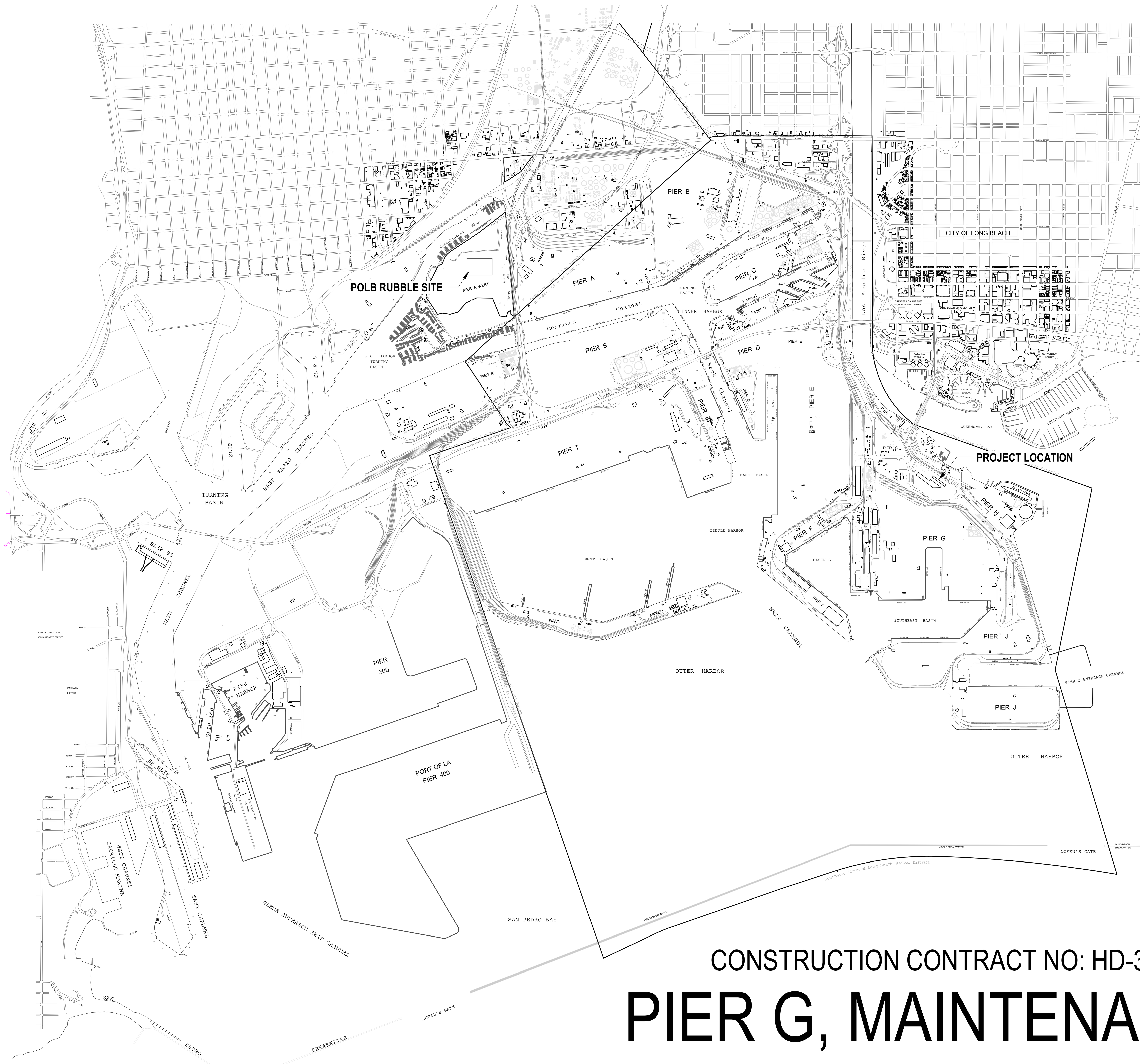
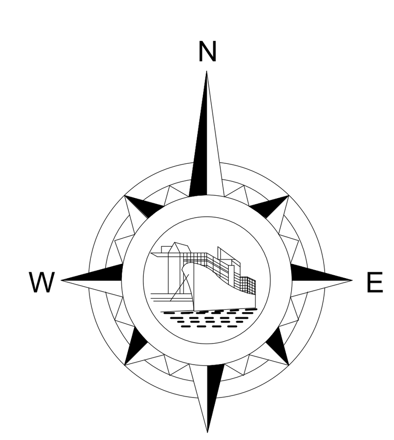


CONSTRUCTION CONTRACT NO: HD-3195

PIER G, MAINTENANCE BUILDING C PUMP SHOP CONVERSION

725 HARBOR PLAZA, LONG BEACH
CALIFORNIA 90802



Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

LICENSED ARCHITECT WAYNE T. ... C-34530 08-31-2025 RENEWAL DATE STATE OF CALIFORNIA

SEAL 12/5/2024

SUZANNE PLEZIA P.E. NO. C-59164
SENIOR DIRECTOR/CHIEF HARBOR ENGINEER
DATE 1/27/2025

CLINT C. HERRERA P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN
DATE 1/27/2025

Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO: HD-S3195
CADD STD. VER.: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR.: MG
HORIZONTAL CONTROL: NAD83-VF

CONSTRUCTION REV: DATE:
CHECKED BY: MG DATE: 11/26/2024
DRAWN BY: ST DATE: 11/26/2024
DESIGNED BY: ST POLB DM: VL
DESIGN MGR.: MG POLB PM: MS
VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
PROJECT LOCATION & SHEET INDEX

10-02464-GN001

SHEET 01 OF 85

DRAWING NUMBER	SHEET NUMBER	SHEET TITLE
02464-AE001	69	ELECTRICAL SYMBOLS, SCHEDULES, & NOTES
02464-AE002	70	ELECTRICAL SYMBOLS, SCHEDULES, & NOTES
02464-AE003	71	ELECTRICAL ENERGY CODE COMPLIANCE
02464-AE004	72	ELECTRICAL ENERGY CODE COMPLIANCE
02464-AE005	73	ELECTRICAL SITE PLAN
02464-AE006	74	DEMOLITION - LIGHTING - 1ST FLOOR PLAN
02464-AE007	75	DEMOLITION - POWER & SYSTEMS - 1ST FLOOR PLAN
02464-AE008	76	LIGHTING - 1ST FLOOR PLAN
02464-AE009	77	POWER & SYSTEMS - 1ST FLOOR PLAN
02464-AE010	78	POWER & SYSTEMS - ROOF PLAN
02464-AE011	79	ELECTRICAL ENLARGED PLAN
02464-AE012	80	DETAILS
02464-AE013	81	DETAILS
02464-AE014	82	TELECOMMUNICATIONS DETAILS
02464-AE015	83	TELECOMMUNICATIONS DETAILS
02464-AE016	84	TELECOMMUNICATIONS DETAILS
02464-AE017	85	ELECTRICAL PANEL AND LIGHTING FIXTURE SCHEDULES
02464-AE018	86	ONE LINE DIAGRAM

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DIRECTOR OF ENGINEERING DESIGN
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725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
SHEET INDEX

10-02464-GN002

SHEET 02 OF 85

LEGEND

EXISTING UTILITIES

G G G	GAS
G G G (dashed)	ABANDONED GAS
O O O	OIL
O O O (dashed)	ABANDONED OIL
W W W	WATER
W W W (dashed)	ABANDONED WATER
S S S	SEWER
S S S (dashed)	ABANDONED SEWER
SD SD SD	STORM DRAIN
SD SD SD (dashed)	ABANDONED STORM DRAIN
E E E	ELECTRICAL
E E E (dashed)	ABANDONED ELECTRICAL
COM COM COM	COMMNUICATIONS
COM COM COM (dashed)	ABANDONED COMMUNICATIONS
COM COM COM	FIBER
COM COM COM (dashed)	ABANDONED FIBER
W W W	TO BE REMOVED/ABANDONED (WATER LINE EXAMPLE)

PROPOSED UTILITIES

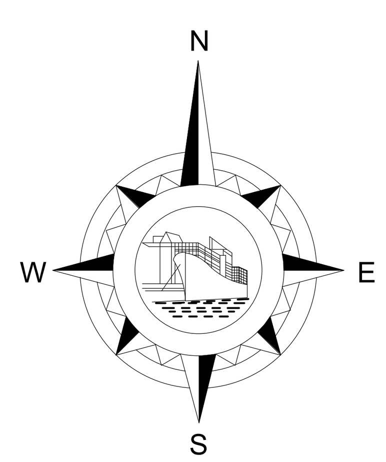
G G G	GAS
G G G (dashed)	ABANDONED GAS
O O O	OIL
O O O (dashed)	ABANDONED OIL
W W W	WATER
W W W (dashed)	ABANDONED WATER
S S S	SEWER
S S S (dashed)	ABADONED SEWER
SD SD SD	STORM DRAIN
SD SD SD (dashed)	ABANDONED STORM DRAIN
E E E	ELECTRICAL
E E E (dashed)	ABANDONED ELECTRICAL
COM COM COM	COMMNUICATIONS
COM COM COM (dashed)	ABANDONED COMMUNICATIONS
COM COM COM	FIBER
FO FO FO	ABANDONED FIBER

TOPOGRAPHY

x x	FENCE
	RAILROAD
	CRANE RAIL
	BUILDING OUTLINE
	WALL
	GUARD RAIL
	PIER HEAD RAIL
FL FL FL	FLOW LINE
	K-RAIL

SYMBOLS

G	GAS METER
W	WATER METER
W	WATER MANHOLE
BF	WATER BACKFLOW DEVICE
	WATER CHECK VALVE
	WATER FIRE HYDRANT
	WATER VALVE
S	SEWER MANHOLE
CH	SEWER CHIMNEY
CO	SEWER CLEAN OUT
LS	SEWER LIFT STATION
CB	CATCH BASIN
PS	STORM DRAIN PUMP STATION
D	STORM DRAWIN MANHOLE
PB	ELECTRICAL PULL BOX
	LIGHT POLE
E	ELECTRICAL METER
E	ELECTRICAL MANHOLE
EL	ELECTRICAL PANEL BOX
JB	COMMUNICATIONS JUNCTION BOX
CO	COMMUNICATIONS PANEL BOX
C	COMMUNICATIONS MANHOLE
PB	PULL BOX
P	POST



NORTH ARROW

0 100' 200'

SCALE:1"=100'

SCALE BAR

KEY NOTES

X	CONSTRUCTION
X	COORDINATES
X	CURVE DATA
X	DEMOLITION
X	REVISION DELTA

SECTION CUT

LETTER OF SECTION REFERNCED CONSECUTIVELY ON EACH SHEET.

A

XXXXX | YYYYY

XXXXX - DRAWING NUMBER WHERE SECTION ORIGINATES. TYPICALLY ORIGINATES FROM A PLAN, PROFILE, OR ELEVATION.

YYYYY - DRAWING NUMBER WHERE SECTION IS CDRAWN. TYPICALLY SHOWN ON A SEPARATE DETAIL SHEET.

DETAIL

NUMBER OF DETAIL REFERENCED CONSECUTIVELY ON EACH SHEET.

1

XXXXX | YYYYY

XXXXX - DRAWING NUMBER WHERE DETAIL ORIGINATED. TYPICALLY ORIGINATES FROM A PLAN, PROFILE, OR ELEVATION.

YYYYY - DRAWING NUMBER WHERE SECTION IS DRAWN. TYPICALLY SHOWN ON A SEPARATE DETAIL SHEET.

X

IF LEFT BLANK, SECTION OR DETAIL IS ON SAME SHEET

PLAN, ELEVATION, SECTION AND DETAIL TITLE

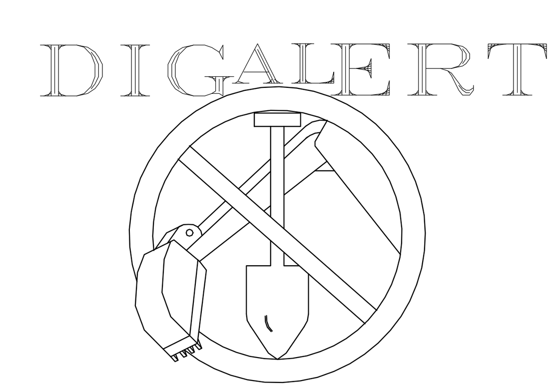
TITLE NAME

1

GN001 | GN005

DETAIL NAME

SCALE: $^{3}/_{16}$"=1'-0"



SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIG ALERT I.D. NUMBER CALL UNDERGROUND SERVICE ALERT 811, TOLL FEE 1-800-722-4133 TWO WORKING DAYS BEFORE YOU DIG.

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

LICENSED ARCHITECT WAYNE T. FRANK C-34530 08-31-2025 RENEWAL DATE STATE OF CALIFORNIA

SEAL 12/5/2024

CLINT C. HERRERA P.E. NO. C-61471 DIRECTOR OF ENGINEERING DESIGN

1/27/2025 DATE

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725 HARBOR PLAZA PIER G, MAINTENANCE BUILDING C PUMP SHOP CONVERSION

GENERAL NOTES LEGEND & SYMBOLS

10-02464-GN003

SHEET 03 OF 85

ABBREVIATIONS

@	AT
'	FEET
"	INCHES
+/-	PLUS OR MINUS (APPROXIMATE)
	CENTER LINE
	NOMINAL DIAMETER

A

ABN	ABANDON
ABND	ABANDONED
AC	ASPHALT CONCRETE/ASBESTOS CEMENT
ACOE	ARMY CORPS OF ENGINEERS
ADJ	ADJACENT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AOEC	ARE OF ECOLOGICAL CONCERN
APPROX.	APPROXIMATE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AW	ABOVE WATER

B

BC	BEGIN CURVE
BEG	BEGIN
BM	BENCH MARK
BOT	BOTTOM

C

CAB	CRUSHED AGGREGATE BASE
CBM	CONSTRUCTION BENCH MARK
CL.	CENTER LINE
CLB/COLB	CITY OF LONG BEACH
CLR	CLEAR/CLEARANCE
CM	CONSTRUCTION MANAGEMENT
CMB	CRUSHED MISCELLANEOUS BASE
CO	CLEANOUT
COM/COMM	COMMUNICATIONS
COMBI	COMBINATION
CONC	CONCRETE
COND	CONDUIT
CONN	CONNECTOR
CONST	CONSTRUCT/CONSTRUCTION
CONT.	CONTINUOUS
COORD	COORDINATE
CPT	CONE PENETRATION TEST
CTB	CEMENT TREATED BASE
CY	CONTAINER YARD
CYS	CUBIC YARDS

D

DDA	DREDGE DISPOSAL AREA
DEMO	DEMOLITION
DET	DETAIL/DETOUR
DIA	DIAMETER
DIST	DISTANCE
DOD	DEPARTMENT OF DEFENSE
DOP	DEPARTMENT OF OIL PROPERTIES
	CITY OF LONG BEACH
DR	DRIVE
DWG	DRAWING
DWGS	DRAWINGS
DWY	DRIVEWAY

E

(E)	EXISTING
E	EAST OR EASTING
EA.	EACH
EB	EASTBOUND
EC	END OF CURVE
ECR	END CURVE RETURN
EG	EXISTING GRADE
ELEC	ELECTRICAL
EL/ELEV	ELEVATION
EMBED	EMBEDDED/EMBEDMENT
EMI	EATH MECHANIC, INC.
EP	EDGE OF PAVEMENT
EQ.	EQUAL DISTANCE
ETW	EDGE OF TRAVELLED WAY
EVC	END VERTICAL CURVE
EX/EXIST	EXISTING

F

F&G	FRAME & GRATE
FH	FIRE HYDRANT
FL	FLOW LINE
FO	FIBER OPTIC
FR RD	FRONTAGE ROAD
FS	FACTOR OF SAFETY/FARSIDE
FT	FEET

G

GALV	GALVANIZED
GEN	GENERAL

H

H	HEIGHT
HDPE	HIGH-DENSITY POLYTHYLENE
HEX	HEXAGON
HMLP	HIGH MAST LIGHT POLE
HORIZ	HORIZONTAL

I

IE	INVERT ELEVATOR
IH	INNER HARBOR
IN	INCH
INFO.	INFORMATION
INV	INVERT
IR	INSTALLATION RESTORATION

K

KDD	KNOCK DOWN DREDGING
KV	KILO VOLTS

L

L	LENGTH
LB	LONG BEACH
LBGO	LONG BEACH GAS & OIL
LBHD	LONG BEACH HARBORD DEPARTMENT
LBP	LEAD BASED PAINT
LONGIT	LONGITUDAL
LS	LANDSIDE
LT	LEFT

M

MAX	MAXIMUM
MH	MANHOLE
MHHW	MWAN HIGHER HIGH WATER
MHW	MEAN HIGH WATER
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MKR	MARKER
ML	MUDLINE
MLLW	MEAN LOWER LOW WARER
MNF	MANUFACTURER
MOD	MODIF(Y) (IED)
MON	MONUMENT
MPH	MILES PER HOUR

N

(N)	NEW
N	NORTH, NORTHING
NB	NORTHBOUND
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO.	NUMBER
NO'S	NUMBERS
NS	NEARSIDE
NTP	NOTICE TO PROCEED
NTS	NOT TO SCALE
(NIC)	NOT IN CONTRACT

O

OC, O.C.	ON CENTER
OD	OUTSIDE DIAMETER/OVER DREDGE
OXY	OXY LONG BEACH

P

PB	PULL BOX
PC	POINT OF CURVATURE
PCVC	POINT OF COMPUND VERTICAL CURVE
PED	PEDESTRIAN
PH	PIERHEAD
PHL	PIERHEAD LINE/PACIFIC HARBOR LINE
PI	POINT OF INTERSECTION
PIANC	PERMANENT INTERNATIONAL ASSOCIATION OF NAVIGATION CONGRESSES
PIP	PROJECT IN PLACE
PL	PROPERTY LINE/PLATE
POC	POINT OF CURVE
POLB	POINT OF LONG BEACH
POT	POINT OF TANGENT
POVC	POINT ON VERTICAL CURB
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PROP	PROPOSED
PRVC	POINT OF REVERSE VERTICAL
PVC	POLY VINYL CHLORIDE
PVMT	PAVEMENT

Q

QR	QUARRY RUN

R

R	RADIUS
RCC	ROLLER COMPACTED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD

R (CONT.)

RDRL	ROCK DIKE REFERENCE LINE
REINF	REINFORCED/REINFORCEMENT
REQ'D	REQUIRED
RET	RETAINING
RR	RAILROAD
RT	RIGHT
R/W	RIGHT-OF-WAY
RWQCB	REGIONAL WATER QUALITY CONTROL BOARD

S

S	SLOPE
SALV	SALVAGE
SB	SOUTHBOUND
SD	STORM DRAIN
SEC	SECTION
SF	SQUARE FEET
SHT	SHEET
SI	INTERNATIONAL SYSTEM OF UNITS
SIM	SIMILAR
SL	STATION LINE
SP	SHORE POWER
SQ	SQAURE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SSP	STEEL SHEETPILE/SHIP PSHORE POWER
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STR	STRUCTURE
SURF	SURFACE
SW	SIDEWALK

T

TC	TEMPORARY CUT
TD	TRENCH DRAIN
TEMO	TEMPORARY
TC OR TOG	TOP OF GRATE
TOT	TOTAL
TP	TELEPHONE POLE
TS	TRAFFIC SIGNAL/TUBULAR STEEL
TYP	TYPICAL

U

UNO	UNLESS NOTED OTHERWISE
USGC	UNITED STATES COAST GUARD

V

V	VALVE/VOLT/VERTICAL, DEPTH OF CATH BASIN
VC	VARIES/VARIABLE
VCP	VIRTIFIED CLAY PIPE
VERT	VERTICAL
VOL	VOLUME

W

W/	WITH
WI	WATER INJECTION
WS	WATERSIDE

Michael Baker
INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

LICENSED ARCHITECT
WAYNE T. FRANK
C-34530
08-31-2025
RENEWAL DATE
STATE OF CALIFORNIA
SEAL 12/5/2024

CLINT C. HERRERA P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN
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DATE

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THE PORT OF CHOICE

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725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
DREDGING ABBREVIATIONS

10-02464-GN004

SHEET 04 OF 85

ABBREVIATIONS

&	AND
@	AT
∠	ANGLE
2P	TWO-POLE
3P	THREE-POLE
3W	THREE-WIRE
4W	FOUR-WIRE

A

A	AMPERE/AMMETER
A/C	AIR CONDITIONING
ABS	ACRYLONITRILE BUTADIENE STYRENE
ABUT	ABUTMENT
AC	ASPHALT(IC) CONCRETE/ALTERNATING CURRENT;
ADJ	ADJACENT
AF	AMPERE FRAME
AFC	AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR
AFS	ABOVE FINISHED SURFACE
AGGR	AGGREGATE
AGV	AUTOMATED GUIDED VEHICLE
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CAPACITY
AL	ALUMIINUM
ALT	ALTERNATE
AMP	AMP/AMPERE
ANN	ANNUNCIATOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASC	AUTOMATED STACKING CRANE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AT	AMPERE TRIP
ATC	AIR TERMINAL CHAMBER
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY

B

BB	BEGIN BRIDGE
BC	BEGINNING OF CURVE
BKBD	BACKBOARD
BLDG	BUILDING
BLK	BLOCK/BLOCKING
BLVD	BOULEVARD
BM	BENCH MARK; BEAM
BOC	BACK/BOTTOM OF CURB
BRKR	BREAKER
BTWN	BETWEEN
BVC	BEGIN VERTICAL CURVE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION

C

C	CONDUIT
C&G	CURB & GUTTER
CAB	CRUSHED AGGREGATE BASE
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CAP	CAPACITY
CB	CATCH BASIN/CIRCUIT BREAKER
CC	CENTER TO CENTER
CEC	CALIFORNIA ELECTRICAL CODE
CKT	CITCUIT
CL	CONTINUOUS LOAD
CLR	CLEARNACE/CLEAR
CM	CIRCUIT MONITOR
CO	CONDUIT ONLY
COL	COLUMN
COMM	COMMUNICATIONS
CONC	CONCRETE
COND	CONDITION
CONN	CONNECT/CONNECTION/CONNECTED
CONT	CONTINUE/CONTINUOUS
CONTR	CONTRACTOR
CORR	CORRIDOR/CORRUGATE(D)
CP	COMPLETE PENETRATION
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
CTL	CONTROL
CTR	CENTER(ED)
CU	COPPER
CU FT/CF	CUBIC FOOT
CU YD/YD(S)	CUBIC YARD(S)

D

DB	DUCTBANK
DBL	DOUBLE
DC	DIRECT CURRENT
DD	DECK DRAIN
DEPT	DEPARTMENT
DET	DETAIL(S)
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION(S)
DIP	DUCTILE IRON PIPE

D (CONT.)

DISC	DISCONNECT
DIST	DISTANCE/DISTRIBUTION
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE DOUBLE THROW
DPSH	DIFFERENTIAL PRESSURE SWITCH
DPST	DOUBLE POLE SINGLE THROW
DWG	DRAWING

E

(E)	EXISTING
E	EAST/EASTING
EA	EACH
EB	ENCASED BURIAL
EF	EXHAUST FAN
EG	EXISTING GRADE
EGX	ETHERNET GATEWAY
EH	ELECTRIC HEATER
EL	ELEVATION
ELEC	ELEXTRICAL/ELECTRIC
ELEV	ELEVATION/ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENGR	ENGINEER
EP/EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
ERT	ETHERNET RADIO TRANSMITTER
ESD	EMERGENCY SHUTDOWN
ETC	ETCETERA
EXIST	EXISTING
EXPN	EXPANSION
EXT	EXTERIOR

F

F	FUSE/FAULT
FC	FAN COIL
FDR	FEEDER
FIN	FINISH
FL	FLOW LINE
FLA	FULL LOAD AMPERE
FLG	FLANGE
FLUO	FLUORESCENT
FO/F.O.	FIBER OPTIC
FOC	FACE OF CURB
FP	FULL PENETRATION
FS	FAR SIDE
FT	FOOT/FEET
FW	FIRE WATER
FVNR	FULL VOLTAGE NON REVERSING

G

G/GND/GRD	GROUND/GAS
GA	GAUGE
GALV	GALVANIZED
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
GPS	GLOBAL POSITIONING SYSTEM
GRS	GALVANIZED RIGID STEEL
GTE	GENERAL TELEPHONE ELECTRIC (NOW VERIZON)

H

HDPE	HIGH DENSITY POLYTHYLENE
HID	HIGH DENSITY DISCHARGE
HMI	HUMAN MACHINE INTERFACE
HMWPE	HIGH MOLECULAR WEIGHT POLYETHYLENE
HOA	HAND OFF AUTO
HP	HORSE POWER/HEAT PUMP
HPS	HIGH PRESSURE SODIUM
HT	HEIGHT
HV	HIGH VOLTAGE
HZ	HERTZ

I

IC	INTERRUPTING CAPACITY
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IG	ISOLATED GROUND
IN	INCH(ES)
INCL	INCLUDE
INFO	INFORMATION
INS	INSULATION/INSULATE(D)
INV	INVERT
IR	INSTALLATION RESTORATION

J

JB	JUNCTION BOX
JT	JOINT

K

K	THOUSAND

K (CONT.)

KCMIL	THOUSAND AND CIRULAR MIL
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
KVA	KILOVOLT-AMPERE(S)
KVAR	KILOVAR(S)
KW	KILOWATTS(S)

L

L.C.	LIGHTING CONTRACTOR/LOCK CLOSED
L.O.	LOCK OPEN
LA	LIGHTING ARRESTER
LB	POUND
LBWD	LONG BEACH WATER DEPARTMENT
LCP	LOCAL CONTROL PANEL
LF	LEFT FOOT
LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
LH	LEFT HAND
LIQ	LIQUID
LLI	LIVE LINE INDICATOR
LP	LIGHTING POLE/LIGHTING PANEL
LRA	LOCKED ROTOR AMPS
LS	TOTAL LENGTH OF SPIRAL CURVE
LT	LONG TANGENT
LTG	LIGHTING
LV	LOW VOLTAGE

M

MAT	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT/MOLE BORING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MDB	MAIN DISTRIBUTION BOARD
MECH	MECHANICAL
MFR	MANUFACTURER/MULTI-FUNCTION RELAY
MH	MANHOLE/METAL HALIDE/MOUNTING HEIGHT
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MOS	METHOD OF SERVICE
MPZ	MINI-POWER ZONE
MRCT	MULTI-RADIO CURRENT TRNASFORMER
MTD	MOUNTED
MV	MEDIUM VOLTAGE
MVA	MEGAVOLT-AMPERE(S)

N

(N)	NEW
NAT	NATURAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
NEUT	NEUTRAL
NF	NEAR FACED/NON FUSED
NGR	NEUTRAL GROUNDING RESISTOR
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN/NUMBER
NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY
NTS	NOT TO SCALE

O

OC/O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND/OVERHEAD
OIT	OPERATOR INTERFACE TERMINAL
OL/O/L	OVERLOAD

P

P, PNL	PANEL/POLE
PB	PULL BOX/PUSH BUTTON
PC	PHOTOCELL
PCC/P.C.C.	PORTLAND CONCRETE CEMENT
PF	POWER FACTOR
PFCC	POWER FACTOR CORRECTION CAPACITOR
PE	POLYETHYLENE (PIPE)
PH, Ø	PHASE
PHL	PIER HEAD LINE/PACIFIC HARBOR LINES
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	POWER MONITOR
PNL	PANEL
POC	POINT OF CONNECTION
POLB	PORT OF LONG BEACH
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POTENTIAL TRANSFORMERPTW
PTW	POWER, TELEPHONE, AND WATER
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER

R

R	RADIUS
R.O.	REEFER OUTLET
RCP	REINFORCED CONCRETE PIPE

R (CONT.)

RCS	REMOTE CONTROL SWITCH
RECEPT	RECEPTACLE
REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL
RLA	RUNNING LOAD AMPS
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD

S

S	SOUTH
S.K.	SUPERVISORY KEY
SA	SURGE ARRESTOR
SCE	SOUTHER CALIFORNIA EIDSON
SCHED	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SF	SQUARE FEET/FOOT
SHT	SHEET
SIG	SIGNAL
SIM	SIMILAR
SPECS	SPECIFICATIONS
SPDT	SINGLE-POLE, DOUBLE THROW
SPST	SINGLE-POLE, SINGLE THROW
SPO	SHORE POWER OUTLET
SQ	SQUARE
SS	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STR	STRUCTURE
SUB	SUBSTATION
SURF	SURFACE
SW	SIDEWALK/SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL

T

T	TRIP/TOP
TB	TERMINAL BLOCK
TBB	THRIE BEAM BARRIER
TC	TIME CLOCK
TCO	TEMPORARY CERTIFICATE OF OCCUPANCY
TELE	TELEPHONE
TEMP	TEMPERATURE/TEMPORARY
TERM	TERMINAL
THRU	THROUGH
TOC	TOP OF CURB/TOP OF CONCRETE/TOP OF CIRCUIT
TOPKO	TIDELANDS OPERATION COMPANY
TOSCO	TOSCO REFINERY COMPANY
TP	TELEPHONE POLE
TRK	TRACK
TS	TRAFFIC SIGNAL/TUBULAR STEEL
TVSS	TRANSIENT VOLTAGE WORKER IDENTIFICATION CREDENTIAL
TWIC	TRANSPORTATION WORKER IDENTIFICATION CREDENTIAL
TYP	TYPICAL

U

UG	UNDERGROUND
UGPS	UNDERGROUND PULL SECTION
UGS	UNDERGROUND STRUCTURE
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED

V

V	VALVE/VENT/VOLT/VOLTMETER
VA	VOLT-AMPERES
VAR	VARIABLE
VD	VOLTAGE DROP
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VT	VOLTAGE TRANSFORMER

W

W	WATT/WIRE
W/	WITH
W/O	WITHOUT
WC	WHARF CONE PENETROMETER TEST
WH	WATT HOUR
WOB	WHARF OFFSHORE BORING
WOSA	WEST OIL SET-ASIDE AREA
WP	WEATHERPROOF

X

XFMR	TRANSFORMER
XP	EXPLOSION PROOF
XTMR	TRANSMITTER

Z

Z	IMPEDANCE

Michael Baker
INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

LICENSED ARCHITECT
WAYNE T. FRANK
C-34530
08-31-2025
RENEWAL DATE
STATE OF CALIFORNIA
SEAL 12/5/2024

CLINT C. HERRERA P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025
DATE

Port of LONG BEACH
THE PORT OF CHOICE

SPEC. NO.: HD-S3195
CADD STD. VER.: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR.: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV.: DATE:
CHECKED BY: MG DATE: 11/26/2024
DRAWN BY: ST DATE: 11/26/2024
DESIGNED BY: ST POLB DM: VL
DESIGN MGR.: MG POLB PM: MS
VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
ELECTRICAL ABBREVIATIONS

10-02464-GN005

SHEET 05 OF 85

ABBREVIATIONS

A

AB	AGGREGATE BASE; ANCHOR BOLT
ABAN	ABANDON(ED)
ABUT	ABUTMENT
AC	ASPHALT(IC) CONCRETE; ALTERNATING CURRENT; ASBESTOS CEMENT
ACP	ASBESTOS CEMENT PIPE
AGGR	AGGREGATE
AHD	AHEAD
ALUM	ALUMINUM
APROX	APPROXIMATE
AP	ANGLE POINT; ACCESS PANEL; APARTMENT PASSENGER ELEVATOR
ARCO	ATLANTIC RICHFIELD COMPANY
AREMA	AMERICAN RAILWAY ENGINEERING AND MAINTENANCE ASSOCIATION
ASC	ABOVE SUSPENDED CEILING
ASD	ALLOWABLE STRESS DESIGN
AT	AMPERE TRIP
AUX	AUXILIARY
AW	ABOVE WATER

B

BC	BEGINNING OF CURVE
BCR	BEGIN CURB RETURN
BEG	BEGIN(NING)
BFP	BACKFLOW PREVENTER
BIT	BITUMINOUS
BK	BACK
BL	BASELINE
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCH MARK; BEAM
BNSF	BURLINGTON NORTHERN SANTA FE RAILWAY COMPANY
BO	BLOW-OFF VALVE
BOP	BOTTOM OF PIPE
BOW	BOTTOM OF WALL; BACK OF WALK
BRG	BEARING
BRK	BRICK
BS	BRASS; BELL AND SPIGOT
BSMT	BASEMENT
BVC	BEGIN VERTICAL CURVE

C

C&G	CURB & GUTTER
CA	COMPRESSED AIR
CB	CATCH BASIN; CIRCUIT BREAKERS
CC	CENTER TO CENTER; CENTER OF CIRCULAR SYSTEM
CCS	CALIFORNIA COORDINATE SYSTEM
CF	CURB FACE
C.O.	CONDUIT ONLY
CG	CENTER OF GRAVITY; CONER GUARD
CI	CAST IRON
CIP	CAST-IN-PLACE; CAST IRON PIPE
CJ	CONSTRUCTION JOINT; CONTROL JOINT
CLB	CITY OF LONG BEACH
CLF	CHAIN LINK FENCE
CLG	CEILING
CLR	CLEARANCE; CLEAR; CLEAR DISTANCE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COL	COLUMN
COMBI	COMBINATION
COMP	COMPACTED; COMPRESSION
CONC	CONCRETE
COND	CONDITION; CONDUIT
CONN	CONNECTOR
CONST	CONSTRUCTION; CONSTRUCT
CONV	CONVECTOR
COORD	COORDINATE
CORR	CORRIDOR; CORRUGATE(D)
CS	CORK SHEET; POINT OF CHANGE FROM CIRCULAR CURVE TO SPIRAL
CRB	CEMENTITIOUS ROOF BOARD
CSG	CASING
CSW	CONCRETE SIDEWALK
CWR	CONTINUOUS WELDED RAIL

D

DB	DUCT BANK
DC	CIRECT CURRENT
DEPT	DEPARTMENT
DET	DETAIL(S); DETOUR
DF	DRINKING FOUNTAIN
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIP	DUCTIL IRON PIPE
DIST	DISTANCE; DISTRIBUTION
DMH	DRAINAGE MANHOLE
DN	DOWN
DWGS	DRAWINGS
DWL	DOWEL; DOWELLING

E

EB	END OF BRIDGE; EASTBOUND
EC	END OF CURVE; EXPOSED CONSTRUCTION

E (CONT.)

EB	END OF BRIDGE; EASTBOUND
EC	END OF CURVE; EXPOSED CONSTRUCTION
ECR	END OF CURB RETURN
E	EAST; EASTING
EL	ELEVATION
ELEC	ELECTRICAL; ELECTRIC
ELEV	ELEVATOR
EMBEB	EBEDDED; EMBEDMENT
EMH	ELECTRICAL MANHOLE
EP OR EOP	EDGE OF PAVEMENT
EQ	EQUAL; EQUAL DISTANCE
ET	END TRACK
ETC	ETCETERA
EVC	END OF VERTICAL
EXIST	EXISTING
EXPN	EXPANSION
EXT	EXTERIOR

F

FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAI	FRESH AIR INTAKE
FE	FIRE EXTINGUISHER
FG	FINISHED GRADE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FL	FLOW LINE
FLA	FULL LOAD AMPERE
FLMT	FLUSH MOUNTED
FLS	FLOOR SEALER
FOC	FACE OF CURB
FPM	FEET PER MINUTE
FRTW	FIRE RETARDENT TREATED WOOD
FSE	FOOD SERVICE EQUIPMENT
FTG	FOOTING

G

G	GALLON(S)
GALV	GALVANIZED
GALV STL	HOT-DIP GALVANIZED STRUCTURAL STUDS
GATX	GATX CORPORATION
GEN	GENERAL; GENERATOR
GPH	GALLONS PER HOUR
GRD	GRADE
GTE	GENERAL TELEPHONE ELECTRIC (NOW VERIZON)
GWB	GYPSUM WALLBOARD
GYP BD	GYPSUM BOARD

H

HDF	HIGH DENSITY GLASS FIBER BOARD
HDG	HOT DIP GALVANIZED
HGL	HYDRAULIC GRADE LINE
HM	HOLLOW METAL
HP	HIGH POINT; HIGH PRESSURE; HORSE POWER; HEEL PLATE
HV	HIGH VOLTAGE
HS	HIGH STRENGTH; HORSE POWER; HEAT PUMP
HPG	HIGH PRESSURE GAS
HT	HEIGHT
HTTO	HAND THROWN TURNOUT

I

IF	INSIDE FACE
IG	ISOLATED GROUND
IH	INTER HARBOR
IG	ISOLATED GROUND
INCL	INCLUDE(D); INCLUSIVE; INCLUDING
IR	INSTALLATION RESTORATION
IRR	IRRIGATION

J

JCT	JUNCTION

K

K	KIPS; DISTANCE FROM TS TO PC ALONG TANGENT
KDD	KNOCK DOWN DREDGING

L

L	LENGTH; LINE; LENGTH OF CURVE; PILE LENGTH (FOR PILEPICKUP DETAIL ONLY)
LADWP	LOS ANGELES DEPARTMENT OF WATER & POWER
LCB	LEAN CONCRETE BASE
LH	LEFT HAND; LAMP HOLE
LIN	LINEAR
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LS	TOTAL LENGTH OF SPIRAL CURVE
LT	LONG TANGENT; LEFT
LV	LENGTH OF VERTICAL CURVE
LVR	LOUVER(ED)

M

MATL	MATERIAL
MAX	MAXIMUM
MC	MISCELLANEOUS CHANNEL
MFR	MANUFACTURER

M

MHWL	MEAN HIGHER WATER LINE
MJ	MECHANICAL JOINT
MKR	MARKER
ML	METAL LATH
MPH	MILE PER HOUR
MTD	MOUNTED

N

N	NORTH
N/A	NOT APPLICABLE
NB	NORTHBOUND
NF	NEAR FACE
NIC	NOT IN CONTRACT
N/N	NORTH OF NORTH RIGHT-OF-WAY LINE
N/O	NORTH OF
NO. OR #	NUMBER
NRCP	NON-REINFORCED CONCRETE PIPE
NS	NEAR SIDE
N/S	NORTH OF SOUTH RIGHT-OF-WAY LINE
NTS	NOT TO SCALE

O

OF	OUTSIDE OF FACE
OFF	OFFICE
OPR	OPERATING; OPERABLE
OS/F	OFFICE SERVICE/FIRE ELEVATOR

P

PC	POINT OF CURVATURE; PAINT COLOR
PCL	PRIMARY CONTROL LINE
PCR	PACIFIC COAST RECYCLING
PCVC	POINT OF COMPOUND VERTICAL
PERP	PERPENDICULAR
PF	POWER FACTOR; POINT OF FROG
PFCC	POWER FACTOR CORRECTION CAPACITOR
PHL	PIER HEAD LINE; PACIFIC HARBOR LINES
PIANC	PERMANENT INTERNATIONAL ASSOCIATION OF NAVIGATION CONGRESSES
PL	PLATE; PROPERTY LINE; PLASTIC LAMINATE
PLC	PROGRAMMABLE LOGIC CONTROLLER, PROGRAMMABLE
PMH	LIGHTING CONTROLLER; POLISHED CONCRETE
POT	POWER MANHOLE POINT OF TANGENT
PR	PAIR
PRC	POINT OF REVERSE CURVE
PREFAB	PREGABRICATED
PRKG	PARKING
PRVC	POINT OF REVERSE VERTICAL CURVE
PT	POINT OF TANGENCY; POTENTIAL TRANSFORMER; PAINTED; POST TENSIONED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE (PIPE)
PVG	PAVING
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT

Q

QS	CENTRAL ANGLE OR SPIRAL OR SPIRAL ANGLE
QT	QUARRY TILE

R

RB	RESILIENT BASE
RCP	REINFORCED CONCRETE PIPE
RDRL	ROCK DIKE REFERENCE LINE
REG	REGISTER
REV	REVISED; REVISION
RH	RIGHT HAND
RMX	RESIN MATRIX
RND	ROUND(ED)
RP	RETAIL PASSENGER ELEVATOR
RLA	RUNNING LOAD AMPS

S

S	SOUTH; SLOPE
S&I	SERVICE & INSPECTION
SA	SURGE ARRESTER; SUPPLY AIR; SERVICE AISLE
SC	SEALED CONCRETE; POINT OF CHANGE FROM SPIRAL TO CIRCULAR CURVE
SCCP	STEEL CYLINDER CONCRETE PIPE
SMR	SHEET METAL ROOFING
SD	STORM DRAIN
SE	SEALANT
SEC	SECOND
SGL	SUB-GRADE LINE
SHR	SHOWER
SI	INTERNATIONAL SYSTEM OF UNITS
SIM	SIMILAR
SLDG	SLIDE; SLIDING
SDHM	STORM DRAIN & MANHOLE
SPC	SYNTHETIC POLYMER COUNTERTOP
SPCG	SPACING
SS	SANITARY SEWER; STRUCTURAL STEEL; POINT OF CHANGE FROM SPIRAL TO SPIRAL
SSP	STEEL SHEET PILE; SHIP SHORE POWER
ST	STREET; POINT OF CHANGE FROM SPIRAL TO TANGENT

S

STA	STATION
STC	SOUND TRANSMISSION CLASS
STOR	STORAGE
SURF	SURFACE
SURF MTD	SURFACE MOUNTED
SW	SIDEWALK; SWITCH; SOUTHWEST
SWR	SALT WATER
SYMM	SYMMETRICAL

T

T	TOP; TREAD; TOTAL CURVE TANGEN DISTANCE OF OMPLETE CURVE
T/	TOP OF
TBD	TO BE DETERMINED
TCB	TRAFFIC CONTROL BOX
TF	TRACK FOOT
THRES	THRESHOLD
THRU	THROUGH
TL	TOTAL LENGTH OF CURVE (SPIRAL & CIRCULAR PORTIONS)
TOC	TOP OF CURB; TOP OF CONCRETE; TOP OF CONDUIT
TOG	TOP OF GRATE
TOPO	TOPOGRAPHY MAP
TOP	TOP OF RAIL
TOSCO	TOSCO REFINERY COMPANY
TOT	TOTAL
TOW	TOP OF WALL
TP	TELEPHONE POLE
TS	TRAFFIC SIGNAL; POINT OF CHANGE FROM TANGGENT TO SPIRAL
TYP	TYPICAL

U

UL	UNDERWRITERS LABORATORIES
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UPRR	UNION PACIFIC RAILROAD
UPS	UNNINTERRUPTED POWER SUPPLY

V

V	VALVE; VOLTS; VOLT; VENT
VB	VALVE BOX
VC	VERTICAL CURVE
VAC	VALVE; VOLTS; VOLT; VENT
VAR	VACUUM
VC	VARIABLE; VARIES
VCP	VERTIVAL CURVE
VERT	VERTIFIED CLAY PIPE; VERTICAL POINT OF CURVATURE
VPT	VERTICAL POINT OF TANGENCY

W

WI	WATER INJECTION; WROUGHT IRON
WKP	WALKWAY PADS
WM	WATER METER
WS	WEATHER STRIP)PING); WATER SERVICE
WT	WEIGHT
WWM	WELDED WIRE MESH

Y

YS	TANGENT OFFSET AT SC OR CS

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MARK	DATE	BY	REVISION DESCRIPTION

LICENSED ARCHITECT WAYNE T. FRANK C-34530 08-31-2025 RENEWAL DATE STATE OF CALIFORNIA

SEAL 12/5/2024

CLINT C. HERRERA P.E. NO. C-61471 DIRECTOR OF ENGINEERING DESIGN

DATE 1/27/2025

Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO: HD-S3195
CADD STD. VER: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV: DATE:
CHECKED BY: MG DATE: 11/26/2024
DRAWN BY: ST DATE: 11/26/2024
DESIGNED BY: ST POLB DM: VL
DESIGN MGR: MG POLB PM: MS
VERTICAL CONTROL: NGVD 29 MLLW

**725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
RAILROAD ABBREVIATIONS**

10-02464-GN006

SEWER ABBREVIATIONS

A

ABN	ABANDON

C

CO	CLEAN OUT

D

DIA/Ø	DIAMETER
DIP	DUCTILE IRON PIPE

F

FM	FORCE MAIN
FT	FOOT;FEET

H

HDPE	HIGH DENSITY POLYETHYLENE

I

IE	INVERT ELEVATION
IN	INCH
INV	INVERT

J

JT	JOINT

L

LBWD	LONG BEACH WATER DEPARTMENT
LDCC	LOW DENSITY CELLULAR CONRETE
LF	LINEAR FOOR

M

MH	MANHOLE

S

SS	SANITARY SEWER/STRUCTURAL STEEL/STAINLESS STEEL
SMH	SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE

V

VCP	VITR(F)IED CLAY PIPE

WATER ABBREVIATIONS

A

ABN	ABANDON
ACP	ASBESTOS CEMENT PIPE

B

BO	BLOW-OFF VALVE
BV	BUTTERFLY VALVE

C

CL	CENTERLINE
CML	CEMENT MORTAR LINED

D

DIA/Ø	DIAMETER
DIP	CUTILE IRON PIPE

E

EL/ELEV	ELEVATION

F

FH	FIRE HYDRANT
FLG	FLANGE
FT	FOOT; FEET
FW	FIRE WATER

G

GB	GRADE BREAK
GV	GATE VALVE

I

ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE INCH
IN	INCH
INV	INVERT

J

JT	JOINT

L

LF	LINEAL FOOT

M

MJ	MECHANICAL JOINT
MHWL	MEAN HIGH WATER LEVEL

N

NTS	NOT TO SCALE

O

OC/O.C.	ON CENTER
OD	OUTSIDE DIAMETER

P

PE	POLYETHYLENE (PIPE) PLAN END
PL	PLATE; PROPERTY LINE
PP	POWER POLE
POLB	PORT OF LONG BEACH
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE

R

R	RADIUS
RPP	REDUCED PRESSURE PRINCIPLE
RV	AIR RELEASE/VACUUM VALVE

S

SCCP	STEEL CYLINDER CONRETE PIPE
SEC	SECTION

W

WV	WATER VALVE

Michael Baker
INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

LICENSED ARCHITECT
WAYNE T. FRANK
C-34530
08-31-2025
RENEWAL DATE
STATE OF CALIFORNIA
SEAL 12/5/2024

CLINT C. HERRERA P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025 DATE

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THE PORT OF CHOICE

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725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
SEWER & WATER ABBREVIATIONS

10-02464-GN007

SHEET 07 OF 85

ABBREVIATIONS

&	AND
∠	ANGLE
@	AT

A

ABN	ABANDON
AC	ASPHALT CONCRETE
ADDL	ADDITIONAL
ADJ	ADJACENT
AGGR	AGGREGATE
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
AP	ANGLE POINT
APPVD	APPROVED
APPROX	APPROXIMATE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVE	AVENUE
AVG	AVERAGE

B

BB	BEGIN BRIDGE
BC	NEGINNING OF CURVE
BD	BOARD
BLDG	BUILDING
BLK	BLOCK/BLOCKING
BM	BENCH MARK/BEAM
BOT/B	BOTTOM
BOC	BACK/BOTTOM OF CURB
BOM	BOTTOM OF MAT
BOP	BOTTOM OF PIPE
BRG	BEARING
BTW/BTWN	BETWEEN
BVC	BEGIN TO VERTICAL CURVE ELEVATION
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION

C

CAB	CRUSHED AGGREGATE BASE
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CAP	CAPACITY
CB	CATCH BASIN
CC	CENTER TO CENTER
CCS	CALIFORNIA COORDINATE SYSTEM
CDF	CONTROL DESITY FILL
CG	CENTER OF GRAVITY
CIP	CAST-IN-PLACE/CAST IRON PIPE
CJ	CONSTRUCTION JOINT/CONTROL JOINT
℄	CENTERLINE
CLB	CITY OF LONG BEACH
CLR	CLEARANCE/CLEAR
CMB	CRUSHED MISCELLANEOUS BASE
CMP	CORRGUATED METAL PIPE
COL	COLUMN
COMM	COMMUNICATIONS
COMP	COMPACTED COMPRESSION
CONC	CONCRETE
COND	CONDITION
CONST	CONSTRUCTION
CONT	CONTINUE/CONTINUOUS
CONT	CONTRACTOR
CPT/CPTS	CONE PENETROMETER TEST
CAG	CASING
CTR	CENTER
CTL	CONTROL
CTSK	COUNTERSINK/COUNTERSUL
CU FT	CUBIC FOOT
CY	CUBIC YARD

D

DBL	DOUBLE
DC	DEGREE OF CURVE
DEPT	DEPARTMENT
DET	DETAIL
DIA/Ø	DIAMETER
DI	DRAINAGE INLET
DIAG	DIAGONAL
DIM	DIM
DIST	DISTANCE/DISTRIBUTION
DN	DOWN
DP	DEEP
DWG	DRAWING
DWL	DOWEL
DWY	DRIVEWAY

E

E	EAST/EASTING
EXIST	EXISTING
EA	EACH
EB	END OF BRIDGE
EC	END OF CURVE
ECR	END OF CURVE RETURN
ED	EXTERNAL DISTANCES
EF	EACH FACE
EG	EXISTING GRADE
EL	ELEV. ELEVATION

E (CONT.)

ENGR	ENGINEER
EP/EOP	EDGE OF PAVEMENT
EPTC	EDISON PIPELINE TERMINAL COMPANY
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
ETC	ETCETERA
EVC	END OF VERTICAL CURVE
EVCE	END VERTICAL CURVE REVATION
EVCS	END VERTICAL CURVE STATION
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR

F

FF	FAR FACE
FIN	FINISH
FL	FLOWLINE
FLG	FLANGE
FM	FORCE MAIN
FO	FIBER OPTIC
FS	FAR SIDE
FT	FOOT/FEET
FTG	FOOTING
FW	FIRE WATER

G

G	GAS
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BREAK
GND	GROUND
GIS	GEOGRAPHICAL INFORMATION SYSTEM
GPS	GLOBAL POSITIONING SYSTEM

H

H/HORIZ	HORIZONTAL
HDPE	HIGH DENSITU POLYETHYLENE
HP	HIGH POINT/HE SHAPRE: HIGH PRESSURE
HS	HIGH STRENGTH
HT	HEIGHT

I

ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IN	INCH
INCL	INCLUDE
INFO	INFORMATION
INV	INVERT

J

JS	JUNCTION STRUCTURE
JT	JOINT

L

LBGO	LONG BEACH GAS & OIL
LBWD	LONG BEACH WATER DEPARTMENT
LF	LINEAR FOOT
LH	LEFT HAND
LIN	LINEAR
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LIGHT POLE
LIQ/LIQ.	LIQUID
LT	LONG TANGENT

M

MAT	MATERIAL
MAX	MAXIMUM
MC	MISCELLANEOUS CHANNEL
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM/MINUTE
MISC	MISCELLANEOUS
MH	MANHOLE
MHHW	MEAN HIGHER HIGH WATER

N

N	NORTHING
(N)	NEW
NAD	NATIONAL AMERICAN DATUM
NAT/NAT.	NATURAL
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
NO./#	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE

O

OC/O.C.	ON CENTER

O (CONT.)

OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING

P

PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PE	POLYETHYLENE (PIPE)
PERP	PERPENDICULAR
PHL	PIER HEAD LINE/PACIFIC HARBOR LINE
P.J.	POINT OF INTERSECTION OF TWO TANGENTS
PITD	POINT OF INTERSECTION OF TURNOUT
PL	PLATE/PROPERTY LINE
POLB	PORT OF LONG BEACH
PS	PUMP STATION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE (PIPE)
PVI	POINT OF VERTICAL ADJUSTMENT
PVMT	PAVEMENT

Q

QR	QUARRY RUN

R

R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RDRL	ROC KDIKE REFERENCE LINE
REINF	REINFORCE/REINFORCING
REQ'D	REQUIRED
RET	RETAINING
RH	RIGHT HAND
ROW	RIGHT OF WAY
RR	RAILROAD

S

S	SOUTH
SALV	SALVAGE
SB	SOUTHBOUND
SCE	SOUTHERN CALIFORNIA EDISON
SCHED	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SEC	SECTION
SECD	SECOND
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SP	SP (TRACK)
SPCG	SPACING
SPECS	SPECIFICATIONS
SQ	SQUARE FEET
SS	SANITARY SEWER
SSPWC	PUBLIC WORK CONSTRUCTION
ST	STREET
STA	STATION
STD	STANDARD
STIRR	STIRRUP
STL	STEEL
STR	STRUCTURAL/STRUCTURE
SURF	SURFACE
SW	SIDEWALK
SWR	SALT WATER

T

T	TOP
T&B	TOP AND BOTTOM
TELE	TELEPHONE
TO	TURNOUT
TOC/TC	TOP OF CURB/TOP OF CONCRETE
TOG	TOP OF GRATE
TOP	TOP OF RAIL
THRU	THROUGH
TOPKO	TIDELANDS OIL PRODUCTION COMPANY
TOS	TOP OF STEEL/TOP OF SLOPE
TOSCO	TOSCO REFINERY COMPANY
TOW	TOP OF WALL
TP	TELEPHONE POLE
TRK	TRACK
TS	TRAFFIC SIGNAL/TUBULAR STEEL
TV/T.V.	TELEVISION
TYP	TYPICAL

U

UG	UNDERGROUND
UNO/U.N.O.	UNLESS NOTED OTHERWISE

V

V	VALVE
VAR	VARIABLE
VERT	VERTICAL
VC	VERTICAL CURVE
VCP	VIRTIFIED CLAY PIPE

V

VIF	VERIFIED IN FIELD
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENT

W

W/	WITH
W/O	WITHOUT
WP	WORK POINT
WWF/EWWF	WELDED WIRE FABRIC
W.W.M.	WELDED WIRE MESH
WQU	WATER QUALITY UNIT

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725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
STORM DRAIN ABBREVIATIONS

10-02464-GN008

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ABBREVIATIONS

&	AND
(E)	EXISTING
(N)	NEW
∠	ANGLE
℄	CENTER LINE
@	AT
S/L	STATION LINE

A

AB	AGGREGATE BASE
ABN	ABANDON
AC	ASPHALT CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT
AGGR	AGGREGATE
ALT	ALTERNATE
APPROX	APPROXIMATE
APPVD	APPROVED
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARCO	ATLANTIC RICHFIELD CORPORATION
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVE	AVENUE

B

BC	BEGINNING OF CURVE
BCR	BEGINNING CURB RETURN
BEG	BEGIN
BK	BACK
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICES
BOC	BACK/BOTTOM OF CURB
BOP	BOTTOM OF PIPE
BOT/B	BOTTOM
BP	BEYOND PETROLEUM; BRITISH PETROLEUM
BTW/TWN	BETWEEN
BVC	BEGIN VERTICAL CURVE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION

C

C&G	CURB & GUTTER
CAB	CRUSHED AGGREGATE BASE
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CB	CATCH BASIN
CDF	CONTROL DENSITY FILL
CI	CAST IRON
CIP	CAST-IN-PLACE/ CAST IRON PIPE
CIPCP	CAST IN PLACE CONCRETE PIPE
CJ	CONSTRUCTION JOINT; CONTROL JOINT
CLB	CITY OF LONG BEACH
CLF	CHAIN LINK FENCE
CLS	CLASS
CLR	CLEAR
CMB	CRUSHED MISCELLANEOUS BASE
CMP	CHANGEABLE MESSAGE SIGN
COMM	COMMUNICATIONS
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUE; CONTINUOUS
COORD	COORDINATE
CRCP	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
CTR	CENTER
CU FT/CF	CUBIC FOOT
CULV	CULVERT
CY	CUBIC YARD

D

DBL	DOUBLE
DC	DEGREE OF CURVE
DEPR	DEPRESSION
DEPT	DEPARTMENT
DET	DET
DI	DOP INLET
DIA/Ø	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
DR	DRIVE
DWG	DRAWING
DWY	DRIVEWAY

E

E	EAST OR EASTING
EA	EACH
EB	EASTBOUND
EC	END OF CURVE
ECR	END OF CURB RETURN
EG	EXISTING GRADE OR EDGE OF GUTTER
EL/ELEV.	ELEVATION

E (CONT.)

ELEC	ELECTRICAL
ENGR	ENGINEER
EP/EOP	EDGE OF PAVEMENT
EPTC	EDISON PIPELINE & TERMINAL COMPANY
EQ	EQUAL
ETC	ETCETERA
ETW	END OF VERTICAL CURVE
EVC	EDGE OF TRAVEL WAY
EVCE	END OF VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX/EXIST	EXISTING
EXT	EXTERIOR

F

FF	FILTER FABRIC OR FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FO	FIBER OPTIC
FRAC	FIBER REINFORCED ASPHALT CONCRETE
FT	FOOT OR FEET
FW	FIRE WATER
FWY	FREEWAY

G

G	GAS
GB	GRADE BREAK
GIS	GEOGRAPHICAL INFORMATION SYSTEM
GR	GUARD RAIL

H

H/HORZ	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT M IX ASPHALT
HOF	HORIZONTAL OUTSIDE FACE
HOV	HIGH POINT
HP	HIGH OCCUPANCY ANCHOR
HSA	HEADED STUD ANCHOR
HSB	HIGH STRENGTH BOLT
HT	HEIGHT

I

IE	INTERIOR ELEVATION
IN	INCH
INCL	INCLUDE
INFO	INFORMATION
INV	INVERT
IRR	IRRIGATION

J

JCT	JUNCTION
JPCP	JOINTED PLAIN CONCRETE PAVEMENT
JS	JUNCTION STRUCTURE
JT	JOINT

L

L	LENGTH
LBWD	LONG BEACH WATER DEVELOPMENT
LCB	LINEAR FOOT
LIN	LINEAR
LP	LOW POINT OR LIGHT POLE
LS	TOTAL LENGTH OR SPIRAL/LUMP SUM
LT	LONG TANGENT/LEFT

M

MAINT	MAINTENANCE
MAT	MATERIAL
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MHWL	MEAN HIGH WATER LINE
MIN	MINIMUM
MISC	MISCELLANEOUS
MVP	MAINTENANCE VEHICLE PULLOUT

N

N	NORTH OR NORTHING
NAD	NORTH AMERICAN DATUM
NAT/NAT.	NATURAL
NR	NORTHBOUND
NO./#	NUMBER
NF	NEAR FACE
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE

O

OC/O.C.	ON CENTER/OVERCROSSING
OH	OVER HEAD

P

PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCR	PACIFIC COAST RECYCLING
PE	POLYTETHYLENE (PIPE)
PED	PEDESTRIAN
PERP	PERPENDICULAR
PHL	PACIFIC HARBOR LINES
PI	POINT OF INTERSECTION
PITO	POINT OF INTERSECTION OF TURNOUT
PKWY	PARKWAY
PL	PROPERTY LINE
POLB	PORT OF LONG BEACH
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PRVC	POINT OF REVERSE VERTICAL CURVATURE
PSI	POUNDS PER SQUARE INCH
PI	POINT OF TENGENCY
PVC	POLYVINYL CHLORIDE (PIPE)
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT

Q

QR	QUARRY RUN

R

R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDRL	ROCK DIKE REFERENCE LINE
REQ'D	REQUIRED
RET	RETAINING
ROW	RIGHT OF WAY
RR	RAILROAD
RT	RIGHT

S

S	SOUTH
SALV	SALVAGE
SB	SOUTHBOUND
SCE	SOUTHERN CALIFORNIA EDISON
SD	STORM DRAIN
SEC	SECTION OR SECOND
SF	SQAURE FEET
SHT	SHEET
SIG	SIGNAL
SL	STATION LINE
SP	SPUR (TRACK)
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	SANITARY SEWER OR STRUCTURAL STEEL OR STAINLESS STEEL
SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION
ST	STREET
STA	STATION
STD	STANDARD
SURF	SURFACE
SW	SIDEWALK

T

T	TOP
TC	TOP OF CURB
TELE	TELEPHONE
TEMP	TEMPERATURE OR TEMPORARY
TG	TOP OF GRATE
THRU	THROUGH
TO	TURNOUT
TOC	TOP OF CONCRETE
TOPKO	TIDELANDS OIL PRODUCTION COMPANY
TOS	TOSCO REFINERY COMPANY
TP	TELEPHONE POLE
TRANS	TRANSITION
TRK	TRACK
TS	TRAFFIC SIGNAL
TV	TELEVISION
TW	TOP OF WALL
TYP	TYPICAL

U

UG	UNDERGROUND

V

V	VALVE
VAR	VARIABLE
VC	VERTICAL CURVE
VCP	VIRTIFIED CLAY PIPE
VPC	VERTICAL POINT OF CURVATURE
VERT	VERTICAL
VIF	VERTICAL INSIDE FACE OR VERIFY IN FIELD
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

W

W	WEST
W/O	WITHOUT

W (CONT.)

WV	WATER VALVE

X

XING	CROSSING

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725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
STREET ABBREVIATIONS

10-02464-GN009

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ABBREVIATIONS

A

AB	ANCHOR BOLT
ACI	AMERICAN CONRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ASD	ALLOWABLE STRESS DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY

B

BOF	BOTTOM OF FOUNDATION
BOT; B	BOTTOM
BRG	BEARING
BRKT	BRACKET

C

CF	CUBIC FEET
CHAM	CHAMFER
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CY	CUBIC YARD

D

DEPR	DEPRESSION
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DL	DEVELOPMENT LENGTH; DEAD LOAD
DWL	DOWEL

E

EA	EACH
EE	EACH END
EF	EACH FACE
EL	ELEVATION
EMBD	EMBEDMENT
EOS	EDGE OF SLAB
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXP BOLT;EB	EXPANSION BOLT
EXP JT; EJ	EXPANSION JOINT

F

FF	FAR FACE
FG	FINISHED GRADE
FIN	FINISH
FL	FLOOR
FND	FOUNDATION
FRG	FRAMING
FS	FAR SIDE; FINISHED FACE
FT	FOOT; FEET
FTG	FOOTING

G

GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GP	GUSSET PLATE
GR	GRADE

H

HEF	HORIZONTAL EACH FACE
HIF	HORIZONTAL INSIDE FACE
HOF	HORIZONTAL OUTSIDE FACE
HOR	HORIZONTAL
HP	HIGHT POINT
HS	HIGH STRENGTH
HSA	HEADED STUD ANCHOR
HSB	HIGH STRENGTH BOLT
HT	HEIGHT

I

ID	INSIDE DIAMETER
IN	INSIDE
IN2	SQUARE INCHES
IN3	CUBIC INCHES
INV	INVERT

J

J	JOINT

J

JT	JOINT

K

K; KIP	KILOPOUND (1,000 POOUNDS)
KLF	KIPS PER LINEAR FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH

L

LB; LBS	POUNDS
LF	LINEAR FOOT
LL	LIVE LOAD
LLBB	LONG LEG BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
LSH	LONG SLOTTED HOLES
LW	LIGHT WEIGHT
LWC	LIGHT WEIGHT CONCRETE

M

M	METER
M2	SQUARE METERS
M3	CUBIC METERS
MAS	MASONRY
MM	MILIMETER
MM2	SQUARE MILIMETERS
MM3	CUBIC MILIMETERS
MTL	METAL

N

NF	NEAR FACE
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NWC	NORMAL WEIGHT CONCRETE

O

OF	OUTSIDE FACE
O/O	OUT TO OUT
OC	ON CENTER
OD	OUTSIDE TO DIAMETER
OPNG	OPENING
OPP	OPPOSITE
OW	OPEN WEB

P

PC	PILE CAP
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQAURE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE

R

R	RADIUS
RE	RIGHT END
REINF	REINFORCED
RET	RETURN
RETG	RETAINING

S

SC	SHEAR CONNECTOR
SEC	SECTION
SF	SQUARE FEET
SHEET	SHEET
SIM	SIMILAR
SL	SPLICE LENGTH
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STR	STRUCTURAL
SUP	SUPPORT
SY	SQUARE YARD
SYM	SYMMETRICAL

T

T	SHORT TON; TOP
t	METRIC TON
T&B	TOP AND BOTTOM
T/	TOP OF
TB	TIE BEAM
THK	THICK OR THICKNESS
THRD	THREADED
TOC	TOP OF CONCRETE
TOF	TOP OF FOUNDATION
TOS	TOP OF STEEL
TOW	TOP OF WALL

T (CONT.)

TRAN	TRANSVERSE
TYP	TYPICAL

U

UNO	VERTICAL NOTED OTHERWISE
US	UNDERSIDE

V

VEF	VERTICAL EACH FACE
VIF	VERTICAL INSIDE FACE; VERIFY IN FIELD
VOF	VERTICAL OUTSIDE FACE

W

W/	WITH
W/O	WITHOUT
WP	WORKING POINT
WWF	WELDED WIRE FABRIC

Y

YD	YARD

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PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
STRUCTURAL ABBREVIATIONS

10-02464-GN010

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ABBREVIATIONS

C

CFM	CUBIC FEET PER MINUTE

D

DFU	DRAINAGE FIXTURE UNITS

E

EA	EXHAUST AIR

O

OA	OUTSIDE AIR

S

SA	SUPPLY AIR
SFU	SUPPLY FIXTURE UNITS
SP	STATIC PRESSURE

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725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
MECHANICAL ABBREVIATIONS

10-02464-GN011

SHEET 11 OF 85

1. **PROJECT NAME**
PORT OF LONG BEACH, PIER H MAINTENANCE BUILDING C, PUMP SHOP CONVERSION.

2. **PROJECT DESCRIPTION**
THE FACILITY HAS BEEN ANALYZED FOR LIFE SAFETY AND FIRE PROTECTION REQUIREMENTS USING THE CODES AND STANDARDS LISTED BELOW.

3. **APPLICABLE CODES AND STANDARDS**
- CALIFORNIA STATE BUILDING CODE (CBC), 2022 EDITION
- CALIFORNIA EXISTING BUILDING CODE, 2022 EDITION
- CALIFORNIA FIRE CODE, 2022 EDITION
- NFPA 10 - STANDARD FOR PORTABLE FIRE EXTINGUISHERS, 2021 EDITION
- NFPA 13 - STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS, 2022 EDITION
- NFPA 25 - STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER BASED FIRE PROTECTION SYSTEMS, 2020 EDITION
- NFPA 30 - FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE, 2021 EDITION
- NFPA 30A - CODE FOR MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES, 2021 EDITION
- NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE, 2022 EDITION

4. **CLASSIFICATION OF WORK**
THIS PROJECT INCLUDES DEMOLITION, ALTERATION, AND CHANGE OF OCCUPANCY OF AN EXISTING FACILITY. WORK IN EXISTING FACILITIES SHALL CONFORM TO THE CALIFORNIA EXISTING BUILDING CODE.

5. **OCCUPANCY CLASSIFICATION (NONSEPARATED, MIXED USE)**
MODERATE HAZARD FACTORY INDUSTRIAL, GROUP F-1 (CBC – SECTION 306)
BUSINESS GROUP B (CBC - SECTION 304)
STORAGE S-1 (CBC - SECTION 311)

6. **CONSTRUCTION TYPE (CBC 602.2)**
TYPE IIB

7. **AREA AND HEIGHT LIMITATIONS (CBC TABLE 504.3, TABLE 504.4, AND TABLE 506.2)**

ALLOWABLE AREA CALCULATIONS FOR CONSTRUCTION TYPE II-B			
OCCUPANCY TYPE	BASE ALLOWABLE AREA (SPRINKLERED, SINGLE STORY, SQ. FT)	FRONTAGE ALLOWANCE INCREASE (SQ. FT)	ACTUAL FIRST FLOOR AREA (SQ. FT)
FACTORY F-1	62,000	SEE NOTE 1	3,185
BUSINESS B	92,000	SEE NOTE 1	270
STORAGE S-1	70,000	SEE NOTE 1	25,134
TOTAL AREA (SQ. FT)			28,589

NOTES:
1. ACTUAL BUILDING SQUARE FOOTAGE IS LESS THAN THE ALLOWABLE AREA FOR THE BUILDING OCCUPANCY, PRIOR TO THE ADDITION OF FRONTAGE INCREASE, THEREFORE, THE FRONTAGE ALLOWANCE INCREASE IS NOT REQUIRED.

ALLOWABLE HEIGHT & NUMBER OF STORIES FOR TYPE II-B			
OCCUPANCY TYPE	ALLOWABLE HEIGHT ABOVE GRADE PLANE (FT)	ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE	BUILDING ACTUALS (STORIES (HEIGHT))
FACTORY F-1	75	3	1 STORY (23 FT)
BUSINESS B	75	4	1 STORY (23 FT)
STORAGE S-1, S-2	75	4	1 STORY (23 FT)

THE BUILDING IS CLASSIFIED AS NON-SEPARATED MIXED USE. THE MOST RESTRICTIVE REQUIREMENTS OF THE OCCUPANCIES PRESENT WILL BE APPLICABLE FOR INTERIOR SEPARATIONS, EGRESS DISTANCES, INTERIOR FINISHES, ETC. SEPARATIONS REQUIRED FOR LIFE SAFETY OR COMPLIANCE WITH ANOTHER CODE OR STANDARD ARE DESCRIBED IN OTHER SECTIONS OF THIS DESIGN ANALYSIS.

8. MIXED USE AND OCCUPANCY SEPARATIONS (CBC SECTION 508)
THE RENOVATED BUILDING IS CLASSIFIED AS FACTORY OCCUPANCY. THE BUSINESS PORTION OF THE BUILDING IS CONSIDERED AN ACCESSORY OCCUPANCY PER CBC SECTION 508 WITH AN AGGREGATE FLOOR AREA OF LESS THAN 10 PERCENT OF THE BUILDING. NO SEPARATION IS REQUIRED BETWEEN THE ACCESSORY OCCUPANCY (B) AND THE MAIN OCCUPANCY (F-1).

9. **FIRE RESISTIVE REQUIREMENTS (CBC TABLES 601)**

PRIMARY STRUCTURAL FRAME	0 HOUR RATING
EXTERIOR BEARING WALLS*	0 HOUR RATING
INTERIOR BEARING WALLS	0 HOUR RATING
EXTERIOR NON-BEARING WALLS AND PARTITIONS*	0 HOUR RATING
INTERIOR NON-BEARING WALLS AND PARTITIONS	0 HOUR RATING
FLOOR CONSTRUCTION AND SECONDARY MEMBERS	0 HOUR RATING
ROOF CONSTRUCTION AND SECONDARY MEMBERS	0 HOUR RATING
NON STRUCTURAL ELEMENTS	0 HOUR RATING

*TAKES INTO ACCOUNT THE FIRE SEPARATION DISTANCE REQUIREMENT OF IBC TABLE 602. THERE IS A MINIMUM FIRE SEPARATION DISTANCE OF 10 FEET FROM THIS FACILITY TO THE NEAREST FACILITY OR LOT LINE.

10. OPENING PROTECTION AND PENETRATION REQUIREMENTS (CBC 706, 707, 708, 709, 710)
NO FIRE SEPARATIONS ARE INDICATED ON AS-BUILT DRAWINGS AND NO ADDITIONAL FIRE SEPARATIONS ARE ANTICIPATED.

11. INTERIOR FINISHES CLASSIFICATION LIMITS

MINIMUM INTERIOR FINISH CLASSIFICATION (CBC CHAPTER 8)			
OCCUPANCY	EXIT ENCLOSURES AND EXIT PASSAGEWAYS	CORRIDORS	ROOMS AND ENCLOSED SPACES
FACTORY F-1	CLASS C	CLASS C	CLASS C
	N/A	N/A	N/A
BUSINESS B	CLASS B	CLASS C	CLASS C
	CLASS I OR II	CLASS I OR II	CLASS I OR II
STORAGE S-1 AND S-2	CLASS C	CLASS C	CLASS C
	CLASS I OR II	CLASS I OR II	CLASS I OR II

CLASS A INTERIOR WALL AND CEILING FINISH - FLAME SPREAD INDEX 0-25, SMOKE DEVELOPED INDEX 0-450
CLASS B INTERIOR WALL AND CEILING FINISH - FLAME SPREAD INDEX 26-75, SMOKE DEVELOPED INDEX 0-450
CLASS C INTERIOR WALL AND CEILING FINISH - FLAME SPREAD INDEX 76-200, SMOKE DEVELOPED INDEX 0-450
CLASS I INTERIOR FLOOR FINISH - CRITICAL RADIANT FLUX NOT LESS THAN 0.45 W/(SQ. CM)
CLASS II INTERIOR FLOOR FINISH - CRITICAL RADIANT FLUX NOT MORE THAN 0.22 W/(SQ. CM) BUT LESS THAN 0.45 W/(SQ. CM)

NOTE: WHERE A COMPLETE STANDARD AUTOMATIC SPRINKLER SYSTEM IS PROVIDED, INTERIOR WALL AND CEILING FINISH WITH A FLAME SPREAD RATING NOT EXCEEDING CLASS C IS PERMITTED TO BE USED IN ANY LOCATION WHERE CLASS B IS REQUIRED AND WITH A RATING OF CLASS B IN ANY LOCATION WHERE CLASS A IS REQUIRED; SIMILARLY, CLASS II INTERIOR FLOOR FINISH IS PERMITTED TO BE USED IN ANY LOCATION WHERE CLASS I IS REQUIRED, AND NO CRITICAL RADIANT FLUX RATING IS REQUIRED WHERE CLASS II IS REQUIRED.

12. INSULATION REQUIREMENTS (IBC SECTION 720)
THERMAL AND ACOUSTICAL INSULATION SHALL HAVE A FLAME SPREAD INDEX OF NOT GREATER THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT GREATER THAN 450 WHEN TESTED IN ACCORDANCE WITH ASTM E84. FOAM PLASTIC INSULATION MUST MEET THE REQUIREMENTS OF CBC SECTION 2603.

13. MEANS OF EGRESS
THE BUILDING IS CLASSIFIED AS A NON-SEPARATED MIXED-USE OCCUPANCY PER IBC. EACH PORTION OF THE BUILDING MUST BE CLASSIFIED AS ITS OWN USE IN ACCORDANCE WITH IBC SECTION 508.1. FUELING, WASH BAY AND VEHICLE STORAGE AREAS HAVE UNOBSTRUCTED EGRESS FROM SPACE AND ARE NOT BEING MODIFIED AS PART OF THIS PROJECT.

EXITS WILL BE DESIGNED TO MEET IBC. ALL DOORS AND CORRIDORS MUST BE SIZED AT 0.2 INCHES PER OCCUPANT USING THE EXIT IN ACCORDANCE WITH 1005.3.2.

EXITS MUST BE PROVIDED SUCH THAT EXITS ARE AT LEAST 1/3 THE DIAGONAL DISTANCE OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED PER IBC SECTION 1007.1.

EGRESS LIMITATIONS: SPRINKLERED FACILITY			
OCCUPANCY	DEAD END (FT)	COMMON PATH (FT)	TRAVEL DISTANCE (FT)
FACTORY F-1	50	100	250
BUSINESS B	50	100	300

14. OCCUPANT LOAD AND EXIT CAPACITY

OCCUPANCY LOAD: CBC 1004			
USE	OCCUPANT LOAD FACTOR (SQ. FT/PERSON)	AREA (SQ. FT)	OCCUPANT LOAD
REPAIR SHOP (INDUSTRIAL AREA)	100 GROSS	3,185	32
BUSINESS	150 GROSS	270	2
TOTALS:		3,455	34

BASED ON AN OCCUPANT LOAD OF 34 PERSONS, 1 EXIT HAVING A MINIMUM CLEAR WIDTH OF 32 INCHES IS REQUIRED FOR THE FACILITY PER IBC SECTION 1010. TWO EXITS WITH A MINIMUM CLEAR WIDTH OF 34 INCHES EACH ARE PROVIDED. EXITS FROM NORMALLY UNOCCUPIED OR SINGLE ROOMS ARE ALSO PROVIDED. ALL INDIVIDUAL ROOM EXITS PROVIDE ADEQUATE CAPACITY FOR THE OCCUPANT LOAD OF THE ROOM THAT THEY SERVE.

FUELING, WASH BAY AND VEHICLE STORAGE AREAS HAVE UNOBSTRUCTED EGRESS FROM SPACE AND PROVIDE ADEQUATE WIDTH FOR EGRESS. NO MODIFICATIONS TO THESE SPACES ARE BEING MADE AS PART OF THIS RENOVATION.

EXIT CAPACITY CALCULATION			
EXIT NUMBER	MINIMUM REQUIRED CLEAR WIDTH (INCHES)	ACTUAL CLEAR WIDTH (INCHES)	CALCULATED OCCUPANT CAPACITY (PERSONS)
E-1	32	34	170
E-2	32	34	170

15. DISCHARGE FROM EXITS (CBC 1028)
EXIT DISCHARGE SHALL BE IN ACCORDANCE WITH CBC SECTION 1028. EXITS SHALL TERMINATE DIRECTLY AT A PUBLIC WAY OR AT AN EXTERIOR EXIT DISCHARGE. EXITS ARE PERMITTED TO DISCHARGE INTO OPEN COURTS OR YARDS IN COMPLIANCE WITH SECTION 1029.

16. ILLUMINATION OF MEANS OF EGRESS (CBC 1008)
MEANS OF EGRESS SHALL BE ILLUMINATED IN ACCORDANCE WITH CBC SECTION 1008. ILLUMINATION OF MEANS OF EGRESS MUST BE PROVIDED AT ALL TIMES THAT THE ROOM OF SPACE IS OCCUPIED.

17. EMERGENCY LIGHTING (CBC 1008)
EMERGENCY LIGHTING MUST BE PROVIDED IN ACCORDANCE WITH SECTION 1008. EMERGENCY ILLUMINATION MUST BE PROVIDED FOR A MINIMUM OF 1 ½ HOURS IN THE EVENT OF FAILURE OF NORMAL LIGHTING. THE EMERGENCY LIGHTING SYSTEM MUST BE ARRANGED TO PROVIDE THE REQUIRED ILLUMINATION AUTOMATICALLY IN THE EVENT OF ANY INTERRUPTION OF NORMAL LIGHTING.

18. MARKINGS OF MEANS OF EGRESS (CBC 1013)
MEANS OF EGRESS, OTHER THAN MAIN EXTERIOR EXIT DOORS THAT OBVIOUSLY AND CLEARLY ARE IDENTIFIABLE AS EXITS, SHALL HAVE SIGNS AT EXITS THAT ARE READILY VISIBLE FROM ANY DIRECTION OF EXIT ACCESS IN ACCORDANCE WITH CBC SECTION 1013.

19. PORTABLE FIRE EXTINGUISHERS (CBC 906, CFC 2311, CFC 906)
PORTABLE FIRE EXTINGUISHERS MUST BE PROVIDED AND PLACED IN ACCORDANCE WITH IBC SECTION 906 AND CALIFORNIA FIRE CODE SECTION 2311 AND 906. FIRE EXTINGUISHER WILL BE SURFACE-MOUNTED.

20. AUTOMATIC SPRINKLERS AND OTHER EXTINGUISHING EQUIPMENT (NFPA 13)
THE EXISTING BUILDING IS PROVIDED WITH A HYDRAULICALLY CALCULATED AUTOMATIC SPRINKLER SYSTEM. THE EXISTING RISER IS LOCATED WITHIN THE RENOVATED SPACE AND SERVES THE SPACE AND ADJACENT SPACES. THE EXISTING SYSTEM WILL BE MODIFIED AS REQUIRED TO SATISFY THE UPDATED DESIGN DENSITY BASED ON THE NEW PROGRAMMING IN ACCORDANCE WITH NFPA 13. REFER TO FIRE PROTECTION DRAWINGS FOR MORE INFORMATION.

21. FIRE ALARM
MANUAL FIRE ALARM ACTIVATION AND OCCUPANT NOTIFICATION IS NOT REQUIRED PER CBC SECTION 907.2.4.

22. FIRE PROTECTION
FIRE SPRINKLER PLANS ARE A DEFERRAL SUBMITTAL TO LONG BEACH FIRE.

Michael Baker
INTERNATIONAL

MARK | DATE | BY | REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER
KEVIN B SPANGLER
10-05-2024
FP 1758
FIRE PROTECTION
STATE OF CALIFORNIA
SEAL

CLINT C. HERRERA P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025
DATE

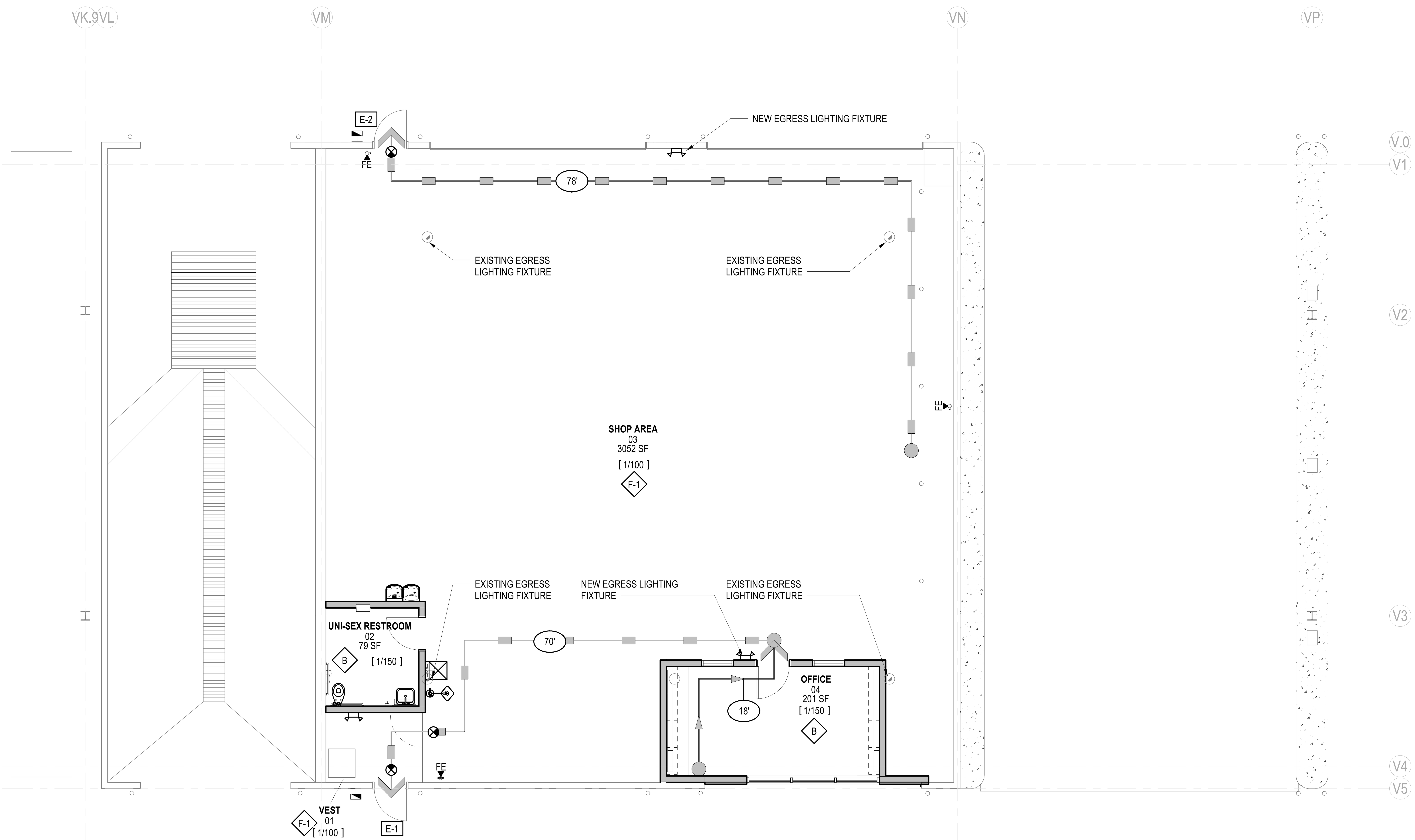
Port of LONG BEACH
THE PORT OF CHOICE

SPEC. NO: HD-S3195
CADD STD. VER: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV: DATE:
CHECKED BY: MG DATE: 11/26/2024
DRAWN BY: ST DATE: 11/26/2024
DESIGNED BY: ST POLB DM: VL
DESIGN MGR: MG POLB PM: MS
VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
LIFE SAFETY - CODE ANALYSIS

10-02464-GN012

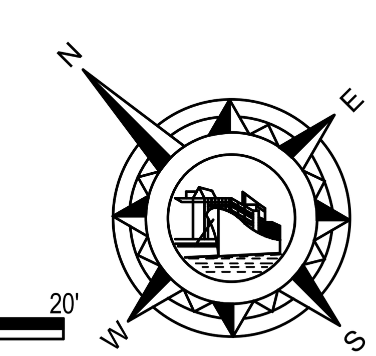
SHEET 12 OF 86



LIFE SAFETY - NEW FLOOR PLAN

SCALE: 3/16" = 1'-0"

3/16" = 1' - 0" 0 5' 10' 20'



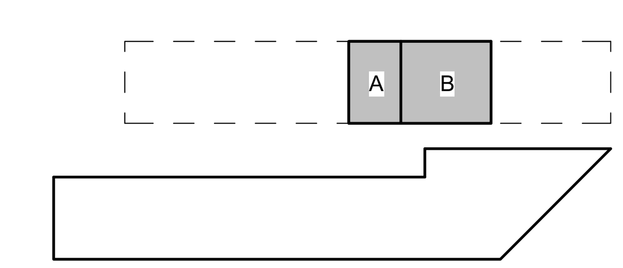
GENERAL NOTES

1. REFER TO SHEET 02464-0-GN-MS-S003 FOR LIFE SAFETY CODE ANALYSIS.

LEGEND

DESCRIPTION	SYMBOL
OCCUPANCY CLASSIFICATION	0
FIRE EXTINGUISHER	FE
EXIT NUMBER	E-0
EXIT SIGN	
TRAVEL DISTANCE	0'
COMMON PATH OF TRAVEL	0'
OCCUPANT LOAD FACTOR	[X/Y] PERSONS/SQUARE FEET

KEY PLAN



Michael Baker
INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER
KEVIN B SPANGLER
10-05-2024
FP 1758
FIRE PROTECTION
STATE OF CALIFORNIA
SEAL

1/27/2025
DATE

CLINT C. HERRERA P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN

Port of LONG BEACH
THE PORT OF CHOICE

SPEC. NO: HD-S3195
CADD STD. VER: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF

CONSTRUCTION REV:
CHECKED BY: MG
DRAWN BY: ST
DESIGNED BY: ST
DESIGN MGR: MG
VERTICAL CONTROL: NGVD 29 MLLW

DATE:
DATE: 11/26/2024
DATE: 11/26/2024
POLB DM: VL
POLB PM: MS

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
LIFE SAFETY - NEW FLOOR PLAN

10-02464-GN013

CIVIL LEGEND

DEMOLITION	EXISTING	DESCRIPTION	NEW
	S S	GRAVITY SANITARY SEWER LINE	S S S
	SD SD	STORM DRAIN LINE	
	E E	ELECTRICAL LINE	E E E
	COM COM	TELECOMMUNICATION LINE	
	W W	WATER LINE	W W
	G G	GAS LINE	
	W W	FIRE	
		SEWER CLEANOUT	
		STORM DRAIN INLET	
		SAWCUT	
		DOUBLE SAWCUT	
		SANDBAG	SBB SBB SBB
		VEHICULAR RATED CONCRETE PAVEMENT	
		ASPHALT CONCRETE	
		BUILDING	
		UTILITY TRENCH DEMOLITION	

GENERAL NOTES:

1. PROVIDE CONSTRUCTION SECURITY FENCING AROUND THE PERIMETER OF THE SITE UNLESS OTHERWISE NOTED.
2. CONTACT CULTURAL RESOURCES PROGRAM ARCHAEOLOGIST TO ENSURE AVOIDANCE OF IMPACT TO CULTURAL RESOURCES PRIOR TO SELECTING A LAYDOWN SITE.
3. OBTAIN DIG PERMIT PRIOR TO THE START OF EXCAVATION.
4. EXCAVATED SOILS REMOVED FROM THIS SITE SHALL BE TESTED TO DETERMINE THE APPROPRIATE DISPOSAL LOCATION DUE TO THE KNOWN PRESENCE OF VARIOUS CONTAMINANTS IN THESE AREAS.
5. WHEN NOTES WITHIN THIS SET OF DRAWINGS DIFFER FROM ONE ANOTHER OR THE TECHNICAL SPECIFICATIONS, THE MOST STRINGENT NOTE SHALL GOVERN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
6. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS ARE TO INCLUDE ALL LABOR, MATERIALS AND NECESSARY SERVICES TO EXECUTE THE WORK AS SHOWN, DESCRIBED, OR REASONABLY IMPLIED, BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS.
7. VERIFY CONSISTENCY OF THE EXISTING CONDITIONS WITH WHAT IS SHOWN IN THE DESIGN DRAWINGS AND SPECIFICATIONS. REPORT ANY DISCREPANCY TO THE ENGINEER IMMEDIATELY AND AWAIT FURTHER INSTRUCTIONS.
8. TAKE ALL POSSIBLE CARE TO PROTECT PERSONNEL AND ADJACENT PROPERTY AND TO ENSURE THE SAFETY OF THOSE INVOLVED DIRECTLY OR INDIRECTLY WITH THE WORK.
9. PERFORM ANY AND ALL CUTTING, PATCHING, REPAIRING, RESTORING, AND LIKE WORK NECESSARY TO RETURN ALL SURFACES AFFECTED BY THE WORK TO THEIR ORIGINAL CONDITION.
10. DEMOLITION SHALL BE TO THE LIMITS SHOWN ON THE PLANS. NEATLY PROVIDE FULL-DEPTH DOUBLE SAW-CUT PAVEMENT AT THESE LIMITS TO PROVIDE A CLEAN VERTICAL EDGE AND MINIMIZE DAMAGE TO PAVEMENTS TO REMAIN.
11. ALL MATERIALS SHALL BE NEW UNLESS NOTED OTHERWISE.
12. WRITTEN DIMENSIONS IN SCHEDULES AND DRAWINGS TAKE PRECEDENCE OVER SCALE DRAWINGS. DO NOT SCALE DRAWINGS. BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ENGINEER AND AWAIT FURTHER INSTRUCTIONS.
13. FULL SIZE ANSI D DRAWINGS SHEET MEASURES 22"X34". IF A SHEET MEASURES DIFFERENTLY THE SCALE SHALL BE ADJUSTED ACCORDINGLY.
14. OPEN FLAME OR BURNING OF TRASH IS NOT BE PERMITTED.
15. PROVIDE AND MAINTAIN ACCESS AT ALL TIMES DURING CONSTRUCTION TO ALL EXISTING FACILITIES AND THOSE THAT MAY BE UNDER CONSTRUCTION IN THE IMMEDIATE VICINITY.
16. DO NOT DEVIATE FROM THE APPROVED SET OF DRAWINGS AND SPECIFICATIONS WITHOUT THE WRITTEN AUTHORITY FROM THE ENGINEER OF RECORD AND THE ENGINEER.
17. ALL OPEN TRENCHES SHALL BE COVERED WITH STEEL PLATES AT THE END OF EACH WORK DAY.

PROTECTION & LOCATING EXISTING UTILITY NOTES:

1. ALL EXISTING UNDERGROUND UTILITIES, CABLES, DUCTS, MANHOLES, ETC. (UNDERGROUND FACILITIES) SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS, OR VISIBLE EVIDENCE AND, THEREFORE, THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY AND THERE MAY BE OTHERS, THE EXISTENCE OF WHICH WAS NOT KNOWN AT THE TIME OF THE SURVEY. FURTHER, ANY INFORMATION SHOWN ON THE DRAWINGS CONCERNING TYPE, SIZE, AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE
2. LOCATE AND PROTECT ALL UTILITIES. CONTACT UTILITY OWNERS TO IDENTIFY UNDERGROUND UTILITIES AND/OR CABLES WITHIN THE PROJECT LIMITS AND STAGING AREAS PRIOR TO COMMENCING CONSTRUCTION. ASSIST UTILITY OWNERS IN EFFORTS TO FIELD VERIFY UNDERGROUND UTILITIES. TAKE PRECAUTIONARY MEASURES TO PROTECT ALL THE UTILITY LINES SHOWN AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS UNLESS OTHERWISE NOTED. REVIEW ALL UTILITIES WITH THE CLIENT MAINTENANCE STAFF PRIOR TO BEGINNING WORK UTILIZING THESE PLANS AND ANY OTHER PERTINENT, RELIABLE INFORMATION PROVIDED BY THE CLIENT DEPARTMENT OF PUBLIC WORKS.
3. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY, CONDUCT A FIELD UTILITY LOCATION SURVEY USING ELECTRONIC, MAGNETIC OR OTHER UNDERGROUND UTILITY LOCATING PRACTICES. UTILITY OWNERS SHALL BE NOTIFIED AND SHALL HAVE THE OPTION TO ACCOMPANY THIS FIELD INVESTIGATION. EXPLORATORY EXCAVATIONS IN THE VICINITY OF EXISTING UNDERGROUND UTILITIES, PARTICULARLY THOSE ASSOCIATED WITH OPERATING NAVIGATIONAL AIDS, SHALL BE CARRIED OUT WITH HAND TOOLS UNTIL THE EXACT CHARACTER AND LOCATION OF SUCH FACILITIES ARE DETERMINED. ALL INFORMATION OBTAINED FROM THIS UTILITY LOCATION SURVEY SHALL BE FURNISHED TO THE ENGINEER AND THE A/E PRIOR TO CONSTRUCTION.
4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, VERTICALLY AND HORIZONTALLY FIELD LOCATE BY SURVEY ALL UTILITY CONFLICTS AND CROSSINGS. IF THE EXISTING UTILITY LOCATION DIFFERS FROM WHAT IS SHOWN ON PLANS, NOTIFY THE ENGINEER IMMEDIATELY.
5. PROTECTION AND REPAIR OF DAMAGE TO EXISTING CABLE AND UTILITIES - ALL UNDERGROUND CABLE AND UTILITIES AND ASSOCIATED STRUCTURES SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE TO EXISTING UNDERGROUND CABLES AND/OR UTILITIES DURING CONSTRUCTION (REGARDLESS OF WHETHER THEY WERE LOCATED OR NOT BY THE UTILITY COMPANY, DIG ALERT 811, USA NORTH 811, ETC.) SHALL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE AND TO THE SATISFACTION OF THE UTILITY OWNER'S AUTHORIZED REPRESENTATIVES. ALL EXISTING UTILITIES, CABLE, DUCTS, EQUIPMENT, DEVICES, ETC. OUTSIDE THE AREA OF DEMOLITION OR CONSTRUCTION LIMITS WHICH ARE DAMAGED OR DISRUPTED AS A RESULT OF OPERATIONS SHALL BE IMMEDIATELY REPAIRED AT THE EXPENSE OF THE CONTRACTOR AND TO THE SATISFACTION OF THE UTILITY OWNER'S AUTHORIZED REPRESENTATIVE.

CIVIL /SITE CONSTRUCTION NOTES:

1. SUBMISSIONS REQUIRED FOR DOCUMENTATION OF CONFORMANCE TO THE CONTRACT PLANS, DOCUMENTS, AND SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR DISTRIBUTION TO THE APPROPRIATE REVIEWER.
2. DESIGN AND PROVIDE TEMPORARY CONSTRUCTION STRUCTURES SUCH AS SHEETING & SHORING FOR EXCAVATIONS. PROVIDE DESIGN CALCULATIONS AND DRAWINGS SHOWING LOCATION, EXTENT, AND CONSTRUCTION DETAILS OF SAID TEMPORARY STRUCTURES AND SUPPORTS. DOCUMENTS SHALL BE PREPARED AND SEALED BY A CA LICENSED PROFESSIONAL ENGINEER.
3. DESIGN AND PROVIDE TEMPORARY CLOSURES, BARRICADES, RAILINGS, AND TEMPORARY PROTECTION USED TO PROTECT THE WORK, AND PERSONNEL. IF REQUESTED, PROVIDE DRAWINGS INDICATING THE LOCATIONS, EXTENT, AND CONSTRUCTION DETAILS OF SAME. ALL TEMPORARY CONSTRUCTION STRUCTURES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA.
4. PREPARE, LAYOUT, AND INSTALL WORK IN SUCH A MANNER AS NOT TO DELAY OR INTERFERE WITH THE PROGRESS OF OTHER CLIENT CONTRACT WORK AND/OR ANY WORK DESIGNATED TO BE PERFORMED UNDER ANY OTHER CONTRACTS ON THE CONTRACT.
5. THE PERFORMANCE OF ALL WORK IN THE CONTRACT DOCUMENTS INCLUDING DEMOLITION AND REMOVALS AND INSTALLATION OF ALL MATERIALS SHALL BE IN FULL COMPLIANCE WITH CODES, RULES, AND REGULATIONS GOVERNING SAID WORK.
6. PROVIDE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS.
7. STORAGE OF ALL CONSTRUCTION MATERIAL/DEBRIS SHALL BE KEPT TO THE DESIGNATED STORAGE/STAGING AREA. EXCESS SOILS TEMPORARILY STORED ON-SITE DURING CONSTRUCTION, AND STOCKPILES, SHALL BE COVERED WITH STABILIZATION BLANKETS/TARP AND WATTLES TO PREVENT EXPOSURE TO THE ELEMENTS AND TO LESSEN CHANCES OF SEDIMENTATION DUE TO STORM WATER RUNOFF AND WIND EROSION.

DEMOLITION NOTES:

1. UPON COMPLETION OF THE WORK, REMOVE ALL DEBRIS, EQUIPMENT, AND UNUSED MATERIALS FROM THE PROJECT SITE.
2. REUSE DEMOLISHED CONCRETE MEETING AGGREGATE BASE COURSE GRADATION REQUIREMENTS FOR PAVEMENT BASE COURSE.
3. EXCAVATED SOIL MAY BE USED FOR BACKFILLING AND FILL PROVIDED IT MEETS THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
4. ALL AREAS OUTSIDE THE "LIMITS OF WORK" WHICH ARE DAMAGED BY THE WORK, SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND THAT OF THE SURROUNDING AREA. THE RESTORATION SHALL BE DONE AT NO ADDITIONAL COST TO THE ENGINEER, AND SHALL BE APPROVED BY ENGINEER.
5. HAUL GRUBBING AND CLEARING RESIDUE, DEMOLISHED MATERIAL, RUBBISH AND DEBRIS GENERATED BY THIS PROJECT OFF-SITE AND OFF STATION EXCEPT ITEMS DIRECTED BY THE ENGINEER TO BE SALVAGED. DEMOLISHED MATERIAL TO BE MANAGED ACCORDING TO THE TEMPORARY ENVIRONMENTAL CONTROLS SPECIFICATIONS. ITEMS FROM THE SITE TO BE LEGALLY DISPOSED OF WITHOUT DISRUPTING VEHICULAR OR PEDESTRIAN FLOW.
6. PREVENT CONTAMINATED WATER, GASOLINE, OR ANY OTHER CONTAMINANTS FROM ENTERING EXCAVATIONS AND/OR SURFACE AREAS. FOLLOW REQUIREMENTS FOR SPILL RESPONSE IN THE TEMPORARY ENVIRONMENTAL CONTROLS SPECIFICATIONS.
7. THE INTENT OF THE DEMOLITION SHOWN ON THE DRAWINGS IS TO GENERALLY OUTLINE THE TYPES OF MATERIALS TO BE REMOVED AND THE LIMITS OF THE REMOVALS. THE QUANTITY OF ITEMS TO BE REMOVED WITHIN THE LIMIT OF DEMOLITION MAY VARY FROM THOSE DEPICTED ON THE PLANS. THE INTENT AND REQUIREMENT IS TO REMOVE THE EXISTING VEGETATION AND IMPROVEMENTS AND REGRADE AS REQUIRED TO CONSTRUCT THE DEVELOPMENT. ALL MEANS AND METHODS INCLUDING SAFETY REQUIREMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
8. PRIOR TO DEMOLITION OF ANY UTILITY LINES, COORDINATE WITH THE CLIENT TO MINIMIZE AND SCHEDULE UTILITY OUTAGES FOR UTILITIES THAT SERVE OTHER FACILITIES UPSTREAM AND DOWNSTREAM OF THIS PROJECT.

DRAINAGE & UTILITY NOTES:

1. NOTIFY AND COORDINATE WITH UTILITY COMPANIES TO ESTABLISH SERVICE CONNECTIONS TO BUILDINGS AND STRUCTURES.
2. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION AND/OR THE PURCHASE OF ANY STRUCTURES.
3. REFER TO PLUMBING AND ELECTRICAL PLANS FOR EXACT LOCATION AND SIZES OF UTILITY CONNECTIONS TO THE BUILDINGS.
4. THE LOCATION, ELEVATION, AND SIZE OF EXISTING UTILITIES SHOWN ON THE CONTRACT DRAWINGS ARE APPROXIMATE. THE FOLLOWING SHALL BE PERFORMED:
   A. VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES WITHIN THE WORK AREA PRIOR TO CONSTRUCTION;
   B. EXERCISE EXTREME CAUTION WHEN WORKING ADJACENT TO EXISTING POWER, COMMUNICATIONS OR WATER LINES TO PREVENT DAMAGE;
   C. IMMEDIATELY INFORM THE ENGINEER AND COORDINATE REPAIRS TO ANY DAMAGE TO THE EXISTING UTILITIES RESULTING FROM CONSTRUCTION TO THE SATISFACTION OF THE UTILITY OWNER;
   D. MAINTAIN UTILITIES IN ACTIVE OPERATION AT ALL TIMES UNLESS THEY ARE TO BE ABANDONED OR REMOVED;
   E. THOROUGHLY REVIEW ALL ARCHITECTURAL/UTILITY-RELATED PLANS ASSOCIATED WITH THIS PROJECT FOR CONFLICTS OR DISCREPANCIES. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
5. FIRE HYDRANTS SHALL REMAIN OPERATIONAL DURING CONSTRUCTION UNLESS SPECIFICALLY INDICATED FOR REMOVAL OR ABANDONMENT.
6. SANITARY SEWER PIPE SHALL BE SDR 35 PVC AND SHALL BE TESTED FOR COMPLIANCE WITH ASTM STANDARDS FOR INFILTRATION/EXFILTRATION, AIR TESTING, AND SMOKE TEST.

POLB SURVEY CONTROLS

1. TOPOGRAPHIC SURVEY WAS NOT PERFORMED FOR THIS CONTRACT. HORIZONTAL AND VERTICAL DATUMS WERE OBTAINED FROM PORT OF LONG BEACH NEW MAINTENANCE FACILITIES PROJECT RECORD DRAWING # R-HD 10-2121-CG1. THE INFORMATION PROVIDED BELOW WAS NOT VERIFIED FOR THIS CONTRACT. CONTRACTOR SHALL FIELD VERIFY POLB HORIZONTAL AND VERTICAL SURVEY DATUMS PRIOR TO START OF CONSTRUCTION.
2. HORIZONTAL DATUM
   CCS-83 ZONE#5 STATE PLANE COORDINATES EPOCH 1991.35 (U.S. SURVEY FEET), REF. HD 3023

POINT #	NORTHING	EASTING
5033	1732980.26	6500443.92
5034	1732567.52	6502265.37
6044	1733164.32	6502252.31

3. VERTICAL DATUM
   CONSTRUCTION BENCHMARK: #2501, 18.52 FEET, NOV 2001
   ADJUSTMENT APPROXIMATE COORDINATES: N 1732276.84 E 6501466.23 NGVD' 29 MLLW (2 $\frac{1}{2}$ BRASS DISK ON NEW NORTH TC ON HARBOR PLAZA)

   BENCHMARK: #2378, FL. 19.68 NOV. 2001 ADJUSTMENT NGVD 29 MLLW APPROXIMATE COORDINATES N 1732203 E 6501677 (L&T IN NW CORNER OF PCC BRIDGE FOOTING ON SOUTH SIDE OF HARBOR PLAZA DR AT KEISHA PED BRIDGE
4. CONTRACTOR SHALL CHECK WITH LONG BEACH HARBOR DEPARTMENT SURVEY SECTION TO CONFIRM THE USE OF CONTROL POINTS IN AREA PRIOR TO THE START OF CONSTRUCTION.

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER RYAN DAVID THOMAS No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA

SEAL 12/5/2024

CLINT C. HERRERA P.E. NO. C61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025
DATE

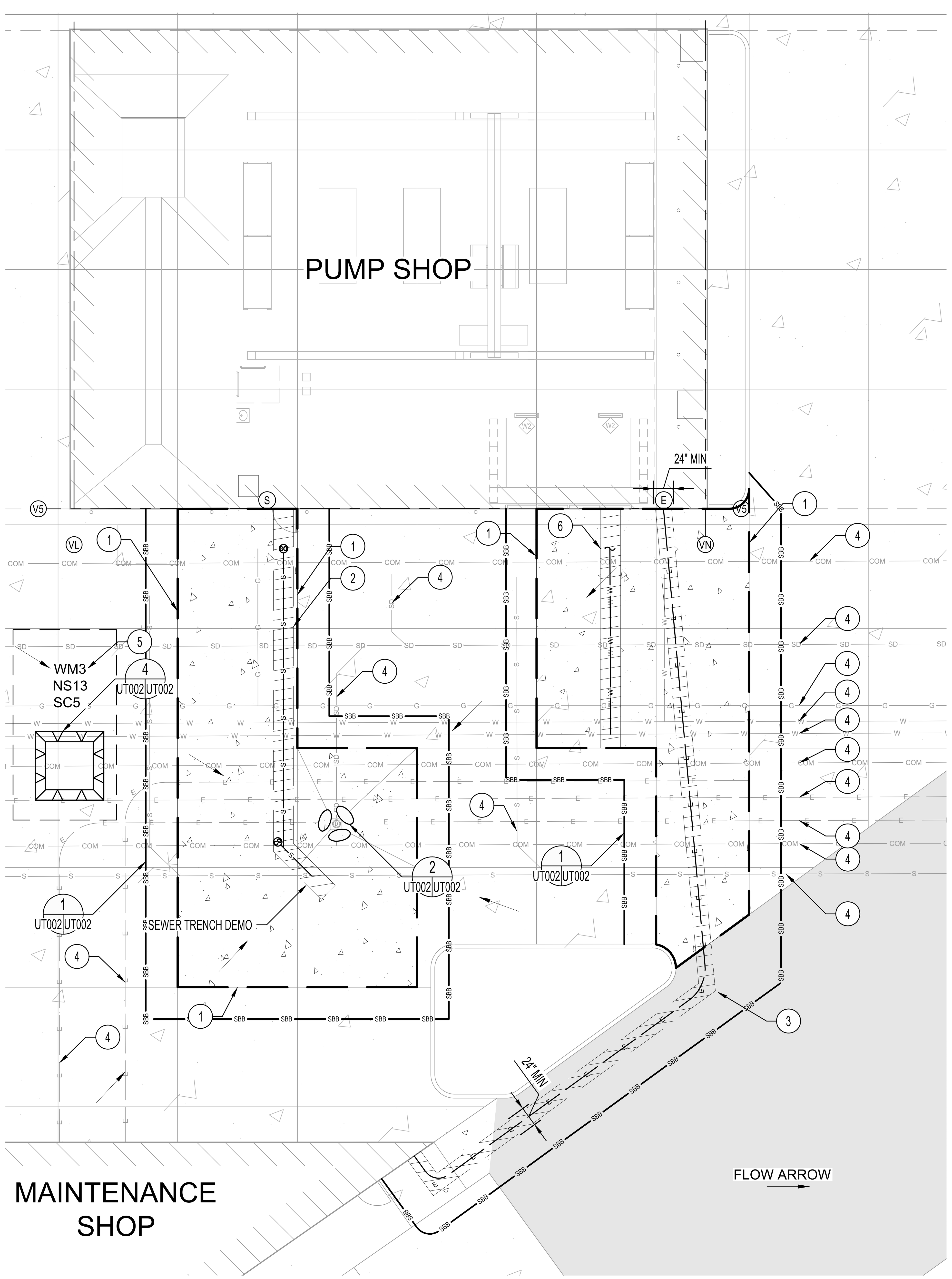
Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO: HD-S3195
CADD STD. VER.: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV:
CHECKED BY: JRW
DRAWN BY: LM
DESIGNED BY: LM
DESIGN MGR: RT
VERTICAL CONTROL: NGVD 29 MLLW
DATE:
DATE: 11/26/2024
DATE: 11/26/2024
POLB DM: VL
POLB PM: MS

725 HARBOR PLAZA
PIER G, MAINTENANCE BUILDING C PUMP SHOP CONVERSION
CIVIL NOTES, ABBREVIATIONS, AND LEGEND

10-02464-UT001

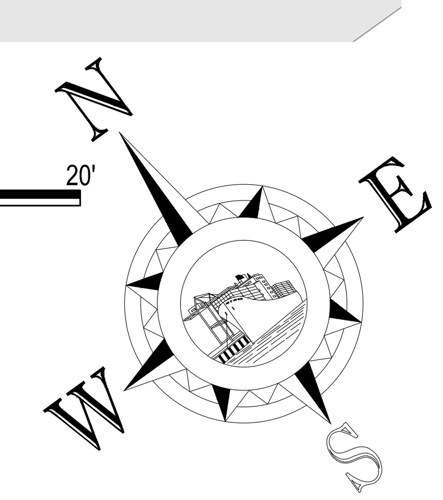
SHEET 14 OF 86



DEMOLITION PLAN AND EROSION CONTROL PLAN VIEW

SCALE: 1"=10'

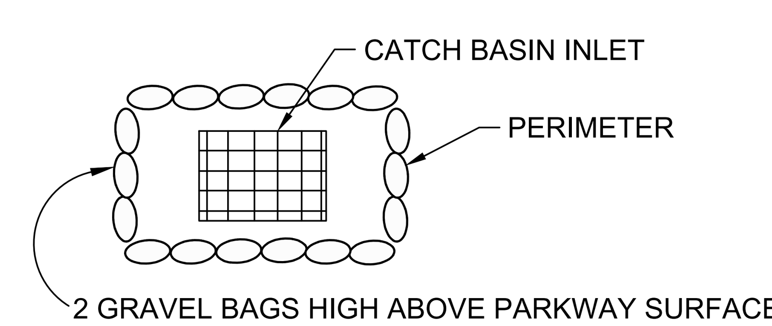
SCALE:1"=10'



1. CONTRACTOR SHALL REPLACE ENTIRE CONCRETE PANEL THAT TRENCH EXTENDS INTO. SEE 10-02464-UT003 FOR PAVEMENT REPLACEMENT.
2. SEWER TRENCH PER POLB STD U-1 ON UT009.
3. ELECTRICAL TRENCH PER POLB STD U-1 ON UT009.
4. PROTECT IN PLACE
5. BMP FROM CALTRANS STORMWATER QUALITY HANDBOOKS - CONSTRUCTION SITE BMP MANUAL, BMP NUMBER INDICATED IN PLANS
6. WATER TRENCH PER POLB STD U-1 ON UT009.

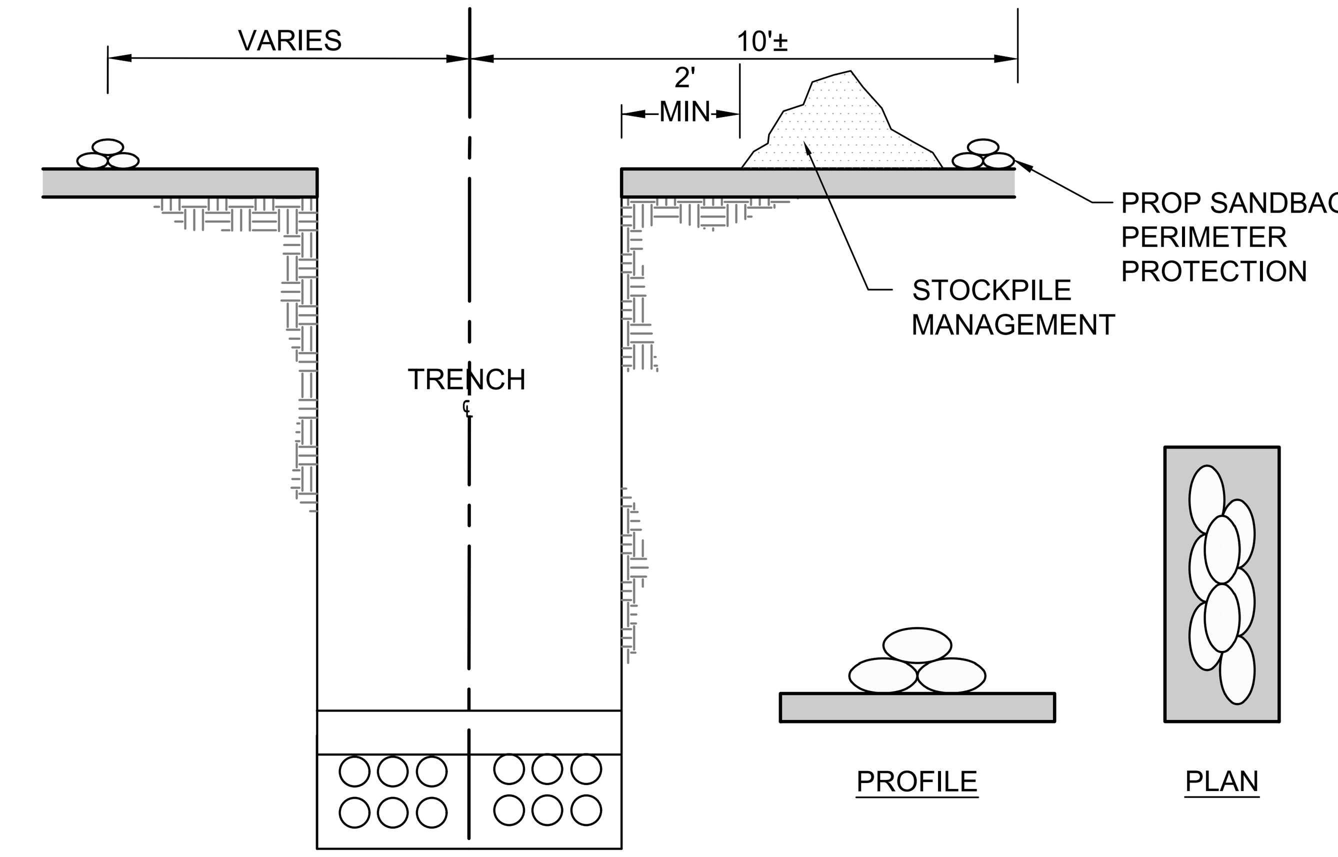
EROSION AND SEDIMENT CONTROL NOTES

1. NOT USED
2. NOT USED
3. THIS PLAN IS INTENDED TO BE USED FOR EROSION AND SEDIMENT CONTROL ONLY. OTHER INFORMATION SHOWN HEREIN MAY NOT BE THE MOST CURRENT. SEE IMPROVEMENT PLANS FOR OTHER INFORMATION.
4. ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL DURING RAINY SEASON.
5. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF TO ANY STORMWATER CONVEYANCE FACILITY.
6. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO CHANGING FIELD CONDITIONS, AND SHALL BE CONSIDERED ILLUSTRATIVE. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD.
7. STORE, HANDLE AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES SO AS TO PREVENT THEIR ENTRY TO ANY STORMWATER CONVEYANCE FACILITY.
8. THE CONTRACTOR SHALL NOT ALLOW CONCRETE, WASH WATERS, SLURRIES, PAINT OR OTHER MATERIALS TO ENTER CATCH BASINS OR TO ENTER SITE RUNOFF.
9. ACTIVITIES ASSOCIATED WITH CLEANING, FUELING OR MAINTAINING VEHICLES/EQUIPMENT ON SITE SHALL NOT ALLOW DELETERIOUS MATERIALS TO ENTER STORMWATER CONVEYANCE FACILITIES.
10. GRAVEL BAGS, PIECES OF WOOD, FABRIC, OR OTHER SUITABLE MATERIALS SHALL BE USED TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING ANY COMPLETED STORMWATER CONVEYANCE FACILITY, THESE PROTECTION MEASURES SHALL BE MAINTAINED UNTIL THE PROJECT IS COMPLETED.
11. WHEN TEMPORARY STRUCTURES HAVE SERVED THEIR INTENDED PURPOSE AND THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, THE EMBANKMENT AND RESULTING SEDIMENT DEPOSITS ARE TO BE LEVELED OR OTHERWISE DISPOSED OF BY THE CONTRACTOR AS RECOMMENDED BY THE SOILS ENGINEER.
12. ALL LOOSE SOIL AND DEBRIS SHALL BE REMOVED FROM THE STREET AREAS UPON STARTING OPERATIONS AND PERIODICALLY THEREAFTER AS DIRECTED BY THE INSPECTOR.
13. CONSTRUCTION OPERATIONS - WASTEWATER GENERATED DURING CONSTRUCTION SHALL NOT BE DISCHARGED TO STORMWATER CONVEYANCE FACILITIES, ONSITE OR OFFSITE. THIS INCLUDES WASTE FROM PAINTING, SAW-CUTTING, AND CONCRETE WORK. THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO ELIMINATE DISCHARGES TO THE STORM DRAIN SYSTEM AND, IF NECESSARY, PROVIDE AN AREA FOR ON-SITE WASHING ACTIVITIES DURING CONSTRUCTION. MATERIALS THAT COULD CONTAMINATE STORM RUNOFF SHALL BE STORED IN AREAS THAT ARE DESIGNED TO PREVENT EXPOSURE TO RAINFALL AND TO NOT ALLOW STORM WATER TO RUN INTO THE AREA.
14. PAVEMENT CLEANING - FLUSHING OF STREETS/PARKING LOTS TO REMOVE DIRT AND CONSTRUCTION DEBRIS IS PROHIBITED. AREAS REQUIRING CLEANING SHOULD BE SWEPT.
15. CONTRACTOR TO EMPLOY BEST MANAGEMENT PRACTICES (BMP'S) IN ACCORDANCE WITH STATE WATER RESOURCES CONTROL BOARD LATEST RECOMMENDATIONS.
16. BORROW AREAS AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES TO THE SATISFACTION OF THE APPLICABLE AGENCIES.
17. REMOVE SPOILS PROMPTLY AND AVOID STOCKPILING OF FILL MATERIALS WHEN RAIN IS FORECAST. IF RAIN IS FORECAST OR APPARENT, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE COVERED WITH PLASTIC OR A TARP, BY THE CONTRACTOR.



2 INLET PROTECTION DETAIL

- UT002 SCALE: NTS

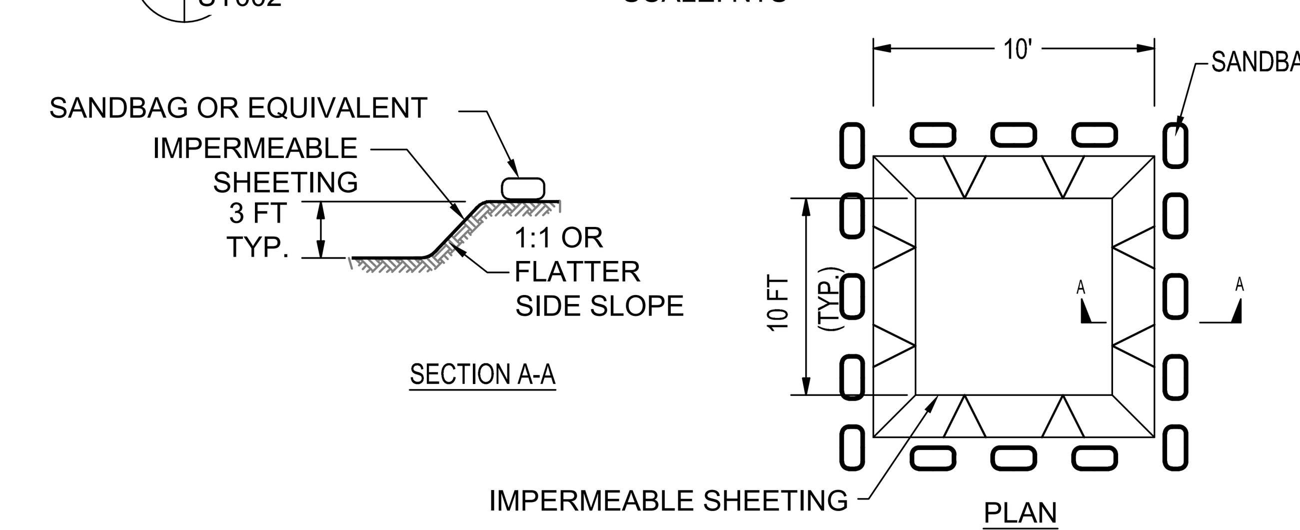


SANDBAG NOTES:

1. PLACEMENT OF SANDBAGS ONLY TO OCCUR IN AREA OF CURRENT EXCAVATION. IF WORK HAS NOT COMMENCED IN AN AREA, SANDBAGS ARE NOT NEEDED
2. STAGGER JOINTS BETWEEN SUCCESSIVE ROWS AND LAYERS OF SANDBAGS TO PREVENT GAPS.
3. SANDBAG MATERIAL: SANDBAG SHOULD BE WOVEN POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE FABRIC, MINIMUM UNIT WEIGHT OF 4 OUNCES/YD2, MULLEN BURST STRENGTH EXCEEDING 300 LB/IN2 IN CONFORMANCE WITH THE REQUIREMENTS IN ASTM DESIGNATION D3786, AND ULTRAVIOLET STABILITY EXCEEDING 70% IN CONFORMANCE WITH THE REQUIREMENTS IN ASTM DESIGNATION D4355. USE OF BURLAP IS NOT AN ACCEPTABLE SUBSTITUTE, AS SAND CAN MORE EASILY MOBILIZE OUT OF BURLAP.
4. SANDBAG SIZE: EACH SAND-FILLED BAG SHOULD HAVE A LENGTH OF 18 IN., WIDTH OF 12 IN., THICKNESS OF 3 IN., AND MASS OF APPROXIMATELY 33 LBS. BAG DIMENSIONS ARE NOMINAL, AND MAY VARY BASED ON LOCALLY AVAILABLE MATERIALS.
5. FILL MATERIAL: ALL SANDBAG FILL MATERIAL SHOULD BE NON-COHESIVE, CLASS 3 (CALTRANS STANDARD SPECIFICATION, SECTION 25) PERMEABLE MATERIAL FREE FROM CLAY AND DELETERIOUS MATERIAL, SUCH AS RECYCLED CONCRETE OR ASPHALT.

1 SANDBAG TRENCH PROTECTION DETAIL

- UT002 SCALE: NTS



NOTE:

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

4 CONCRETE WASHOUT STRUCTURE

- UT002 SCALE: NTS

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MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER RYAN DAVID THOMAS No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA 12/5/2024

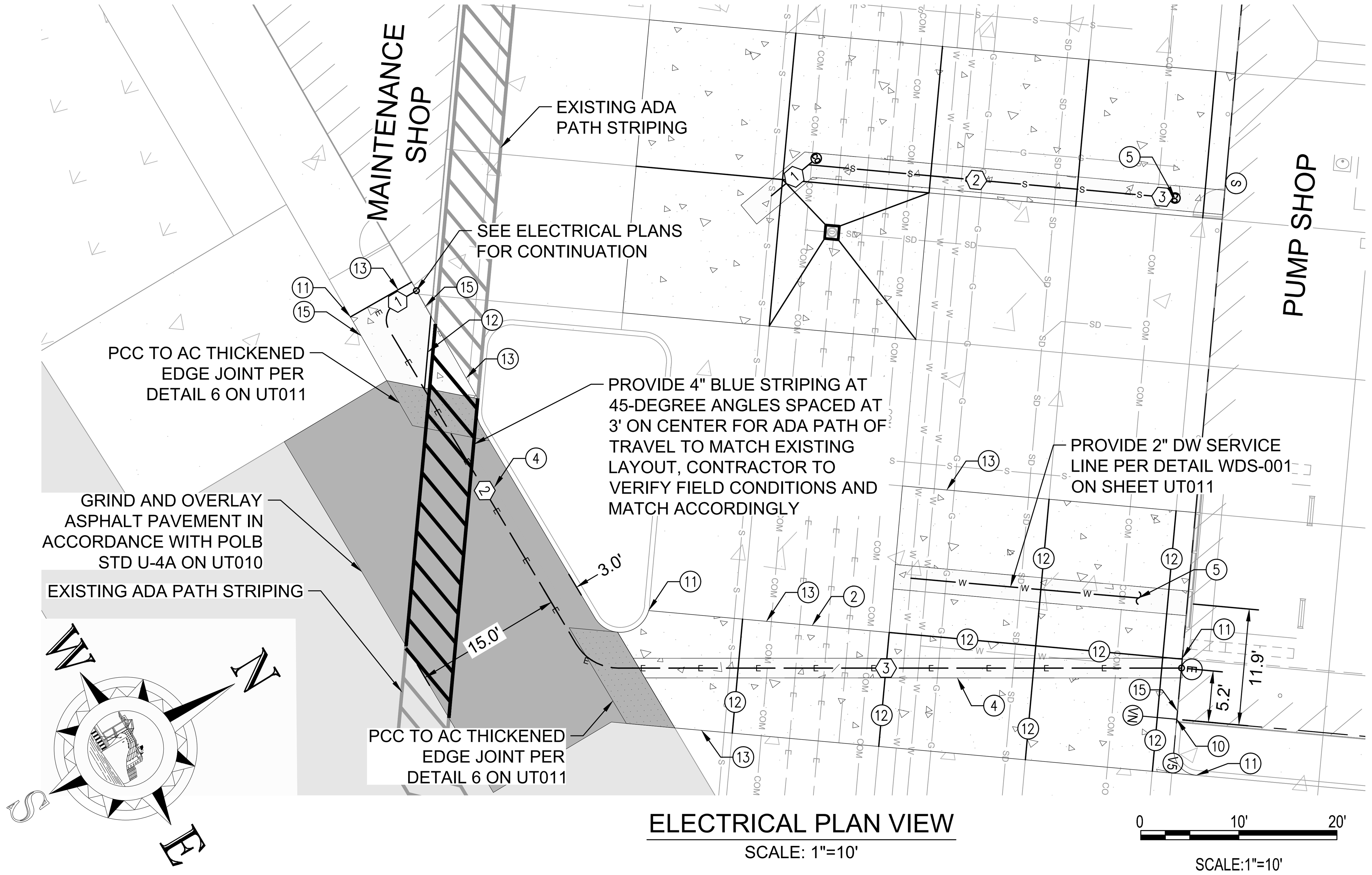
CLINT C. HERRERA, P.E. NO. C61471 DIRECTOR OF ENGINEERING DESIGN 1/27/2025 DATE

Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO.: HD-S3195 | CONSTRUCTION REV: | DATE:
CADD STD. VER.: 1.5 | CHECKED BY: JRW | DATE: 11/26/2024
DWG. SCALE: AS NOTED | DRAWN BY: LM | DATE: 11/26/2024
EPOCH: 2007 | DESIGNED BY: LM | POLB DM: VL
PROJECT MGR: MG | DESIGN MGR: RT | POLB PM: MS
HORIZONTAL CONTROL: NAD83-VF | VERTICAL CONTROL: NGVD 29 MLLW

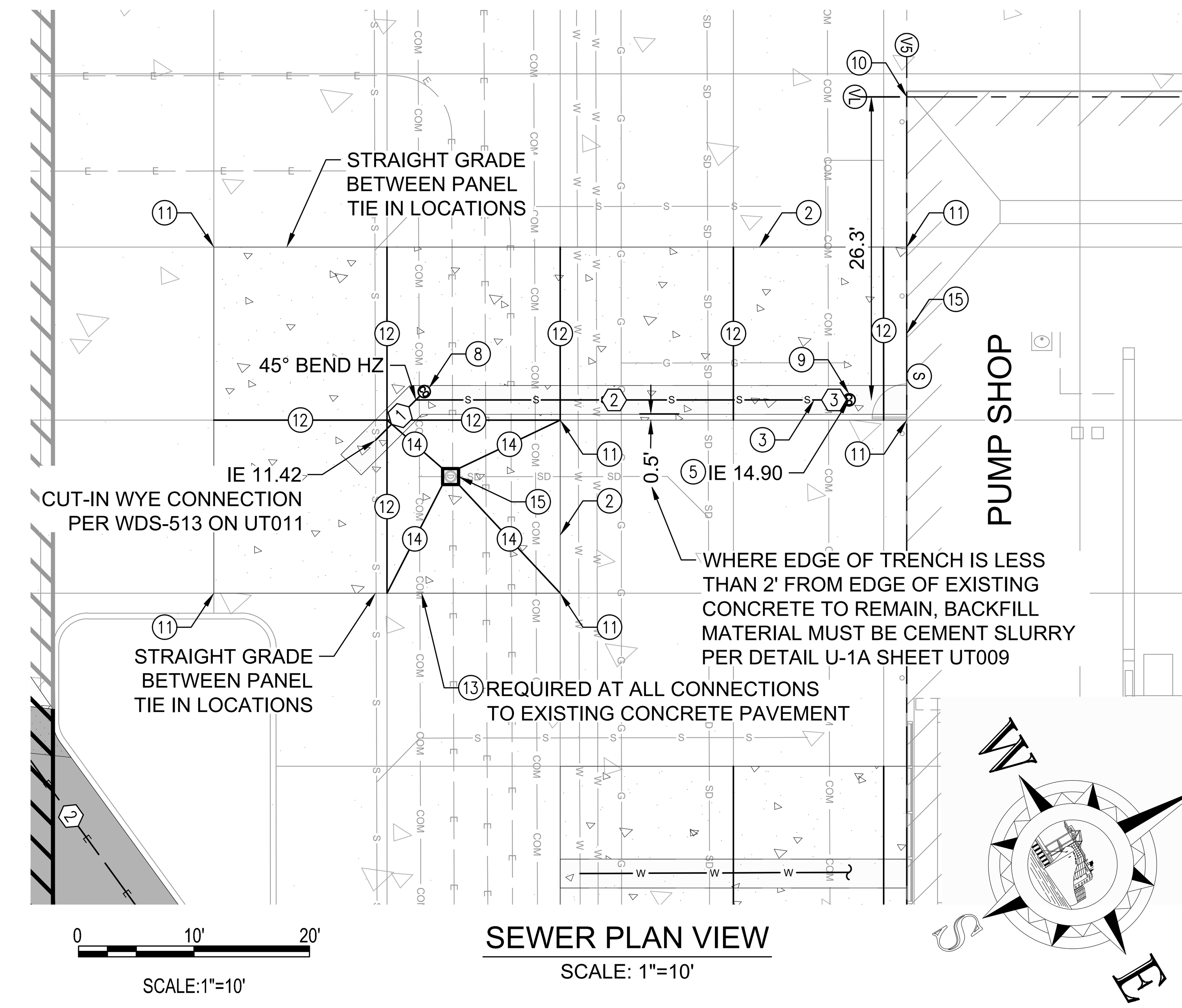
725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
DEMOLITION PLAN AND EROSION CONTROL PLAN

10-02464-UT002



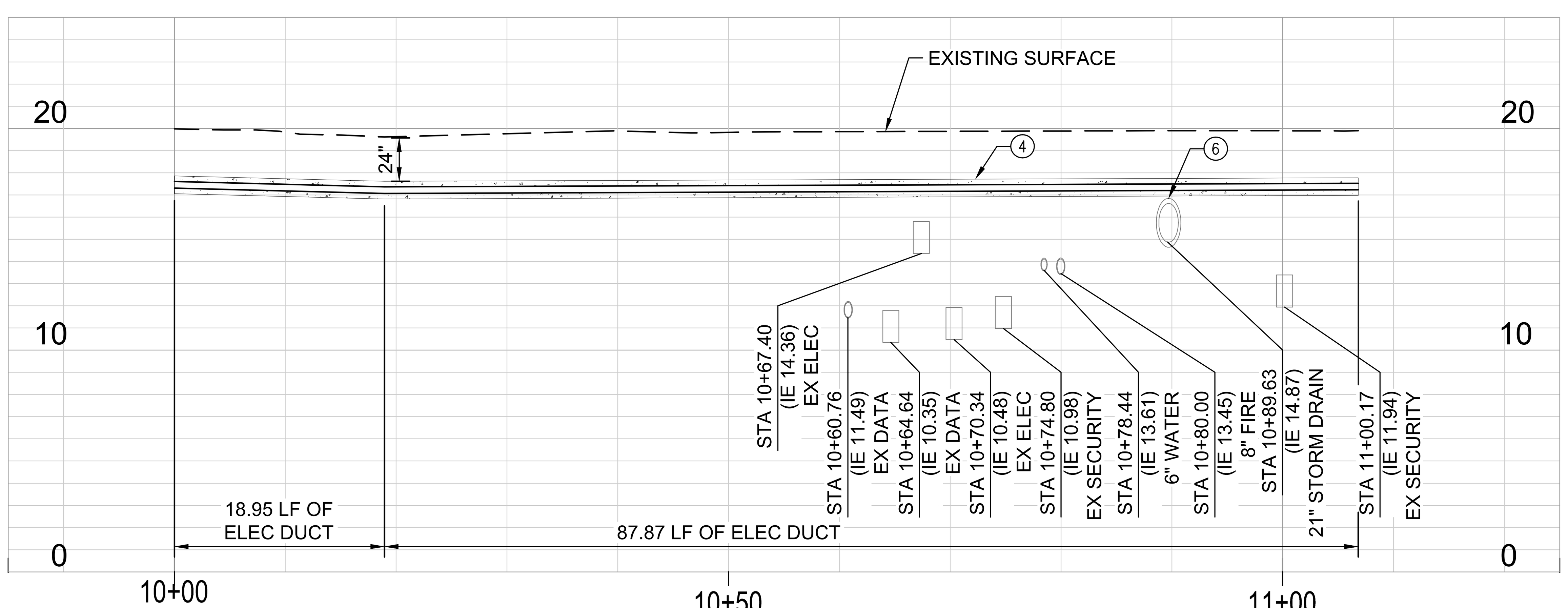
ELECTRICAL PLAN VIEW

SCALE: 1"=10'



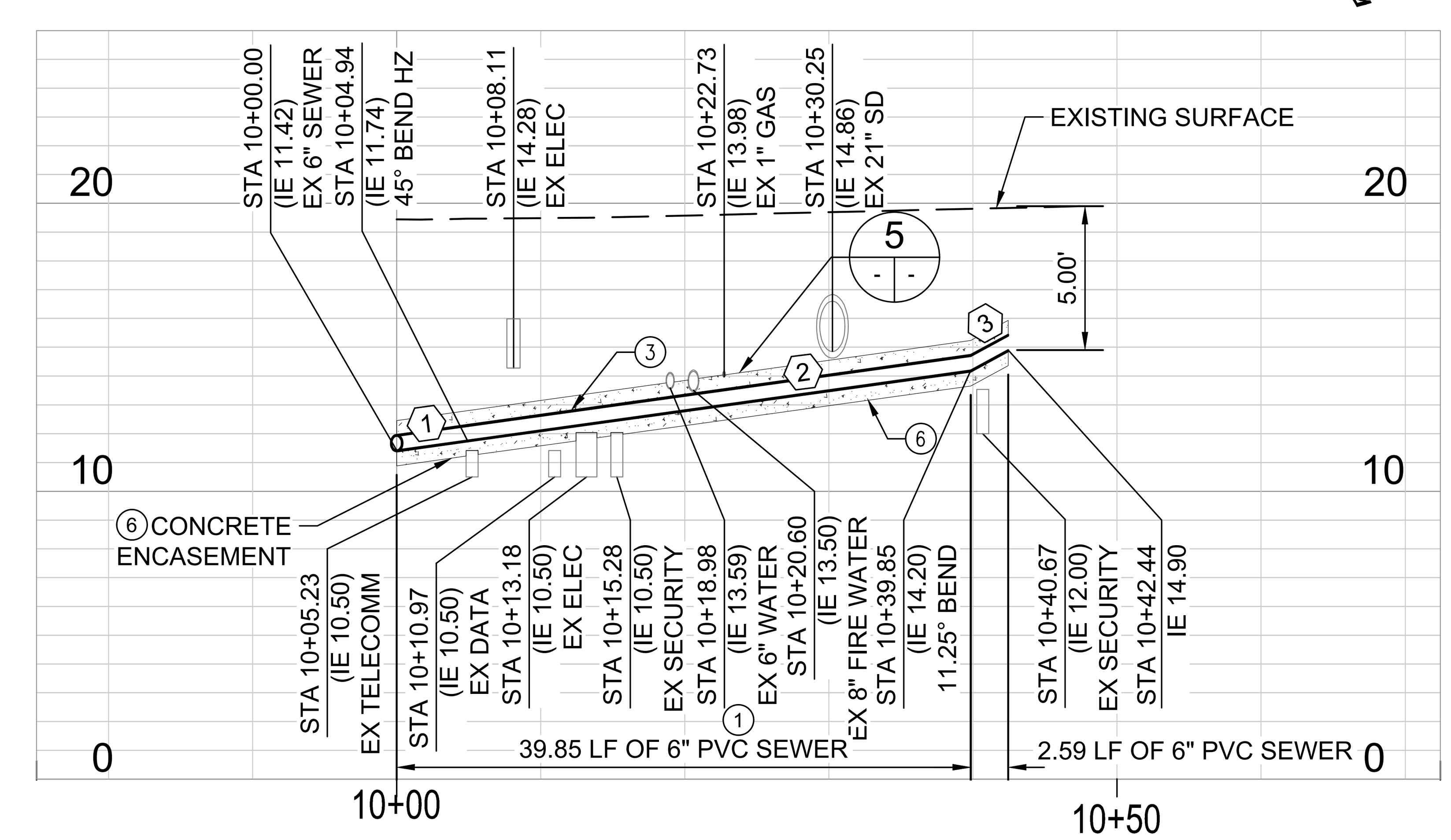
SEWER PLAN VIEW

SCALE: 1"=10'



ELECTRICAL PROFILE VIEW

SCALE: 1" = 10.0' (H)
1" = 5.0' (V)



SEWER PROFILE VIEW

SCALE: 1" = 10.0' (H)
1" = 5.0' (V)

ELECTRICAL DATA TABLE

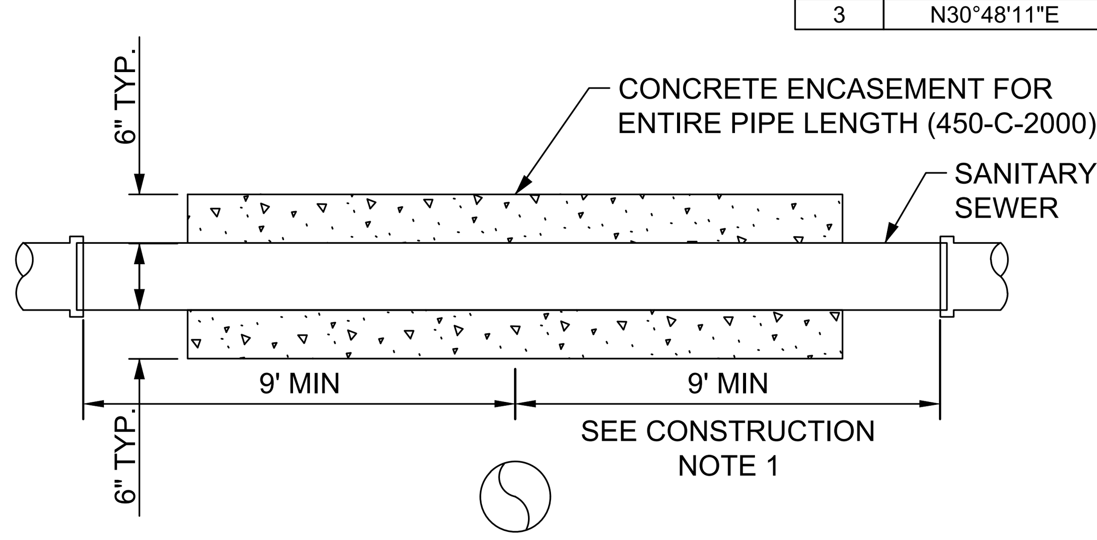
①	BEARING/DELTA	LENGTH
1	N00°01'31"E	4.44'
2	N89°58'29"W	42.15'
3	N30°48'11"E	60.24'

SEWER DATA TABLE

①	BEARING/DELTA	LENGTH	SLOPE %
1	N09°00'04"W	4.94'	6.96
2	N35°59'56"E	34.91'	6.96
3	N35°59'56"E	2.59'	27.23

NOTES:

1. UTILITY ENCASEMENT SHALL BE USED WHEN VERTICAL SEPARATION IS LESS THAN 1' AND HORIZONTAL IS LESS THAN 3' (OD TO OD).
2. ENCASEMENT TO BE PLACED AGAINST FILL COMPACTED TO 95% RELATIVE COMPACTION, UNLESS OTHERWISE SPECIFIED.
3. WHERE SLOPE TRENCHES ARE USED, WALLS WILL NOT BEGIN TO SLOPE CLOSER THAN 12" FROM TOP OF THE PIPE.
4. TRENCH SHALL COMPLY WITH POLB STD PLAN U-1 ON UT009.
5. PIPE SHALL BE SECURELY ANCHORED AT EACH JOINT TO PREVENT PIPE FROM FLOATING.
6. BACKFILL AND AC PAVEMENT CONSTRUCTION SHALL COMMENCE WHEN THE CONCRETE STRENGTH REACHES 75% SPECIFIED STRENGTH



5 UTILITY ENCASEMENT DETAIL

SCALE: NTS

CONSTRUCTION NOTES

1. CENTER SEWER PIPE SO THAT JOINTS ARE 9' MIN FROM WATER MAIN CROSSINGS.
2. CONTRACTOR MUST REPLACE ENTIRE CONCRETE PANEL THAT TRENCH EXTENDS INTO.
3. 6" SDR-35 PVC SEWER PIPE. TRENCH PER POLB STD U-1 ON UT009 AND U-4 ON UT010. EXCEPT AS NOTED BELOW:
   THE MINIMUM WIDTH OF EXCAVATION FOR PIPES IN TRENCHES AND TUNNELS SHALL BE THE EXTERIOR DIAMETER OF THE PIPE, ON EACH SIDE OF THE PIPE, PLUS THE FOLLOWING:
   A. TWELVE (12) INCHES FOR PIPE WITH BELLS OR COLLARS
   B. EIGHT (8) INCHES FOR PIPE WITHOUT BELLS OR COLLARS
4. CONCRETE ENCASED ELECTRICAL DUCT BANK PER ELECTRICAL PLANS. TRENCH RESTORATION IN ASPHALT AND SIDEWALK PER POLB STD U-1 ON UT009 AND U-4 ON UT010. WHERE UTILITY CROSSES UNDER VEHICULAR PCC PAVEMENT, REPLACE ENTIRE CONCRETE PANEL THAT TRENCH EXTENDS INTO.TRENCH RESTORATION MUST MATCH EXISTING CONDITION.
5. SEE PLUMBING PLANS FOR CONTINUATION INTO BUILDING
6. WHERE 12" CLEARANCE BETWEEN UTILITIES IS INFEASIBLE, CONCRETE ENCASE PROPOSED SEWER AND ELECTRICAL PER DETAIL 5 ON UT003
7. FOR RISER DETAIL, SEE ELECTRICAL DETAIL 3 SHEET 10-02464-AE012
8. SEWER CLEANOUT PER POLB STD SS-5 ON UT010
9. CLEANOUT ECO-1 PER PLUMBING SHEET 10-02464-AP004
10. ARCHITECTURAL GRIDLINES PER SHEET 10-02464-AA006
11. MATCH EXISTING ELEVATION AND SLOPE AT ALL TRENCH EDGES.
12. DOWELED TRANSVERSE CONTRACTION JOINT PER CALTRANS DETAIL P10 ON SHEET UT005. DOWELED CONTRACTION JOINTS MUST BE SUPPORTED ON DOWEL BASKET PER CALTRANS DETAIL P12 ON UT006. JOINT SEALS PER CALTRANS DETAIL P20 ON UT008
13. CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT PER CALTRANS DETAIL P10 ON SHEET UT005. JOINT SEALS PER CALTRANS DETAIL P20 ON UT008
14. UNDOWELED CONTRACTION JOINT DETAIL PER CALTRANS DETAIL P16 ON UT007. REINFORCE NON-RECTANGULAR PANELS PER CALTRANS DETAIL P4 ON UT004. JOINT SEALS PER CALTRANS DETAIL P20 ON UT008
15. EXPANSION JOINT PER DETAIL 4 ON UT011

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER RYAN DAVID THOMAS No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA

12/5/2024

CLINT C. HERRERA, P.E. NO. C61471
DIRECTOR OF ENGINEERING DESIGN

1/27/2025
DATE

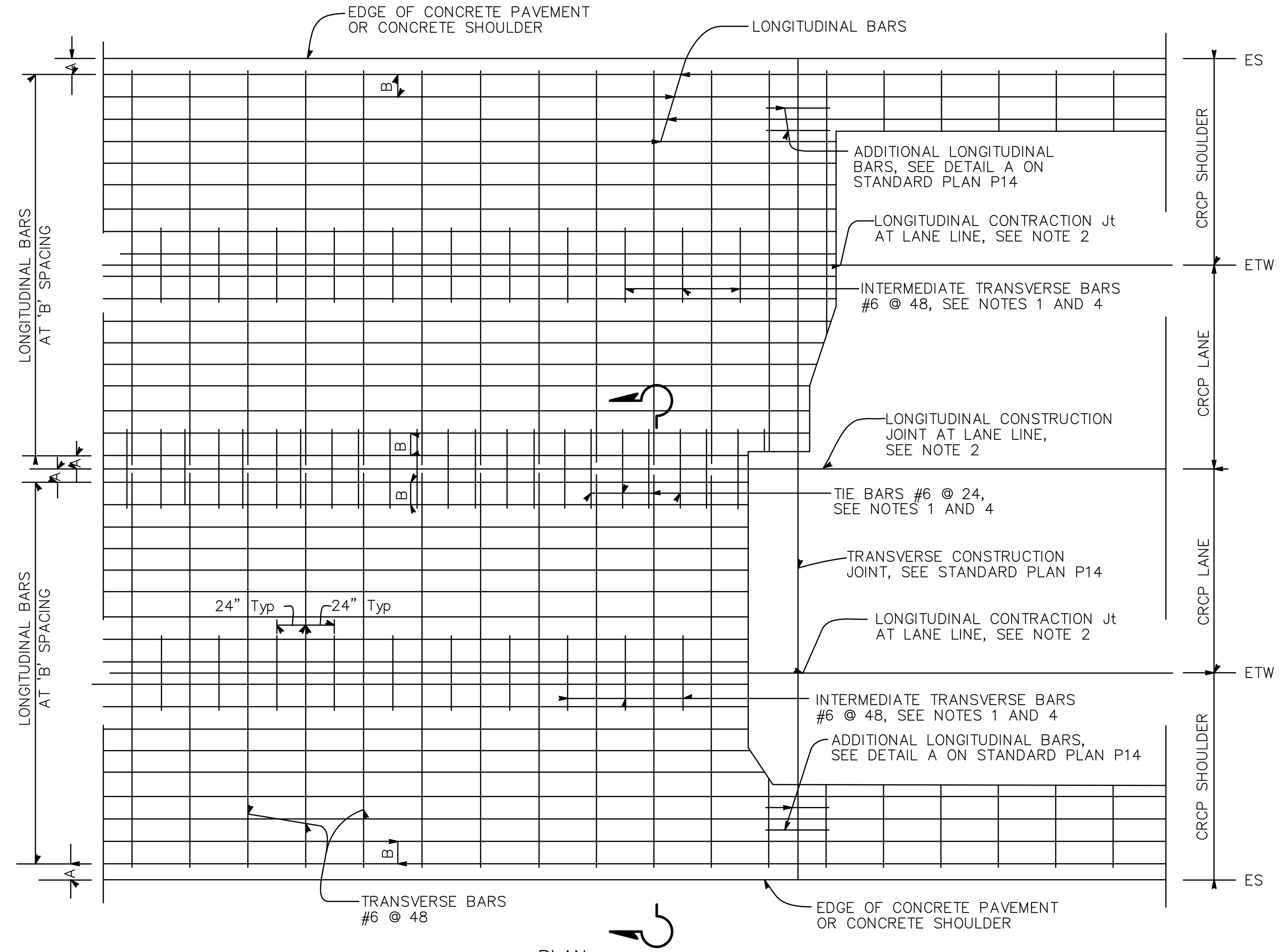
Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO.: HD-S3195
CADD STD. VER.: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV:
CHECKED BY: JRW
DRAWN BY: LM
DESIGNED BY: LM
DESIGN MGR: RT
VERTICAL CONTROL: NGVD 29 MLLW
DATE:
DATE: 11/26/2024
DATE: 11/26/2024
POLB DM: VL
POLB PM: MS

725 HARBOR PLAZA
PIER G, MAINTENANCE BUILDING C PUMP SHOP CONVERSION
SITE AND UTILITY PLAN

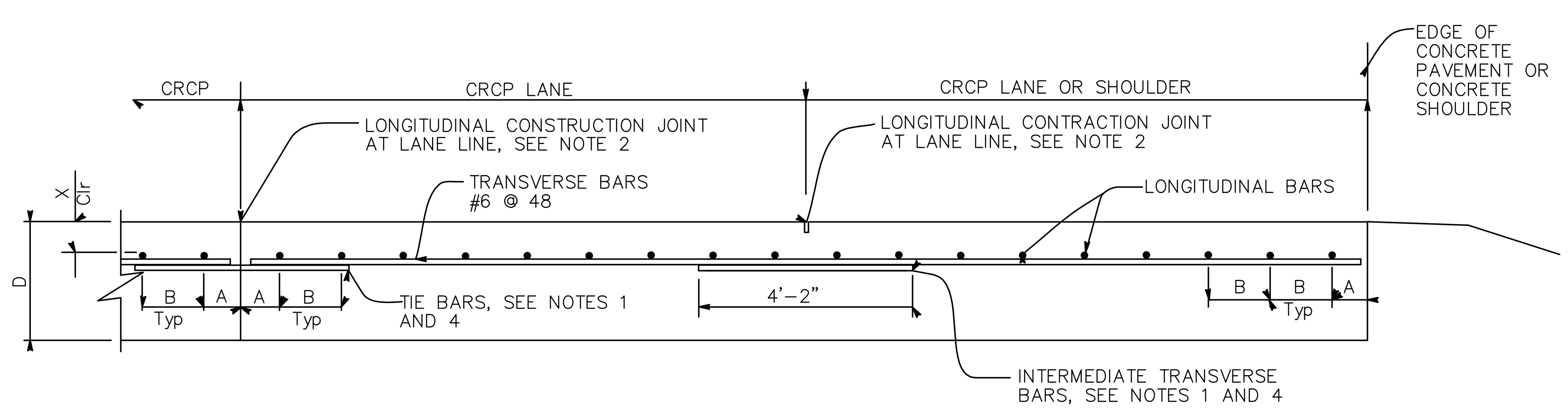
10-02464-UT003

SHEET 16 OF 86



PLAN

See Note 3



SECTION Z-Z

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TABLE No. 1 LONGITUDINAL BAR REINFORCEMENT

SLAB THICKNESS AND BAR SIZE		FIRST SPACING AT EDGE OR JOINT	REGULAR BARS	ADDITIONAL BARS AT TRANSVERSE CONSTRUCTION JOINT	Clr
D	BAR SIZE	SPACING A	SPACING B	SPACING 2 x B	X
.75'	#6	3" TO 4"	7.0"	14"	4"
.80'	#6	3" TO 4"	6.5"	13"	4"
.85'	#6	3" TO 4"	6.0"	12"	4"
.90'	#6	3" TO 4"	5.5"	11"	4"
.95'	#6	3" TO 4"	5.25"	10.5"	4"
1.00'	#6	3" TO 4"	5.0"	10"	5"
1.05'	#7	3" TO 4"	6.5"	13"	5"
1.10'	#7	3" TO 4"	6.25"	12.5"	5.5"

NOTES:

1. Place tie bars and intermediate transverse bars parallel to and in the same plane as transverse bars.
2. For longitudinal contraction and construction joint details, see Standard Plan P16.
3. For curved lane layout see Standard Plan P16.
4. For tie bar and intermediate transverse bar details, see Standard Plan P16.

ABBREVIATION:

D = Thickness of CRCP

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

NO SCALE

2022 STANDARD PLAN P4

P4

6-24-22

1 UT003 - REINFORCED CONCRETE PAVEMENT

SCALE: NTS

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12/5/2024

CLINT C. HERRERA P.E. NO. C61471
DIRECTOR OF ENGINEERING DESIGN

1/27/2025
DATE

Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO: HD-S3195
CONSTRUCTION REV:
DATE:
CADD STD. VER.: 1.5
CHECKED BY: JRW
DATE: 11/26/2024
DWG. SCALE: AS NOTED
DRAWN BY: LM
DATE: 11/26/2024
EPOCH: 2007
DESIGNED BY: LM
POLB DM: VL
PROJECT MGR: MG
DESIGN MGR: RT
POLB PM: MS
HORIZONTAL CONTROL: NAD83-VF
VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA
PIER G, MAINTENANCE BUILDING C PUMP SHOP CONVERSION
SITE DETAILS

10-02464-UT004

SHEET 17 OF 86

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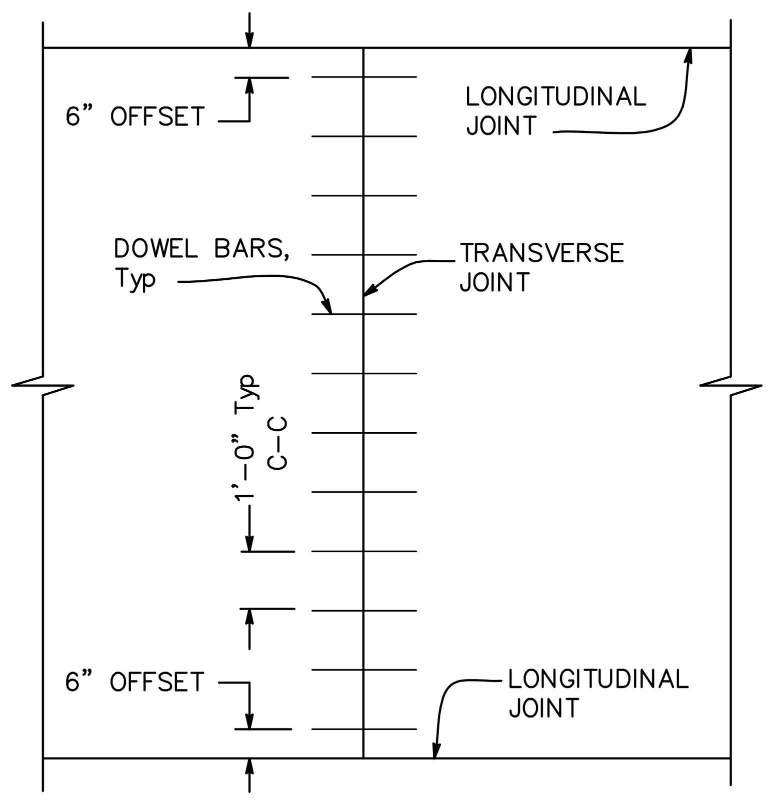
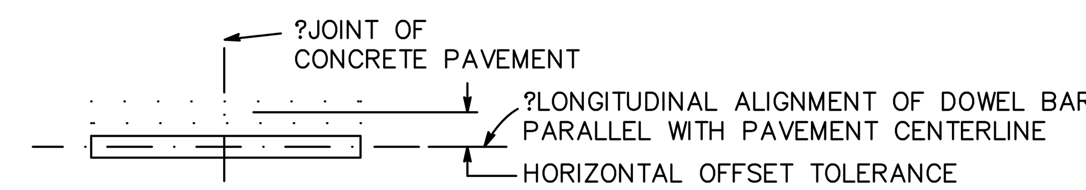
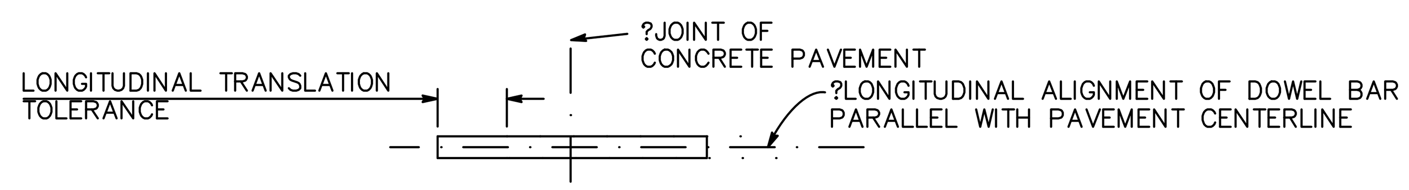


TRANSVERSE JOINT DOWEL BAR LAYOUT



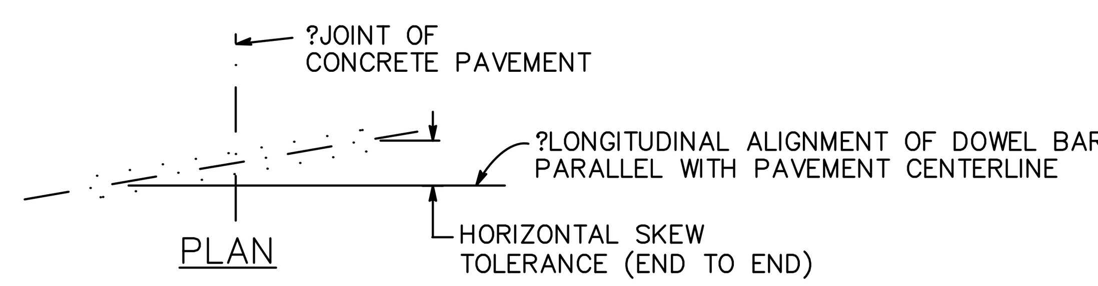
PLAN

HORIZONTAL OFFSET TOLERANCE



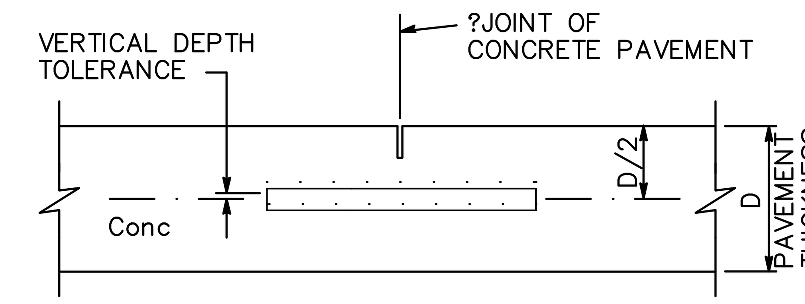
PLAN

LONGITUDINAL TRANSLATION TOLERANCE



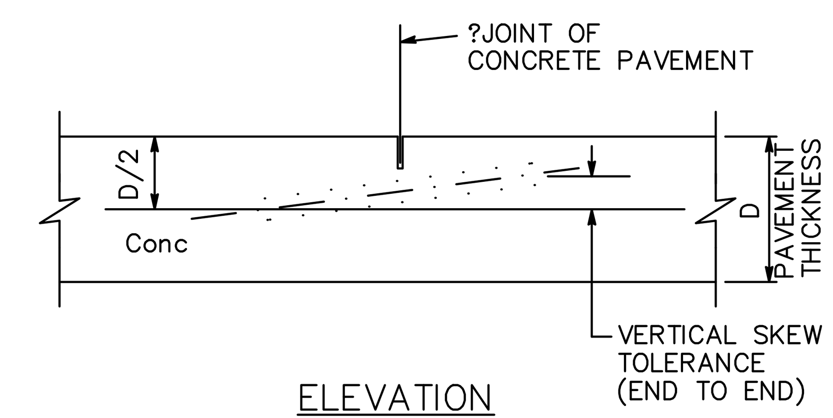
PLAN

HORIZONTAL SKEW TOLERANCE



ELEVATION

VERTICAL DEPTH TOLERANCE

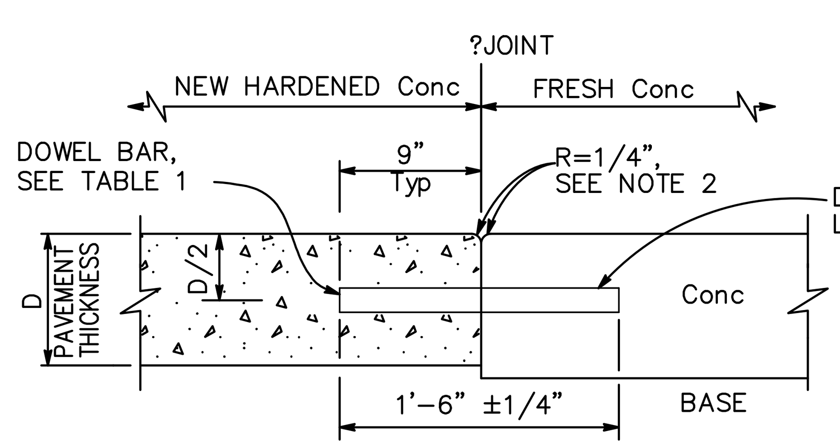


ELEVATION

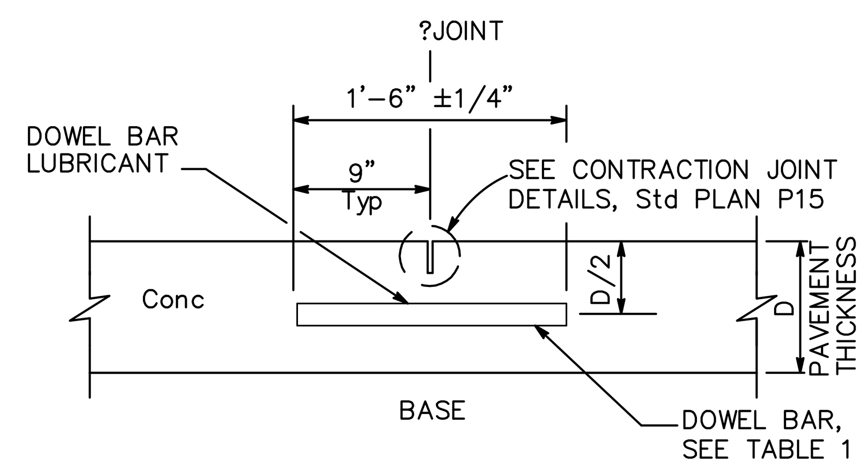
VERTICAL SKEW TOLERANCE

NOTES:

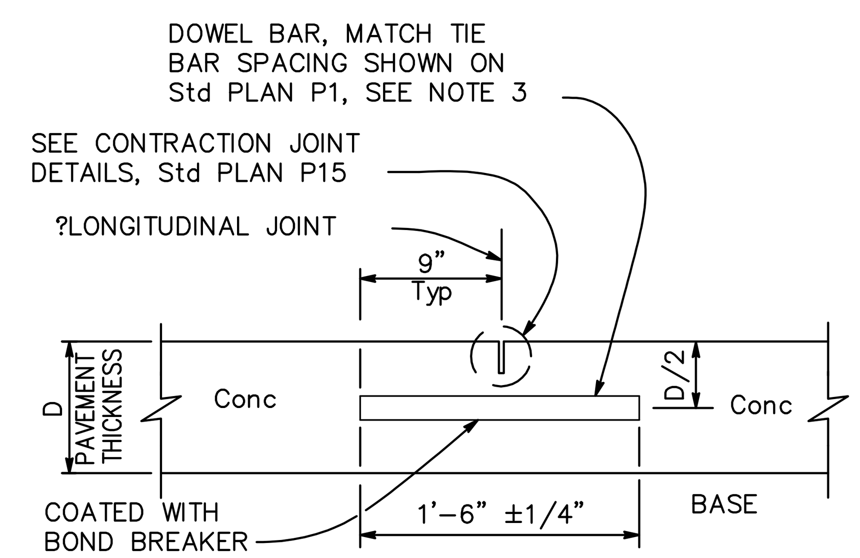
1. See Standard Plan P1 for typical dowel bar placement and locations.
2. Where fresh concrete pavement is placed against new concrete or existing concrete pavement, rounding the corner of the existing concrete pavement is not required.
3. May also use 3/4" Dia dowel bars 2'-4" ± 1/4" in length. Center the length of dowel bars at the centerline of longitudinal joint.



TRANSVERSE CONSTRUCTION JOINT DETAIL



TRANSVERSE CONTRACTION JOINT



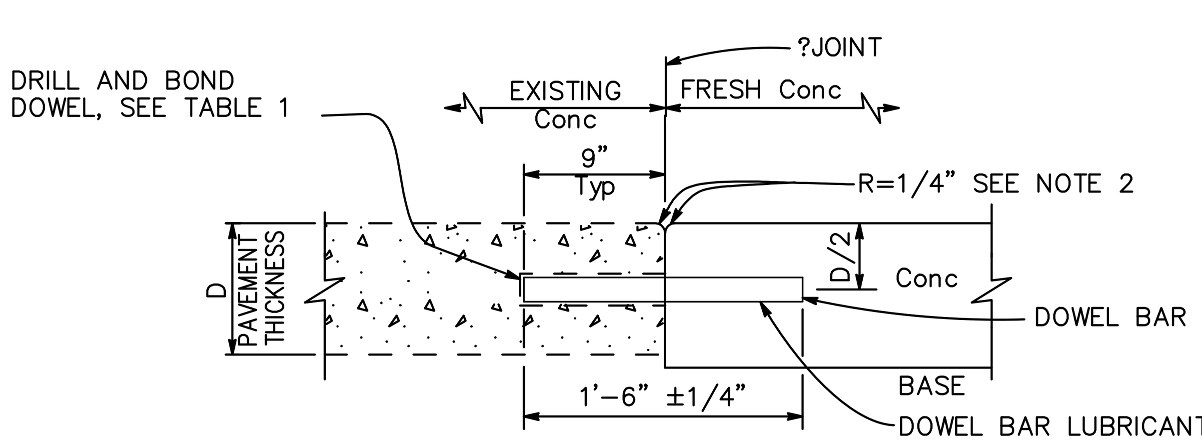
LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

See Std Plan P18

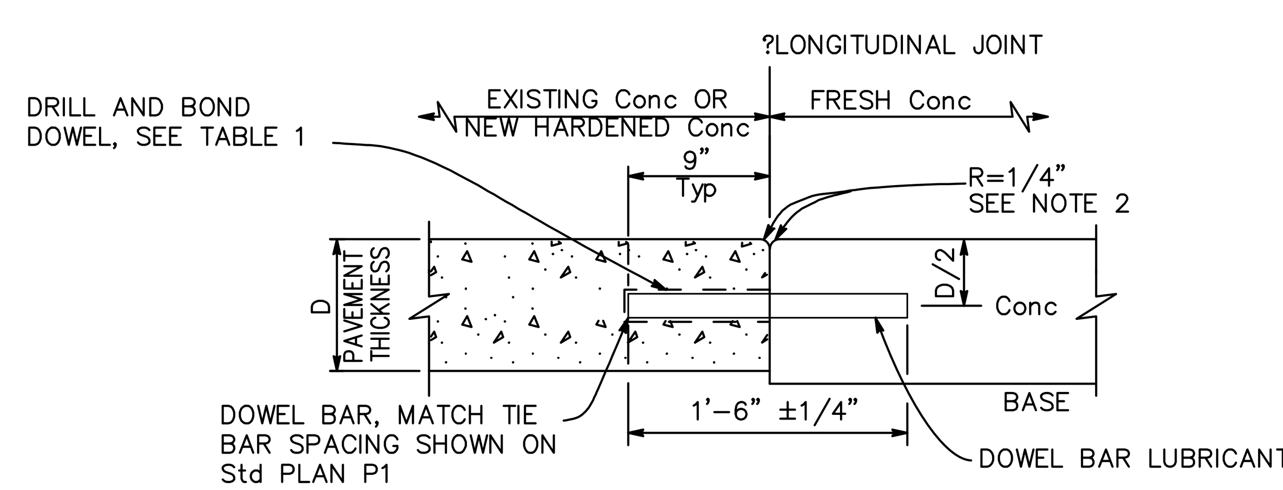
TABLE 1

DOWEL BAR DIAMETER TABLE			
PAVEMENT THICKNESS	0.65'	> 0.65' – 0.85'	> 0.85'
MINIMUM DOWEL * BAR DIAMETER	1"	11/4"	11/2"

* The drilled hole diameter must be 1/8" to 3/16" larger than the bar diameter.



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT



LONGITUDINAL CONSTRUCTION JOINT WITH DOWEL BARS

See Std Plan P18

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT DOWEL BAR DETAILS
NO SCALE

2023 STANDARD PLAN P10

P10

1-24-23

1 UT003 -
CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT
SCALE: NTS

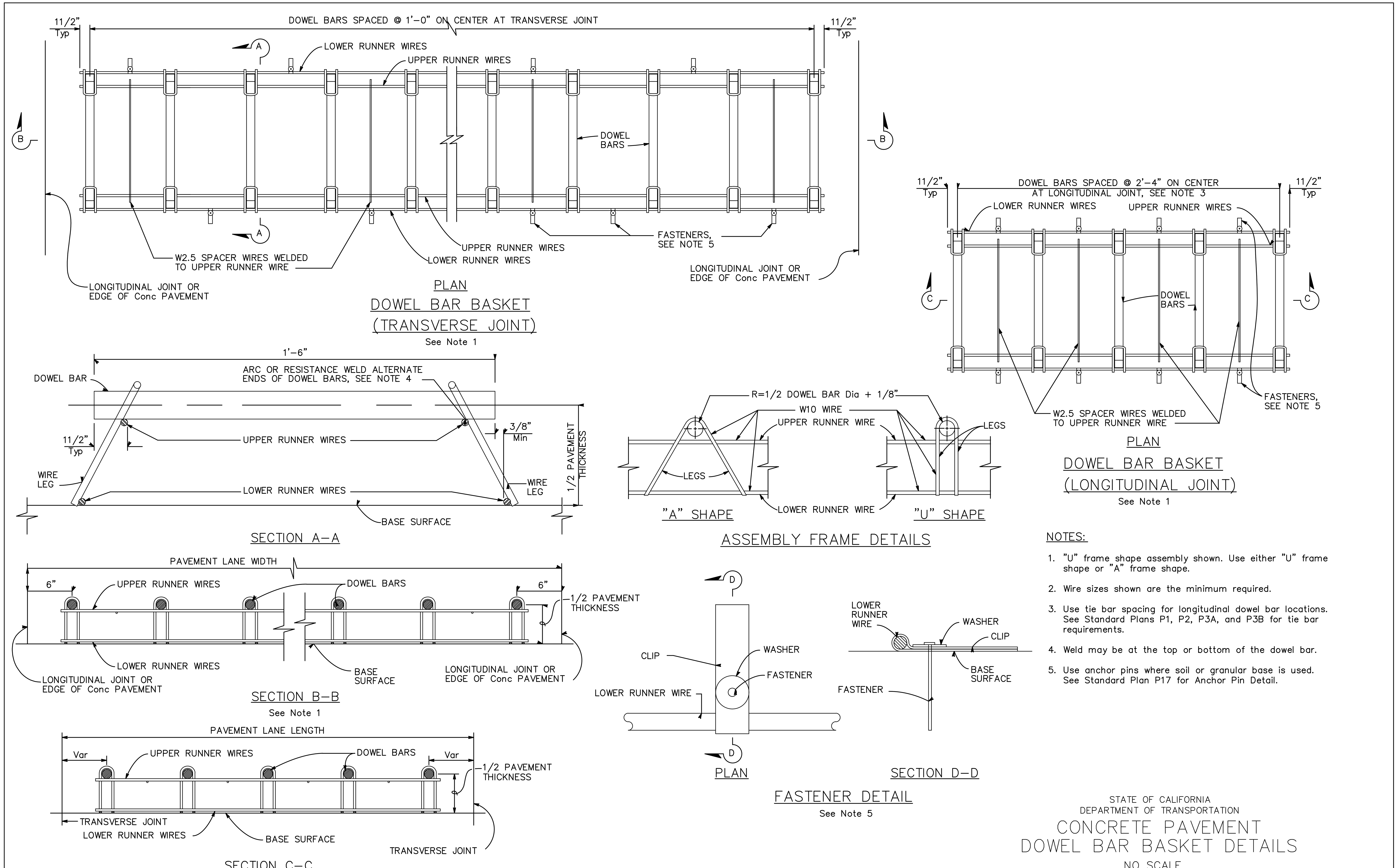
MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER RYAN DAVID THOMAS No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA
12/5/2024

CLINT C. HERRERA P.E. NO. C61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025
DATE
Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO: HD-S3195
CADD STD. VER.: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV:
CHECKED BY: JRW
DRAWN BY: LM
DESIGNED BY: LM
DESIGN MGR: RT
VERTICAL CONTROL: NGVD 29 MLLW
DATE:
DATE: 11/26/2024
DATE: 11/26/2024
POLB DM: VL
POLB PM: MS

725 HARBOR PLAZA
PIER G, MAINTENANCE BUILDING C PUMP SHOP CONVERSION
SITE DETAILS



NOTES:

1. "U" frame shape assembly shown. Use either "U" frame shape or "A" frame shape.
2. Wire sizes shown are the minimum required.
3. Use tie bar spacing for longitudinal dowel bar locations. See Standard Plans P1, P2, P3A, and P3B for tie bar requirements.
4. Weld may be at the top or bottom of the dowel bar.
5. Use anchor pins where soil or granular base is used. See Standard Plan P17 for Anchor Pin Detail.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT DOWEL BAR BASKET DETAILS

NO SCALE

P12

1-24-23

1 UT003 -

DOWELED CONTRACTION JOINT

SCALE: NTS

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER RYAN DAVID THOMAS No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA

12/5/2024

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DATE

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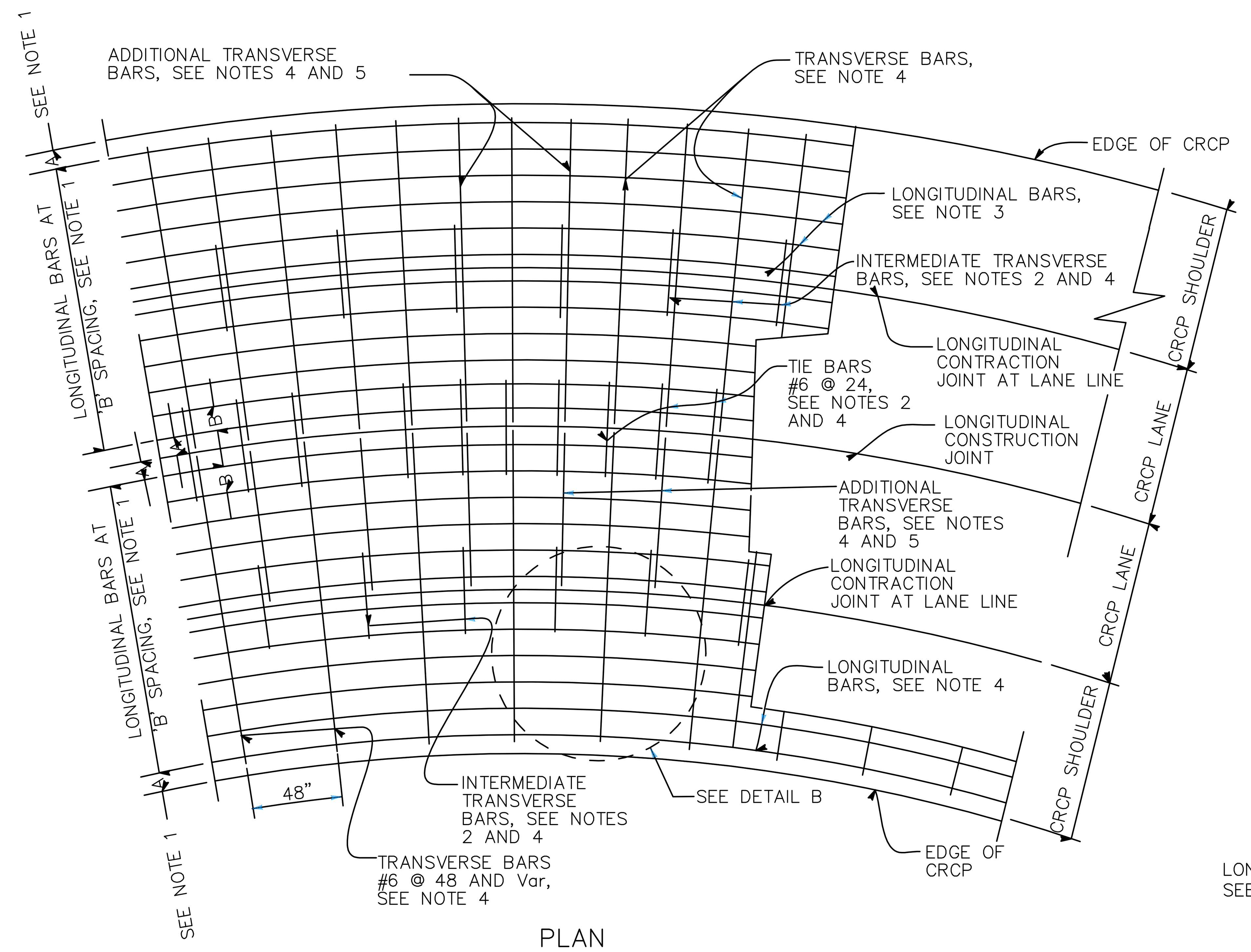
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV: DATE:
CHECKED BY: JRW DATE: 11/26/2024
DRAWN BY: LM DATE: 11/26/2024
DESIGNED BY: LM POLB DM: VL
DESIGN MGR: RT POLB PM: MS
VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
SITE DETAILS

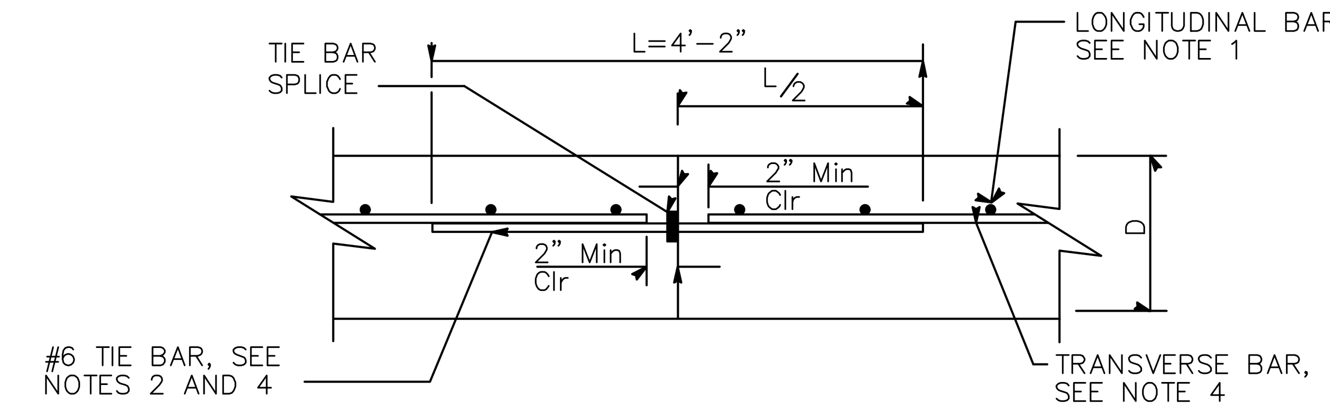
10-02464-UT006

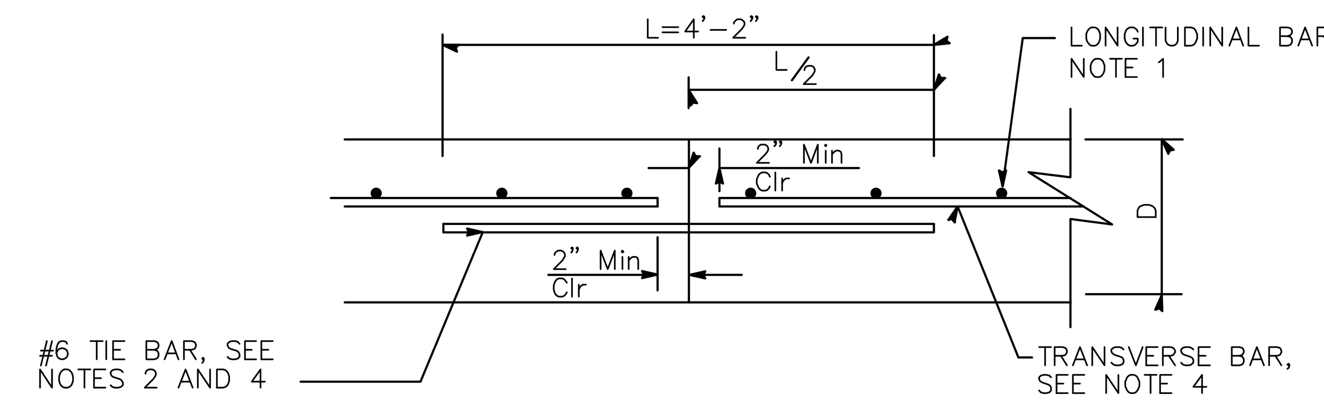
SHEET 19 OF 86



PLAN

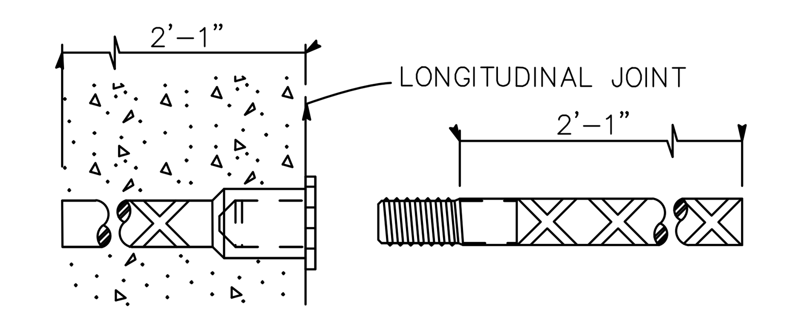
CURVED LANES



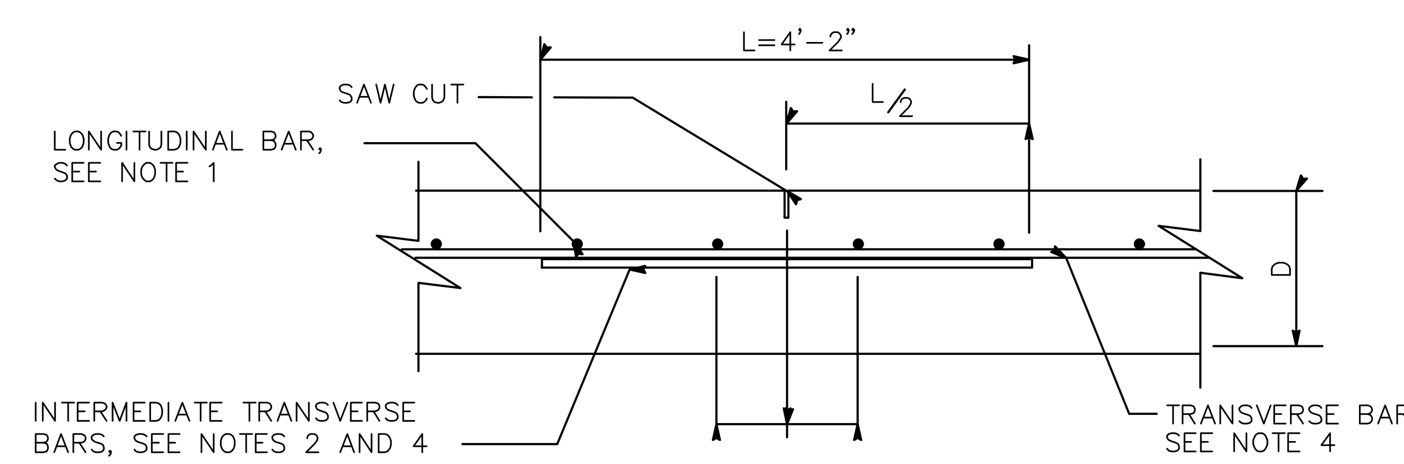


ALTERNATE

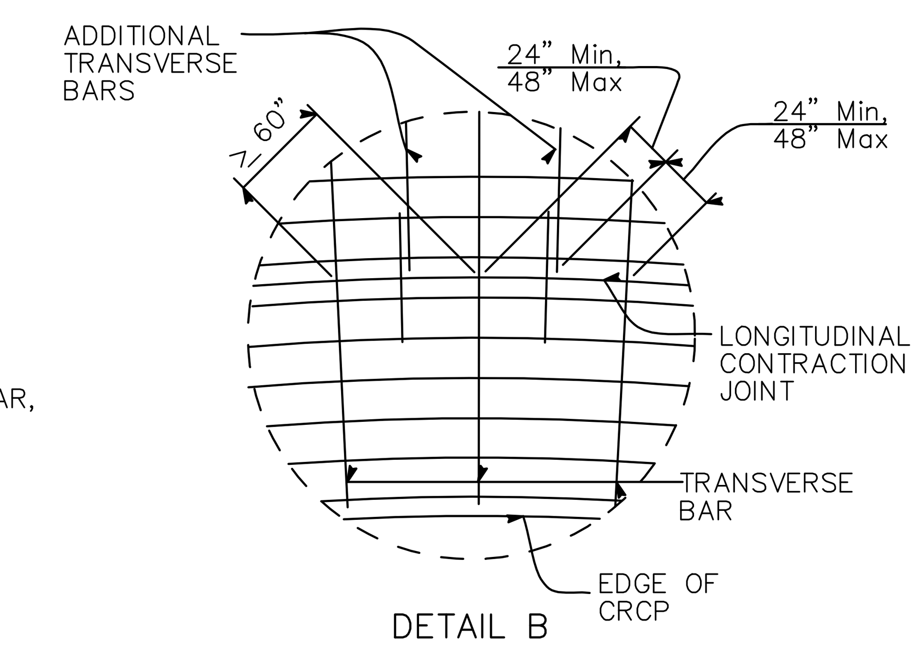
LONGITUDINAL CONSTRUCTION JOINT



TIE BAR SPLICE COUPLER DETAIL



LONGITUDINAL CONTRACTION JOINT



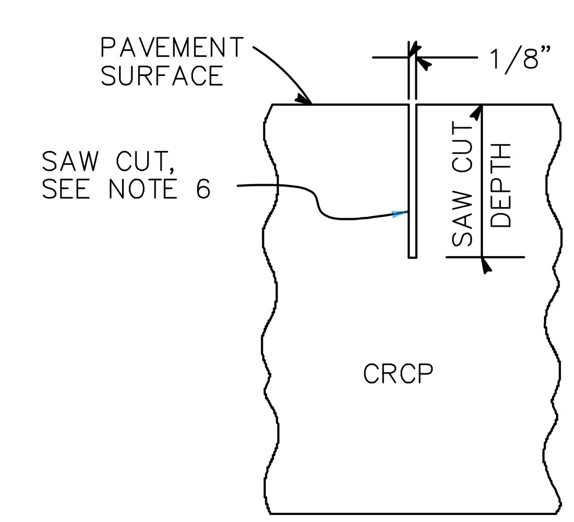
DETAIL B

NOTES:

1. For longitudinal bar spacing and clearances, see Table 1 on Standard Plan P4.
2. Place tie bars and intermediate transverse bars parallel to and in the same plane as the transverse bars.
3. Place longitudinal bars parallel to roadway curvature.
4. Place transverse bars, additional transverse bars, tie bars and intermediate transverse bars perpendicular to the pavement curvature.
5. Place additional transverse bars where required, see Detail B.
6. The bottom of the saw cut must be at least 0.5" clear of any dowel bar, tie bar and bar reinforcement.

ABBREVIATION:

D = Thickness of CRCP



CONTRACTION JOINT SAW CUT DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
TIE BARS AND JOINT DETAILS

NO SCALE

P16

2022 STANDARD PLAN P16

6-24-22

1 UT003 -
UNDOWELED CONTRACTION JOINT
SCALE: NTS

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER RYAN DAVID THOMAS No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA

12/5/2024

CLINT C. HERRERA P.E. NO. C61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025
DATE

Port of LONG BEACH THE PORT OF CHOICE

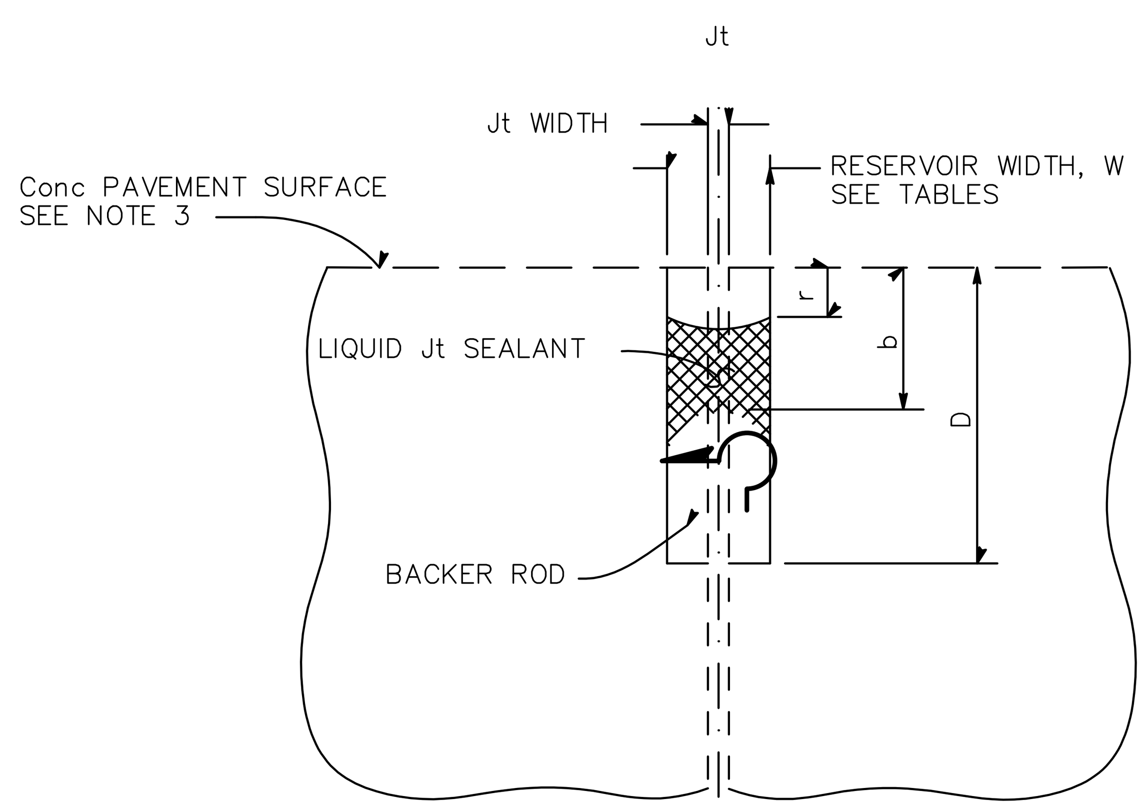
SPEC. NO: HD-S3195
CADD STD. VER: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV: DATE:
CHECKED BY: JRW DATE: 11/26/2024
DRAWN BY: LM DATE: 11/26/2024
DESIGNED BY: LM POLB DM: VL
DESIGN MGR: RT POLB PM: MS
VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA
PIER G, MAINTENANCE BUILDING C PUMP SHOP CONVERSION
SITE DETAILS

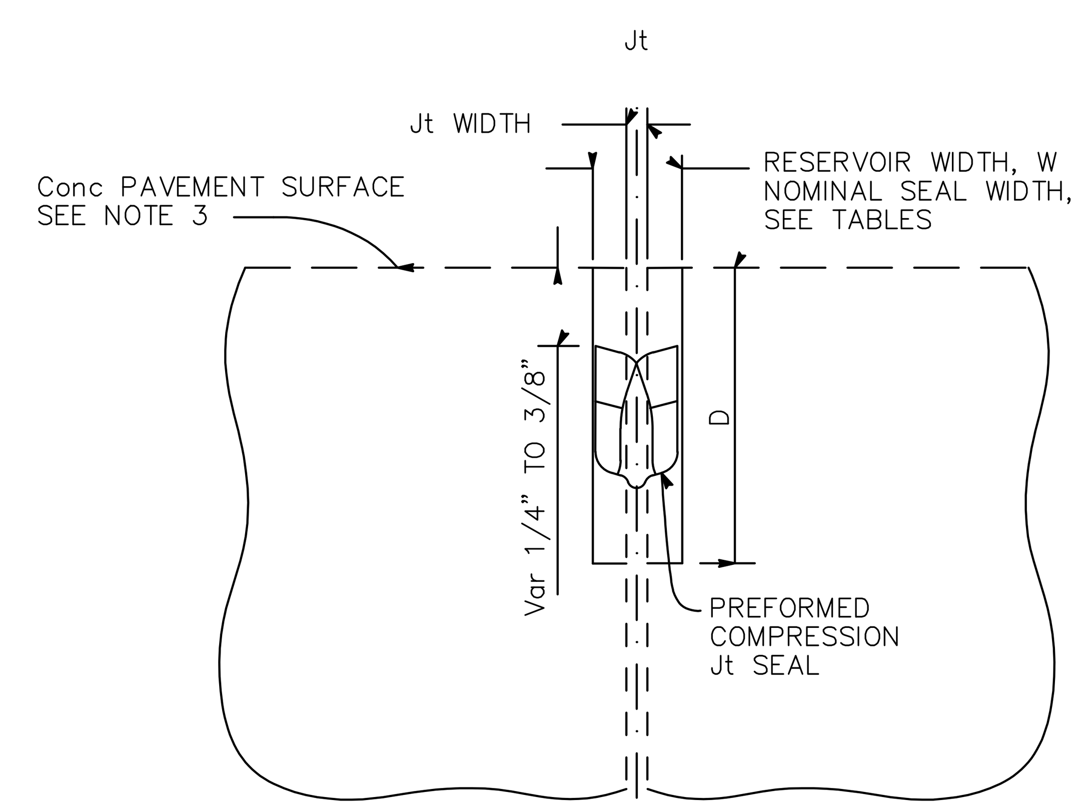
10-02464-UT007

SHEET 20 OF 86

NOTES:



LIQUID JOINT SEALANT



PREFORMED COMPRESSION JOINT SEAL

Const SEASON	Min RESERVOIR WIDTH * W ± 1/16"
WINTER	1/4"
SPRING	3/8"
SUMMER	
FALL	

* Minimum reservoir width for replace joint seal = existing joint width + 1/8"

RESERVOIR WIDTH W ±1/16"	LIQUID JOINT SEALANT DIMENSIONS					
	BACKER ROD NOMINAL Dia *	DEPTHS (ASPHALT RUBBER) **		DEPTHS (SILICONE)		
		RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RECESS r ± 1/16"
1/4"	3/8"	1 3/4"	7/8"	1 3/8"	1/2"	1/4"
3/8"	1/2"	1 7/8"	7/8"	1 1/2"	1/2"	1/4"
1/2"	3/4"	2"	7/8"	1 3/4"	9/16"	5/16"
5/8"	7/8"	2 1/4"	1"	2"	5/8"	5/16"
3/4"	1"	2 3/4"	1 1/8"	2 1/4"	3/4"	3/8"
7/8"	1 1/4"	3"	1 1/4"	2 1/2"	13/16"	3/8"
1"	1 1/2"	3 1/4"	1 3/8"	2 5/8"	7/8"	3/8"
1 1/8"	1 1/2"	3 1/2"	1 1/2"	2 13/16"	1"	1/2"

* Larger diameter backer rods may be substituted according to manufacturer recommendations if reservoir depth is increased equivalently.

** Asphalt rubber sealant recess depth "r" varies from 1/4" to 3/8"

RESERVOIR WIDTH W ±1/16""	PREFORMED COMPRESSION JOINT SEAL DIMENSIONS	
	NOMINAL SEAL WIDTH s	RESERVOIR DEPTH D ± 1/4"
1/4"	7/16"	1 1/4"
3/8"	11/16"	1 7/16"
1/2"	13/16"	1 11/16"
5/8"	1"	1 7/8"
3/4"	1 1/4"	2 1/8"
7/8"	1 5/8"	2 5/8"
1"	1 5/8"	2 5/8"
1 1/8"	2"	2 7/8"

2022 STANDARD PLAN P20

179

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINT SEALS

NO SCALE

P20

6-24-22

1 UT003 - JOINT SEALS
SCALE: NTS

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER RYAN DAVID THOMAS No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA

SEAL 12/5/2024

CLINT C. HERRERA P.E. NO. C61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025 DATE

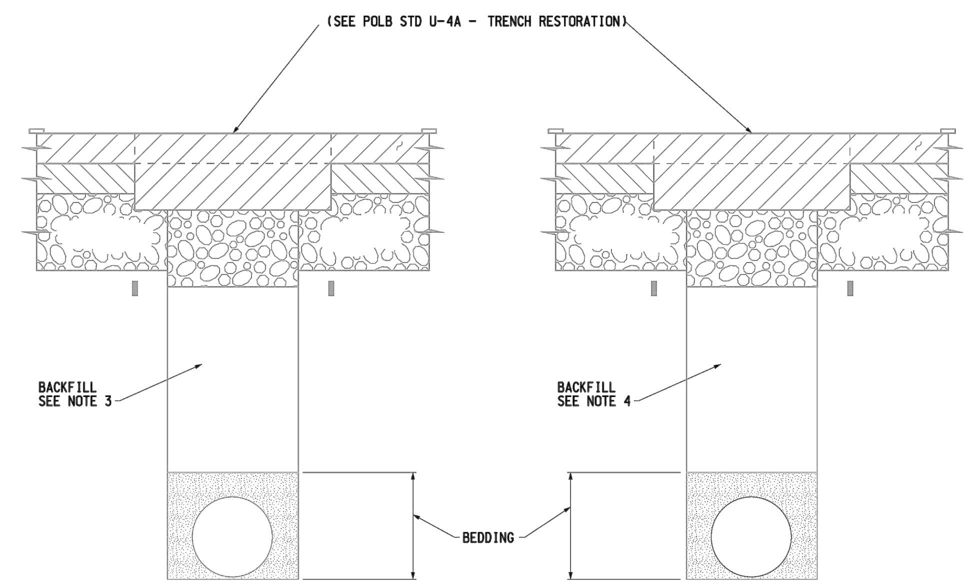
Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO: HD-S3195 | CONSTRUCTION REV: | DATE:
CADD STD. VER: 1.5 | CHECKED BY: JRW | DATE: 11/26/2024
DWG. SCALE: AS NOTED | DRAWN BY: LM | DATE: 11/26/2024
EPOCH: 2007 | DESIGNED BY: LM | POLB DM: VL
PROJECT MGR: MG | DESIGN MGR: RT | POLB PM: MS
HORIZONTAL CONTROL: NAD83-VF | VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
SITE DETAILS

10-02464-UT008

SHEET 21 OF 86



CASE I
NATIVE SOIL WITH SAND
EQUIVALENT LESS THAN 15

CASE II
NATIVE SOIL WITH SAND
EQUIVALENT 15 OR GREATER

	MATERIAL	REQUIREMENTS	THICKNESS LIMITS
BACKFILL	NATIVE OR IMPORT (SE30%) SAND	COMPACTED 95% (6" BELOW BASE) COMPACTED 90% (TOP 3' FROM FINISH SURFACE) COMPACTED 85%	
	SLURRY (100-E-100)	WHEN REQUIRED	
BEDDING WATER MAIN	NATIVE SAND (SE 30%)	JETTED OR COMPACTED 90%	
BEDDING SEWER MAIN	GRAVEL	JETTED OR COMPACTED 90%	

(SE 30%) = SAND EQUIVALENT GREATER THAN 30

NOTES:

1. TRENCHES IN EITHER CONCRETE OR ASPHALT CONCRETE PAVEMENTS SHALL BE SAW CUT TO FULL DEPTH OF THE PAVEMENT.
2. ALL DISTURBED SUBGRADE, AND BACKFILL SHALL BE COMPACTED TO NOT LESS THAN NINETY PERCENT (90%) RELATIVE COMPACTION, UNLESS OTHERWISE NOTED.
3. CASE I - TRENCH BACKFILL SHALL BE CEMENT SLURRY, CLASS 100- E-100 CONCRETE OR APPROVED BY THE ENGINEER, BACKFILL MATERIAL WITH A SAND EQUIVALENT OF 15 OR GREATER.
4. CASE II - NATIVE MATERIAL IS SUITABLE FOR BACKFILL.
5. ALL NATIVE OR IMPORT BACKFILL MATERIAL MUST MEET POLB'S GUIDLINES FOR USE OF NATIVE OR IMPORT MATERIAL.

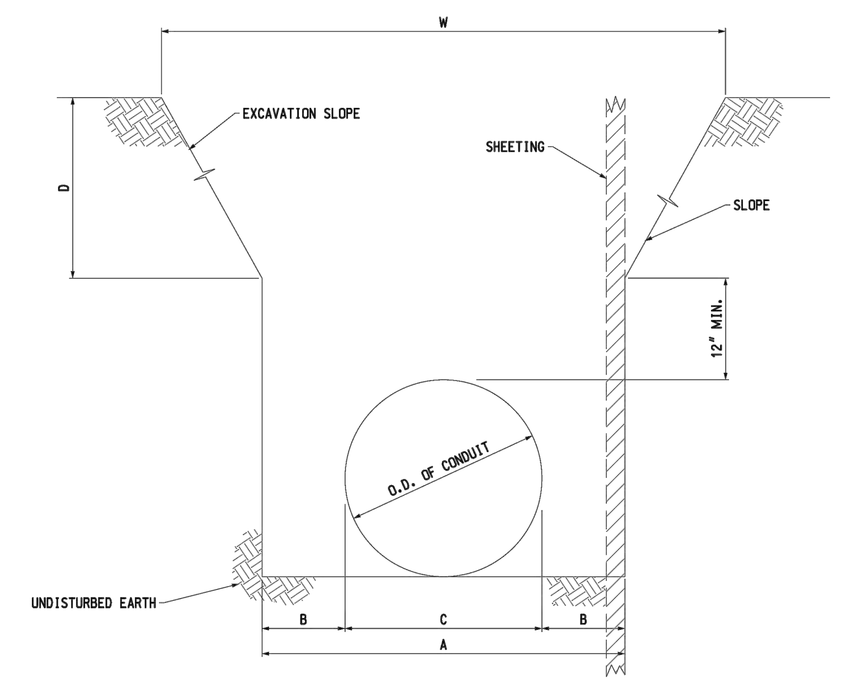
Port of LONG BEACH THE PORT OF CHOICE

TRENCH REQUIREMENTS IN STREETS

STANDARD PLAN U-1A

APPROVED BY: CLINT C. HERRERA, DIRECTOR ENG. DESIGN P.E. NO.: C-61471 DATE: 02-05-24

1 OF 5



A = DIMENSION OF TRENCH OF TOP OF PIPE
A (MAX.) = C + 20" (NOTE 1)
B = 6" MINIMUM, 10" MAXIMUM
C = OUTSIDE DIAMETER OF CONDUIT
D = IN ACCORDANCE WITH CAL-OSHA GUIDELINES
SLOPE = AS DETERMINED BY THE SOILS ENGINEER
W = SURFACE TRENCH WIDTH (AS APPROVED BY THE DIRECTOR OF ENGINEERING DESIGN)

NOTE:

1. UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF ENGINEERING DESIGN.

TRENCH WIDTH REQUIREMENTS

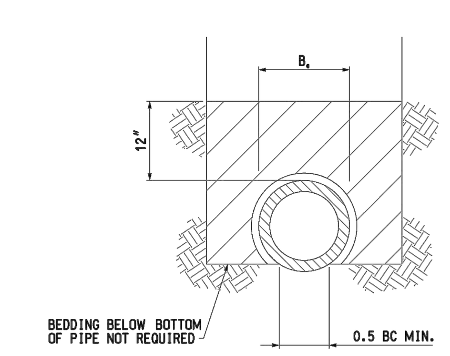
Port of LONG BEACH THE PORT OF CHOICE

TRENCH WIDTH AND BEDDING REQUIREMENTS

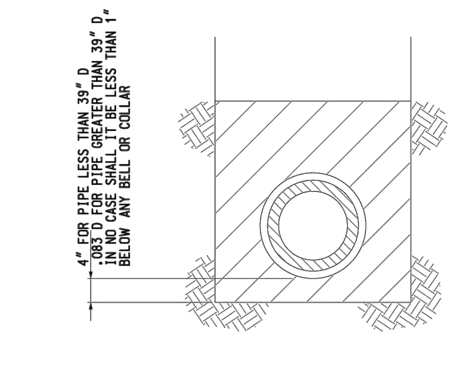
STANDARD PLAN U-1A

APPROVED BY: CLINT C. HERRERA, DIRECTOR ENG. DESIGN P.E. NO.: C-61471 DATE: 02-05-24

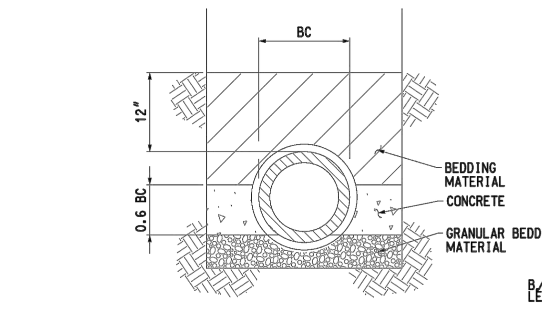
2 OF 5

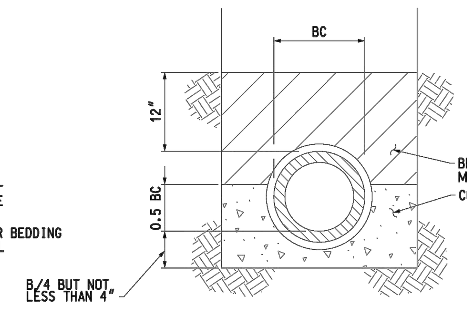


CLASS "A" BEDDING
LOAD FACTOR 1.5



CLASS "A" BEDDING
LOAD FACTOR 1.8





CLASS "B" BEDDING
LOAD FACTOR 2.5

CLASS "C" BEDDING
LOAD FACTOR 3.0

NOTE:

1. CLASS "A" BEDDING SHALL BE USED, UNLESS OTHERWISE NOTED ON PROJECT PLANS.
2. BEDDING MATERIAL SHALL CONFORM TO SSPWC 306-6. SAND EQUIVALENT OF NOT LESS THAN 30.
3. WHEN CONCRETE BEDDING IS USED, PIPE SHALL BE SECURELY ANCHORED AT EACH JOINT TO PREVENT PIPE FROM FLOATING.
4. SHEETING NOT SHOWN.
5. GRANULAR MATERIAL SHALL BE NO. 4 AGGREGATE OR 1/2" CRUSHED ROCK.
6. CONCRETE BEDDING SHALL BE CLASS 450-C-2000.
7. IF TRENCH IS OVER EXCAVATED, A MINIMUM OF 4" OF BEDDING MATERIAL SHALL BE PLACED ON NATIVE SOIL UNDER THE PIPE.
8. SEE POLB U-4A FOR TRENCH RESTORATION.

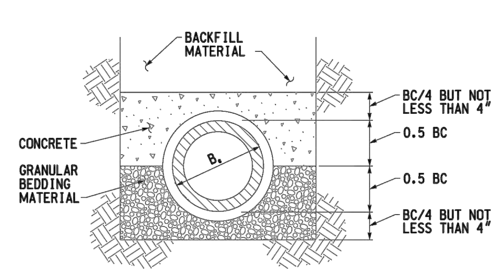
Port of LONG BEACH THE PORT OF CHOICE

TRENCH WIDTH AND BEDDING REQUIREMENTS

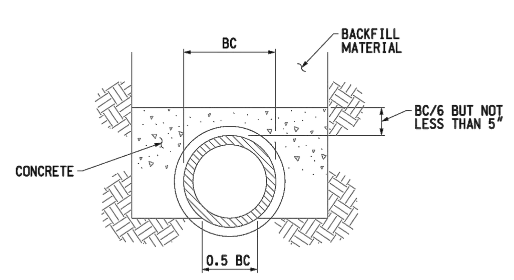
STANDARD PLAN U-1A

APPROVED BY: CLINT C. HERRERA, DIRECTOR ENG. DESIGN P.E. NO.: C-61471 DATE: 02-05-24

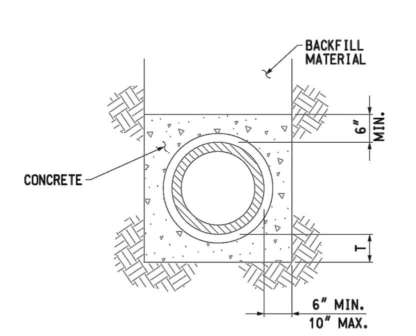
3 OF 5



CLASS "D" BEDDING
LOAD FACTOR 3.2
(TO BE USED ONLY WHEN SEVERE GROUND WATER CONDITIONS OCCUR)



CLASS "E" BEDDING
LOAD FACTOR 3.2



CLASS "F" BEDDING
LOAD FACTOR 4.5

TABLE OF T DIMENSIONS	
PIPE SIZE (I.D.)	T
6" - 24"	6"
27" - 33"	8"
36" - 39"	9"
42" - 60"	10"

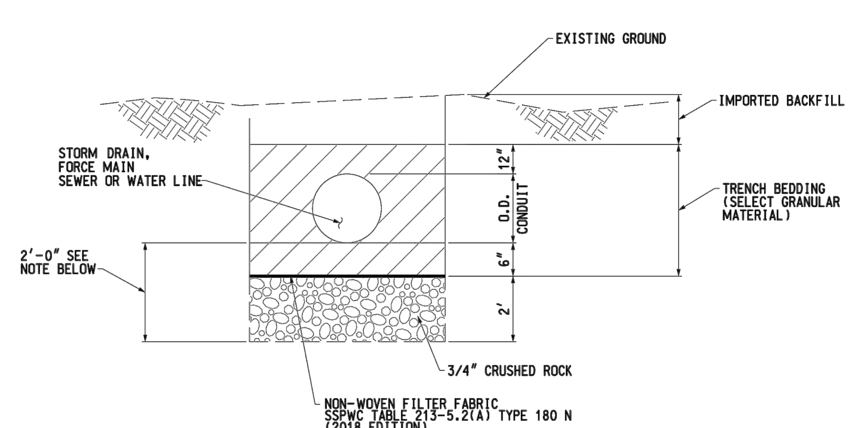
Port of LONG BEACH THE PORT OF CHOICE

TRENCH WIDTH AND BEDDING REQUIREMENTS

STANDARD PLAN U-1A

APPROVED BY: CLINT C. HERRERA, DIRECTOR ENG. DESIGN P.E. NO.: C-61471 DATE: 02-05-24

4 OF 5



BEDDING DETAIL FOR
SEVERE GROUND WATER CONDITION

NOTE:

THE TRENCH WIDTH SHALL CONFORM TO THE REQUIREMENT ON SHEET 2 OF 5. THE BEDDING DETAIL APPLIES TO ALL STORM DRAIN, FORCE MAIN DISCHARGE PIPING, SEWER AND WATER SERVICE CONSTRUCTION. WHERE BOTTOM OF TRENCH IS BELOW WATER TABLE, OVEREXCAVATE AND USE 2 FEET THICK 3/4" CRUSHED ROCK FOR BEDDING BELOW BOTTOM OF PIPE.

CLASS "A" BEDDING ALTERNATIVE

Port of LONG BEACH THE PORT OF CHOICE

TRENCH WIDTH AND BEDDING REQUIREMENTS

STANDARD PLAN U-1A

APPROVED BY: CLINT C. HERRERA, DIRECTOR ENG. DESIGN P.E. NO.: C-61471 DATE: 02-05-24

5 OF 5

1 TRENCH WIDTH AND BEDDING REQUIREMENTS
UT002 | -
UT003
SCALE: NTS

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA
12/5/2024

CLINT C. HERRERA P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025 DATE

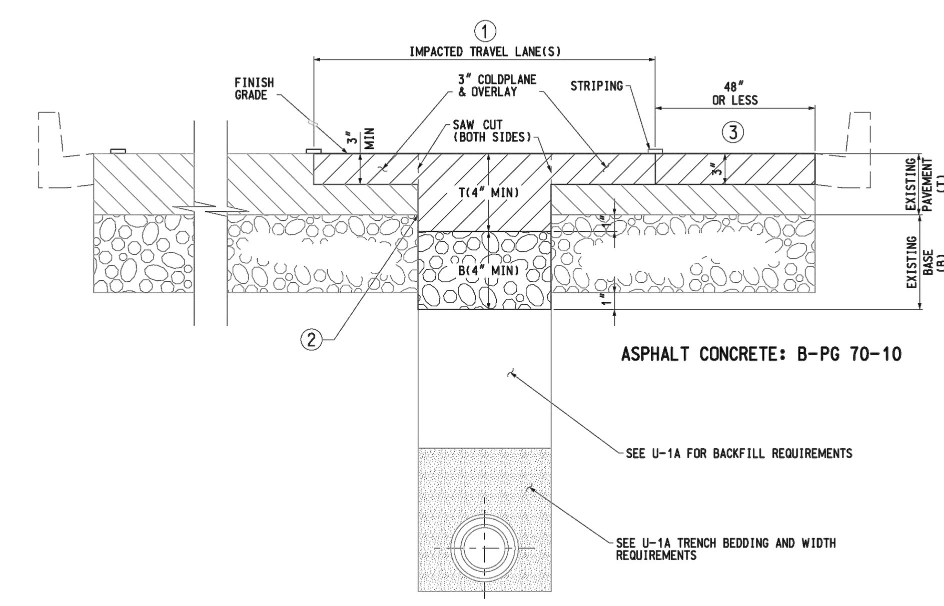
Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO: HD-S3195	CONSTRUCTION REV:	DATE:
CADD STD. VER: 1.5	CHECKED BY: JRW	DATE: 11/26/2024
DWG. SCALE: AS NOTED	DRAWN BY: LM	DATE: 11/26/2024
EPOCH: 2007	DESIGNED BY: LM	POLB DM: VL
PROJECT MGR: MG	DESIGN MGR: RT	POLB PM: MS
HORIZONTAL CONTROL: NAD83-VF	VERTICAL CONTROL: NGVD 29 MLLW	

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
SITE DETAILS

10-02464-UT009
SHEET 22 OF 86

TRENCH RESTORATION SUMMARY



NOTES:

1. GRIND AND REPAVE A MINIMUM 3" FOR WIDTH OF IMPACTED TRAVEL LANE(S).
2. REPLACEMENT OF ASPHALT CONCRETE SECTION OVER THE TRENCH SHALL BE A MINIMUM OF 1" THICKER THAN EXISTING.
3. IF THE TRENCH IS ADJACENT TO CURB OR CURB AND GUTTER (48" OR LESS), THE EXISTING PAVEMENT SHALL BE GRIND AND RESURFACED WITH 3" OF AC TO THE EDGE OF THE GUTTER/CURB.

Port of LONG BEACH THE PORT OF CHOICE | TRENCH RESTORATION | STANDARD PLAN U-4A

APPROVED BY: CLINT C. HERRERA, DIRECTOR OF ENG. DESIGN P.E. NO.: C-61471 DATE: 02-05-24 1 OF 3

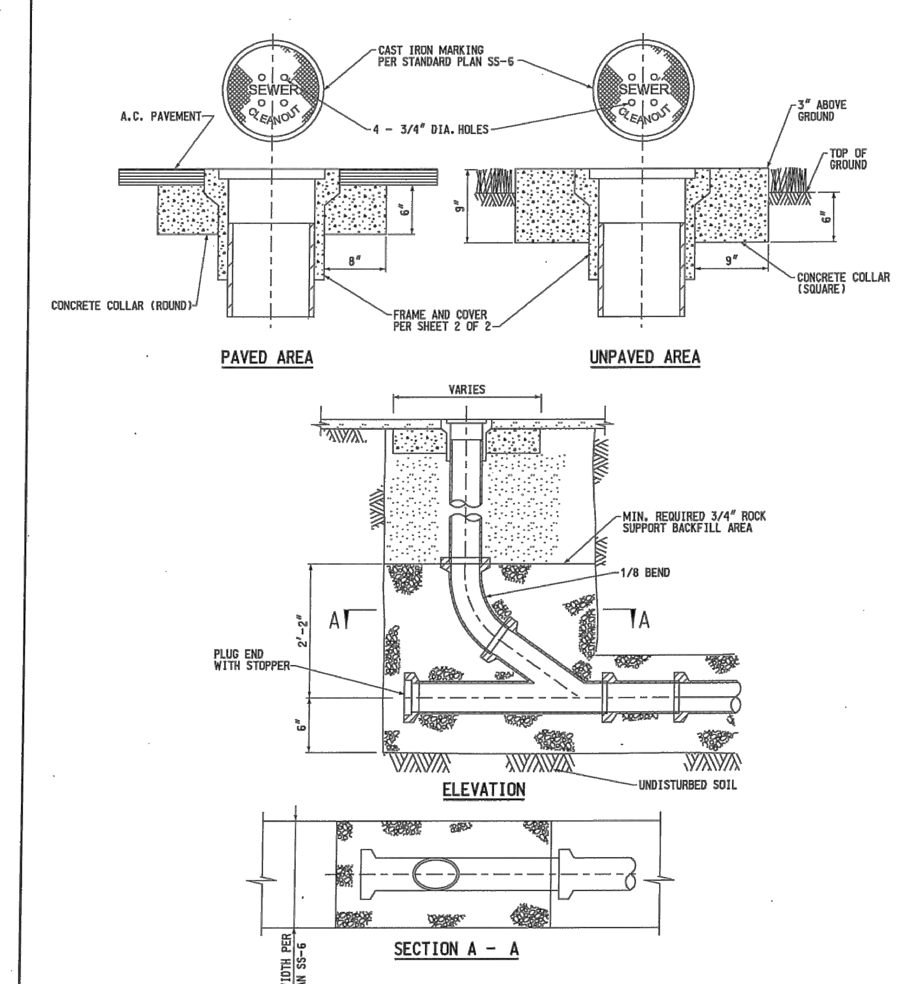
NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS PROVIDED IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE GREENBOOK), CURRENT EDITION UNLESS OTHERWISE NOTED.
2. PERMANENT PAVEMENT RESTORATION SHALL COMMENCE WITHIN TEN WORKING DAYS FROM COMPLETION OF CONSTRUCTION OR AFTER A MAXIMUM OF 500 LINEAR FEET OF TRENCH CONSTRUCTION HAS BEEN COMPLETED, WHICHEVER COMES FIRST.
3. SLURRY BACKFILL AND BASE (100-E-100) MUST BE USED WHEN SPECIFIED BY THE ENGINEER. SLURRY MAY BE REQUIRED AT MAJOR STREET CROSSINGS.
4. TRENCHES FOR BOTH CONCRETE AND ASPHALT CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF PAVEMENT.
5. DURING CONSTRUCTION WHEN TEMPORARY ASPHALT IS USED, IT SHALL BE PLACED IN 2 INCH THICKNESS MINIMUM AND COMPACTED BY MEANS OF A SELF-PROPELLED STEEL WHEEL ROLLER. COMPACTION AND SURFACE FINISH SHALL BE EQUAL TO THAT SPECIFIED FOR PERMANENT ASPHALT CONCRETE PAVEMENT.
6. IF TEMPORARY ASPHALT PAVEMENT IS USED, IT SHALL BE REMOVED PRIOR TO PERMANENT ASPHALT PAVEMENT BEING PLACED.
7. WHEN ANY TRENCH PAVEMENT RESTORATION OCCURS WITHIN 4 FEET OF A CONSTRUCTION JOINT, EXPANSION JOINT, COLD JOINT, OR EDGE, THE PAVEMENT BETWEEN THE TRENCH AND THE JOINT, OR EDGE SHALL BE REMOVED AND REPLACED IN KIND WITH THE TRENCH PAVING.
8. COMPACTION TEST(S) SHALL BE PERFORMED DURING BACKFILL OPERATIONS, AT 100 FOOT INTERVALS AT VARYING DEPTHS DETERMINED IN THE FIELD BY THE ENGINEER.
9. IF THE NATIVE SOIL IS DEEMED UNSUITABLE FOR BACKFILL BY THE ENGINEER, IMPORTED BACKFILL WITH A SAND EQUIVALENT GREATER THAN (30) SHALL BE PROVIDED.
10. ALL DISTURBED SUBGRADE, AND BACKFILL SHALL BE COMPACTED TO NOT LESS THAN NINETY PERCENT (90%) RELATIVE COMPACTION, UNLESS OTHERWISE NOTED ON PROJECT PLAN.
11. AGGREGATE BASE AND PERMANENT ASPHALT CONCRETE PAVEMENT SHALL BE COMPACTED TO A MINIMUM DENSITY OF OF NINETY FIVE PERCENT (95%) PER SECTION 301 AND 302 RESPECTIVELY.
12. THE CITY CAN REQUIRE FULL DEPTH AC SECTION DEPENDING ON STREET CONDITION.
13. ALL DAMAGED OR REMOVED STRIPING, PAVEMENT LEGENDS, MARKERS, AND TRAFFIC SIGNAL LOOPS SHALL BE REPLACED.
14. MANHOLES OR VALVES IMPACTED BY THE AC IMPROVEMENTS SHALL BE RAISED OR LOWERED PER THE GREENBOOK.
15. IMPORT SOIL FOR BACKFILL MUST MEET THE PORT OF LONG BEACH'S ENVIRONMENTAL REQUIREMENTS FOR SOIL AND FILL MATERIAL GUIDELINES FOR USE OF NATIVE OR IMPORT SOIL.

Port of LONG BEACH THE PORT OF CHOICE | TRENCH RESTORATION | STANDARD PLAN U-4A

APPROVED BY: CLINT C. HERRERA, DIRECTOR OF ENG. DESIGN P.E. NO.: C-61471 DATE: 02-05-24 2 OF 3

1 TRENCH RESTORATION
UT003 | -
SCALE: NTS



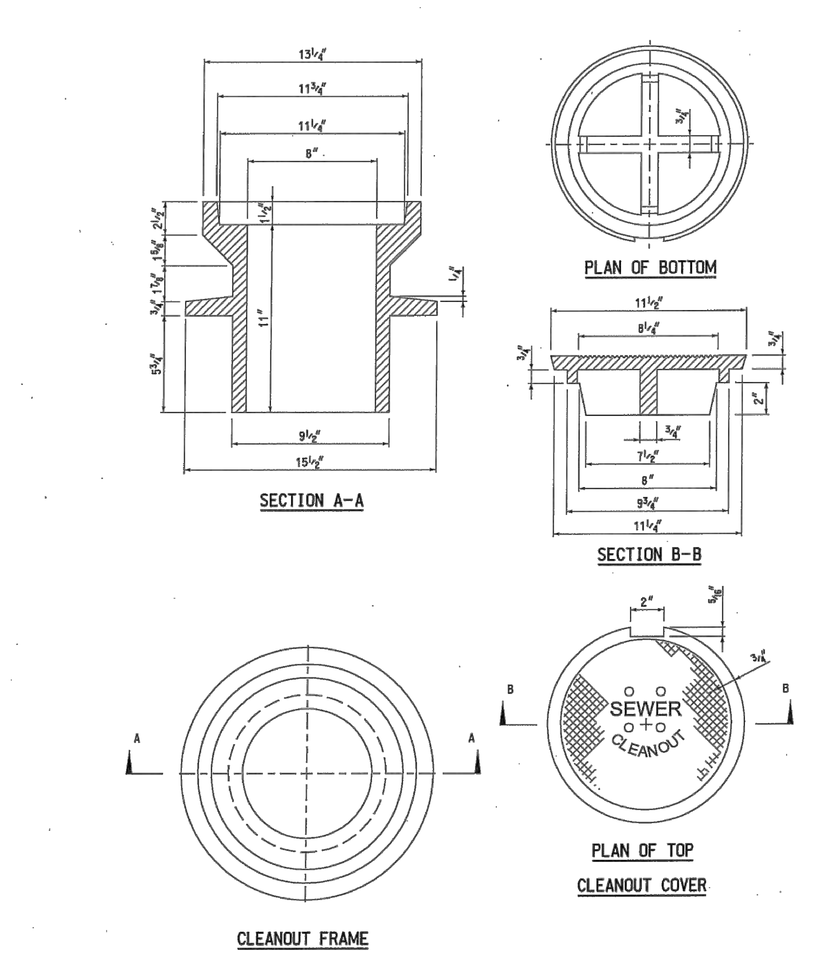
NOTES

1. CLEANOUT PIPE TO BE SAME SIZE AND KIND OF MATERIAL AS MAIN.
2. IF SUBJECT TO CONTAINER EQUIPMENT LOADING, DESIGN SHALL BE FOR 100 KIP WHEEL LOADS PLUS 25 KIP IMPACT LOADS.

NO.	REVISIONS/DESCRIPTIONS	DATE

Port of LONG BEACH The Green Port | SEWER CLEANOUT | STANDARD PLAN SS-5

APPROVED BY: NEIL D. MORRISON DIRECTOR ENG. DESIGN P.E. NO.: C-28545 DATE: 12-31-13 1 OF 2



NOTE:

IF SUBJECT TO CONTAINER EQUIPMENT LOADING, DESIGN SHALL BE FOR 100 KIP WHEEL LOADS PLUS 25 KIP IMPACT LOADS.

NO.	REVISIONS/DESCRIPTIONS	DATE

Port of LONG BEACH The Green Port | SEWER CLEANOUT | STANDARD PLAN SS-5

APPROVED BY: NEIL D. MORRISON DIRECTOR ENG. DESIGN P.E. NO.: C-28545 DATE: 12-31-13 2 OF 2

2 SEWER CLEANOUT
UT003 | -
SCALE: NTS

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER RYAN DAVID THOMAS No. 71716 EXP: 12-31-25 CIVIL STATE OF CALIFORNIA

12/5/2024

CLINT C. HERRERA P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025
DATE

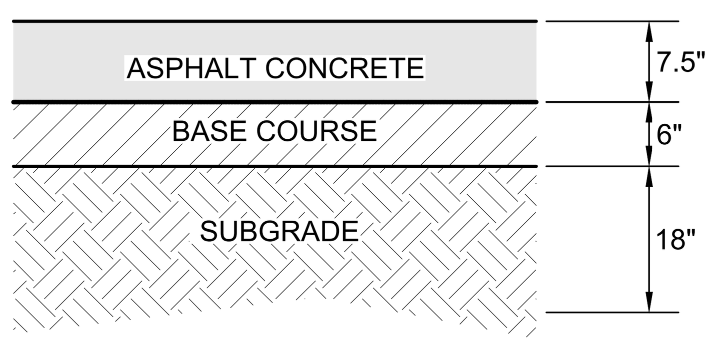
Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO.: HD-S3195
CADD STD. VER.: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV: DATE:
CHECKED BY: JRW DATE: 11/26/2024
DRAWN BY: LM DATE: 11/26/2024
DESIGNED BY: LM POLB DM: VL
DESIGN MGR: RT POLB PM: MS
VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
SITE DETAILS

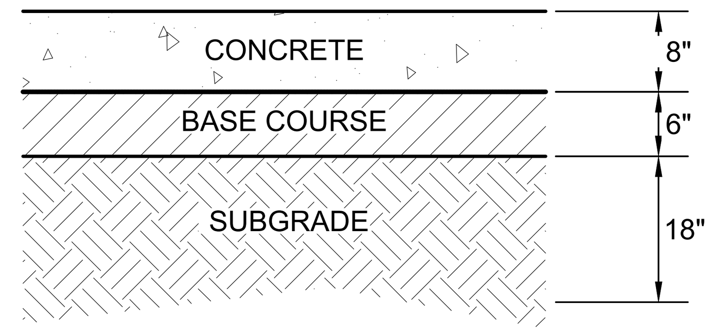
10-02464-UT010

SHEET 23 OF 86



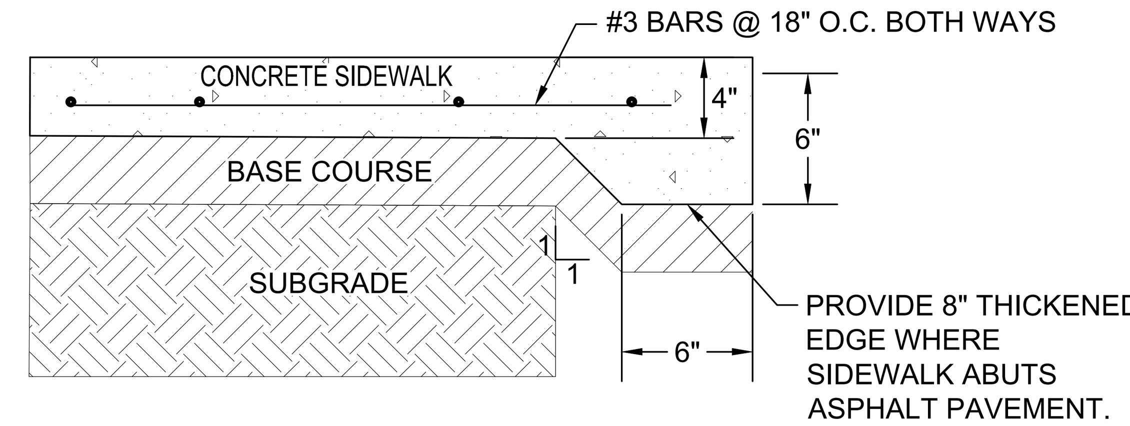
NOTES:
1. ASPHALT CONRETE PAVEMENT TYPE B-PG 70-10
2. 95% COMPACTED CRUSHED MISCELLANEOUS BASE COURSE
3. 95% SCARIFIED AND RECOMPACTED SUBGRADE

1 ASPHALT CONCRETE PAVEMENT
UT003 -
SCALE: NTS



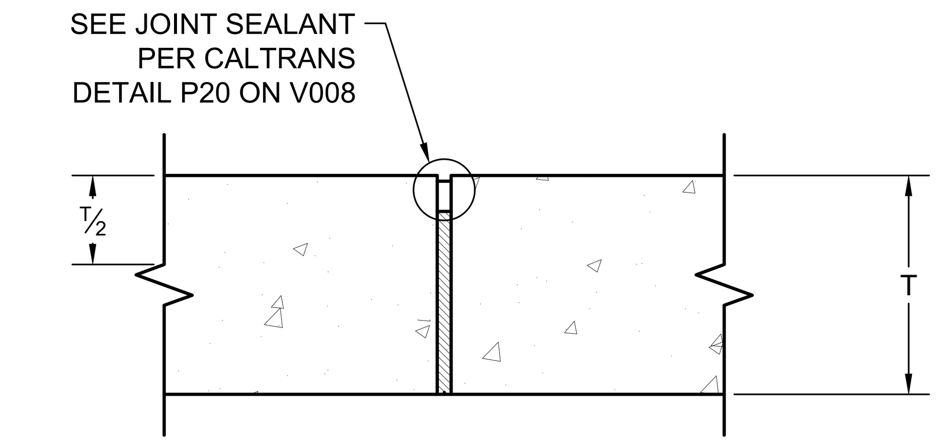
NOTES:
1. CONCRETE PAVEMENT (3,500) PSI
2. 95% COMPACTED CRUSHED MISCELLANEOUS BASE COURSE
3. 95% SCARIFIED AND RECOMPACTED SUBGRADE

2 PCC PAVEMENT
UT003 -
SCALE: NTS



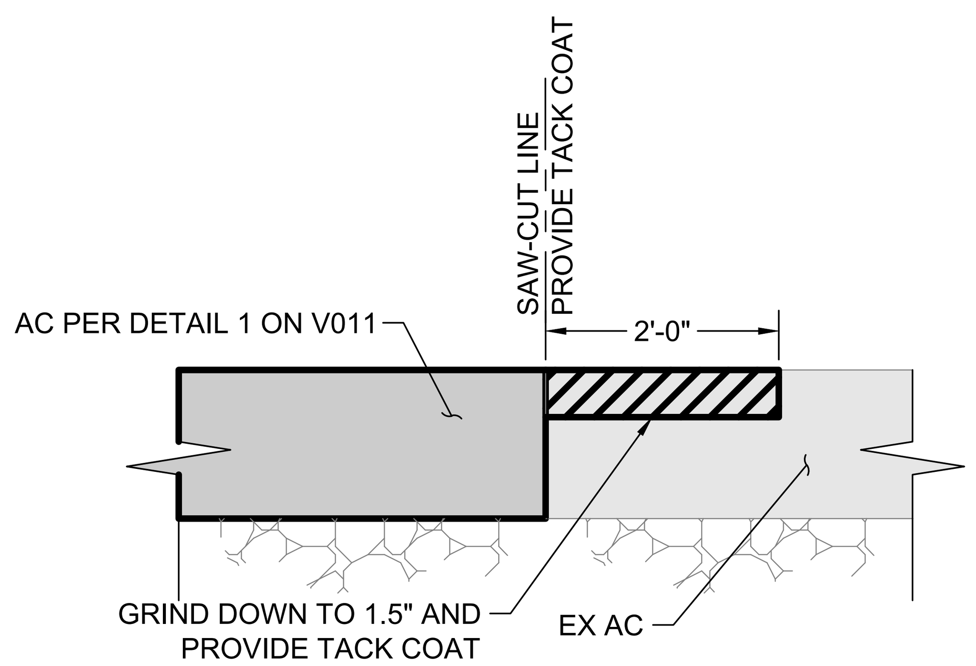
NOTES:
1. CONCRETE PAVEMENT (3500 PSI).
2. CRUSHED MISCELLANEOUS BASE COURSE COMPACTED 95% .
3. 95% RECOMPCATED SUBGRADE.
4. SCORE JOINTS SO AS TO REESTABLISH EXISTING JOINT PATTERN THAT WAS INTERRUPTED BY TRENCH RESTORATION.

3 CONCRETE SIDEWALK
UT003 -
SCALE: NTS



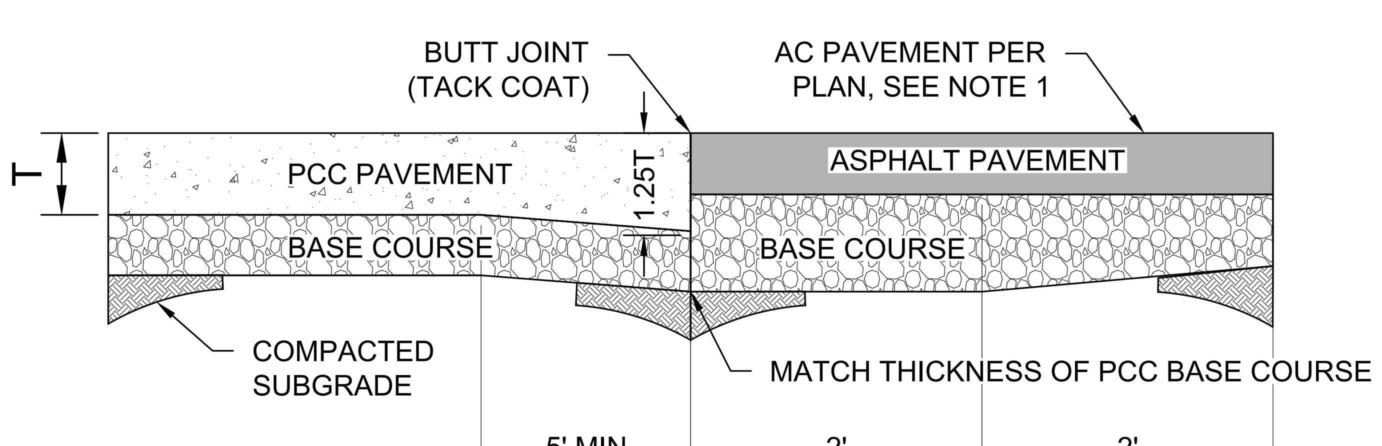
NOTES:
1. PROVIDE EXPANSION JOINT AT BUILDINGS AND UTILITY STRUCTURES.

4 PAVEMENT EXPANSION JOINT
UT003 -
SCALE: NTS



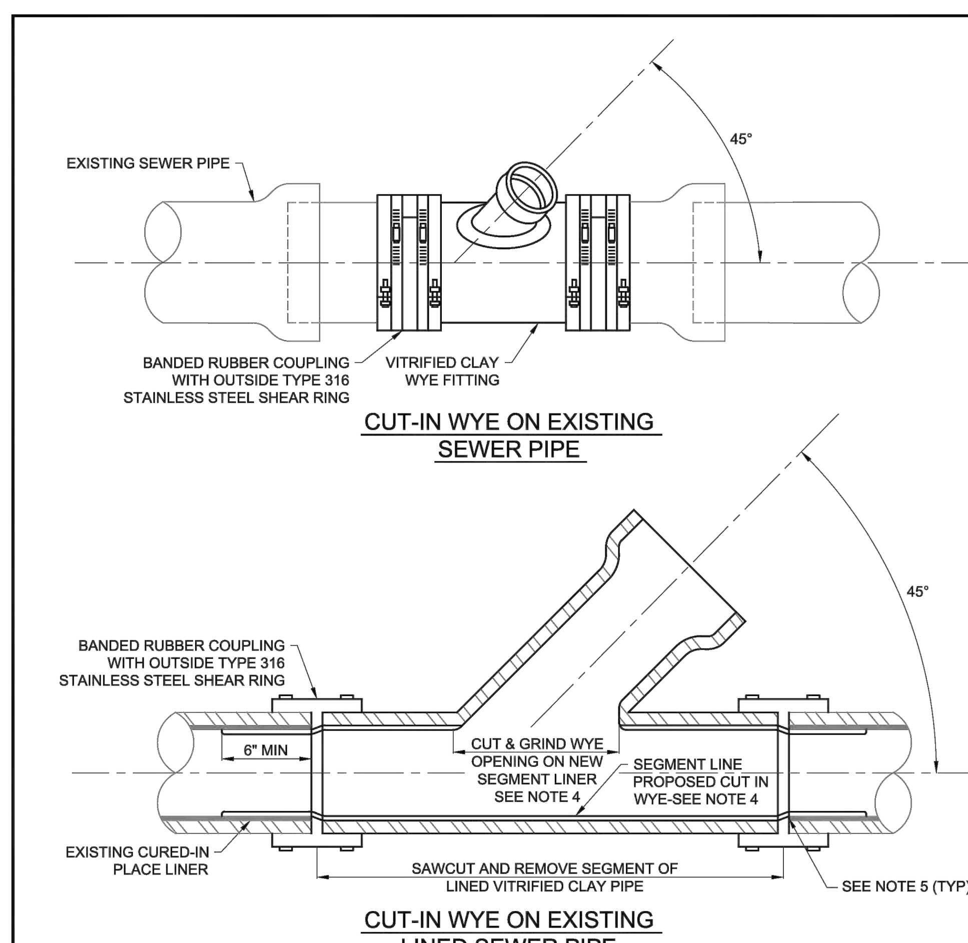
NOTES:
1. ENSURE SMOOTH TRANSITION BETWEEN EXISTING AND PROPOSED ASPHALT.

5 EXISTING TO PROPOSED AC INTERFACE
UT003 -
SCALE: NTS



NOTE:
1. FOR AC PAVEMENT, SEE DETAIL 1 ON V011. FOR PCC PAVEMENT SEE DETAIL 2 ON V011

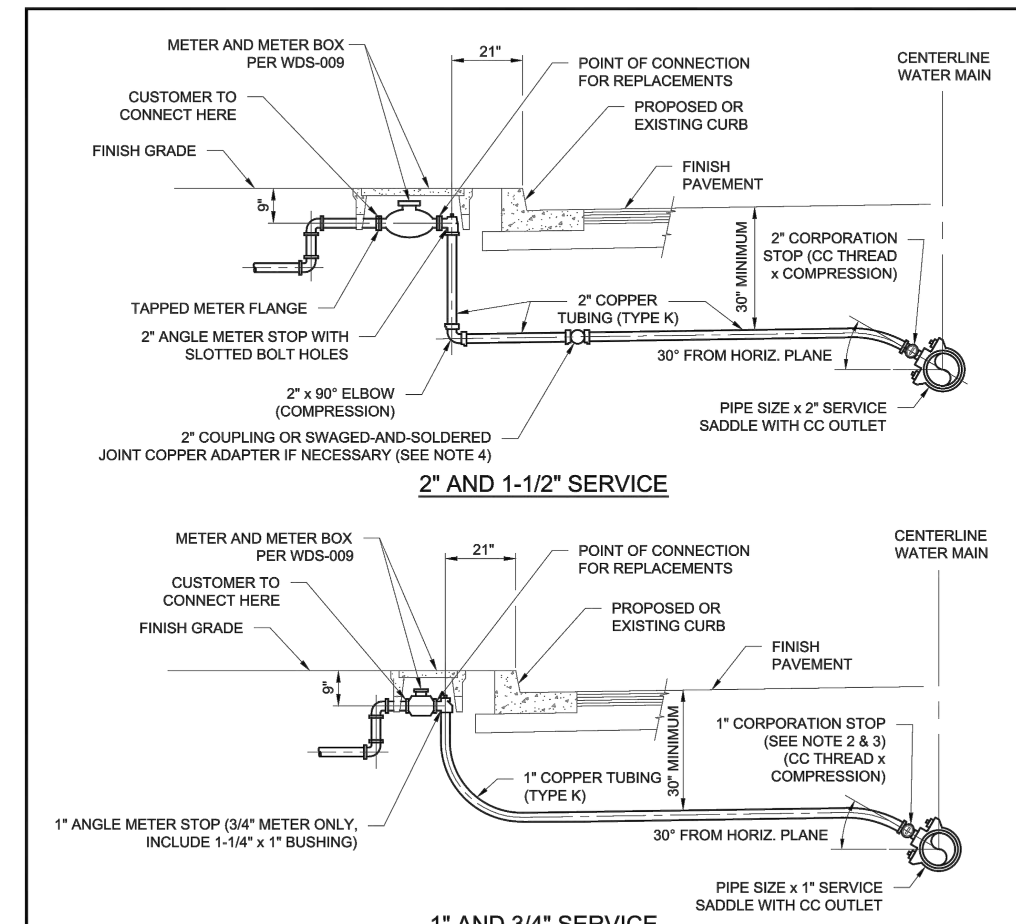
6 THICKENED EDGE BUTT JOINT PCC TO ASPHALT CONNECTION
UT003 -
SCALE: NTS



NOTES:
1. WHEN 12" MIN. SPACE BETWEEN EDGE OF COUPLING AND BELL CANNOT BE PROVIDED, CUT OUT NEAREST BELL JOINT AND INSERT PLAIN END PIPE.
2. ALL DEBRIS SHALL BE KEPT OUT OF THE SEWER. THE PIPE REACH CUT INTO SHALL BE CLEANED AND BALLED, IF NECESSARY, AS DIRECTED BY LBWD.
3. DAMAGED PIPE SHALL BE REPLACED AS DIRECTED BY LBWD.
4. INSTALL SEGMENT LINER ACROSS THE CUT IN WYE AS REQUIRED BY LBWD. CUT AND GRIND OPENING FOR NEW SERVICE.
5. FILL ANNULAR SPACE BETWEEN PIPE AND LINER WITH SIKADUR 31 OR APPROVED EQUAL.

CUT-IN WYE ON EXISTING SEWER	WDS - 513	
Long Beach Water — Exceptional Water - Exceptional Service	RECOMMENDED: DIRECTOR OF ENGINEERING	APPROVED: DEPUTY GENERAL MANAGER / CHIEF ENGINEER
DATE: 02-2020	SCALE: N.T.S.	SHEET 1 OF 1

7 CUT IN WYE ON EXISTING SEWER
UT003 -
SCALE: NTS



NOTES:
1. SERVICE FITTING AND STOPS USED WITH COPPER TUBING SHALL BE "COMPRESSION" TYPE.
2. FOR 1" TAPS TO WATER MAINS LARGER THAN 2", USE PIPE SIZE x 1" SERVICE SADDLE IN ADDITION TO CORPORATION STOP.
3. FOR 1" OUTLETS ON 2" COPPER TUBING MAIN LINE, USE 2"x2"x1" TEE IN ADDITION TO THE CORPORATION STOP.
2. NO JOINTS ARE ALLOWED IN SERVICE LATERAL SECTIONS INSERTED THROUGH BORED HOLE, UNLESS APPROVED BY LBWD ENGINEERING THROUGH VISUAL INSPECTION OR ACCEPTABLE LEAK TESTING.
3. SERVICE TAP SHALL BE IN-LINE WITH METER BOX UNLESS APPROVED BY LBWD ENGINEERING.
4. AFTER INSTALLATION OF SERVICE TAP, WRAP CONNECTION FULLY WITH POLYWRAP AND TAPE.

SERVICE SYMBOL DESIGNATION
NEW SERVICE INSTALLATION:
I 2" CL or I 1" CL
SERVICE REPLACEMENT:
R 2" CL or R 1" CL

3/4, 1, 1-1/2, AND 2-INCH SERVICE	WDS - 001	
Long Beach Water — Exceptional Water - Exceptional Service	RECOMMENDED: MANAGER OF ENGINEERING	APPROVED: DIRECTOR OF ENGINEERING
DATE: 09-2020	SCALE: N.T.S.	SHEET 1 OF 1

8 2-INCH SERVICE
UT003 -
SCALE: NTS

Michael Baker INTERNATIONAL

MARK	DATE	BY	REVISION DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER — RYAN DAVID THOMAS — No. 71716 — EXP: 12-31-25 — CIVIL — STATE OF CALIFORNIA
SEAL
12/5/2024

CLINT C. HERRERA, P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN
1/27/2025
DATE

Port of LONG BEACH THE PORT OF CHOICE

SPEC. NO.: HD-S3195
CADD STD. VER.: 1.5
DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-VF
CONSTRUCTION REV: DATE:
CHECKED BY: JRW DATE: 11/26/2024
DRAWN BY: LM DATE: 11/26/2024
DESIGNED BY: LM POLB DM: VL
DESIGN MGR: RT POLB PM: MS
VERTICAL CONTROL: NGVD 29 MLLW

725 HARBOR PLAZA PIER G, MAINTENANCE BUILDING C PUMP SHOP CONVERSION SITE DETAILS

10-02464-UT011
SHEET 24 OF 86