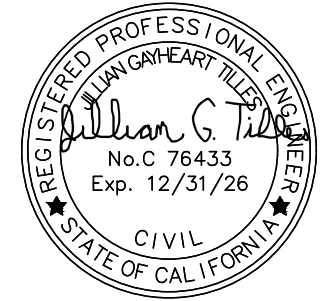
ELECTRIC LEGEND

- \$ SINGLE POLE SWITCH, 20 A
- ⊕ GFCI 110 RECEPTACLE OUTLET (24" AFF UNLESS SPECIFIED)
- △ PHONE JACK
- ⊙ EXTERIOR LIGHT 100 W, W/ PC CELL
- ⊠ 4' FLUORESCENT LIGHT 2 BULB, T8
- ⊙ GFCI 110 RECEPTACLE OUTLET ACTIVATED BY FLOW SWITCH AND PUMP STARTER.



ELECTRIC PLAN
NOT TO SCALE

3
A106



DATE	REVISIONS	INIT.

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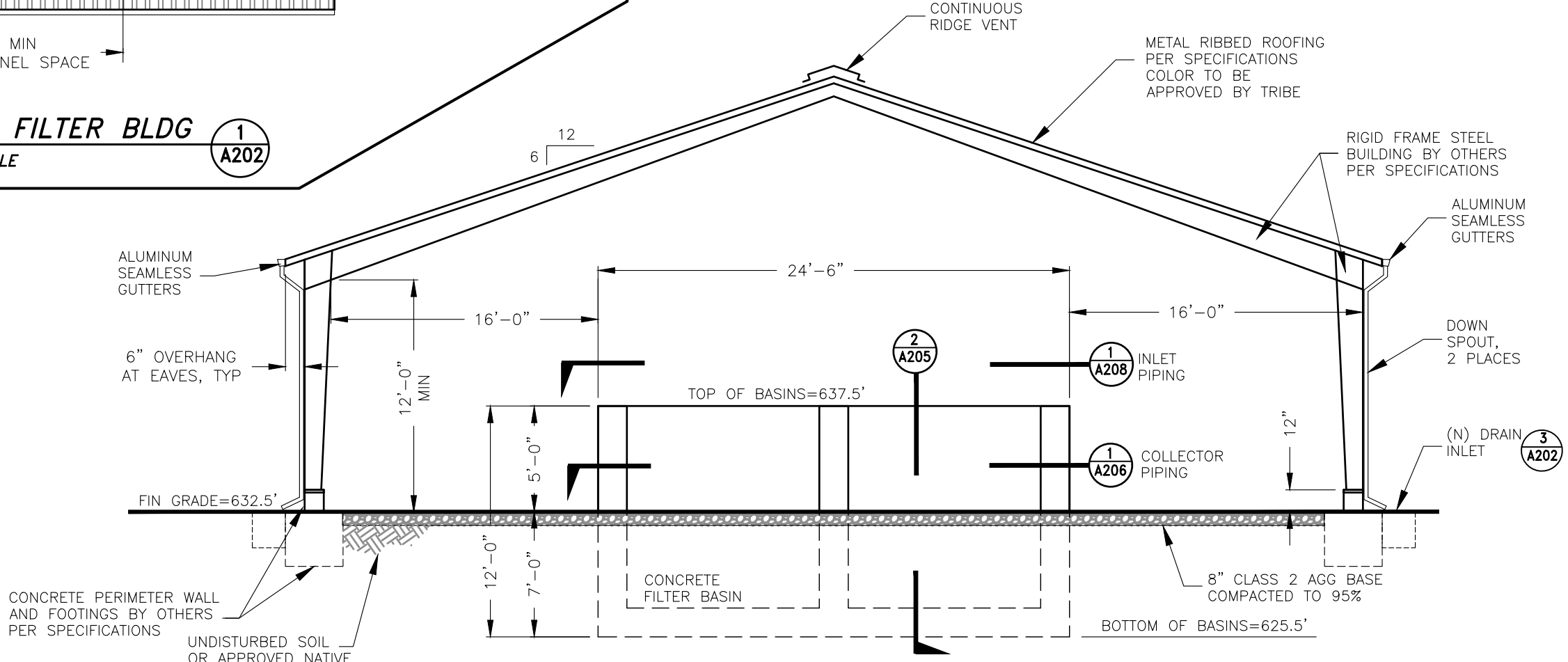
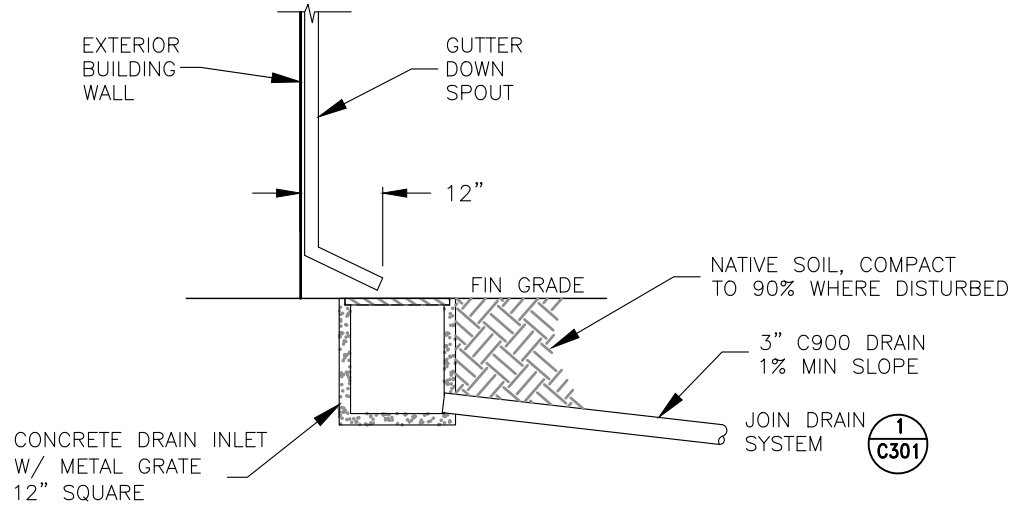
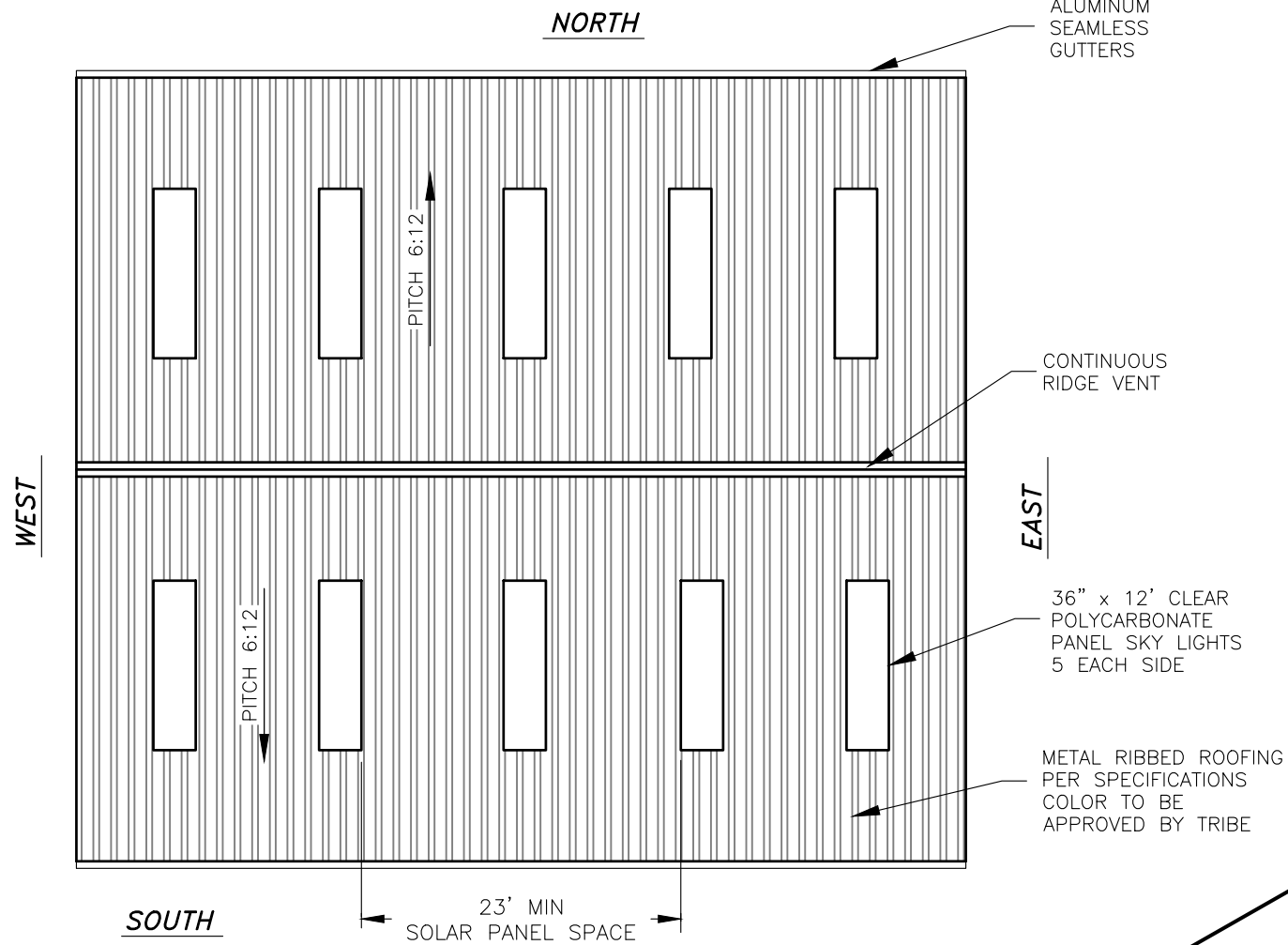
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INDIAN HEALTH SERVICE
1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ELECTRIC PLAN, TREATMENT BUILDING

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A106
PROJ ENG: JILLIAN TILLES

SCALE: AS NOTED
DATE: 10-2-2024
DRAWN BY: D. O'GORMAN



REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.

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INDIAN HEALTH SERVICE
1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ROOF PLAN, SECTION, SAND FILTER BLDG

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A202
PROJ ENG: JILLIAN TILLES

SCALE: AS NOTED
DATE: 10-2-2024

DRAWN BY: D. O'GORMAN

A202
SHEET
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DATE:		
DATE	REVISIONS	INIT.

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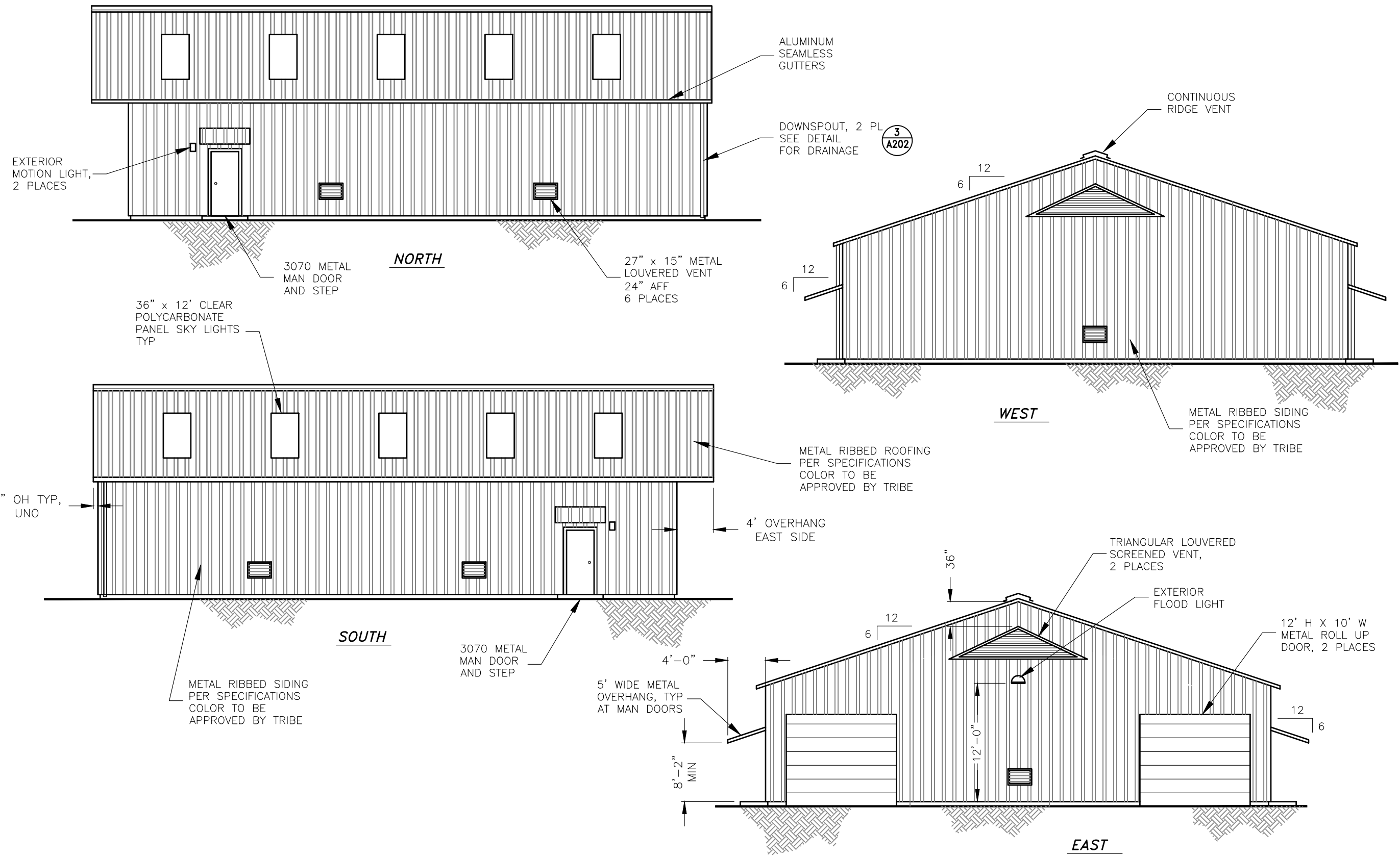
**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ELEVATIONS, SAND FILTER BUILDING**

FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A203
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024

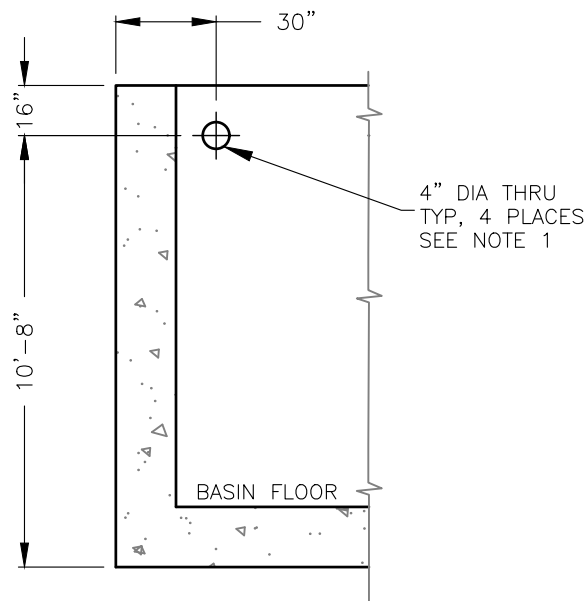
DRAWN BY: D. O'GORMAN

A203
SHEET
48 OF 58

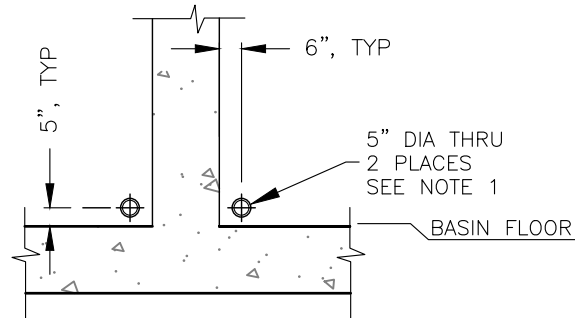


**ELEVATIONS,
SAND FILTER BUILDING**
SCALE: 3/16" = 1'-0"

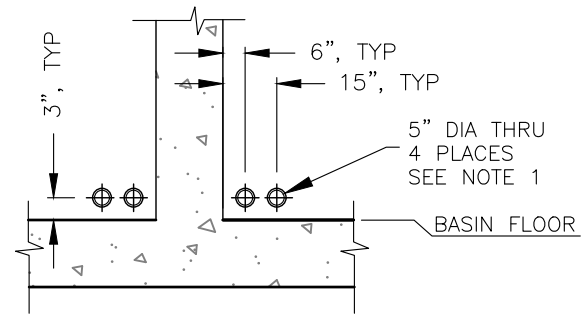
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A203



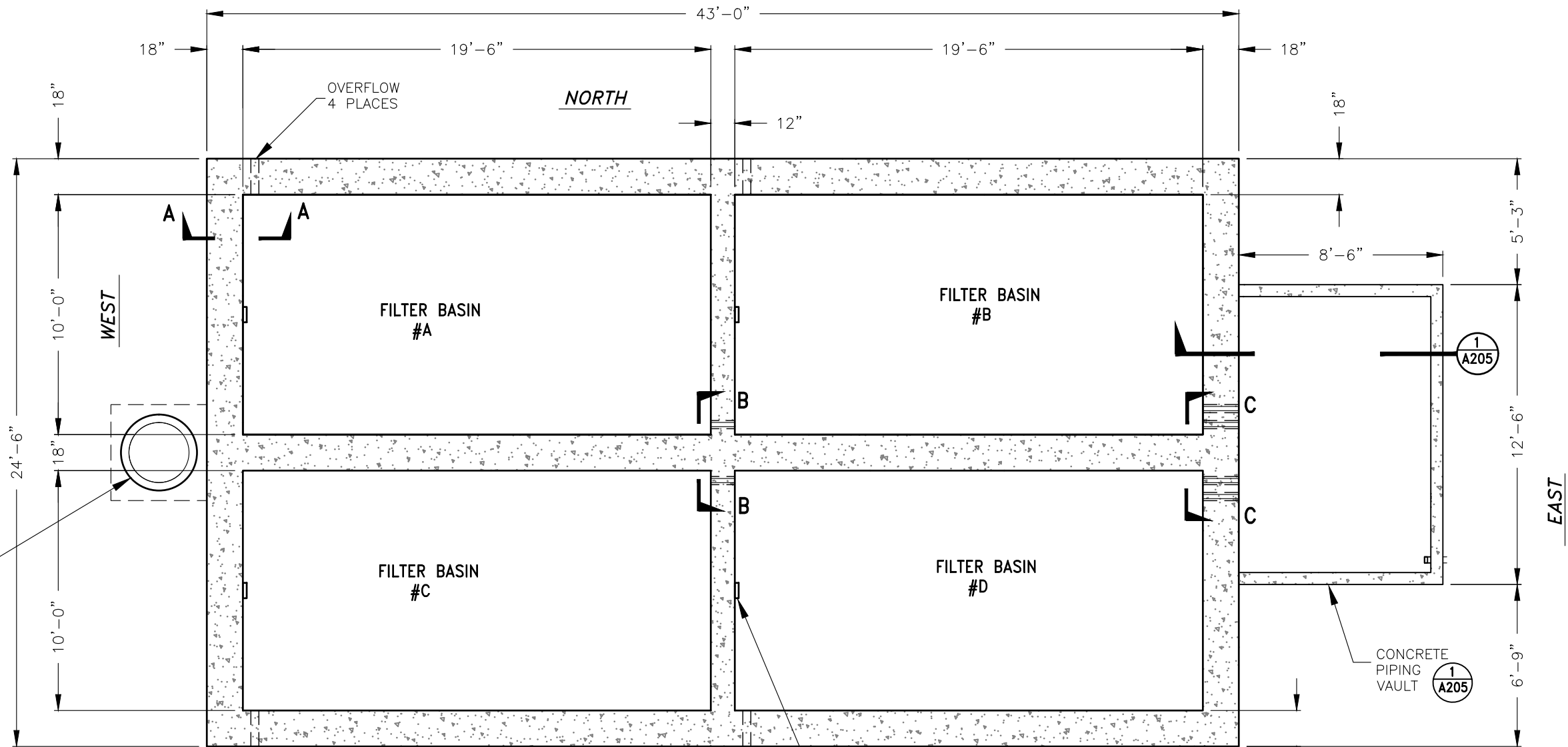
SECTION A-A
NOT TO SCALE
OVERFLOW PIPES



SECTION B-B
NOT TO SCALE
COLLECTOR PIPES



SECTION C-C
NOT TO SCALE
COLLECTOR PIPES



NOTES:
1. PENETRATIONS THRU FILTER BASINS WITH NON SHRINK GROUT PER 03-10-00, 3.4

1 S101 REINFORCED CONCRETE FILTER BASINS STRUCTURAL REQUIREMENTS PER SPECIFICATIONS

**PLAN VIEW,
SAND FILTER BASINS**
SCALE: 3/16" = 1'-0"

LEVEL INDICATOR, TYP 4 PLACES 2 A207

NOTE:
FILTER PIPING NOT SHOWN FOR CLARITY

REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.

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INDIAN HEALTH SERVICE

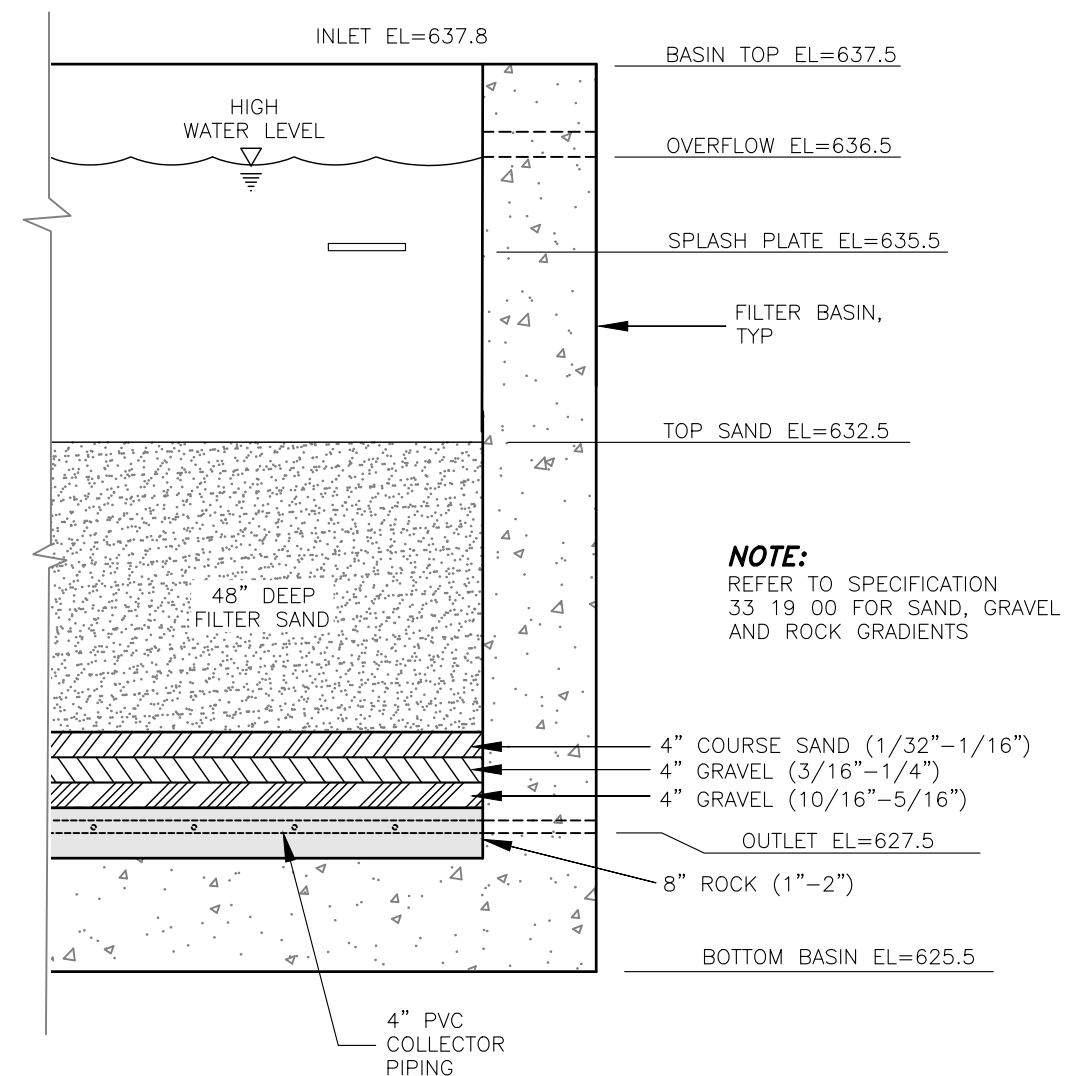
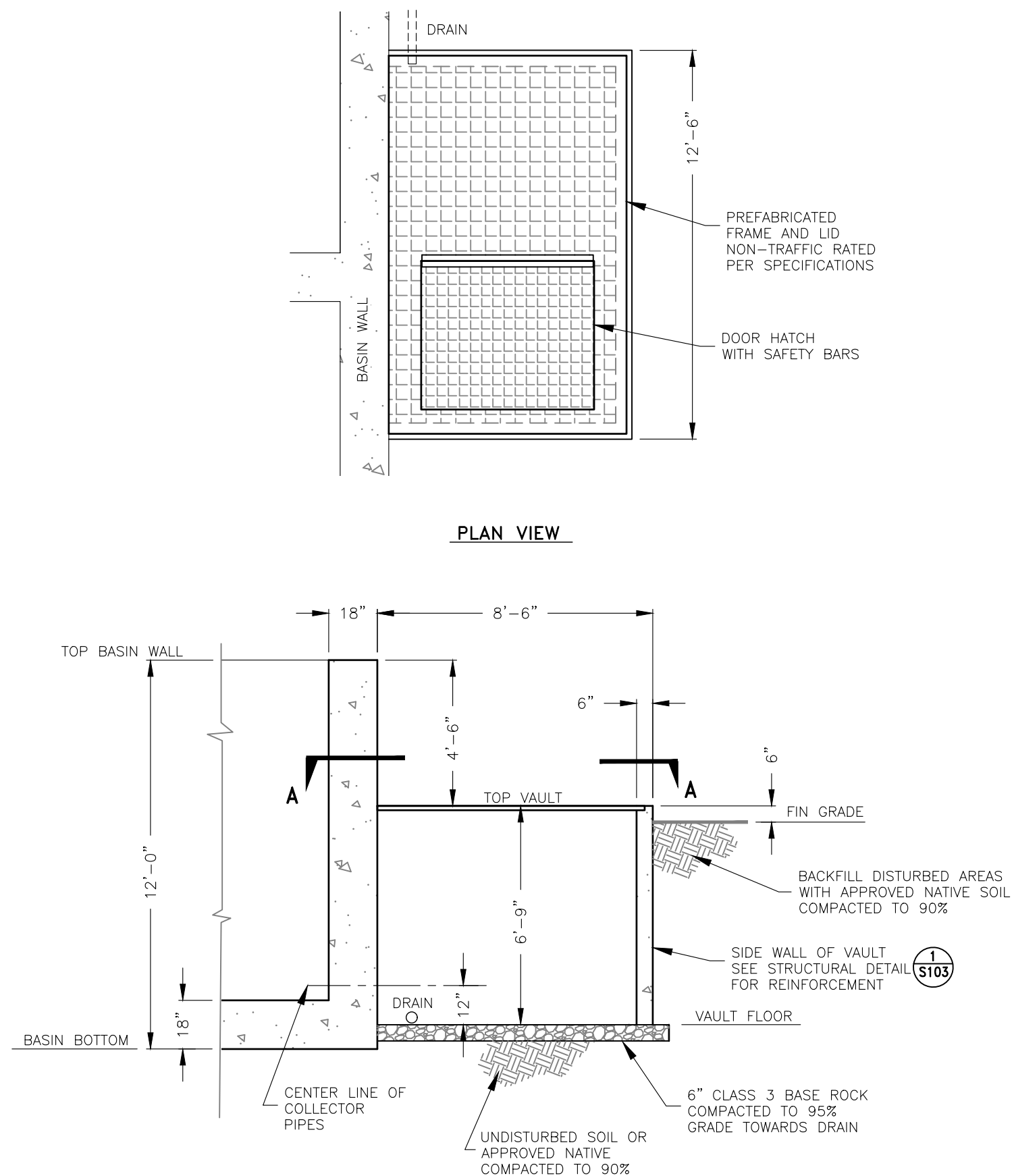
SANITATION FACILITIES CONSTRUCTION
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1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN VIEW, SAND FILTER BASINS

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024
DRAWN BY: D. O'GORMAN

FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A204
PROJ ENG: JILLIAN TILLES

[illegible]

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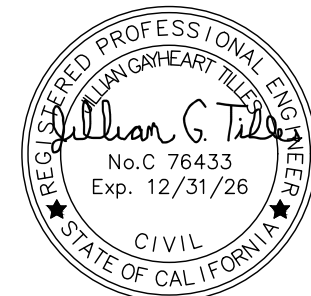


**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
DETAILS, SAND FILTER BASIN**

DRAWING NO.:	CAO-21-F05	SCALE:	AS NOTED
DRAWN BY:	D. O'GORMAN	DATE:	10-2-2024
FILE NAME:		CAO-15-E56-ARCH	
LAYOUT NAME:		A205	
PROJ ENG:		JILLIAN TILLES	

A205

SHEET
50 OF 58



DATE	REVISIONS	INIT.

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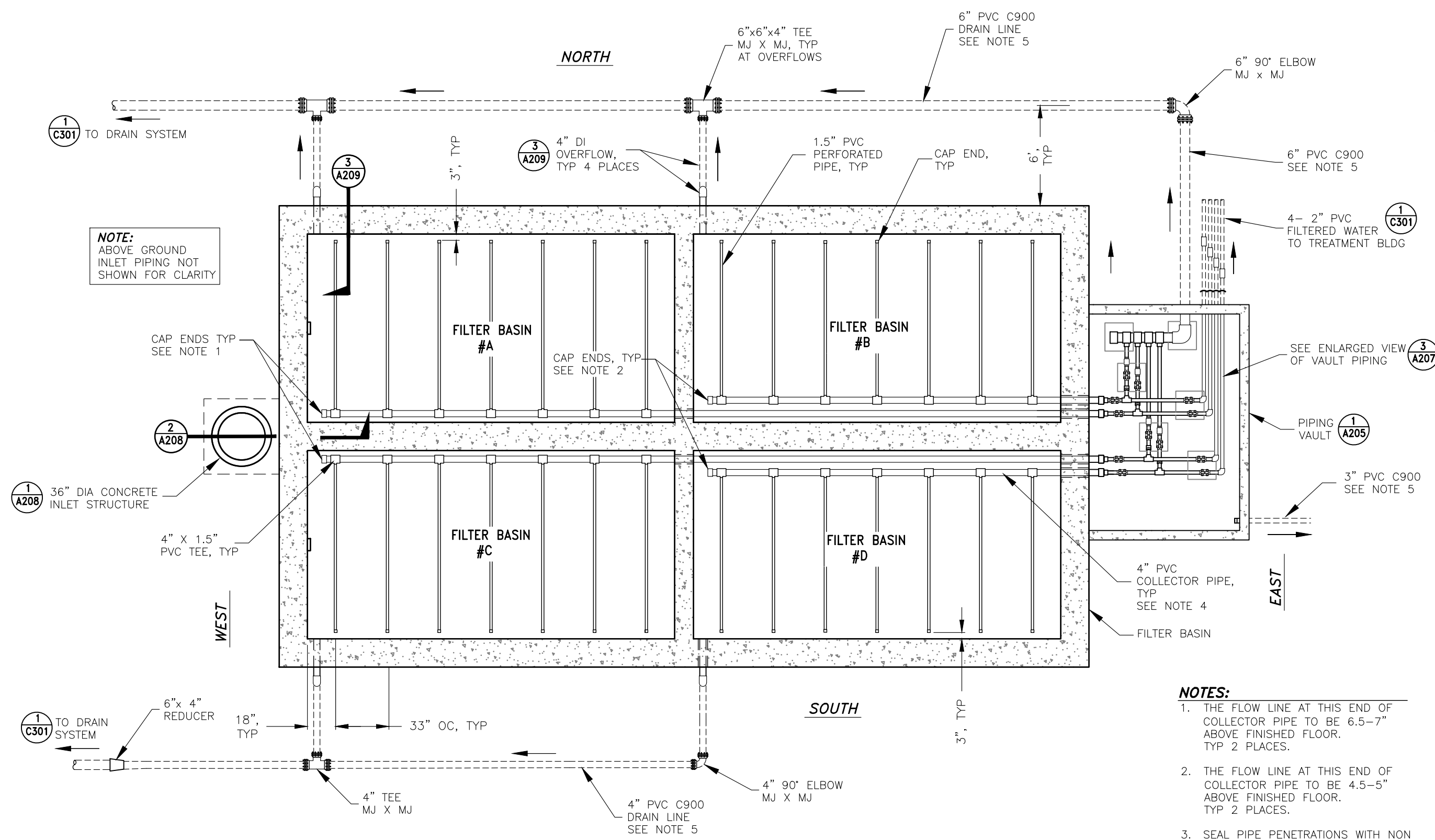
INDIAN HEALTH SERVICE
1955

KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN VIEW, COLLECTOR AND DRAIN PIPING

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024

FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A206
PROJ ENG: JILLIAN TILLES

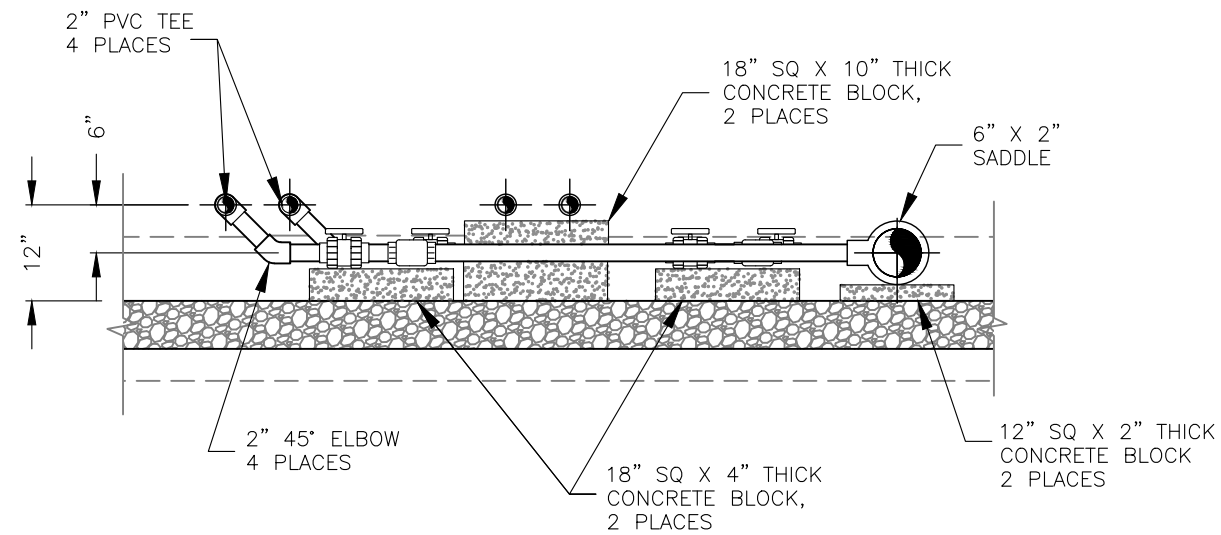
DRAWN BY: D. O'GORMAN



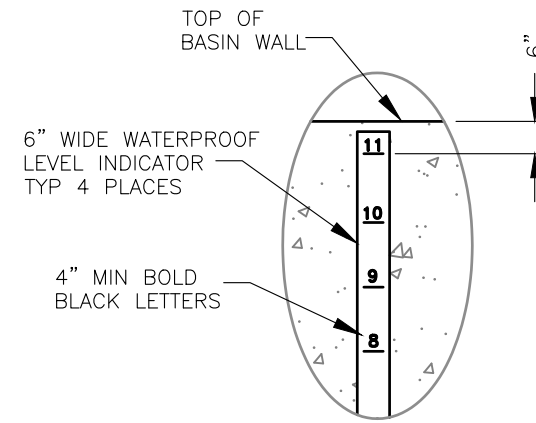
- NOTES:**
1. THE FLOW LINE AT THIS END OF COLLECTOR PIPE TO BE 6.5-7" ABOVE FINISHED FLOOR. TYP 2 PLACES.
 2. THE FLOW LINE AT THIS END OF COLLECTOR PIPE TO BE 4.5-5" ABOVE FINISHED FLOOR. TYP 2 PLACES.
 3. SEAL PIPE PENETRATIONS WITH NON SHRINK GROUT PER SPECIFICATIONS
 4. COLLECTOR PIPING TO HAVE A CONSTANT SLOPE OF 0.83%
 5. DRAIN LINE TO HAVE A MINIMUM SLOPE OF 1.00%

PLAN VIEW, COLLECTOR AND DRAIN PIPING
NOT TO SCALE

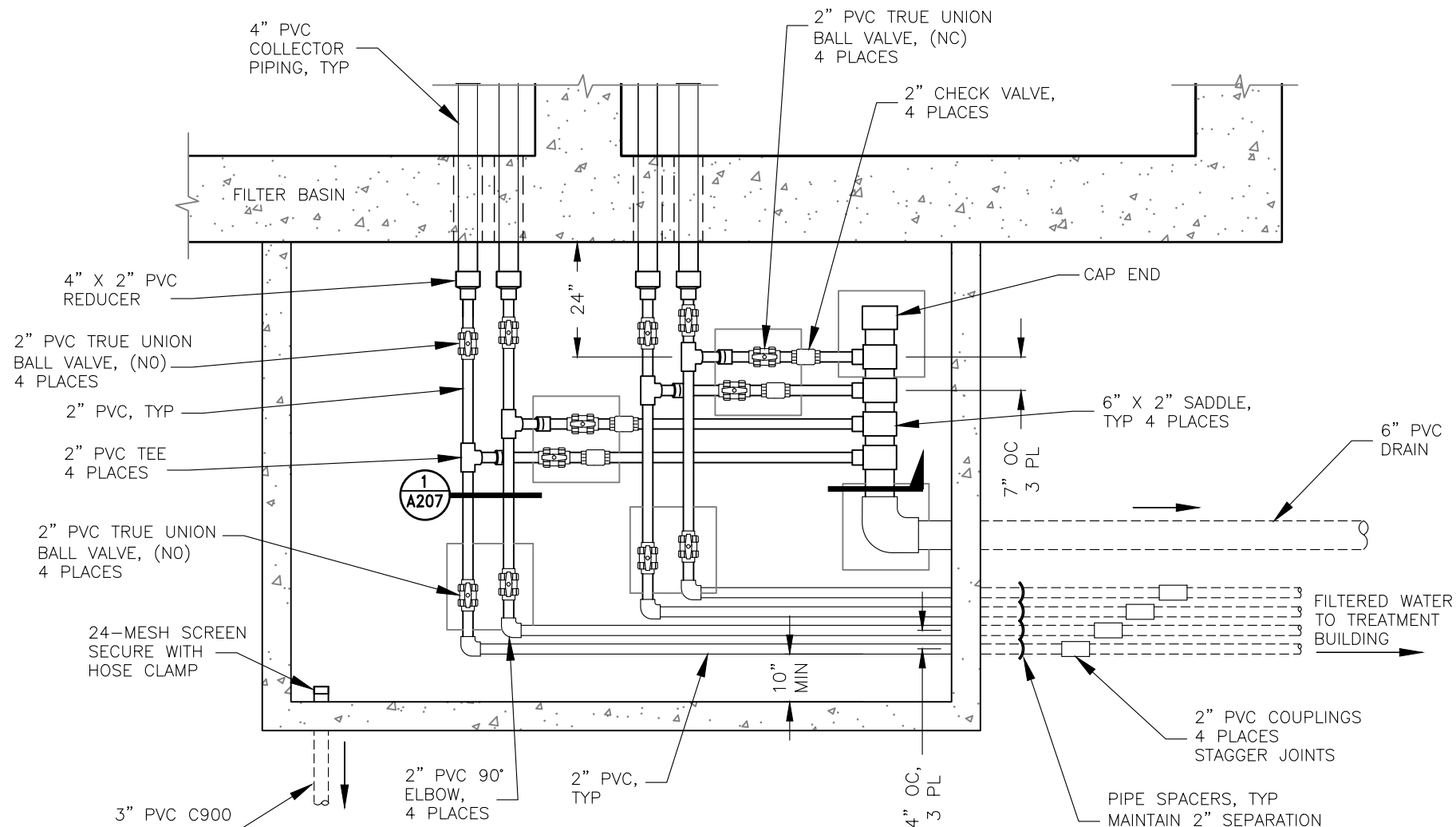
1
A206



SECTION, PIPING VAULT
NOT TO SCALE **1**
A207



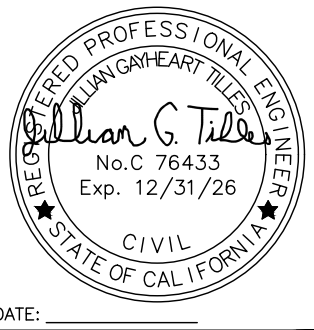
DETAIL, LEVEL INDICATOR
NOT TO SCALE **2**
A207



PLAN VIEW, PIPING VAULT
NOT TO SCALE **3**
A207

NOTES:

- PENETRATIONS THRU FILTER BASINS WITH NON SHRINK GROUT PER 03-10-00, 3.4
- DRAIN LINE TO HAVE A MINIMUM SLOPE OF 1.00%



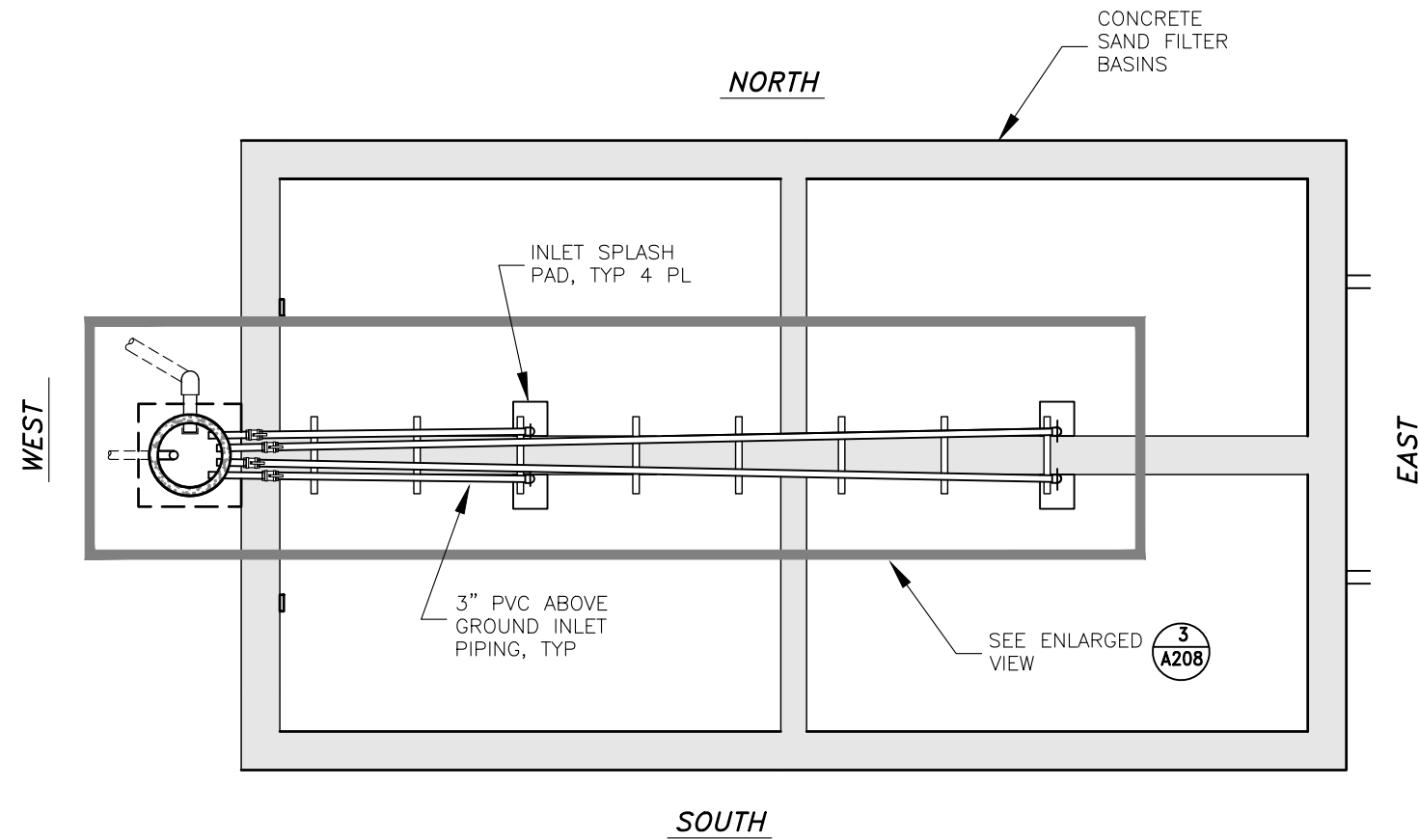
DATE	REVISIONS	INIT.

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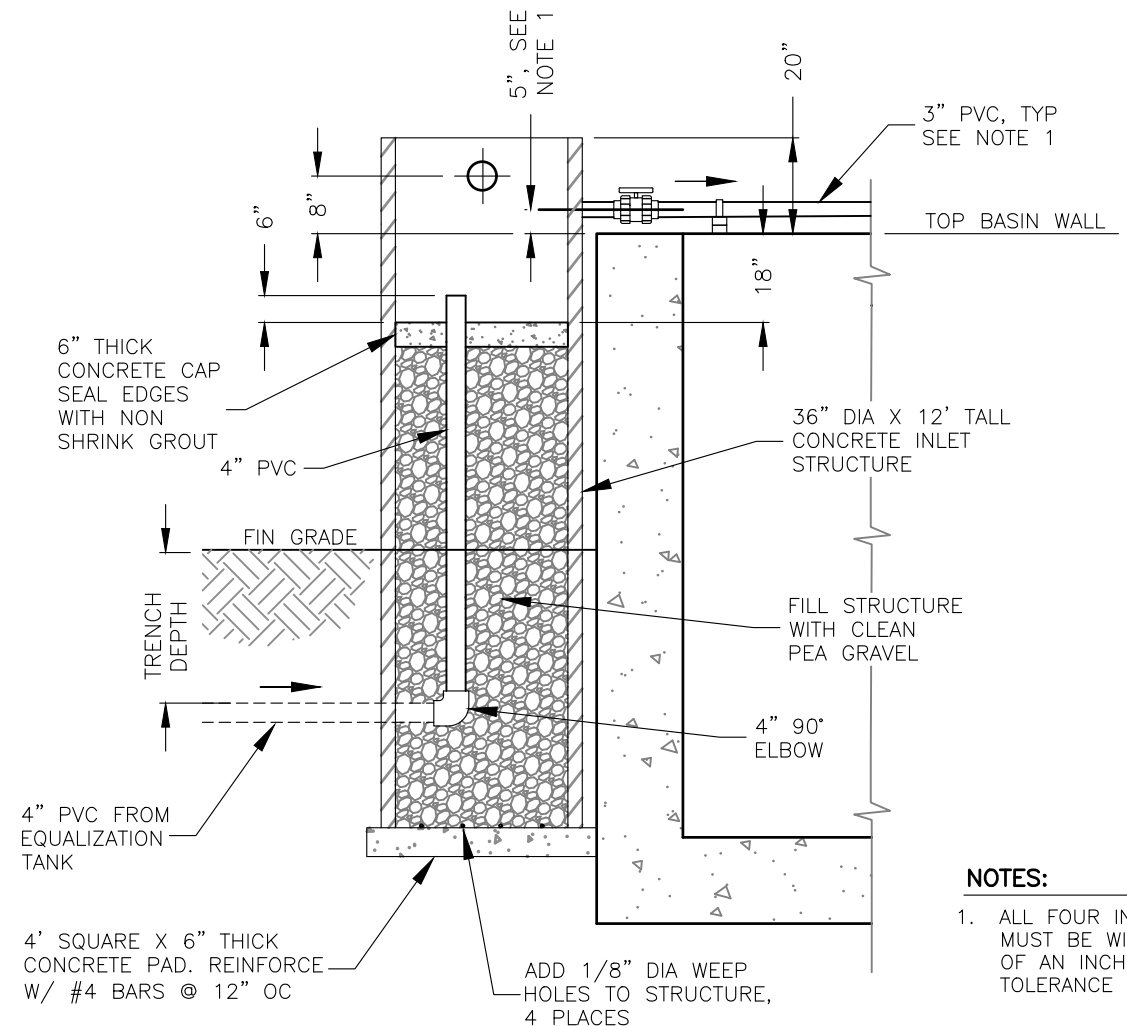
**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
DETAILS, COLLECTOR PIPING**
DRAWING NO.: CAO-21-F05 SCALE: AS NOTED DATE: 10-2-2024
FILE NAME: CAO-15-E56-ARCH LAYOUT NAME: A207 PROJ ENG: JILLIAN TILLES
DRAWN BY: D. O'GORMAN

A207
SHEET
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PLAN VIEW, INLET PIPING
NOT TO SCALE

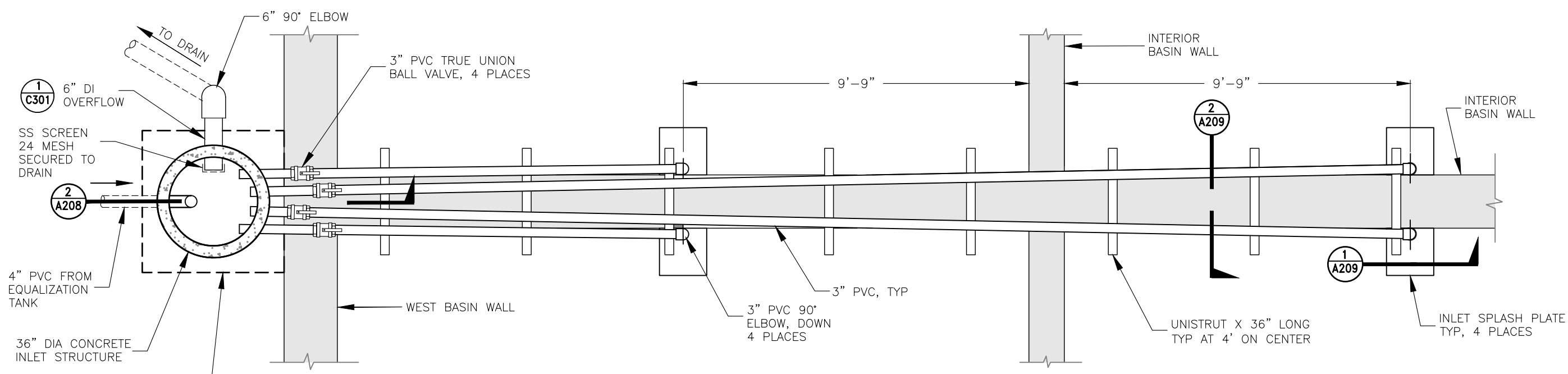
1
A208



SECTION, INLET PIPING
NOT TO SCALE

2
A208

- NOTES:
1. ALL FOUR INLET PIPES MUST BE WITHIN 1 TENTH OF AN INCH VERTICAL TOLERANCE OF EACH OTHER.



ENLARGED PLAN VIEW, INLET PIPING
NOT TO SCALE

3
A208

REGISTERED PROFESSIONAL ENGINEER
JILLIAN G. TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
INDIAN HEALTH SERVICE

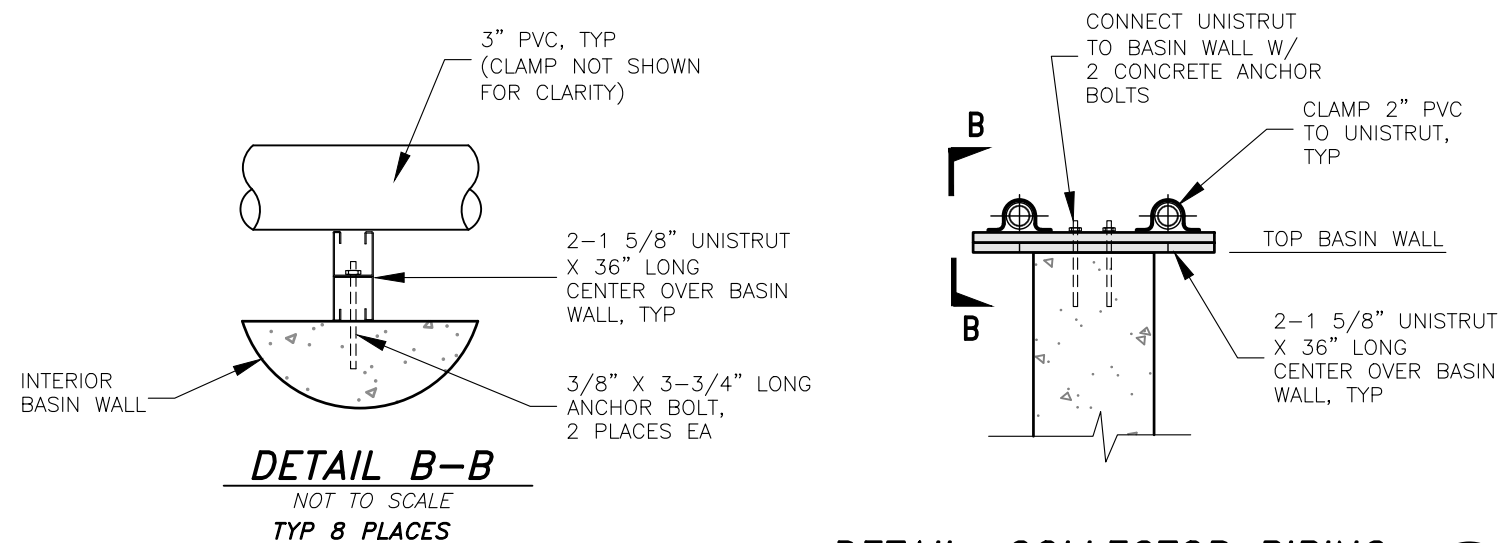
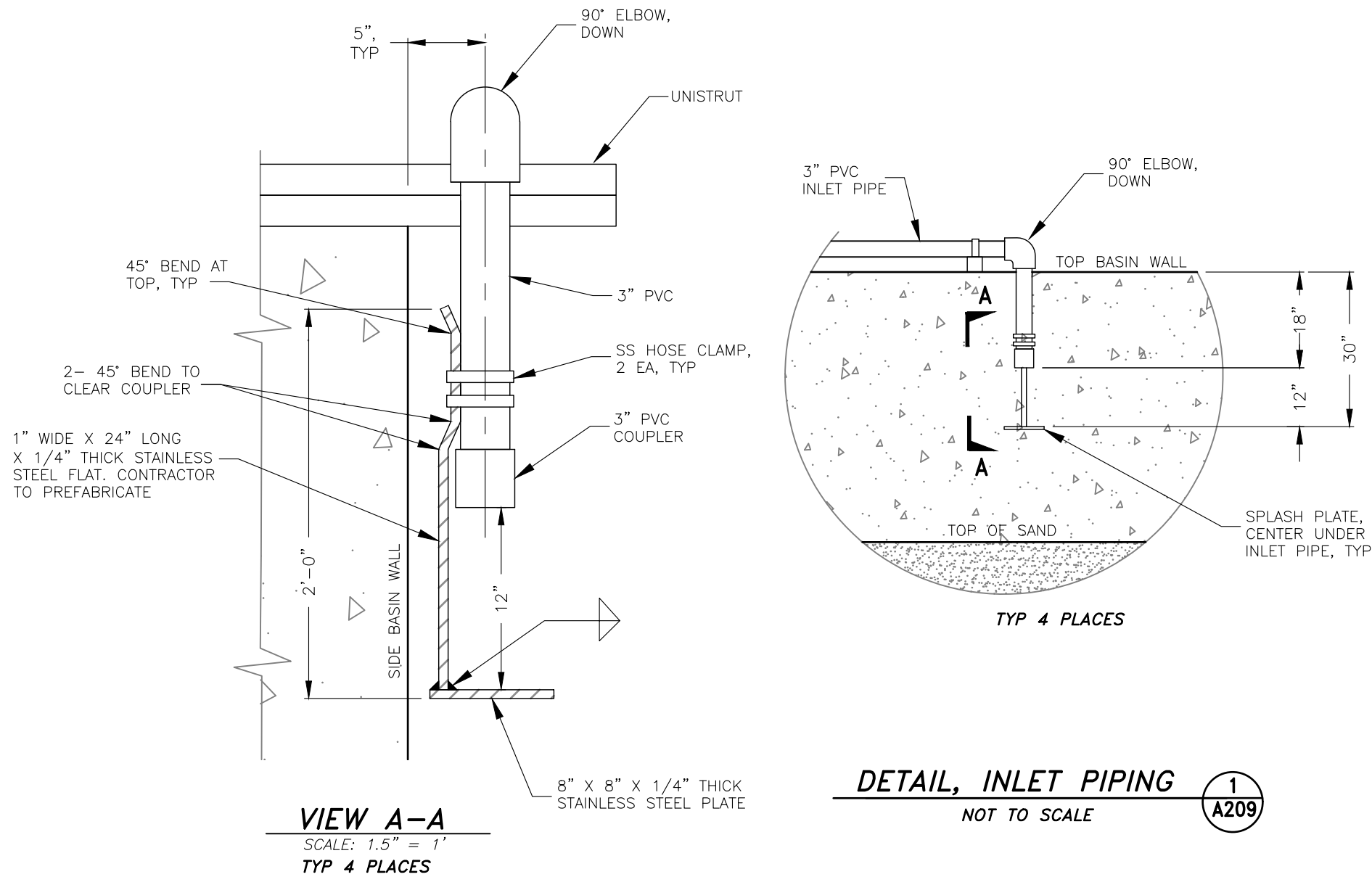
SANITATION FACILITIES CONSTRUCTION
650 CAPITOL MALL, SUITE 7-100
SACRAMENTO, CA 95814
(916) 930-3945

INDIAN HEALTH SERVICE
1955

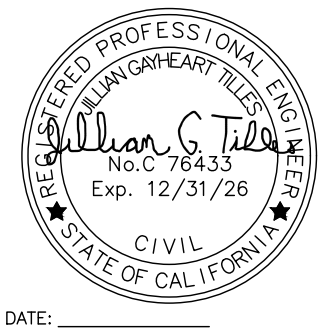
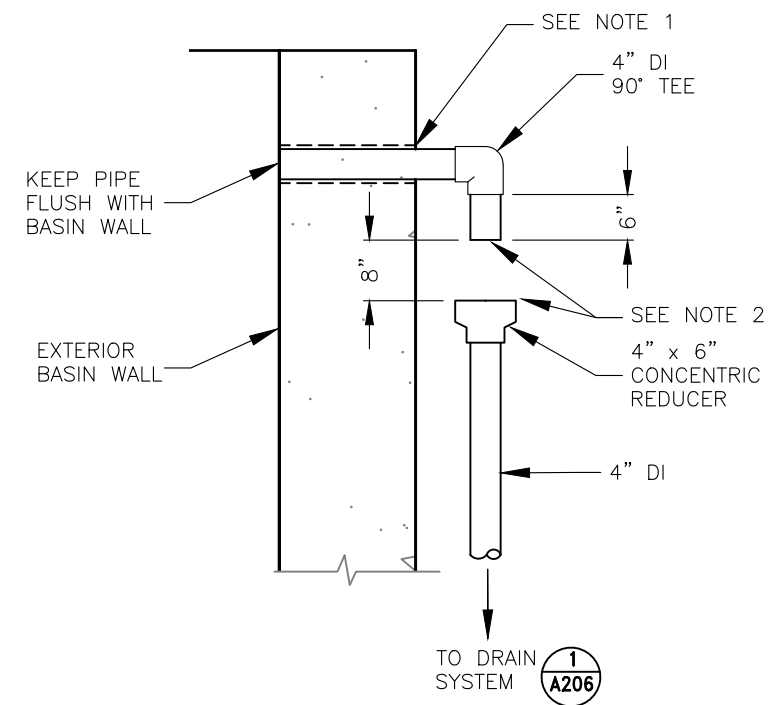
KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
DETAILS, INLET PIPING

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024
DRAWN BY: D. O'GORMAN

FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A208
PROJ. ENG: JILLIAN TILLES



- NOTES:**
1. FILL PENETRATIONS THRU FILTER BASINS WITH NON SHRINK GROUT PER 03-10-00, 3.4
 2. COVER END OF REDUCER AND OVERFLOW PIPE WITH SS SCREEN, 24 MESH. SECURE WITH HOSE CLAMPS.



DATE	REVISIONS	INIT.

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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
DETAILS, FILTER BASIN

FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A209
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-2024

DRAWN BY: D. O'GORMAN

ELECTRIC LEGEND

- \$

SINGLE POLE SWITCH, 20 A
- 3

\$

THREE WAY SWITCH, 20 A
- ⌀

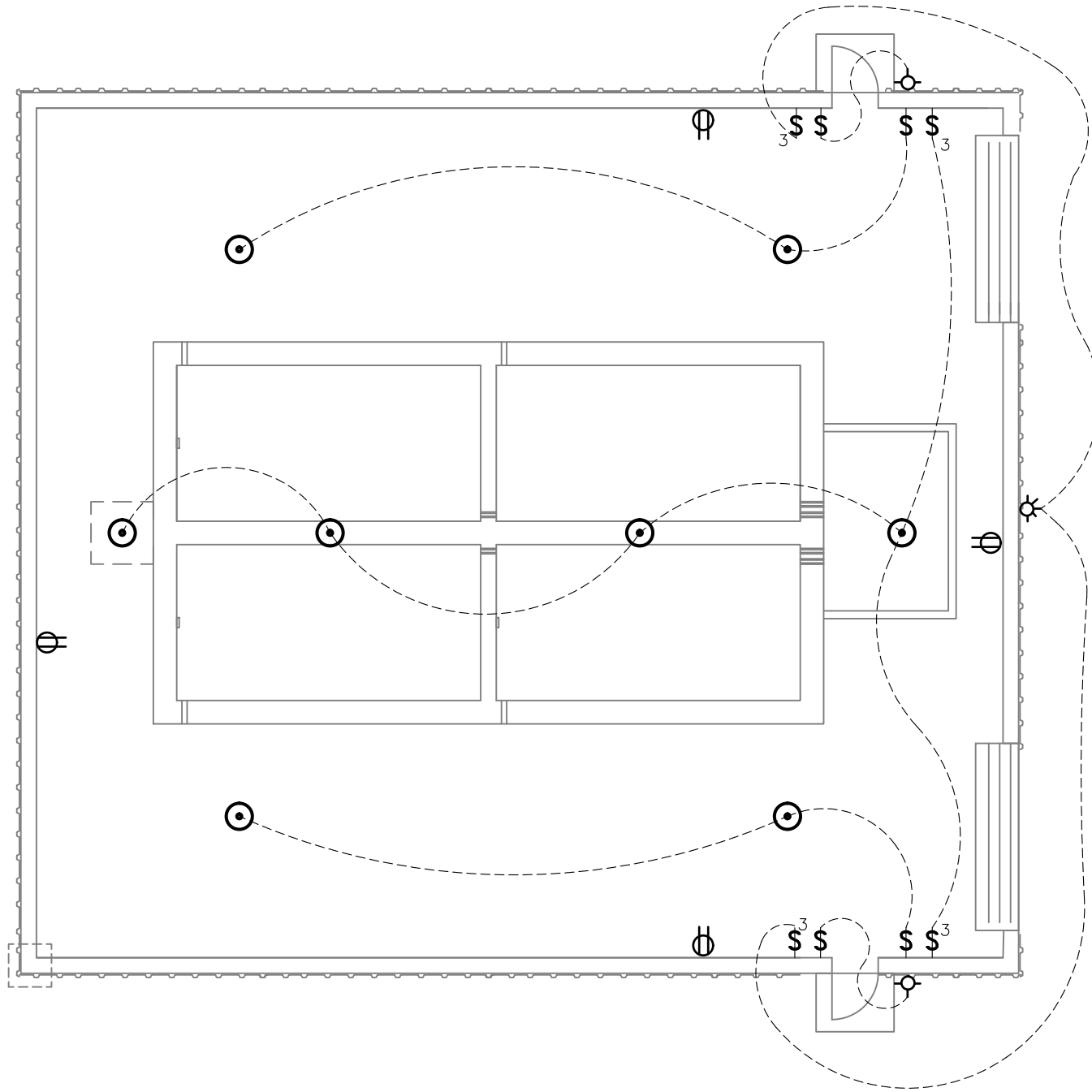
110 RECEPTACLE OUTLET
- EXTERIOR LIGHT

36 W, W/ PC CELL
- ☼

EXTERIOR FLOOD LIGHT

46 W, W/ PC CELL
- INTERIOR PENDANT LUMINAIR

100 W, W/ PC CELL



ELECTRIC PLAN,
SAND FILTER BUILDING

NOT TO SCALE

1
A210



DATE: _____

DATE	REVISIONS	INIT.

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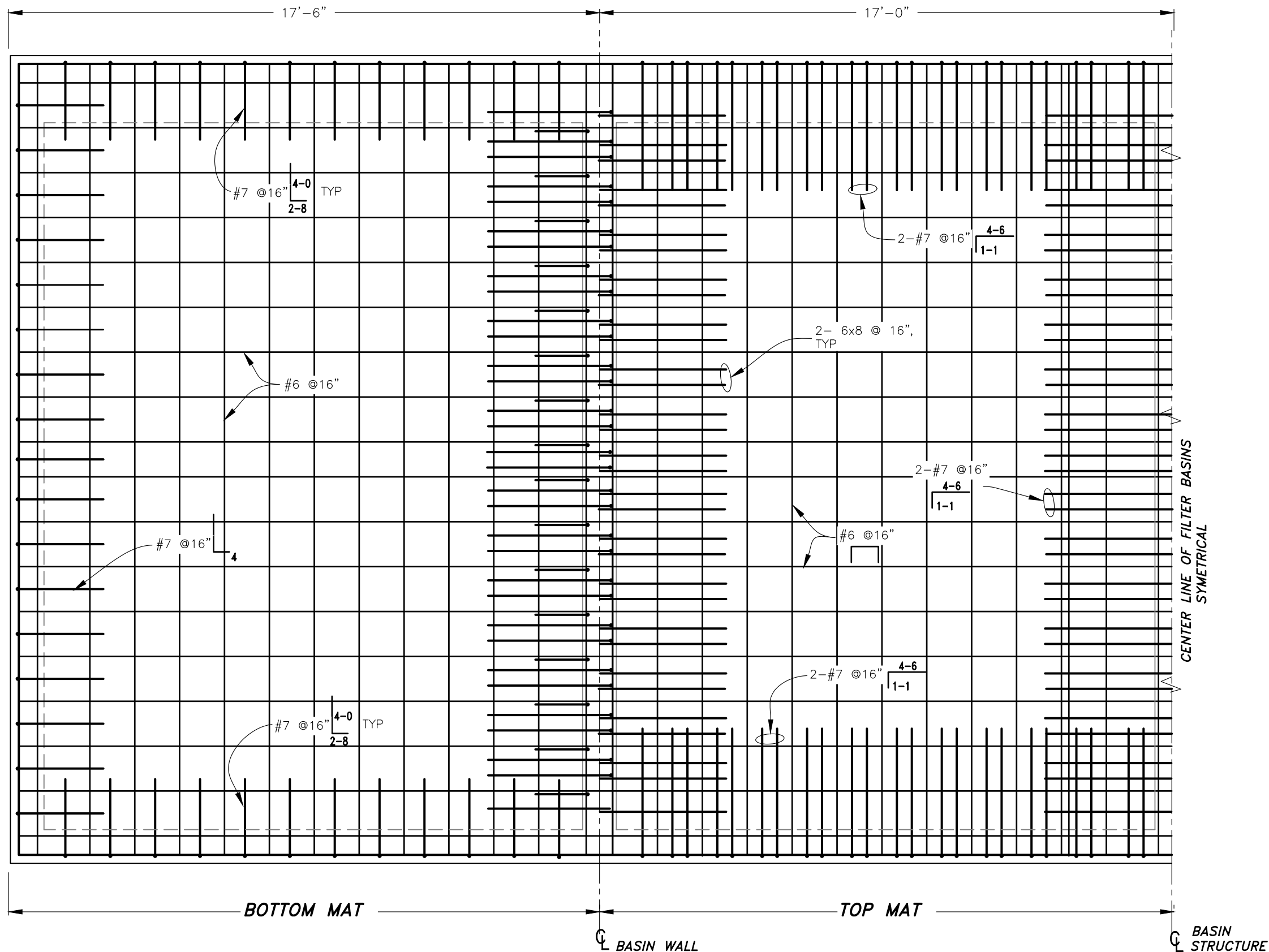


KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ELECTRIC PLAN, SAND FILTER BUILDING

DRAWING NO.: CAO-21-F05
FILE NAME: CAO-15-E56-ARCH
LAYOUT NAME: A209
DRAWN BY: D. O'GORMAN
SCALE: AS NOTED
DATE: 10-2-2024
PROJ ENG: JILLIAN TILLES

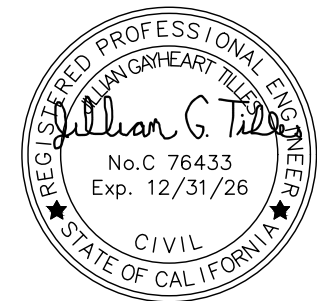
A210

SHEET
55 OF 58



REINFORCEMENT PLAN,
FILTER BASIN FLOOR
SCALE: 1/4"=1'

1
S102



DATE: _____

DATE	REVISIONS	INIT.

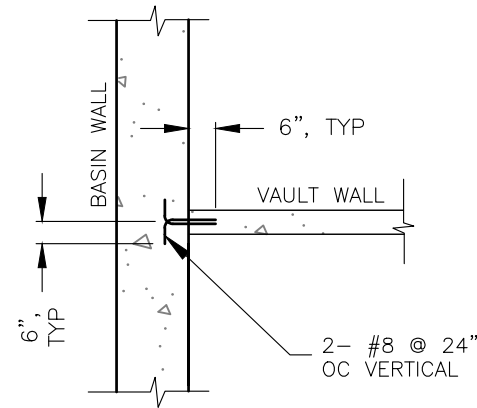
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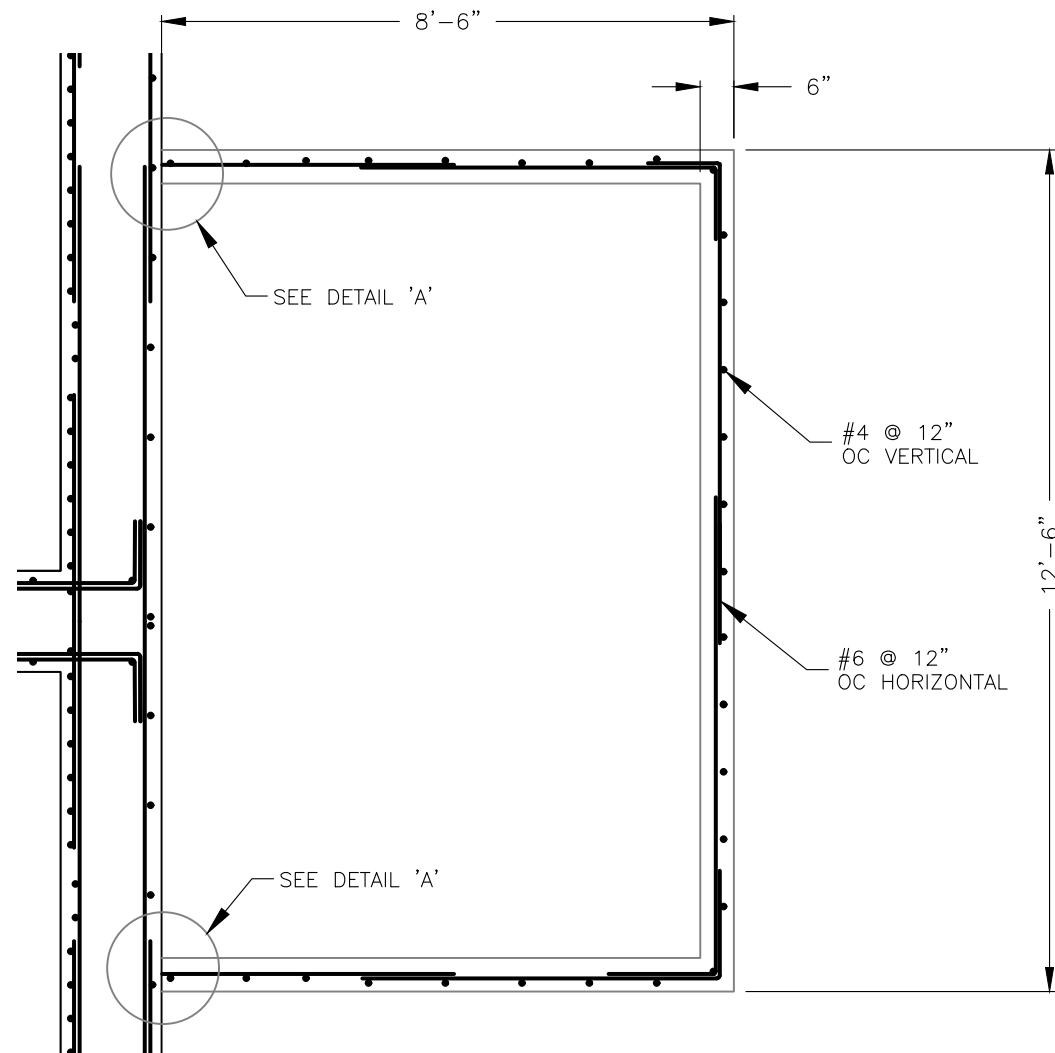
KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
FILTER BASIN STRUCTURAL
DRAWING NO.: CAO-21-F05 SCALE: AS NOTED DATE: 10-2-2024
FILE NAME: CAO-15-E56-ARCH LAYOUT NAME: S102 PROJ ENG: JILLIAN TILLES
DRAWN BY: D. O'GORMAN

S102

SHEET
57 OF 58

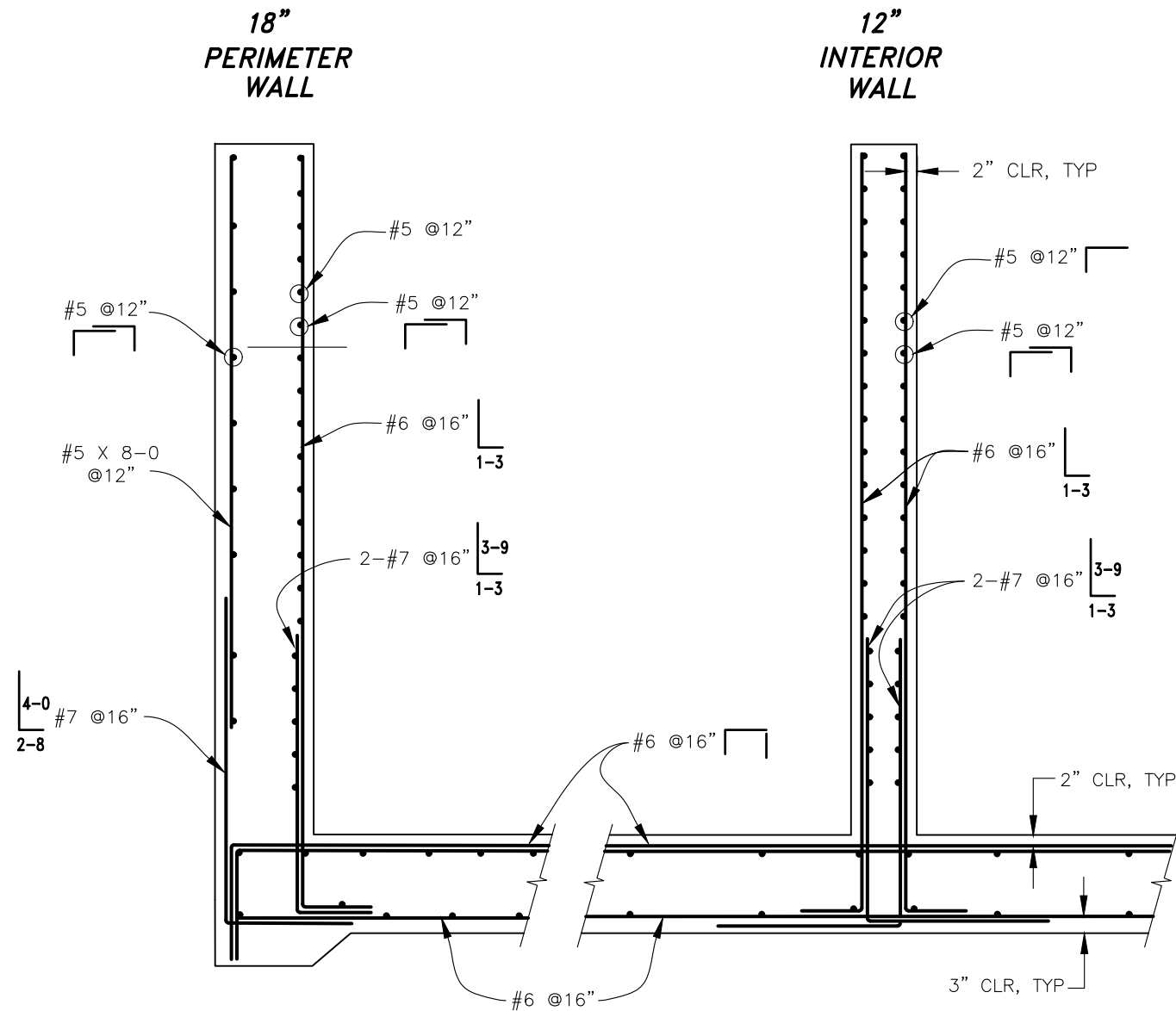


DETAIL 'A'
NOT TO SCALE



OUTLET VAULT,
REINFORCEMENT PLAN
NOT TO SCALE

1
S103



TYPICAL WALL SECTION,
REINFORCEMENT PLAN
NOT TO SCALE

2
S103



DATE	REVISIONS	INIT.

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KE-NEK WATER TREATMENT PLANT
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FILTER BASIN STRUCTURAL
DRAWING NO.: CAO-21-F05 SCALE: AS NOTED DATE: 10-2-2024
FILE NAME: CAO-15-E56-ARCH LAYOUT NAME: S103
PROJ ENG: JILLIAN TILLES
DRAWN BY: D. O'GORMAN

S103
SHEET
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