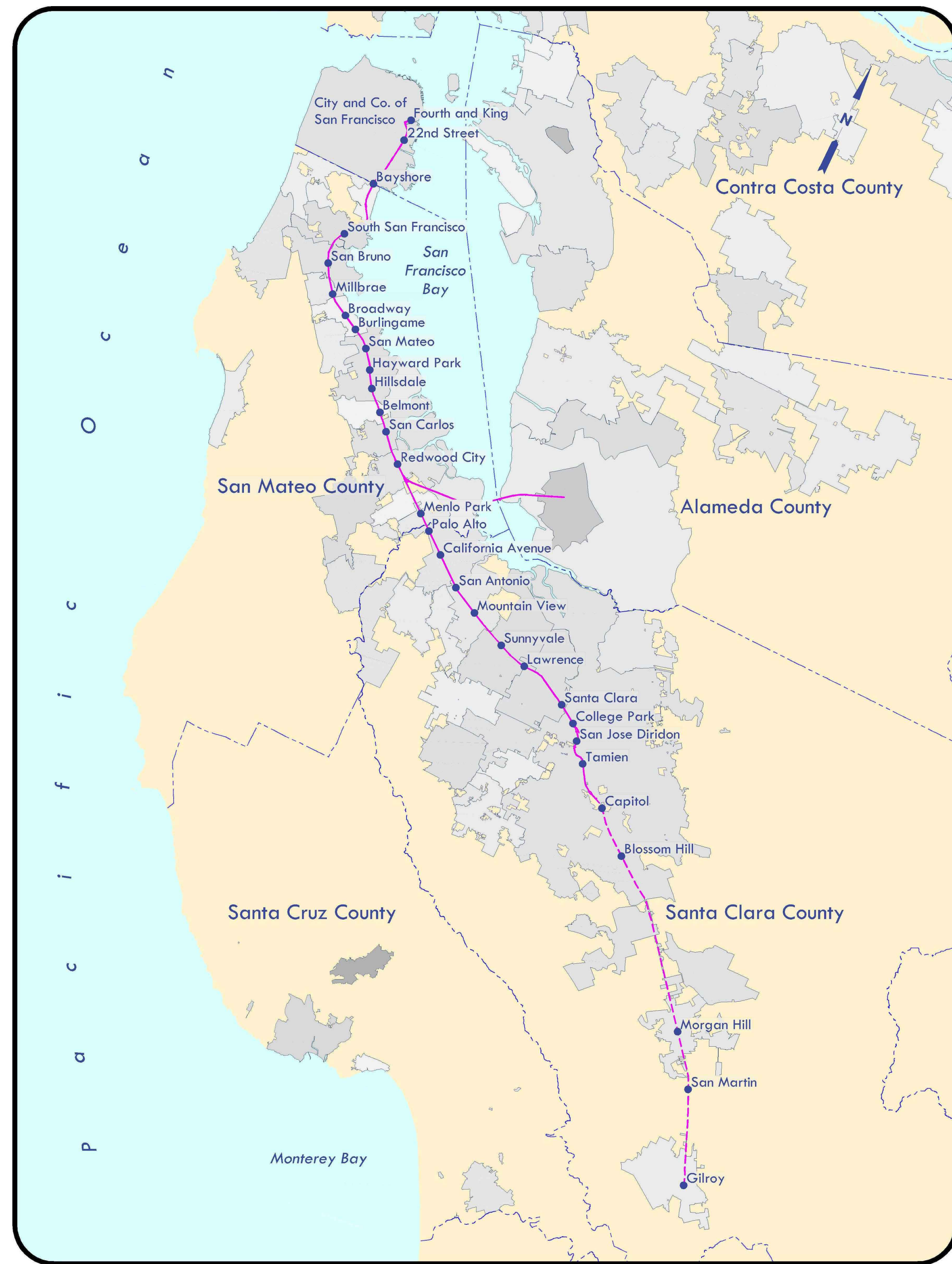


CALTRAIN CORRIDOR




STANDARD DRAWINGS

PENINSULA CORRIDOR JOINT POWERS BOARD

JANUARY 01, 2026

INDEX OF DRAWINGS

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SD-1102	SIGNAL, TRAIN CONTROL AND STATION COMMUNICATIONS		01012026	TRACK STRUCTURE				SD-2303	BOLTLESS BRACE (TYPE 2)		01012026	NO. 10 TURNOUT			
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SD-1201	GENERAL, CIVIL AND TRACK		01012026	SD-2152	TYPICAL SECTIONS THROUGH STATIONS		01012026	SD-2306	SWITCH PLATES FOR HOLLOW STEEL TIES PLATES HTP-300-L AND HTP-301-R		01012026	SD-2503	NO. 10 LH TURNOUT WITH WSM FROG AND HST SWITCH MACHINE ON TURNOUT SIDE		01012026
TRACK								SD-2307	SWITCH PLATES FOR HOLLOW STEEL TIES PLATES HTP-208-L AND HTP-209-R		01012026	SD-2504	NO. 10 RH TURNOUT WITH WSM FROG AND HST SWITCH MACHINE ON TURNOUT SIDE		01012026
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SD-2001	AAR PLATE F AND H CAR CLEARANCE ENVELOPES		01012026	SD-2153	AT-GRADE CROSSINGS		01012026	SD-2309	SWITCH PLATES FOR HOLLOW STEEL TIES PLATES HTP-202-L AND HTP-203-R		01012026	SD-2506	RH SWITCH PACK WITH HOLLOW STEEL TIES SWITCH MACHINE ON MAINLINE SIDE		01012026
SD-2002	STANDARD CLEARANCE REQUIREMENTS		01012026	SD-2154	HMAC UNDERLAYMENT		01012026	SD-2310	SWITCH PLATES FOR HOLLOW STEEL TIES PLATES HTP-204-L AND HTP-205-R		01012026	SD-2507	LH SWITCH PACK WITH HOLLOW STEEL TIES SWITCH MACHINE ON TURNOUT SIDE		01012026
SD-2003	MINIMUM CLEARANCE		01012026	SD-2155	TEMPORARY CONSTRUCTION CROSSINGS STANDARD DETAIL		01012026	SD-2311	SWITCH PLATES FOR HOLLOW STEEL TIES SWITCH PLATE ROLLER SCHWIHAG RP-1-136		01012026	SD-2508	RH SWITCH PACK WITH HOLLOW STEEL TIES SWITCH MACHINE ON TURNOUT SIDE		01012026
SD-2004	MINIMUM WALKWAY REQUIREMENTS		01012026	RAILS, TIES AND FASTENERS				SD-2312	SWITCH PLATES FOR HOLLOW STEEL TIES SWITCH PLATE ROLLER SCHWIHAG RP-2-136		01012026	SD-2509	SWITCH POINT ASSEMBLY FOR LH TURNOUT LH STRAIGHT 21'-6" SAMSON		01012026
SD-2005	MINIMUM VERTICAL CLEARANCE FOR WIRES		01012026	SD-2201	MARKING FOR STANDARD RAIL SECTIONS		01012026	SD-2313	SIDE POST INSULATOR FOR FC1600 SERIES PANDROL FASTCLIP		01012026	SD-2510	SWITCH POINT ASSEMBLY FOR LH TURNOUT RH CURVED 21'-6" SAMSON		01012026
				SD-2211	CONCRETE TIES FOR 136 RE RAIL STANDARD CROSS TIES		01012026	SD-2314	TOE INSULATOR FOR FC1600 SERIES PANDROL FASTCLIP		01012026	SD-2511	SWITCH POINT ASSEMBLY FOR RH TURNOUT LH CURVED 21'-6" SAMSON		01012026
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				SD-2214B	STANDARD TRACK - TRANSITION ZONES		01012026								
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				SD-2231	STANDARD BOLTED JOINT		01012026								
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SD-2515	SAMSON STOCK RAIL FOR RH TURNOUT LH STRAIGHT 45'-11" LONG		01012026	SD-2539	HOLLOW STEEL TIES SWITCH RODS 10-1, 10-2 AND 10-3		01012026	SD-2613	SAMSON STOCK RAIL FOR LH TURNOUT LH CURVED 51'-8" LONG		01012026	SD-2636	GUARD RAIL ASSEMBLY RH SKEWED WITH PLATES 26'-0" LONG		01012026
SD-2516	SAMSON STOCK RAIL FOR RH TURNOUT RH CURVED 39'-9 3/16" LONG		01012026	SD-2540	SWITCH PLATES FOR LH TURNOUT 10-12LLC/LRC THRU 10-14LLC/LRC		01012026	SD-2614	SAMSON STOCK RAIL FOR LH TURNOUT RH STRAIGHT 57'-8" LONG		01012026	SD-2637	HOLLOW STEEL TIE ROD ASSEMBLY SWITCH MACHINE ON LH SIDE		01012026
SD-2517	HOLLOW STEEL TIE AND CONCRETE TIE LAYOUT FOR A RH TURNOUT		01012026	SD-2541	SWITCH PLATES FOR LH TURNOUT 10-15LLC/LRC THRU 10-17LLC/LRC		01012026	SD-2615	SAMSON STOCK RAIL FOR RH TURNOUT LH STRAIGHT 57'-8" LONG		01012026	SD-2638	HOLLOW STEEL TIE ROD ASSEMBLY SWITCH MACHINE ON RH SIDE		01012026
SD-2518	HOLLOW STEEL TIE AND CONCRETE TIE LAYOUT FOR A LH TURNOUT		01012026	SD-2542	SWITCH PLATES FOR LH TURNOUT 10-18LLC/LRC THRU 10-19LLC/LRC		01012026	SD-2616	SAMSON STOCK RAIL FOR RH TURNOUT RH CURVED 51'-8" LONG		01012026	SD-2639	HOLLOW STEEL TIE SWITCH RODS 14-1, 14-2, 14-3 AND 14-4		01012026
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SD-2521	HOLLOW STEEL TIES FOR RH TURNOUT SWITCH MACHINE ON TURNOUT SIDE		01012026	SD-2545	SWITCH PLATES FOR RH TURNOUT 10-18RLC/RRC THRU 10-19RLC/RRC		01012026	SD-2619	HOLLOW STEEL TIES FOR RH TURNOUT SWITCH MACHINE ON MAINLINE SIDE		01012026	SD-2642	SWITCH PLATES FOR LH TURNOUT 14-24LC THRU 14-26LC		01012026
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SD-2523	WSM FROG RH AND FROG PACK		01012026	SD-2601	NO. 14 LH TURNOUT WITH WSM FROG AND HST SWITCH MACHINE ON MAINLINE SIDE		01012026	SD-2621	HOLLOW STEEL TIES FOR RH TURNOUT SWITCH MACHINE ON TURNOUT SIDE		01012026	SD-2644	SWITCH PLATES FOR RH TURNOUT 14-19RLC/RRC, 14-20RC THRU 14-23RC		01012026
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PENINSULA CORRIDOR JOINT POWERS BOARD

ENGINEERING STANDARD DRAWINGS

APPROVED BY:

Bin Zhang

DIRECTOR, ENGINEERING



GENERAL
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SD-1001

REV: EDITION:
 FIFTH


SCALE:
 NONE

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SD-1002

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010126					FIFTH EDITION						

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SD-2713	SAMSON STOCK RAIL FOR RH TURNOUT LH 76'-0" LONG		01012026	SD-2738	GUARD RAIL ASSEMBLY RH SKEWED WITH PLATES 26'-0" LONG		01012026	SD-2911	CLEAR POINT MARKING		01012026	SD-3220	BENCHES AND TRASH RECEPTACLES		01012026
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SD-2715	HOLLOW STEEL TIE AND CONCRETE TIE LAYOUT FOR RH TURNOUT		01012026	SD-2740	HOLLOW STEEL TIE ROD ASSEMBLY SWITCH MACHINE ON RH SIDE		01012026	FURNITURE AND SIGN LOCATION PLANS				SD-3240	WHEEL CHAIR LIFT SHED		01012026
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PENINSULA CORRIDOR JOINT POWERS BOARD

ENGINEERING STANDARD DRAWINGS

APPROVED BY:

Bin Zhang

DIRECTOR, ENGINEERING



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				SD-6202 MICROWAVE RADIO SITE DESIGN 01012026											

PENINSULA CORRIDOR JOINT POWERS BOARD										ENGINEERING STANDARD DRAWINGS										CADD FILE NAME: SD-1001	
APPROVED BY: <i>Bin Zhang</i> DIRECTOR, ENGINEERING																				REV: _____ EDITION: FIFTH	
010126 FIFTH EDITION										GENERAL INDEX OF DRAWINGS										SCALE: NONE	
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REV	DATE	BY	CHK	APP	DESCRIPTION	REV	DATE	BY	CHK	APP	DESCRIPTION	REV	DATE	BY	CHK	APP	DESCRIPTION				

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				SD-8101	TRACK UNDERDRAIN AND TRACKSIDE DITCH DETAILS		01012026								
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SD-6703	40 FOOT TILT-DOWN TOWER TILT MECHANISM		01012026												
SD-6704	60 FOOT TILT-DOWN TOWER TILT MECHANISM		01012026												
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SD-7004	PEDESTRIAN CROSSING AT STATIONS CROSSINGS PATHWAY LAYOUT		01012026	SD-9104	STOP SIGN		01012026								
SD-7005	GATE, RAILING AND SIGNAGE SHEET 1 OF 2		01012026	SD-9105	TEMPORARY TRACK CONDITION SIGNS		01012026								
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				SD-9108	ATTEND TO DERAILING SWITCH SIGN		01012026								
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SD-8000	PIPELINES GENERAL REQUIREMENTS		01012026												
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										PENINSULA CORRIDOR JOINT POWERS BOARD										ENGINEERING STANDARD DRAWINGS										CADD FILE NAME: SD-1001			
										APPROVED BY: <i>Bin Zhang</i>																				GENERAL INDEX OF DRAWINGS		REV:	EDITION: FIFTH
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REV	DATE	BY	CHK	APP	DESCRIPTION										REV	DATE	BY	CHK	APP														

TRACK GEOMETRY – HORIZONTAL

CC	COMPOUND CURVATURE
CS	POINT OF CHANGE FROM CIRCULAR CURVE TO SPIRAL
k1	TANGENT DISTANCE OF SHIFTED PC REFERRED TO TS
k2	TANGENT DISTANCE OF SHIFTED PT REFERRED TO ST
Lc	TOTAL LENGTH OF CIRCULAR CURVE FROM PC TO PT OR SC TO CS
Lsc	LENGTH OF COMPOUND SPIRAL FROM CS TO SC
Ls1	LENGTH OF SPIRAL FROM TS TO SC
Ls2	LENGTH OF SPIRAL FROM CS TO ST
p1	OFFSET FROM INITIAL TANGENT TO PC OF SHIFTED CIRCLE OF SPIRALIZED CURVE
p2	OFFSET FROM INITIAL TANGENT TO PT OF SHIFTED CIRCLE OF SPIRALIZED CURVE
PC	POINT OF CURVATURE/POINT OF CHANGE FROM TANGENT TO CIRCULAR CURVE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
POC	POINT ON CIRCULAR CURVE
POS	POINT ON SPIRAL
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PS	POINT OF SWITCH
PT	POINT OF TANGENCY/POINT OF CHANGE FROM CIRCULAR CURVE TO TANGENT
SC	POINT OF CHANGE FROM SPIRAL TO CIRCULAR CURVE
SS	POINT OF CHANGE FROM SPIRAL TO SPIRAL
ST	POINT OF CHANGE FROM SPIRAL TO TANGENT
SPO	POINT ON ORIGIN OF COMPOUND SPIRAL
Ts1	TANGENT DISTANCE FROM TS TO PI
Ts2	TANGENT DISTANCE FROM ST TO PI
TS	POINT OF CHANGE FROM TANGENT TO SPIRAL
Xs1	TANGENT OFFSET AT SC
Xs2	TANGENT OFFSET AT CS
Ys1	TANGENT DISTANCE AT SC
Ys2	TANGENT DISTANCE AT CS
Δ	TOTAL CENTRAL ANGLE OF SPIRALIZED CURVE
Δc	CENTRAL ANGLE OF CIRCULAR CURVE (Lc) FROM SC TO CS
Δc1	CENTRAL ANGLE OF FIRST CIRCULAR CURVE OF COMPOUND CURVATURE
Δc2	CENTRAL ANGLE OF SECOND CIRCULAR CURVE OF COMPOUND CURVATURE
Θs1	CENTRAL ANGLE OF SPIRAL LENGTH Ls1 OR SPIRAL ANGLE OF FIRST SPIRAL IN SPIRALIZED CURVE
Θs2	CENTRAL ANGLE OF SPIRAL LENGTH Ls2 OR SPIRAL ANGLE OF SECOND SPIRAL IN SPIRALIZED CURVE
Θsc	CENTRAL ANGLE OF COMPOUND SPIRAL OR COMPOUND SPIRAL ANGLE FROM CS TO SC

TRACK GEOMETRY – VERTICAL

BVC	BEGIN VERTICAL CURVE
E	TOTAL SUPERELEVATION IN INCHES
Ea	ACTUAL SUPERELEVATION IN INCHES
Eu	UNBALANCED SUPERELEVATION IN INCHES
EVC	END VERTICAL CURVE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PIVC	POINT OF INTERSECTION OF TWO PROFILE TANGENTS
POVC	POINT ON VERTICAL CURVE
POVT	POINT ON VERTICAL TANGENT
VC	VERTICAL CURVE

GENERAL, CIVIL AND TRACK

AB	AGGREGATE BASE	DIST	DISTRIBUTION	IN	INCHES
ABN	ABANDON	DN	DOWN	INC	INCORPORATED
ABUT	ABUTMENT	DR	DRIVE	INCL	INCLUDE, INCLUDING
AC	ASPHALT CONCRETE	DTR	DETOUR	INSUL	INSULATION
ADA	AMERICANS WITH DISABILITIES ACT	DWG	DRAWING	INT	INTERIOR
ADJ	ADJUSTABLE	(E)	EXISTING	INV	INVERT
AHD	AHEAD	E	EAST	IR	INSIDE RADIUS
ALIGN	ALIGNMENT	EA	EACH	IRR	IRRIGATION
ALT	ALTERNATE	EB	EASTBOUND	JB	JUNCTION BOX
ALUM	ALUMINUM	EBR	END OF BRIDGE	JT	JOINT
APPROX	APPROXIMATE	ECR	END CURB RETURN	LB	POUNDS
ARCH	ARCHITECTURAL	EE	EACH END	LEG	LEGEND
AS	AGGREGATE SUBBASE	EF	EACH FACE	LF	LINEAL FEET
ASPH	ASPHALT	EIC	EMPLOYEE IN CHARGE	LG	LONG
AVE	AVENUE	EJ	EXPANSION JOINT	LGT	LIGHT
AVG	AVERAGE	ELEC	ELECTRICAL	LGTH	LENGTH
BAA	BOARDING ASSISTANCE AREA	EL, ELEV	ELEVATION	LH	LEFT-HAND
BBR	BEGINNING OF BRIDGE	EMB	EMBANKMENT	LIM	LIMITS
BCR	BEGIN CURB RETURN	EMER	EMERGENCY	LN	LANE
BEG	BEGIN	ENCL	ENCLOSURE	LOC	LOCATION
BK	BACK	ENGR	ENGINEER, ENGINEERING	LONG	LONGITUDINAL
BK	BACKFILL	EP	EDGE OF PAVEMENT	LP	LOW POINT
BKF	BACKFILL	EQ	EQUATION	LT	LEFT
BLDG	BUILDING	EQUIP	EQUIPMENT	LTG	LIGHTING
BLVD	BOULEVARD	ES	EDGE OF SHOULDER	LVL	LEVEL
BM	BENCHMARK	ESMT	EASEMENT	MAS	MAXIMUM AUTHORIZED SPEED
BOC	BOTTOM OF CURB	ETW	EDGE OF TRAVELED WAY	MAX	MAXIMUM
BOP	BOTTOM OF PIPE	EW	END WALL	MECH	MECHANICAL
BOT	BOTTOM	EXC	EXCAVATION	MED	MEDIAN
BOW	BOTTOM OF WALL	EXP	EXPANSION	MEM	MEMBRANE
BR	BRIDGE	EXT	EXTERIOR, EXTENSION	MET	METAL
BS	BOTTOM OF SLOPE	(F)	FUTURE	MH	MANHOLE, MAINTENANCE HOLE
C	CURB	FC	FACE OF CURB	MIN	MINIMUM
C&G	CURB AND GUTTER	FD	FLOOR DRAIN	MISC	MISCELLANEOUS
CAB	CABINET	FDN	FOUNDATION	MOD	MODIFIED
CALP	CORRUGATED ALUMINUM PIPE	FF	FILTER FABRIC	MON	MONUMENT
CAP	CAPACITY	FG	FINISHED GRADE	MOW	MAINTENANCE OF WAY
CB	CATCH BASIN	FH	FIRE HYDRANT	MP	MILEPOST
CEM	CEMENT	FIN	FINISH	MPH	MILES PER HOUR
CF	CUBIC FEET	FL	FLOW LINE	MSE	MECHANICALLY STABILIZED EARTH
CG	CENTER OF GRAVITY	FLR	FLOOR	MSL	MEAN SEA LEVEL
CI	CAST IRON	FOC	FIBER OPTIC CABLE/CARRIER	MTL	MATERIAL
CIDH	CAST IN DRILLED HOLE	FPS	FEET PER SECOND	(N)	NEW
CIP	CAST IN PLACE	FR	FRAME	N	NORTH
CIV	CIVIL	FS	FINISH SURFACE	N/A	NOT APPLICABLE
CJ	CONSTRUCTION JOINT	FT	FEET	NB	NORTHBOUND
CL	CENTER LINE	FTG	FOOTING	NIC	NOT IN CONTRACT
CLK	CHAIN LINK	FWY	FREEWAY	NO	NUMBER
CLR	CLEAR	GA	GAUGE OR GAGE	NOM	NOMINAL
CMP	CORRUGATED METAL PIPE	GAL	GALLON	NTS	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	GALV	GALVANIZED	OA	OVERALL
CND	CONDUIT	GCL	GRADING CONTROL LINE	OB	OUTBOUND
CO	CLEANOUT	GND	GROUND	OC	ON CENTERS
COC	CENTER ON CENTER	GOV	GOVERNMENT	OCS	OVERHEAD CONTACT SYSTEM
COL	COLUMN	GP	GRADING PLANE	OD	OUTSIDE DIAMETER
COMB	COMBINE	GPM	GALLONS PER MINUTE	OG	ORIGINAL GRADE
COMM	COMMUNICATIONS	GR	GUARDRAIL	OH	OVERHEAD
CONC	CONCRETE	GSP	GALVANIZED STEEL PIPE	OP	OVERPASS
CONN	CONNECTION	HAZ	HAZARDOUS	OPNG	OPENING
CONST	CONSTRUCTION	HB	HOSE BIBB	OPP	OPPOSITE
CONT	CONTINUOUS, CONTINUE	HD	HEAVY DUTY	ORG	ORGANIZATION
COORD	COORDINATE	HDPE	HIGH-DENSITY POLYETHYLENE	PAX	PASSENGER
CP	CONTROL POINT	HEX	HEXAGONAL	PB	PULL BOX
CRV	CURVE	HH	HANDHOLE	PC	PORTLAND CEMENT, PRECAST CONCRETE
CRV	CURVE	HI	HIGH	PCC	PORTLAND CEMENT CONCRETE
CSP	CORRUGATED STEEL PIPE	HMAC	HOT MIX ASPHALT CONCRETE	PE	PROFESSIONAL ENGINEER
CTR	CENTER	HOR	HORIZONTAL	PED	PEDESTRIAN
CULV	CULVERT	HP	HIGH POINT	PERM	PERMEABLE
CVR	COVER	HR	HANDRAIL	PERF	PERFORATED
CWR	CONTINUOUS WELDED RAIL	HS	HIGH STRENGTH	PF	PLATFORM
CY	CUBIC YARDS	HST	HOLLOW STEEL TIE	PG	PAGE
DEL	DELINEATORS	HT	HEIGHT	PGL	PROFILE GRADE LINE
DEP	DEPTH	HW	HEADWALL	PH	POTHOLE
DET	DETAIL	HWY	HIGHWAY	PL	PLATE
DFT	DRY FILM THICKNESS	ID	INSIDE DIAMETER	P/L	PROPERTY LINE
DFX	DIRECT FIXATION	IE	INVERT ELEVATION	PNA	PERSON NEEDING ASSISTANCE
DI	DRAIN INLET	IJ	INSULATED JOINT	PNL	PANEL
DIA	DIAMETER			PP	POWER POLE
DIAG	DIAGONAL			PPP	PERFORATED PLASTIC PIPE
DIM	DIMENSION			PR	PAIR
DIR	DIRECTION			PSF	POUNDS PER SQUARE FOOT

TS	TUBULAR STEEL	TS	TUBULAR STEEL
TUB	TUBULAR	TUB	TUBULAR
TVM	TICKET VENDING MACHINE	TVM	TICKET VENDING MACHINE
TYP	TYPICAL	TYP	TYPICAL
UB	UTILITY BOX	UB	UTILITY BOX
UD	UNDERDRAIN	UD	UNDERDRAIN
UG	UNDERGROUND	UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED	UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS	UP	UNDERPASS
UTIL	UTILITY	UTIL	UTILITY
VAR	VARIES	VAR	VARIES
VEH	VEHICULAR, VEHICLE	VEH	VEHICULAR, VEHICLE
VEL	VELOCITY	VEL	VELOCITY
VERT	VERTICAL	VERT	VERTICAL
VMS	VISUAL MESSAGE SIGN	VMS	VISUAL MESSAGE SIGN
VOL	VOLUME	VOL	VOLUME
W	WEST	W	WEST
W/	WITH	W/	WITH
W/O	WITHOUT	W/O	WITHOUT
WB	WESTBOUND	WB	WESTBOUND
WP	WORK POINT	WP	WORK POINT
WPF	WATERPROOF	WPF	WATERPROOF
WRT	WITH RESPECT TO	WRT	WITH RESPECT TO
WT	WEIGHT	WT	WEIGHT
WWM	WELDED WIRE MESH	WWM	WELDED WIRE MESH
XING	CROSSING	XING	CROSSING
XOVER	CROSSOVER	XOVER	CROSSOVER
YD	YARDS	YD	YARDS
YR	YEAR	YR	YEAR
S	SOUTH	S	SOUTH
SALV	SALVAGE	SALV	SALVAGE
SB	SOUTH BOUND	SB	SOUTH BOUND
SCHD	SCHEDULE	SCHD	SCHEDULE
SD	STORM DRAIN	SD	STORM DRAIN
SECT	SECTION	SECT	SECTION
SERV	SERVICE	SERV	SERVICE
SF	SQUARE FEET	SF	SQUARE FEET
SG	SUBGRADE	SG	SUBGRADE
SHT	SHEET	SHT	SHEET
SIG	SIGNAL	SIG	SIGNAL
SIM	SIMILAR	SIM	SIMILAR
SL	SLOPE	SL	SLOPE
SPEC	SPECIFICATION	SPEC	SPECIFICATION
SQ	SQUARE	SQ	SQUARE
SS	STAINLESS STEEL, SANITARY SEWER	SS	STAINLESS STEEL, SANITARY SEWER
ST	STREET	ST	STREET
STA	STATION	STA	STATION
STD	STANDARD	STD	STANDARD
STIFF	STIFFENER	STIFF	STIFFENER
STL	STEEL	STL	STEEL
STRL	STRUCTURAL	STRL	STRUCTURAL
STRUCT	STRUCTURE	STRUCT	STRUCTURE
SWK	SIDEWALK	SWK	SIDEWALK
SY	SQUARE YARDS	SY	SQUARE YARDS
SYMB	SYMBOL	SYMB	SYMBOL
SYMM	SYMMETRICAL	SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM	T&B	TOP AND BOTTOM
TAN	TANGENT	TAN	TANGENT
TBD	TO BE DETERMINED	TBD	TO BE DETERMINED
TC	TOP OF CONCRETE	TC	TOP OF CONCRETE
TD	TRENCH DRAIN	TD	TRENCH DRAIN
TEL	TELEPHONE	TEL	TELEPHONE
TEMP	TEMPERATURE	TEMP	TEMPERATURE
TF	TRACK FEET	TF	TRACK FEET
TH	THICK	TH	THICK
TO	TURNOUT	TO	TURNOUT
TOC	TOP OF CURB	TOC	TOP OF CURB
TOG	TOP OF GRATE	TOG	TOP OF GRATE
TOL	TOLERANCE	TOL	TOLERANCE
TOP	TOP OF PAVEMENT, TOP OF PIPE	TOP	TOP OF PAVEMENT, TOP OF PIPE
TOR	TOP OF RAIL	TOR	TOP OF RAIL
TOS	TOP OF SLOPE	TOS	TOP OF SLOPE
TOT	TOP OF TIE	TOT	TOP OF TIE
TOW	TOP OF WALL	TOW	TOP OF WALL
TRANS	TRANSITION	TRANS	TRANSITION

PENINSULA CORRIDOR JOINT POWERS BOARD

ENGINEERING STANDARD DRAWINGS

APPROVED BY:

Bin Zhang

DIRECTOR, ENGINEERING



GENERAL ABBREVIATIONS

CIVIL AND TRACK

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010126	FIFTH EDITION									
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STATION COMMUNICATIONS

ACS	ADVANCED COMMUNICATION SYSTEM	NTP	NETWORK TIME PROTOCOL
		NVR	NETWORK VIDEO RECORDER
BCCF	BACKUP CENTRAL CONTROL FACILITY	OCC	OPERATION CONTROL CENTER
		OSP	OUTSIDE PLANT
BER	BIT-ERROR RATE	PA	PUBLIC ADDRESS
		PAS	PUBLIC ADDRESS SYSTEM
CC	COMMUNICATIONS CABINET	PDA	PERSONAL DIGITAL ASSISTANT
CCF	CENTRAL CONTROL FACILITY	PDU	POWER DISTRIBUTION UNIT
CCTV	CLOSED CIRCUIT TELEVISION CAMERAS	PID	PASSENGER INFORMATION DISPLAY
CER	COMMUNICATIONS EQUIPMENT ROOM	PIDS	PASSENGER INFORMATION DISPLAY SYSTEM
CIC	COMMUNICATIONS INTERFACE CABINETS	PIS	PASSENGER INFORMATION SYSTEM
CID	CARD INTERFACE DEVICE	PLC	PROGRAMMABLE LOGIC CONTROLLER
CSMH	COMMUNICATIONS SYSTEM MANHOLE	POE	POWER OVER ETHERNET
CST	COMBINED SYSTEM TRUNK	PSTN	PUBLIC SWITCHING TELEPHONE NETWORK
DC	DISTRIBUTION CABINET	PTB	PROTECTED TERMINAL BLOCKS
DDS	DEDICATED DIGITAL SERVICE	PTT	PUSH TO TALK
DSO	SINGLE DATA CHANNEL OF 56-65 Kbps	PVC	PRIVATE VIRTUAL CIRCUIT
E&M	EAR AND MOUTH	QOS	QUALITY OF SERVICE
E-LAN	ETHERNET LAN	RPR	RESILIENT PACKET RING
ENS	EMERGENCY NOTIFICATION SIGN	RTU	REMOTE TERMINAL UNIT (COMMUNICATIONS)
EOS	ETHERNET OVER SONET		
EPL	ETHERNET PRIVATE LINE	SCC	STATION COMMUNICATION CABINET
EVC	ETHERNET VIRTUAL CIRCUIT	SFX	SMALL FORM (PLUGGABLE) CROSS-CONNECT
EVPL	ETHERNET VIRTUAL PRIVATE LINE	SLA	SERVICE LEVEL AGREEMENT
EVPLAN	ETHERNET VIRTUAL PRIVATE LAN	SM	SINGLE MODE
		SMFOC	SINGLE-MODE FIBER OPTIC CABLE
FDP	FIBER DISTRIBUTION PANEL	SNMP	SIMPLE NETWORK MANAGEMENT PROTOCOL
FO	FIBER OPTIC	SONET	SYNCHRONOUS OPTICAL NETWORK
FOC	FIBER OPTIC CABLE	SPDU	SWITCHED POWER DISTRIBUTION UNIT
FOCN	FIBER OPTIC COMMUNICATIONS NETWORK		
FOPP	FIBER OPTIC PATCH PANEL	T1C	SINGLE DATA CHANNEL OF 1.544 Mbps
FPS	FRAME PER SECOND	T1MUX	A MULTIPLEXING DEVICE BY WHICH A SINGLE T1 CHANNEL IS UTILIZED TO PROVIDE DSO CHANNELS
FSE	FIBER SLACK ENCLOSURE	TDM	TIME DIVISION MULTIPLEXING
		TTB	TELEPHONE TERMINAL BOARD
GBIC	GIGABIT INTERFACE CONVERTER	UPS	1000 MBPS SWITCH EXPANSION PORTS
GBPS	GIGABITS PER SECOND	UP-LINK	UNINTERRUPTIBLE POWER SUPPLY
GRP	GLASS REINFORCED PLASTIC ROD	UPSR	UNIDIRECTIONAL PATH SWITCH RING
GRS	GALVANIZED RIGID STEEL	UTP	UNSHIELDED TWISTED PAIR
GUI	GRAPHICAL USER INTERFACE	VCAT	VIRTUAL CONCATENATION
		VLAN	VIRTUAL LOCAL AREA NETWORK
IP	INTERNET PROTOCOL	VMS	VISUAL MESSAGE SIGN
		VPN	VIRTUAL PRIVATE NETWORK
Kbps	KILO BITS PER SECOND	WA	WORK AREA
LAN	LOCAL AREA NETWORK	WAN	WIDE AREA NETWORK
LCD	LIQUID CRYSTAL DISPLAY	WAP	WIRELESS APPLICATION PROTOCOL
LDF	LOCAL DISTRIBUTION FRAME	WCM	WAYSIDE COMMUNICATIONS MANAGER
LID	LOCAL INJECTION AND DETECTION (FUSION SPLICING)		
LPM	LOCAL PAGING MICROPHONE		
Mbps	MEGA BITS PER SECOND		
MDF	MAIN DISTRIBUTION FRAME		
MDPE	MEDIUM DENSITY POLYETHYLENE (CABLE SHEATH)		
MEF	METRO ETHERNET FORUM		
MIC	MICROPHONE		
MM	MULTI-MODE		
MMFOC	MULTI-MODE FIBER OPTIC CABLE		
MPOE	MAIN POINT OF ENTRY		
MS	MILLISECOND		
MSP	MULTI-SERVICE PROVISIONING PLATFORM		
NID	NETWORK INTERFACE DEVICE		
NMS	NETWORK MANAGEMENT SYSTEM		

SIGNALS

AK	APPROACH TRACK INDICATION
BS	BOLT CENTERS
DAX	DOWNSTREAM ADJACENT CROSSING
EMS	EMERGENCY ALARM CONTROL CIRCUITS
FLT	SIGNAL FLEETING
FR	FLASHER RELAY
GCR	GATE CONTROL RELAY
GD	GATE DOWN
GE	GREEN SIGNAL LAMP
GPR	GATE REPEATER RELAY (GATE IN UP POSITION)
LED	LIGHT EMITTING DIODE
LOS	LOSS OF SHUNT
NGHS	NORTHWARD SIGNAL REQUEST
NGK	NORTHWARD SIGNAL CLEAR INDICATION
NJSP	DUAL SELECTOR LEVER
NWK	NORMAL SWITCH INDICATION
NWP	NORMAL SWITCH POINT POSITION
NWR	NORMAL SWITCH CONTROL RELAY
NWS	NORMAL SWITCH REQUEST
RE	RED SIGNAL LAMP
RWK	REVERSE SWITCH INDICATION
RWP	REVERSE SWITCH POINT POSITION
RWR	REVERSE SWITCH CONTROL RELAY
RWS	REVERSE SWITCH REQUEST
SGHS	SOUTHWARD SIGNAL REQUEST
SGK	SOUTHWARD SIGNAL CLEAR INDICATION
TEK	SIGNAL IN TIME INDICATION
TJC	TUNED JOINT COUPLER
TK	OS TRACK INDICATION
TOB	TON PER OPERATIVE BRAKE
UAX	UPSTREAM ADJACENT CROSSING
WBC	SWITCH CONTROL RELAY BACK CHECK
XR	CROSSING CONTROL RELAY
YE	YELLOW SIGNAL LAMP

TRAIN CONTROL COMMUNICATION

AC	ALTERNATING CURRENT
AMP	AMPLIFIER
ATCS	ADVANCE TRAIN CONTROL SYSTEM
BER	BIT ERROR RATE
BPF	BAND PASS FILTER
BS	BASE STATION
C	CONDUIT
CCF	CENTRAL CONTROL FACILITY
CEMOF	CENTRALIZED EQUIPMENT MAINTENANCE AND OPERATIONS FACILITY
CP	CONTROL POINT
CRC	CYCLIC REDUNDANCY CHECKS
CSU	CHANNEL SERVICE UNIT
CTC	CENTRALIZED TRAIN CONTROL
CTCSS	CONTINUOUS-TONE-CODED SQUELCH SYSTEM
dB	DECIBEL
dBm	DECIBEL REFERENCED TO A MILLIWATT
dBW	DECIBEL REFERENCED TO A WATT
DBU	DIAL BACKUP
DC	DIRECT CURRENT
DED	DRAGGING EQUIPMENT DETECTOR
DSU	DATA SERVICE UNIT
DTX	DIGITAL TOUCH EXCHANGE
EIA	ELECTRONIC INDUSTRIES ALLIANCE
ELEV	ELEVATION
ERP	EFFECTIVE RADIATED POWER
FAA	FEDERAL AVIATION ADMINISTRATION
FAT	FACTORY ACCEPTANCE TEST
FCC	FEDERAL COMMUNICATIONS COMMISSION
FDP	FIBER DISTRIBUTION PANEL
FEC	FORWARD ERROR CONNECTION
FM	FREQUENCY MODULATION
FO	FIBER OPTIC
FPF	FIBER PATCH PANEL
FR	FRAME RELAY
GMSK	GAUSSIAN MINIMUM SHIFT KEYING
GPS	GLOBAL POSITIONING SYSTEM
ISDN	INTERGRATED SERVICES DIGITAL NETWORK
JB	JUNCTION BOX
KO	KEYBOARD OPERATOR
KVM	KEYBOARD VIDEO MOUSE
LAN	LOCAL AREA NETWORK
M.P.XX	RAILROAD MILE POST
MAS	MULTIPLE ADDRESSING SCHEME
MC	MEDIA CONVERTER
MDF	MAIN DISTRIBUTION FRAME
MOW	MAINTENANCE OF WAY
MSL	MEAN SEA LEVEL
MUX	MULTIPLEXER
NIC	NETWORK INTERFACE CARD
NMS	NETWORK MANAGEMENT SYSTEM
OCC	OPERATIONS CONTROL CENTER
PTT	PUSH TO TALK
RBS	RADIO BASE STATION
RF	RADIO FREQUENCY

AGENCIES, ORGANIZATIONS AND CODES

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AAR	ASSOCIATION OF AMERICAN RAILROADS
ACE	ALTAMONT CORRIDOR EXPRESS
ACI	AMERICAN CONCRETE INSTITUTE
ADA	AMERICANS WITH DISABILITIES ACT
AMTRAK	NATIONAL RAILROAD PASSENGER CORPORATION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
AREA	AMERICAN RAILWAY ENGINEERING ASSOCIATION
AREMA	AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATT, AT&T	ATLANTIC TELEPHONE AND TELEGRAPH COMPANY
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY
BART	BAY AREA RAPID TRANSIT (DISTRICT)
BNSF	BURLINGTON NORTHERN SANTA FE RAILWAY
CA	CALIFORNIA
CALDAG	CALIFORNIA DISABLED ACCESSIBILITY GUIDEBOOK
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CCJPA	CAPITAL CORRIDOR JOINT POWERS AUTHORITY
CCR	CALIFORNIA CODE OF REGULATIONS
CEC	CALIFORNIA ELECTRICAL CODE
CHSR	CALIFORNIA HIGH SPEED RAIL
CHSRA	CALIFORNIA HIGH SPEED RAIL AUTHORITY
CPUC	CALIFORNIA PUBLIC UTILITIES COMMISSION
DOT	DEPARTMENT OF TRANSPORTATION
EIA	ELECTRONIC INDUSTRIES ALLIANCE
FCC	FEDERAL COMMUNICATIONS COMMISSION
FED	FEDERAL
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FRA	FEDERAL RAILROAD ADMINISTRATION
FTA	FEDERAL TRANSIT ADMINISTRATION
HST	HIGH SPEED TRAIN
MTC	METROPOLITAN TRANSPORTATION COMMISSION
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
PCJPB, JPB	PENINSULA CORRIDOR JOINT POWERS BOARD
PCMCIA	PERSONAL COMPUTER MEMORY CARD INTERNATIONAL ASSOCIATION
PG&E	PACIFIC GAS AND ELECTRIC
SAMTRANS	SAN MATEO COUNTY TRANSIT DISTRICT
SCVTA, VTA	SANTA CLARA VALLEY TRANSPORTATION AUTHORITY
SFMTA	SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY
SMCTA	SAN MATEO COUNTY TRANSPORTATION AUTHORITY
SPTC, SP	SOUTHERN PACIFIC TRANSPORTATION COMPANY (NOW UPRR)
TASI	TRANSIT AMERICA SERVICES, INC.
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TJPA	TRANSBAY JOINT POWERS AUTHORITY
UBC	UNIFORM BUILDING CODE
UL	UNDERWRITERS LABORATORIES
UPC	UNIFORM PLUMBING CODE
UPRR, UP	UNION PACIFIC RAILROAD

CITIES AND COUNTIES

CATH	CITY OF ATHERTON
CBEL	CITY OF BELMONT
CBUR	CITY OF BURLINGAME
CGIL	CITY OF GILROY
CMIL	CITY OF MILLBRAE
CMPK	CITY OF MENLO PARK
CMV	CITY OF MOUNTAIN VIEW
CPA	CITY OF PALO ALTO
CRWC	CITY OF REDWOOD CITY
CSB	CITY OF SAN BRUNO
CSC	CITY OF SAN CARLOS
CSJ	CITY OF SAN JOSE
CSM	CITY OF SAN MATEO
CSCL	CITY OF SANTA CLARA
CSSF	CITY OF SOUTH SAN FRANCISCO
CSV	CITY OF SUNNYVALE
CCSF	CITY AND COUNTY OF SAN FRANCISCO
COSM	COUNTY OF SAN MATEO
COSCL	COUNTY OF SANTA CLARA

PENINSULA CORRIDOR JOINT POWERS BOARD

ENGINEERING STANDARD DRAWINGS

APPROVED BY:

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GENERAL ABBREVIATIONS
SIGNAL, TRAIN CONTROL AND STATION COMMUNICATIONS

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ARCHITECTURAL

ACOUS ACOUSTICAL
 ALUM ALUMINUM
 AFF ABOVE FINISHED FLOOR
 BD BOARD
 BITUM BITUMINOUS
 BLKG BLOCKING
 BM BEAM
 CAB CABINET
 CER CERAMIC
 CI CAST IRON
 CIP CAST IRON PIPE
 CLG CEILING
 CLKG CAULKING
 CORR CORRIDOR
 CT CERAMIC TILE
 CTSK COUNTERSUNK
 DF DRINKING FOUNTAIN
 DISP DISPENSER
 DO DOOR OPENING
 DR DOOR
 DS DOWNSPOUT
 DSP DRY STANDPIPE
 ENCL ENCLOSURE
 ESCL ESCALATOR
 EXPD EXPOSED
 ESEW EMERGENCY SHOWER/EYE WASH
 FA FIRE ALARM
 FACP FIRE ALARM CONTROL PANEL
 FCO FLOOR CLEAN OUT
 FD FLOOR DRAIN
 FDC FIRE DEPARTMENT CONNECTION
 FDP FIRE DAMPER
 FE FIRE EXTINGUISHER
 FH FIRE HYDRANT
 FHC FIRE HOSE CABINET
 FLR FLOOR
 FLUOR FLUORESCENT
 FOF FACE OF FINISH
 FOS FACE OF STUDS
 FPRF FIREPROOF
 FSK FLOOR SINK
 FUR FURRING
 GL GLASS
 GYP GYPSUM
 GYPBD GYPSUM BOARD
 HDWE HARDWARE
 HM HOLLOW METAL
 JAN JANITOR
 LAM LAMINATE
 LAV LAVATORY
 LKR LOCKER
 MO MASONRY OPENING
 MSK MOP SINK
 MTD MOUNTED
 MUL MULLION
 OFD OVERFLOW DRAIN
 PC PRECAST CONCRETE
 PCC PORTLAND CEMENT CONCRETE
 PLAM PLASTIC LAMINATE
 PLAS PLASTER
 PLYWD PLYWOOD
 PTD PAPER TOWEL DISPENSER
 RB RESILIENT BASE
 RD ROOF DRAIN
 RESIL RESILIENT
 RM ROOM
 RWL RAIN WATER LEADER
 SC SOLID CORE
 SCD SEAT COVER DISPENSER

SD SMOKE DETECTOR
 SDT STATIC DISSIPATIVE TILE FLOOR
 SND SANITARY NAPKIN DISPENSER
 SNR SANITARY NAPKIN RECEPTACLE
 SPKR SPEAKER
 SSK SERVICE SINK
 STOR STORAGE
 SUSP SUSPENDED
 TPD TOILET PAPER DISPENSER
 UNF UNFINISHED
 UR URINAL
 VCT VINYL COMPOSITION TILE
 VEST VESTIBULE
 WC WATER CLOSET
 WD WOOD
 WSP WET STAND PIPE

ELECTRICAL

AC ALTERNATING CURRENT
 AF AMPERE FUSE
 AFR AMPERE FRAME
 AGC AUTOMATIC GAIN CONTROL
 AMP AMPERE
 ANN ANNUNCIATOR
 AS AMPERE SENSOR
 ASW AMPERE SWITCH
 AUX AUXILIARY
 ASSY ASSEMBLY
 AT AMPERE TRIP
 ATS AUTOMATIC TRANSFER SWITCH
 AVI AUTOMATIC VEHICLE IDENTIFICATION
 BC BARE COPPER
 BCW BARE COPPER WIRE
 BAT BATTERY
 BKR BREAKER
 CBKR CIRCUIT BREAKER
 CCD CHARGE COUPLED DEVICE
 CGB CHASSIS GROUNDING BUS-BAR
 CKT CIRCUIT
 CLF CURRENT LIMITING FUSE
 C/O CONDUIT ONLY
 COMM COMMUNICATIONS
 COND CONDUCTOR
 CNTL CONTROL
 CP CONTROL PANEL
 CPT CONTROL POWER TRANSFER
 C/R CONTACT RAIL
 CR CONTROL RELAY
 CRI COLOR RENDERING INDEX
 CRS PVC COATED RIGID STEEL CONDUIT
 CS CONTROL STATION
 CT CURRENT TRANSFORMER
 CTB COMPUTER TERMINAL BOARD
 CU COPPER
 DIM DIMMER
 DC DIRECT CURRENT
 DISC DISCONNECT
 DP DISTRIBUTION PANEL
 DSP DIGITAL SIGNAL PROCESSING
 ELEC ELECTRICAL
 EMI ELECTROMAGNETIC INTERFACE
 EMT ELECTRICAL METALLIC TUBING
 EPF EXPLOSION PROOF
 ETM ELAPSED TIME METER
 FC FRAMING CHANNEL
 FDR FEEDER
 FS FLOW SWITCH
 FVNR FULL VOLTAGE NON-REVERSING
 GFI GROUND FAULT INTERRUPTER
 GTS GROUND TEST STATION
 HID HIGH INTENSITY DISCHARGE
 HOA HAND-OFF-AUTO SWITCH
 HPS HIGH PRESSURE SODIUM
 HV HIGH VOLTAGE
 IC INTERRUPTING CAPACITY
 KVA KILOVOLT-AMPERE
 KW KILOWATT
 LED LIGHT EMITTING DIODE
 LFMC LIQUID TIGHT FLEXIBLE METALLIC CONDUIT
 LV LOW VOLTAGE
 LS LIMIT SWITCH
 MAG MAGNETIC
 MC CONTACTOR COIL METALLIC CONDUIT
 MDP MAIN DISTRIBUTION PANEL

MGB MAIN GROUNDING BUSS-BAR
 MS MOTOR STARTER
 MT EMPTY CONDUIT
 MTS MANUAL TRANSFER SWITCH
 NC NORMALLY CLOSED
 NF NON FUSED
 NMC NONMETALLIC CONDUIT
 NO NORMALLY OPEN
 NP NAME PLATE
 PC POWER CABLE
 PCU POWER CONDITIONING UNIT
 PE PHOTOELECTRIC
 PEC PHOTOELECTRIC CELL
 PH PHASE
 POS POSITIVE
 PT POTENTIAL TRANSFORMER
 RES RESISTOR
 RGS RIGID GALVANIZED STEEL
 RPC REMOTE POWER CENTER
 RSC RIGID STEEL CONDUIT
 STC SUPERVISORY TERMINATION CABINET
 SV SOLENOID VALVE
 SWBD SWITCHBOARD
 SWGR SWITCHGEAR
 TCK TIME CLOCK
 TDR TIME DELAY RELAY
 TGB TELECOMMUNICATIONS GROUNDING BUSS-BAR
 TH THERMOSTAT
 TLK TWISTLOCK
 TMGB TELCOMMUNICATIONS MAIN GROUNDING BUSS-BAR
 TMS THERMAL FIT MARKER SYSTEM
 TS TUBULAR SHEET
 V VOLT
 VM VOLT METER
 VPF VAPOR PROOF
 VS VOLT METER SWITCH
 W WATT
 WHD WATT-HOUR DEMAND METER
 XFMR TRANSFORMER

MECHANICAL

ASA ACOUSTICAL SOUND ATTENUATOR
 AC AIR COMPRESSOR
 ACD ACCESS DOOR
 ACU AIR CONDITIONING UNIT
 AF AIR FILTER/AIR FOIL
 AHU AIR HANDLING UNIT
 AP ACCESS PANEL
 APD AIR PRESSURE DROP
 ASR AUTOMATIC SPRINKLER RISER
 BD BALANCING DAMPER
 BDD BACK DRAFT DAMPER
 BFP BACKFLOW PREVENTER
 BFB BUTTERFLY VALVE
 CA COMPRESSED AIR
 CC COOLING COIL
 CEG CEILING EXHAUST GRILLE
 CG CEILING GRILLE
 COND CONDENSATE
 CU CONDENSING UNIT
 CV CHECK VALVE
 CW COLD WATER
 CWR CHILLED WATER RETURN
 CWS CHILLED WATER SUPPLY
 DB DRY BULB
 DEG DUCT EXHAUST GRILLE
 DX DIRECT EXPANSION
 EA EXHAUST AIR
 EAD EXHAUST AIR DAMPER
 EAT ENTERING AIR TEMPERATURE
 EF EXHAUST FAN
 EFF EFFICIENCY
 ESP EXTERNAL STATIC PRESSURE
 EUH ELECTRIC UNIT HEATER
 EXTR EXTRACTOR
 FC FORWARD CURVE
 FCD FLOW CONTROL DEVICE
 FLA FULL LOAD AMPERES
 FLEX FLEXIBLE
 FM FORCE MAIN
 GPM GALLONS PER MINUTE
 GR GRILLE
 GV GATE VALVE
 HC HEATING COIL
 HD HEAD
 HDN HOPPER DRAIN
 HP HORSEPOWER/HEAT PUMP
 HSC HOSE STORAGE CABINET
 HVA HOSE VALVE, ANGLE GLOBE TYPE
 HVAC HEATING, VENTILATING AND AIR CONDITIONING
 HVS HOSE VALVE, STRAIGHTWAY GATE TYPE
 HWR HOT WATER RETURN
 HWS HOT WATER SUPPLY
 IPS IRON PIPE SIZE
 IW INDUSTRIAL WASTE
 LAT LEAVING AIR TEMPERATURE
 LCP LOCAL CONTROL PANEL
 LR LONG RADIUS
 MAV MANUAL AIR VENT
 MCC MOTOR CONTROL CENTER
 MCP MOTOR CONTROL PANEL
 MD MOTOR OPERATED DAMPER
 NC NORMALLY CLOSED
 NO NORMALLY OPEN
 OA OUTSIDE AIR
 OAD OUTSIDE AIR DAMPER

PD PUMP DISCHARGE
 PDN PLANTER DRAIN
 PH PHASE
 PIV POST INDICATOR VALVE
 PRV PRESSURE REDUCING VALVE
 PS POSITION SWITCH
 RA RETURN AIR
 RAD RETURN AIR DAMPER
 RF RETURN FAN
 RH RADIANT HEATER
 RL REFRIGERANT LIQUID
 RS REFRIGERANT SUCTION
 RV ROOF VENTILATOR
 SA SUPPLY AIR
 SANT SANITARY
 SAR SOUND ATTENUATOR
 SCAC SELF CONTAINED AIR CONDITIONER
 SCHP SELF CONTAINED HEAT PUMP
 SDP SPLITTER DAMPER
 SF SUPPLY FAN
 SPWG STATIC PRESSURE WATER GAUGE
 SP SUMP PUMP
 T&P TEMPERATURE AND PRESSURE RELIEF VALVE
 TEMP TEMPERATURE
 TG TRANSFER GRILLE
 THR TOTAL HEAT REJECTION
 TSP TOTAL STATIC PRESSURE
 TV TURNING VANE
 UC UNDER CUT
 UH UNIT HEATER
 VB VACUUM BREAKER
 VD VOLUME DAMPER
 VEL VELOCITY
 VTR VENT THROUGH ROOF
 WST WASTE
 WB WET BULB
 WCO WALL CLEAN OUT
 WEG WALL EXHAUST GRILLE
 WG WATER GAUGE
 WH WATER HEATER
 WHA WATER HAMMER ARRESTOR
 WL WALL LOUVER
 WSP WET STANDPIPE

PENINSULA CORRIDOR JOINT POWERS BOARD

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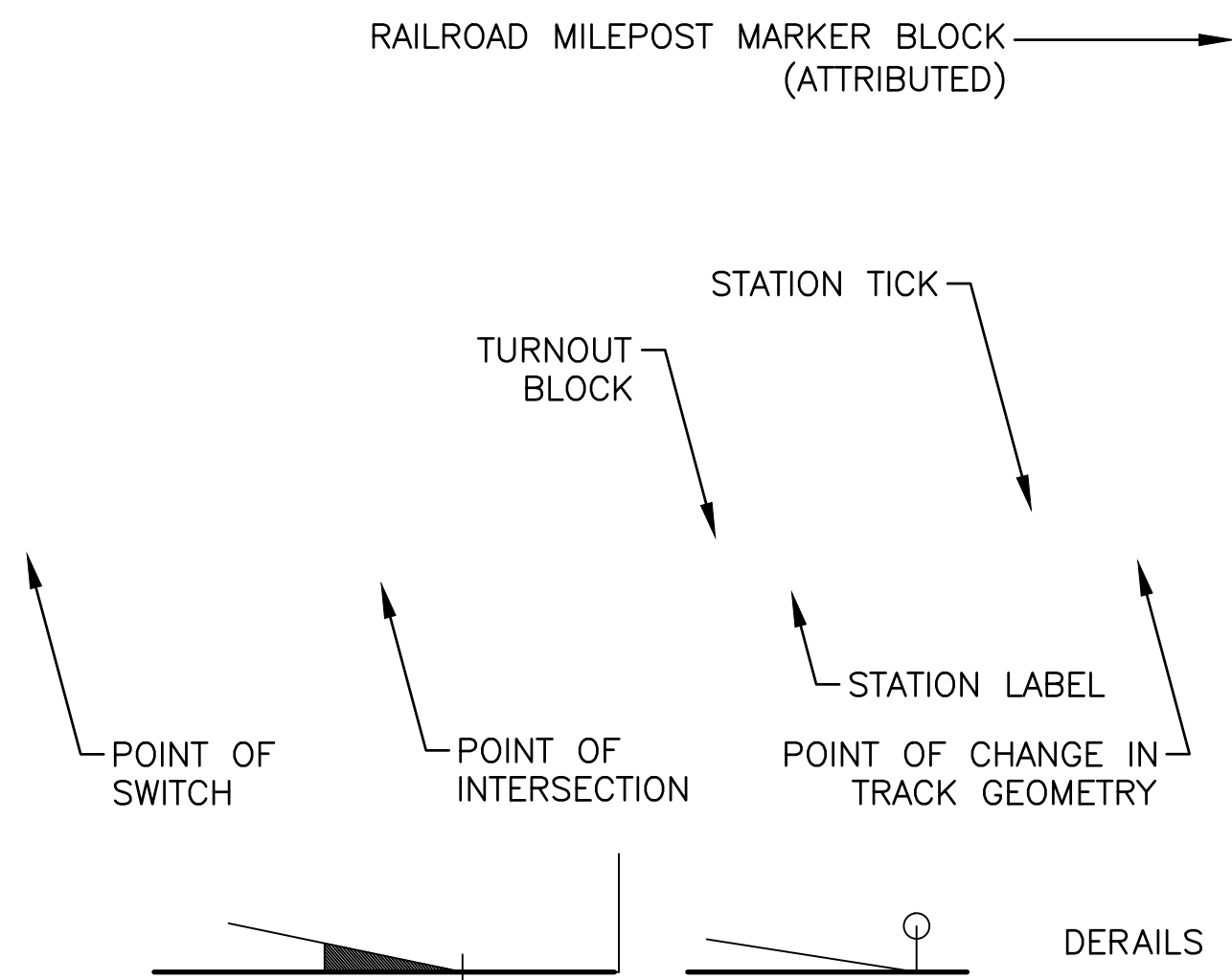
ENGINEERING STANDARD DRAWINGS

GENERAL ABBREVIATIONS ARCHITECTURAL AND ENGINEERING

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TURNOUT AND MILEPOST MARKER BLOCKS



SYMBOLS

- HORIZONTAL CONTROL POINT (ATTRIBUTED)
- HORIZONTAL AND VERTICAL CONTROL POINT (ATTRIBUTED)
- VERTICAL CONTROL POINT (ATTRIBUTED)
- POINT OF VERTICAL INTERSECTION (PVI) VERTICAL CURVE (ATTRIBUTED)
- BENCHMARK
- STATIONING EQUATION MARKER
- CURVE MARKER (ATTRIBUTED)
- NORTH ARROW
- PLAN NORTH ARROW
- TREE(S), BRUSH, SHRUBS
- TREE(S), BRUSH, SHRUBS TO BE REMOVED

PATTERNS

- PEDESTRIAN CROSSING PANELS TO BE REMOVED
- GRADE CROSSING PANELS TO BE REMOVED
- ASPHALT CONCRETE TO BE REMOVED
- PORTLAND CEMENT CONCRETE TO BE REMOVED
- NEW ASPHALT CONCRETE
- COMPACTED SUBGRADE, EARTH
- BALLAST
- PORTLAND CEMENT CONCRETE
- AGGREGATE BASE
- GRADED/LANDSCAPED AREA
- STONE/BRICK PAVING
- TACTILE WARNING TILES

- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- CCTV, SECURITY MANHOLE
- TELEVISION MANHOLE
- ELECTRIC MANHOLE
- WATER VALVE BOX
- RAILROAD SWITCHBOX
- TRAFFIC CONTROL BOX
- TRAFFIC SIGNAL
- TRAFFIC SIGNAL W/ ARM ONLY
- TRAFFIC SIGNAL W/ ARM AND POLE
- SIGN
- TELEPHONE POLE
- EXISTING POLE
- LUMINAIRE
- EXISTING LUMINAIRE
- POLE MOUNTED LUMINAIRE
- POLE MOUNTED LUMINAIRE, TWIN
- CROSSING GATE WITH LIGHTS
- SIGNAL HOUSE
- RAILROAD SIGNAL
- SIGNAL BASE
- TEMPORARY DRAINAGE INLET
- TIME CLOCK
- PHOTOELECTRIC CELL
- STAIRWAY OR RAMP FLOODLIGHT
- SERVICE METERING SWITCHBOARD
- UTILITY METER
- TRANSFORMER

- GROUNDING ROD
- GROUND
- CCTV CAMERA
- CARD INTERFACE DEVICE
- DISTRIBUTION CABINET (ATTRIBUTED)
- TICKET VENDING MACHINE
- VARIABLE MESSAGE SIGN
- PUBLIC TELEPHONE
- COMMUNICATIONS EQUIPMENT ROOM
- COMMUNICATIONS INTERFACE CABINET
- FIBER DISTRIBUTION PANEL
- NOISE SENSING MICROPHONE (SURFACE MOUNTED)
- PULL BOX
- EQUIPMENT ROOM
- SUBSYSTEM DEVICE (TVM, VMS OR CCTV)
- DISTRIBUTION CABINET (INTERMEDIATE CROSS-CONNECT)
- MICROPHONE
- SPEAKER
- DUAL SPEAKER
- HANDHOLE
- SINGLE MODE OR MULTIMODE FIBER OPTIC CABLE
- 8 OHM EXTERIOR HORN SPEAKER
- CONTROL POINT
- SM FIBER TO COPPER MEDIA CONVERTER/SWITCH DUAL TX/RX

SPECIAL TRACKWORK SYMBOLS

- INSULATED JOINT
- WELDED JOINT

LINE TYPES

- TRENCH DRAIN
 - UNDER DRAIN
 - CABLE TV LINE
 - COMMUNICATIONS LINE
 - COPPER CABLE
 - ELECTRICAL LINE
 - FIBER OPTIC CABLE
 - FIBER OPTIC CABLE, ATT
 - FIBER OPTIC CABLE, SPRINT
 - FUEL LINE
 - GAS LINE
 - SANITARY SEWER LINE
 - SIGNALS LINE
 - STORM DRAIN
 - STORM DRAIN, OVER 18" DIA
 - TELEPHONE LINE
 - OVERHEAD UTILITY LINE
 - WATER LINE
 - HOT WATER LINE
 - CENTERLINE
 - MATCH LINE
 - RIGHT-OF-WAY, EASEMENT, PROPERTY LINE
 - FENCE
 - PCJPB INTERTRACK FENCE WELDED WIRE MESH (WWM)
- TRACK**
- TRACK TO BE REMOVED
 - TRACK TO BE SHIFTED
 - EXISTING TRACK ALIGNMENT
 - FUTURE TRACK ALIGNMENT
 - NEW TRACK ALIGNMENT
- TRACK RECONSTRUCTION**
- RAIL ONLY
 - TIES ONLY (TIMBER)
 - TIES ONLY (CONCRETE)
 - SPOT TIE ONLY
 - FASTENERS ONLY
 - RECONSTRUCT RAIL AND INSTALL NEW PLATES
 - BALLAST ONLY
 - RAIL/TIMBER TIE/BALLAST
 - RAIL/CONCRETE TIE/BALLAST
 - RAIL/CONCRETE TIE/BALLAST/HMAC

PENINSULA CORRIDOR JOINT POWERS BOARD

ENGINEERING STANDARD DRAWINGS

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GENERAL SYMBOLS

GENERAL, CIVIL AND TRACK

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