

STATION COMMUNICATIONS

ACS ADVANCED COMMUNICATION SYSTEM
 BER BIT-ERROR RATE
 C CONDUIT
 CC COMMUNICATIONS CABINET
 CCTV CLOSED CIRCUIT TELEVISION-VIDEO SECURITY
 CER COMMUNICATIONS EQUIPMENT ROOM
 CIC COMMUNICATIONS INTERFACE CABINETS
 CID CARD INTERFACE DEVICE
 CIR CIRCUIT
 CIS CUSTOMER INFORMATION SYSTEM
 CS COMMUNICATION SHELTER
 CSMH COMMUNICATIONS SYSTEM MANHOLE
 CST COMBINED SYSTEM TRUNK
 DC DISTRIBUTION CABINET
 DDS DEDICATED DIGITAL SERVICE
 DSO SINGLE DATA CHANNEL OF 56-65 Kbps
 E EXISTING
 EDC ELECTRICAL DISTRIBUTION CENTER
 E&M EAR AND MOUTH
 E-LAN ETHERNET LAN
 EOS ETHERNET OVER SONET
 EPL ETHERNET PRIVATE LINE
 EVC ETHERNET VIRTUAL CIRCUIT
 EVPL ETHERNET VIRTUAL PRIVATE LINE
 EVPLAN ETHERNET VIRTUAL PRIVATE LAN
 FDP FIBER DISTRIBUTION PANEL
 FO FIBER OPTIC
 FOC FIBER OPTIC CABLE
 FPS FRAME PER SECOND
 FSE FIBER SLACK ENCLOSURE
 GBIC GIGABIT INTERFACE CONVERTER
 GBPS GIGABITS PER SECOND
 GIGE GIGABIT ETHERNET
 GND GROUND
 GRP GLASS REINFORCED PLASTIC ROD
 GRS GALVANIZED RIGID STEEL
 GUI GRAPHICAL USER INTERFACE
 IC INTERFACE CONVERTER
 IP INTERNET PROTOCOL
 Kbps KILO BITS PER SECOND
 LAN LOCAL AREA NETWORK
 LCD LIQUID CRYSTAL DISPLAY
 LDF LOCAL DISTRIBUTION FRAME
 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
 MM MULTI-MODE
 MMFOC MULTI-MODE FIBER OPTIC CABLE
 MOPE MAIN POINT OF ENTRY
 MS MILLISECOND
 MSPP MULTI-SERVICE PROVISIONING PLATFORM
 NID NETWORK INTERFACE DEVICE
 NMP NETWORK MEDIA PLAYER
 NMS NETWORK MANAGEMENT SYSTEM
 NTP NETWORK TIME PROTOCOL
 NVR NETWORK VIDEO RECORDER
 OCC OPERATION CONTROL CENTER
 OSP OUTSIDE PLANT

PA PUBLIC ADDRESS
 PAS PUBLIC ADDRESS SYSTEM
 PDA PERSONAL DIGITAL ASSISTANT
 PDU POWER DISTRIBUTION UNIT
 PLC PROGRAMMABLE LOGIC CONTROLLER
 PSTN PUBLIC SWITCHING TELEPHONE NETWORK
 PTB PROTECTED TERMINAL BLOCKS
 PTT PUSH TO TALK
 PVC PRIVATE VIRTUAL CIRCUIT
 QOS QUALITY OF SERVICE
 RPR RESILIENT PACKET RING
 RTU REMOTE TERMINAL UNIT (COMMUNICATIONS)
 SCC STATION COMMUNICATION CABINET
 SFX SMALL FORM (PLUGGABLE) CROSS-CONNECT
 SLA SERVICE LEVEL AGREEMENT
 SM SINGLE MODE
 SMFOC SINGLE-MODE FIBER OPTIC CABLE
 SNMP SIMPLE NETWORK MANAGEMENT PROTOCOL
 SONET SYNCHRONOUS OPTICAL NETWORK
 SPDU SWITCHED POWER DISTRIBUTION UNIT
 T1C SINGLE DATA CHANNEL OF 1.544 Mbps
 T1MUX A MULTIPLEXING DEVICE BY WHICH A SINGLE T1 CHANNEL IS UTILIZED TO PROVIDE DSO CHANNELS
 TDM TIME DIVISION MULTIPLEXING
 UP-LINK 1000 MBPS SWITCH EXPANSION PORTS
 UPS UNINTERRUPTIBLE POWER SUPPLY
 UPSR UNIDIRECTIONAL PATH SWITCH RING
 UTP UNSHIELDED TWISTED PAIR
 VCAT VIRTUAL CONCATENATION
 VLAN VIRTUAL LOCAL AREA NETWORK
 VPN VIRTUAL PRIVATE NETWORK
 WA WORK AREA
 WAN WIDE AREA NETWORK
 WAP WIRELESS APPLICATION PROTOCOL
 WCM WAYSIDE COMMUNICATIONS MANAGER

SIGNALS

AK APPROACH TRACK INDICATION
 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)
 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
 SEH SIGNAL EQUIPMENT HOUSE
 SGHS SOUTHWARD SIGNAL REQUEST
 SGK SOUTHWARD SIGNAL CLEAR INDICATION
 TEK SIGNAL IN TIME INDICATION
 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

AMPL AMPLIFIER
 ATCS ADVANCE TRAIN CONTROL SYSTEM
 BER BIT ERROR RATE
 BPF BAND PASS FILTER
 BS BASE STATION
 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
 DED DRAGGING EQUIPMENT DETECTOR
 DSU DATA SERVICE UNIT
 ERP EFFECTIVE RADIATED POWER
 FAT FACTORY ACCEPTANCE TEST
 FDP FIBER DISTRIBUTION PANEL
 FEC FORWARD ERROR CONNECTION
 FM FREQUENCY MODULATION
 FO FIBER OPTIC
 FOPP FIBER OPTIC PATCH PANEL
 FR FRAME RELAY
 GMSK GAUSSIAN MINIMUM SHIFT KEYING
 GPS GLOBAL POSITIONING SYSTEM
 ISDN INTERGRATED SERVICES DIGITAL NETWORK
 KO KEYBOARD OPERATOR
 KVM KEYBOARD VIDEO MOUSE
 MAS MULTIPLE ADDRESSING SCHEME
 MC MEDIA CONVERTER
 MDF MAIN DISTRIBUTION FRAME
 NIC NETWORK INTERFACE CARD
 NMS NETWORK MANAGEMENT SYSTEM
 RF RADIO FREQUENCY
 RX RECEIVE
 SPKR SPEAKER
 SINAD SIGNAL TO NOISE AND DISTORTION
 SVR SERVER
 TC/C TRAIN CONTROLS AND COMMUNICATION
 TCT TRAIN CONTROL TRENCH
 TX TRANSMITTER
 UHF ULTRA HIGH FREQUENCY
 VHF VERY HIGH FREQUENCY
 VHLC VITAL HARMON LOGIC CONTROLLER

AGENCIES, ORGANIZATIONS AND CODES

AASHTO AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
 AAR ASSOCIATION OF AMERICAN RAILROADS
 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 ATLANTIC TELEPHONE AND TELEGRAPH COMPANY
 AWG AMERICAN WIRE GAUGE
 AWS AMERICAN WELDING SOCIETY
 BNSF BURLINGTON NORTHERN SANTA FE
 CALCAS CALIFORNIA ACCESS COMPLIANCE SOURCE
 CALDAG CALIFORNIA DISABLED ACCESSIBILITY GUIDEBOOK
 CALTRANS CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CCR CALIFORNIA CODE OF REGULATIONS
 CEC CALIFORNIA ELECTRICAL CODE
 CMF CENTRAL MAINTENANCE FACILITY
 CPUC CALIFORNIA PUBLIC UTILITIES COMMISSION
 EIA ELECTRONICS INDUSTRIES ALLIANCE
 FAA FEDERAL AVIATION ADMINISTRATION
 FCC FEDERAL COMMUNICATIONS COMMISSION
 FRA FEDERAL RAILROAD ADMINISTRATION
 LAUS LOS ANGELES UNION STATION
 MOC METROLINK OPERATIONS CENTER
 MUTCD MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
 NEC NATIONAL ELECTRICAL CODE
 NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
 NFPA NATIONAL FIRE PROTECTION ASSOCIATION
 NIC NOT IN CONTRACT
 PCMCIA PERSONAL COMPUTER MEMORY CARD INTERNATIONAL ASSOCIATION
 SCE SOUTHERN CALIFORNIA EDISON
 SCRRA SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (METROLINK)
 SPR SPRINT NEXTEL
 SPTC SOUTHERN PACIFIC TRANSPORTATION COMPANY
 TIA TELECOMMUNICATIONS INDUSTRY ASSOC
 UBC UNIFORM BUILDING CODE
 UL UNDERWRITERS LABORATORIES
 UPC UNIFORM PLUMBING CODE
 UPRR UNION PACIFIC RAILROAD

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PRINCIPAL ENGINEER, DESIGN & STANDARDS 		ASSISTANT DIRECTOR, DESIGN 		SCALE: NTS							
REV. A	11-01-13	REVISED GENERAL ABBREVIATIONS	AC	NDP					REVISION SHEET 1 OF 1		
REV.	DATE	DESCRIPTION	DES.	ENG.					CADD FILE: ES1102		

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
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

INCAND INCANDESCENT

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 DISSIPATE 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

GLASS
GYPSUM
GYPSUM BOARD

HARDWARE
HOLLOW METAL

INCANDESCENT

JANITOR

LAMINATE
LAVATORY
LOCKER

MASONRY OPENING
MOP SINK
MOUNTED
MULLION

OVERFLOW DRAIN

ELECTRICAL

AC ALTERNATING CURRENT
AF AMPERE FUSE
AFR AMPERE FRAME
AGC AUTOMATIC GAIN CONTROL
AMP AMPERE
ANN ANNUCIATOR
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
CIRCUIT
CLF CURRENT LIMITING FUSE
CONDUIT ONLY
COMM COMMUNICATIONS
COND CONDUCTOR
CNTL CONTROL
CP CONTROL PANEL
CPT CONTROL POWER TRANSFER
C/R CONTACT RAIL
CR CONTROL RELAY
CRI COLOR RENDENING INDEX
CRS PVC COATED RIGID
STEEL CONDUIT
COMMUNICATION SHELTER
CURRENT TRANSFORMER
COMPUTER TERMINAL BOARD
COPPER

DIM DIMMER
DC DIRECT CURRENT
DISC DISCONNECT
DP DISTRIBUTION PANEL
DSP DIGITAL SIGNAL PROCESSING

EMI ELECTROMAGNETIC INTERFACE
EMT ELECTRICAL METALLIC
TUBING
EPF EXPLOSION PROOF
ETM ELAPSED TIME METER

FC FRAMMING CHANNEL
FDR FEEDER
FS FLOW SWITCH
FVNR FULL VOLTAGE
NON-REVERSING

GFI GROUND FAULT INTERRUPTER
GRS GALVANIZED RIGID STEEL
GTS GROUND TEXT STATION

HID HIGH INTENSITY DISCHARGE
HOA HAND-OFF-AUTO SWITCH
HPS HIGH PRESSURE SODIUM
HV HIGH VOLTAGE

IC INTERRUPTING CAPACITY

KVA KILOVAR
KW KILOWATT

LED LIGHT EMITTING DIODE
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

NF NON FUSED
NMC NONMETALLIC CONDUIT
NP NEMPLATE

P POWER
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

UH UNIT HEATER

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
BFV 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 EXTRACTER

FC FORWARD CURVE
FCD FLOW CONTROL DEVICE
FLA FULL LOAD AMPERES
FLX FLEXIBLE
FMN 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
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

REV.	DATE	DESCRIPTION	DES.	ENG.
B	04-13-20	REMOVED TS DEFINITION	AC	JMM
A	11-01-13	REVISED GENERAL ABBREVIATIONS	AC	NDP

DRAWN BY: A. CARLOS DATE: 06/08/07

PRINCIPAL ENGINEER, DESIGN & STANDARDS

ASSISTANT DIRECTOR, DESIGN

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METROLINK

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ENGINEERING STANDARDS

GENERAL ABBREVIATIONS
ARCHTTECTURAL & ENGINEERING

STANDARD 1103

SCALE: NTS

REVISION SHEET B 1 OF 1

CADD FILE: ES1103

ABBREVIATIONS

GENERAL

& @ AB ABM ABN ABUT AC AD ADJ AHD ALIGN ALT ANSI AOBE APPROX ARCH AREA AREMA A/R AS ASPH ASSY ASTM ATR AVE AVM AWWA BAA BB BBR BCR BEG BK BKF BL BLDG BLLBRD BLST BLVD BM BNSF BOC BOS BOT BOW BR C/W CAB CALP CAP CB CEM CF CG CI CIP CJ CL CLK CLR CMP CMPA CMU COMPJT CND CNTR CNTRLR CO COC COL	AND AT AGGREGATE BASE AIR-BLOWN MORTAR ABANDON ABUTMENT ASPHALTIC CONCRETE AREA DRAIN ADJUSTABLE AHEAD ALIGNMENT ALTERNATE AMERICAN NATIONAL STANDARDS INSTITUTE AS ORDERED BY ENGINEER APPROXIMATE, APPROXIMATELY ARCHITECTURAL AMERICAN RAILWAY ENGINEERING ASSOCIATION AMERICAN RAILWAY ENGINEERING & MAINTENANCE OF WAY ASSOCIATION AS REQUIRED AGGREGATE SUBBASE ASPHALT, ASPHALT CONCRETE PAVING ASSEMBLY AMERICAN SOCIETY FOR TESTING & MATERIALS ABOVE TOP OF RAIL AVENUE ADD VALUE MACHINE AMERICAN WATER WORKS ASSOCIATION BOARDING ASSISTANCE AREA BATTERY BOX BEGINNING OF BRIDGE BEGIN CURB RETURN BEGIN, BEGINNING BACK BACKFILL BASELINE BUILDING BILLBOARD BALLAST BOULEVARD BENCHMARK BURLINGTON NORTHERN SANTA FE RAILWAY BOTTOM OF CURB BOTTOM OF SLOPE BOTTOM BOTTOM OF WALL BRIDGE, BLUE ROD COMES WITH CABINET CORRUGATED ALUMINUM PIPE CAPACITY CATCH BASIN CEMENT CUBIC FEET CENTER OF GRAVITY CAST IRON CAST IN PLACE CONSTRUCTION JOINT CENTERLINE CHAIN LINK CLEAR, CLEARANCE CORRUGATED METAL PIPE CORRUGATED METAL PIPE ARCH CONCRETE MASONRY UNIT COMPROMISE JOINT CONDUIT COUNTER CONTROLLER CLEANOUT CENTER ON CENTER COLUMN	COMM COMM R/W CONC CONN CONST CONT CONTR COORD COS CP CPUC CRV CSP CT CTC CTR CULV CVD CVR CWR CY Dc DEL DEP DET DFX DGAC DI DIA, Ø DIAG DIM DIR DIST DN DR DRWY DTR DWG (E) E EA EB EBR ECR EE EF EJ ELEC EL ELEV EMB EMER ENGR EP EQ EQUIP ES ESMT ET ETW EW EX EXC EXP EXT (F) FC FDN FF	COMMUNICATIONS COMMISSION RIGHT OF WAY CONCRETE CONNECTION CONSTRUCTION CONTINUOUS CONTRACTOR COORDINATE COSINE CONTROL POINT, CLEARANCE POINT CALIFORNIA PUBLIC UTILITIES COMMISSION CURVE CORRUGATED STEEL PIPE COURT CENTER TO CENTER, CENTRALIZED TRAFFIC CONTROL CENTER CULVERT CURVED COVER CONTINUOUSLY WELDED RAIL CUBIC YARD DEGREE OF CURVE DELINEATORS DEPTH DETAIL DIRECT FIXATION DENSE GRADED ASPHALT CONCRETE DROP INLET, DRAINAGE INLET DIAMETER DIAGONAL DIMENSION DIRECTION DISTRIBUTION DOWN DRIVE DRIVEWAY DETOUR DRAWING EXISTING EAST EACH EASTBOUND END OF BRIDGE END CURB RETURN EACH END EACH FACE EXPANSION JOINT ELECTRICAL ELEVATION ELEVATOR EMBANKMENT EMERGENCY ENGINEER, ENGINEERING EDGE OF PAVEMENT EQUAL, EQUATION EQUIPMENT EDGE OF SHOULDER, ENGINEERING STANDARD EASEMENT END OF TRACK EDGE OF TRAVELED WAY END WALL EXISTING EXCAVATION EXPANSION EXTERIOR FUTURE FACE OF CONCRETE FOUNDATION FILTER FABRIC	FG FH FIN FL FLR FOC FR FT FTG FW FWY GA GALV GCL GM GND GP GR GSP HB HC HD HDPE HEX HEF HH HI HL HMAC HORIZ HP HR HS HST HT HW HWY HZ ID I.D. IE IJ IN INSUL INT INV IR JB JJ JT LACFCD LACMTA LAUS LB, LBS LF LG LGT LGTH LH LN LOC LOL LP LPL LT LTG LVL	FINISHED GRADE FIRE HYDRANT FINISH, FINISHED FLOW LINE FLOOR FIBER OPTIC CABLE FRAME FOOT, FEET FOOTING FIELD WELD FREEWAY GAUGE GALVANIZED GRADING CONTROL LINE GUIDE MARKER GROUND GRADING PLANE GUARDRAIL/GRADE GALVANIZED STEEL PIPE HOSE BIBB HANDICAP, HANDICAPPED HEAVY DUTY HIGH DENSITY POLY ETHYLENE HEXAGONAL HEEL OF FROG, HEAD FREE RAIL HANDHOLE HIGH HEEL LENGTH HOT MIX ASPHALT CONCRETE HORIZONTAL HEEL PLATE, HIGH POINT HANDRAIL HEEL OF FROG, HIGH STRENGTH HOLLOW STEEL TIE HEIGHT, HIGH TENSILE, HAND THROW HEADWALL HIGHWAY HERTZ INSIDE DIAMETER IDENTIFICATION INVERT ELEVATION INSULATED JOINT INCH(ES) INSULATION INTERIOR INVERT INSIDE RADIUS JUNCTION BOX JOINTED RAIL JOINT LOS ANGELES COUNTY FLOOD CONTROL DISTRICT LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY LOS ANGELES UNION STATION POUND, POUNDS LINEAL FEET LONG LIGHT LENGTH LEFT HAND LANE LOCATION LAYOUT LINE LOW POINT LIGHT POLE LEFT LIGHTING LEVEL	MAINT MANG MAX M/C MECH MED MEM MET MFG MH MIC MIN MISC ML MOD MON MOW MP MPH MSL MTL (N) N N/A NB NEG NEUT NIC NO, # NOM NTS OA OC OCTA OD OHD OP OPNG OPP OTM OZ PB PED PERF PERM PF PG PGL PH PITO PL P/L PNA PNL PP PPL PPP PR PROP PS PSI PSM PT PTM PVC PVMT	MAINTENANCE MANGANESE MAXIMUM MILL CUT MECHANICAL MEDIAN, MEDIUM MEMBRANE METAL MANUFACTURER MANHOLE MICROPHONE MINIMUM MISCELLANEOUS MAINLINE MODIFIED MONUMENT MAINTENANCE OF WAY MILE POST MILES PER HOUR MEAN SEA LEVEL MATERIAL NEW NORTH NOT APPLICABLE NORTHBOUND NEGATIVE NEUTRAL NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE OVERALL ON CENTER ORANGE COUNTY TRANSPORTATION AUTHORITY OUTSIDE DIAMETER OVERHEAD OVERPASS OPENING OPPOSITE OTHER TRACK MATERIAL OUNCE PULL BOX PEDESTRIAN PERFORATED PERMEABLE, PERMANENT POINT OF FROG PAGE PROFILE GRADE LINE POTHOLE POINT OF INTERSECTION OF TURNOUT PLATE PROPERTY LINE PASSENGER NEEDING ASSISTANCE PANEL POWER POLE PERFORMED PERMEABLE LINE PERFORATED PLASTIC PIPE PAIR PROPOSED POINT OF SWITCH POUNDS PER SQUARE INCH PARK BY SPACE MACHINE POINT PARKING TICKET MACHINE POLYVINYL CHLORIDE PAVEMENT
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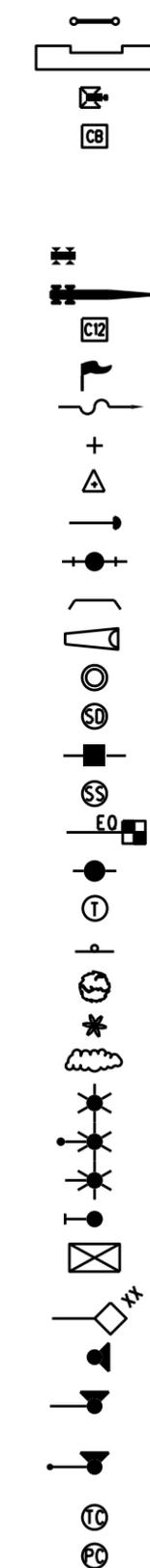
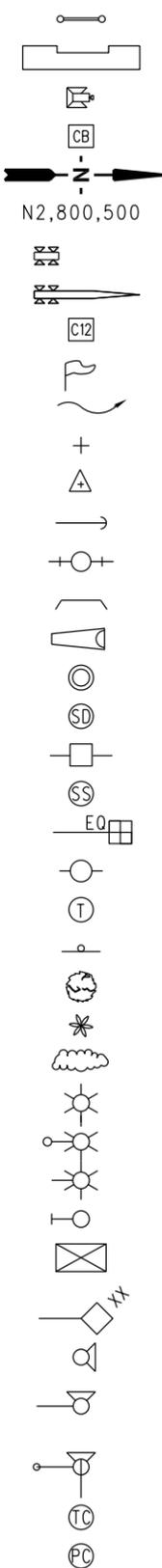
	DRAWN BY:  HDR DATE: 03/31/2011 PRINCIPAL ENGINEER, DESIGN & STANDARDS ASSISTANT DIRECTOR, DESIGN	SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES: SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.	 SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY 900 WILSHIRE BLVD., SUITE 1500, L. A., CA. 90017	ENGINEERING STANDARDS STANDARD ABBREVIATIONS	STANDARD 1201 SCALE: NONE REVISION SHEET A 1 OF 4 CADD FILE: ES1201-01
REV. DATE DESCRIPTION DES. ENG.	A 10-02-20 REVISED ABBREVIATIONS AC JMM				

DESCRIPTION

EXISTING

PROPOSED

- BILLBOARD
- BUILDING
- BUMPER
- CATCH BASIN
- NORTH ARROW
- COORDINATE
- *FLASHERS
- *CROSSING GATE & FLASHERS
- CURVE NUMBER
- FLAG POLE
- FLOW
- GRID TICK
- GROUND CONTROL POINT (AERIAL)
- GUY WIRE
- HYDRANT
- HEADWALL
- FLARED END SECTION
- MANHOLE
- STORM DRAIN MANHOLE
- POWER POLE
- SANITARY SEWER MANHOLE
- STATION EQUALITY
- TELEPHONE POLE
- TELEPHONE MANHOLE
- SIGN
- TREE
- PALM TREE
- TREE LINE, SHRUBBERY
- POLE-MOUNTED LUMINAIRE
- ELECTROLIER WITH POLE
- ELECTROLIER WITHOUT POLE
- RAILROAD SIGNAL
- SIGNAL HOUSE
- RAILROAD MILEPOST
- TRAFFIC SIGNAL
- TRAFFIC SIGNAL WITH ARM ONLY
- TRAFFIC SIGNAL WITH ARM AND POLE
- TIME CLOCK
- PHOTOELECTRIC CELL

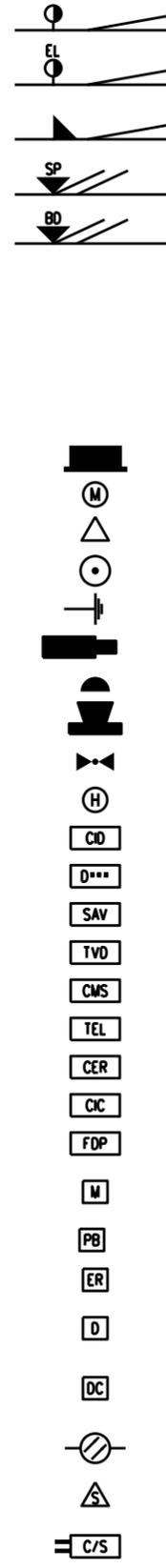
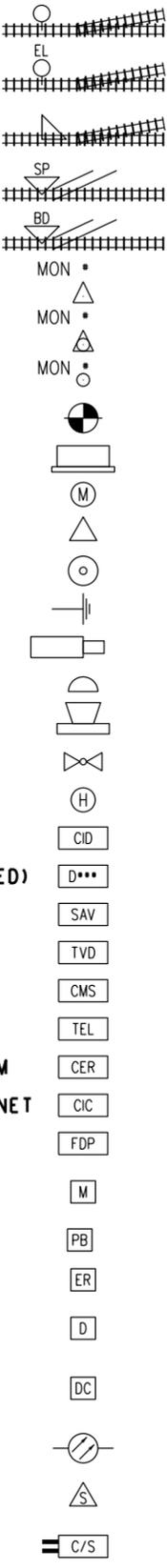


DESCRIPTION

EXISTING

PROPOSED

- POINT OF SWITCH (HAND-THROW TURNOUT)
- POINT OF SWITCH (HAND THROW TURNOUT WITH ELECTRIC LOCK)
- POINT OF SWITCH (POWER-OPERATED TURNOUT)
- SWITCH POINT DERAIL
- BI-DIRECTIONAL DERAIL
- HORIZONTAL CONTROL POINT
- HORIZONTAL AND VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- BENCHMARK
- STAIRWAY OR RAMP FLOODLIGHT
- UTILITY METER
- TRANSFORMER
- GROUNDING ROD
- GROUND
- CCTV CAMERA
- MICROPHONE
- SPEAKER
- DUAL SPEAKER
- HANDHOLE
- CARD INTERFACE DEVICE
- DISTRIBUTION CABINET (ATTRIBUTED)
- STAND ALONE VALIDATOR
- TICKET VENDING DEVICE
- CHANGEABLE 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)
- SINGLE MODE OR MULTIMODE FIBER OPTIC CABLE
- 8 OHM EXTERIOR HORN SPEAKER
- SM FIBER TO COPPER MEDIA CONVERTER/SWITCH DUAL TX/RX

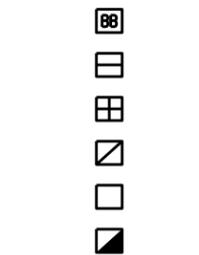


DESCRIPTION

EXISTING

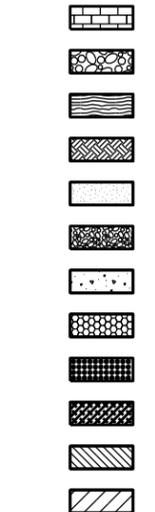
PROPOSED

- BATTERY BOX
- CCTV, SECURITY MANHOLE
- TELEVISION MANHOLE
- ELECTRIC MANHOLE
- WATER VALVE BOX
- TRAFFIC CONTROL BOX

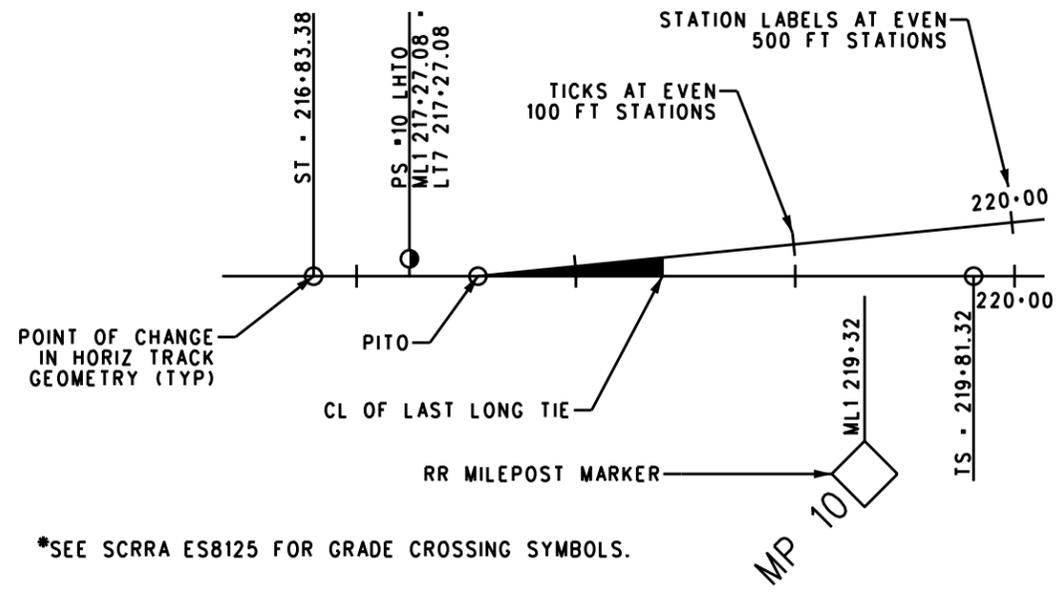


PATTERNS

- STONE/BRICK PAVING
- BALLAST
- TIMBER
- SUBGRADE, EARTH
- SUBBALLAST
- AGGREGATE BASE
- CONCRETE
- PEDESTRIAN CROSSING PANEL
- TACTILE WARNING TILES
- GRADED/LANDSCAPED AREA
- GRADE CROSSING PANELS
- HOT MIX ASPHALT CONCRETE



TYPICAL ILLUSTRATION OF TRACK AND TURNOUT



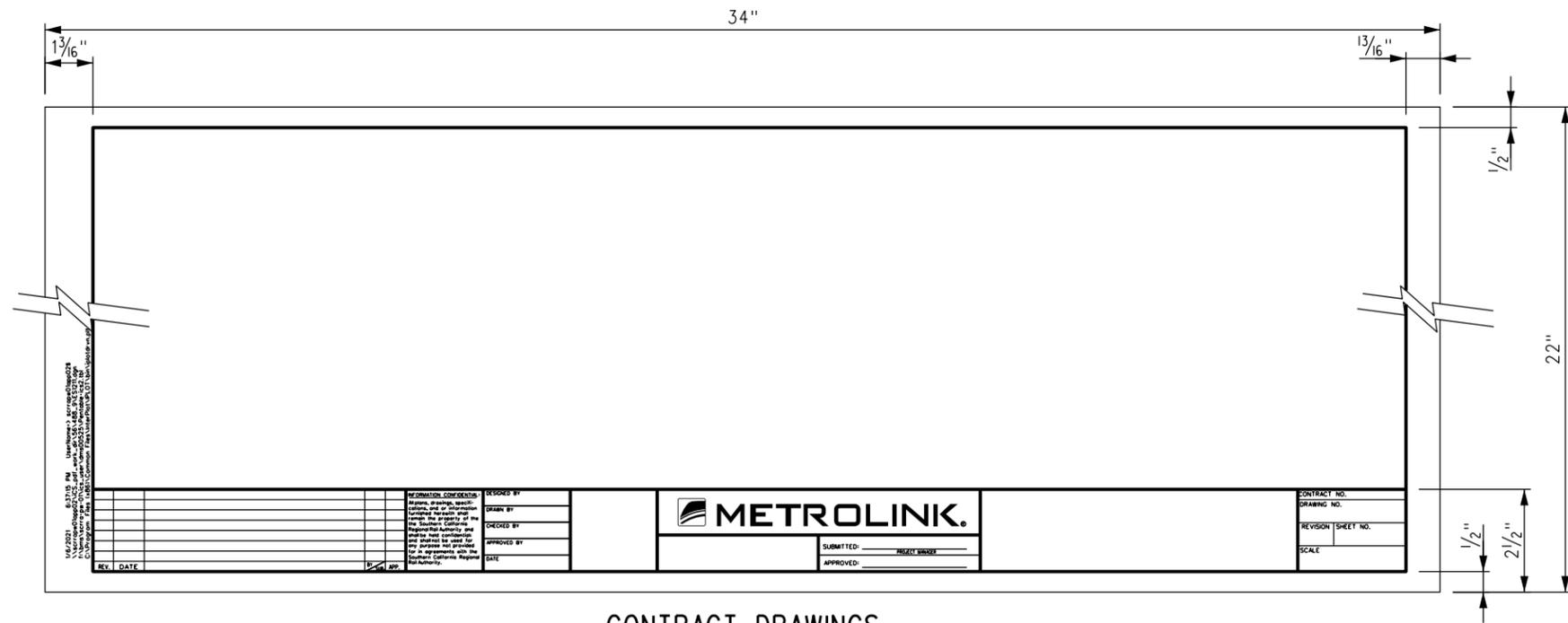
*SEE SCRR ES8125 FOR GRADE CROSSING SYMBOLS.

REV.	DATE	DESCRIPTION	DES.	ENG.
A	10-02-20	REVISED ABBREVIATIONS	AC	JMM

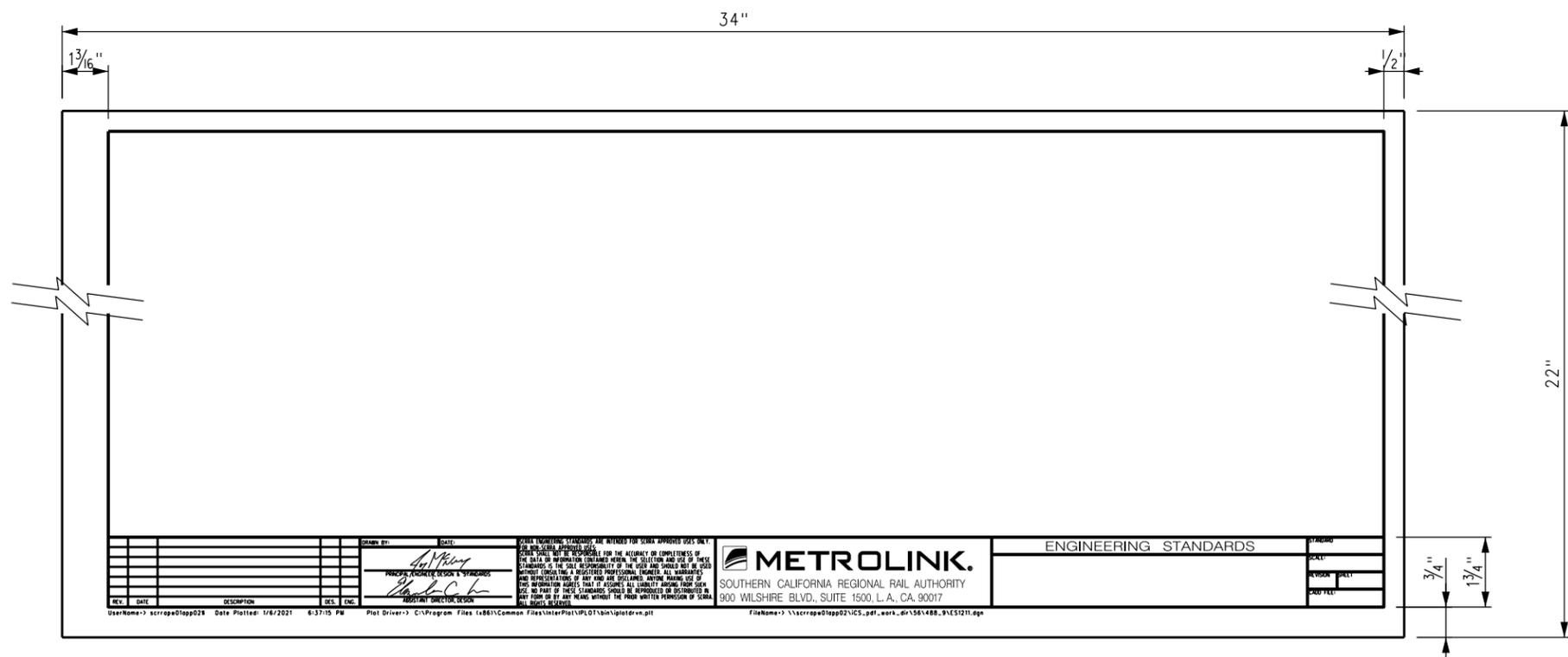
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ENGINEERING STANDARDS		STANDARD	1201
STANDARD SYMBOLS AND PATTERNS		SCALE:	NONE
		REVISION SHEET	A 3 OF 4
		CADD FILE:	ES1201-03

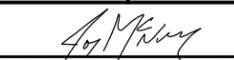


CONTRACT DRAWINGS



ENGINEERING STANDARD DRAWINGS

REV.	DATE	DESCRIPTION	DES.	ENG.
A	11-16-16	REVISED CONTRACT DRAWING BORDER	AC	NDP

DRAWN BY:	A. CARLOS	DATE:	04/12/02
 PRINCIPAL ENGINEER, DESIGN & STANDARDS		 ASSISTANT DIRECTOR, DESIGN	

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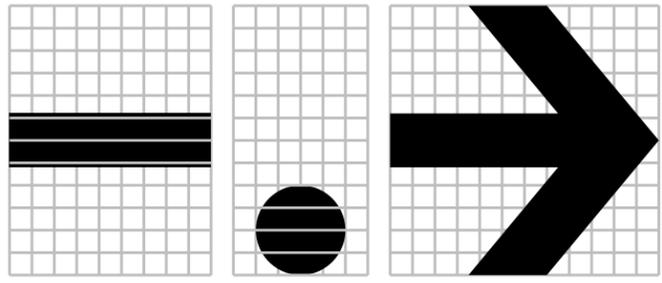


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ENGINEERING STANDARDS	
STANDARD TITLE BLOCKS	

STANDARD	1211
SCALE:	NONE
REVISION SHEET	A 1 OF 1
CADD FILE:	ES1211

1 2 3 4 5 6 7 8 9 0
A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z & @



TEXT HEIGHT
TEXT HEIGHT x 1/2
TEXT HEIGHT
TEXT HEIGHT x 1.5

TEXT SPACING

UNRELATED LINE

- NOTES:**
- "ARIAL BOLD" LETTERS AND NUMERALS SHALL BE USED ON ALL SIGNS UNLESS OTHERWISE SPECIFIED ON SIGN STANDARD.
 - LETTERS AND NUMERALS MAY BE MADE PROPORTIONALLY NARROWER THAN ILLUSTRATED IF NEEDED TO FIT AVAILABLE SPACE ON THE SIGN. HEIGHT SHALL NOT BE ADJUSTED.
 - ALL LETTERS AND NUMERALS SHALL BE AVERY DENNISON OR 3M BLACK.
 - USE TEXT SPACING PATTERN ON THIS SHEET UNLESS OTHERWISE SPECIFIED ON SIGN STANDARD.

REV.	DATE	DESCRIPTION	DES.	ENG.
B	09-25-20	REVISED NOTES, NUMBER 1 & ADDED LETTER "I"	AC	JMM
A	03-22-13	REVISED NOTE 3	AC	NDP

DRAWN BY: A. CARLOS DATE: 04/12/02

A. Carlos
PRINCIPAL ENGINEER, DESIGN & STANDARDS

Charles C. ...
ASSISTANT DIRECTOR, DESIGN

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ENGINEERING STANDARDS

LETTERING FOR SIGNS

STANDARD	1212
SCALE:	NONE
REVISION SHEET	B 1 OF 1
CADD FILE:	ES1212