LIGHT RAIL TRANSIT SYSTEM
DALLAS CBD SECOND LIGHT RAIL ALIGNMENT
D2 SUBWAY
VOLUME A

20% PRELIMINARY ENGINEERING

MARCH 06, 2020



PRELIMINARY
FOR INTERIM REVIEW ONLY

By A. STAHLNECKER P.E.# 124571

Date 06 MARCH 2020

HDR INC. ID # F-754

NOT FOR CONSTRUCTION OR PERMIT PURPOSES

CITY OF DALLAS APPROVAL

RECOMMENDED:

PROJECT MANAGER DATE

APPROVED:

DIRECTOR OF TRANSPORTATION DATE

GENERAL PLANNING CONSULTANT

RECOMMENDED:

PROJECT MANAGER DATE

APPROVED:

PROGRAM MANAGER DATE

DALLAS AREA RAPID TRANSIT

RECOMMENDED:

PROJECT MANAGER DATE

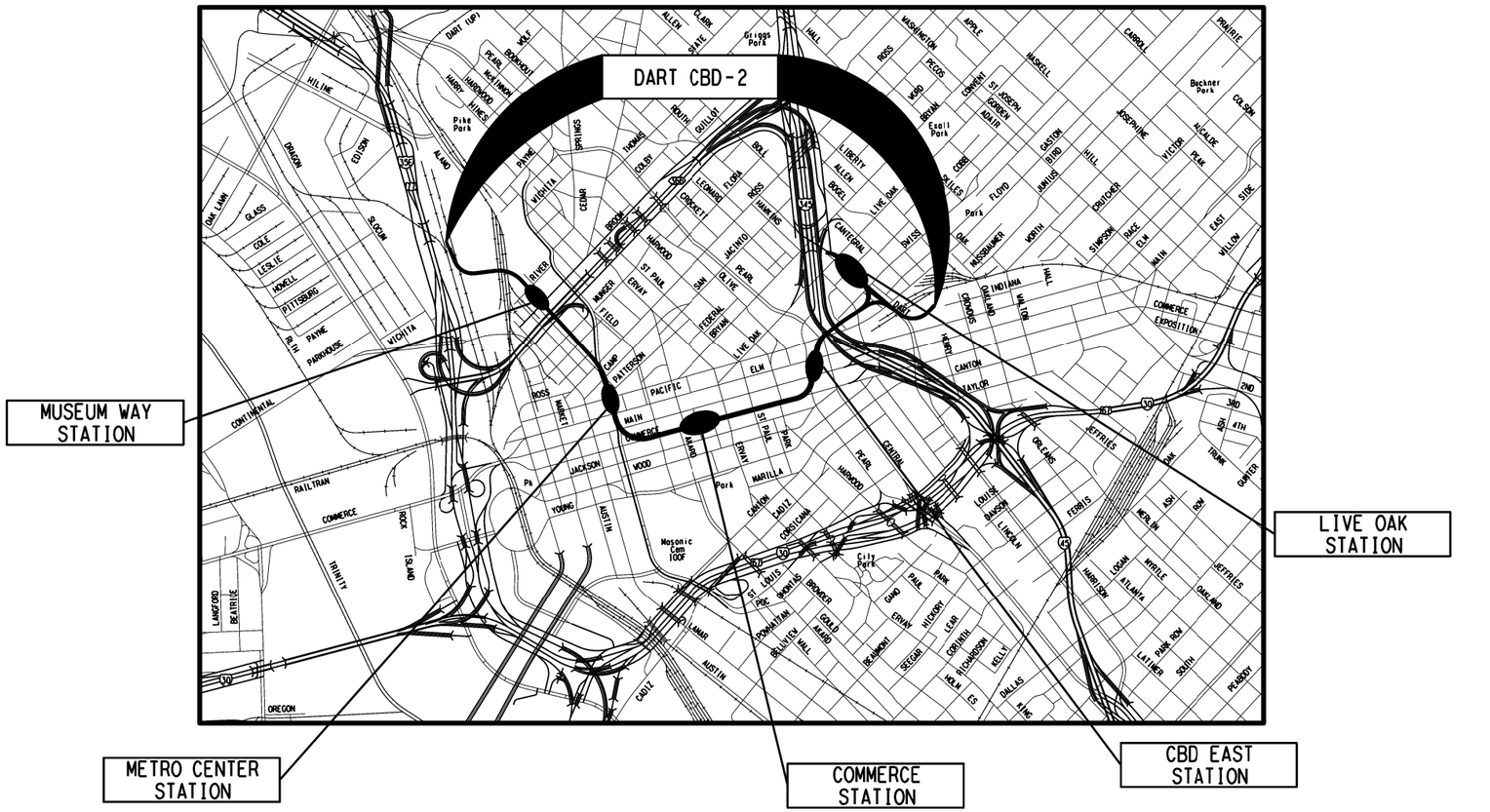
APPROVED:

VP RAIL PLANNING DATE

DWG No. GC1-0001

CBD2-GC1-0001

DWG No. GC1-0002



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VICINITY MAP
NO SCALE

D2 SUBWAY
VICTORY STATION TO DEEP ELLUM

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CONTRACT SHEET No. 2 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

OVERALL PROJECT TITLE SHEET

CONTRACT | DWG No. GC1-0002 | REV

$$$$DGN$SPECIFICATION$$$$$$$$

DANGLE
Dallas_Area_Rapid_Transit_DART_Dallas_TX\DART_General_Planning_CS_V16.0_CAD_Standards\DART_Subway_Proj_Dev\6.2.2_Contract_Files\DGN\CVL-GEN\CBD2-GC1-0002.dgn
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DWG No. GC1-0003

ABBREVIATIONS

A	AREA
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABUT	ABUTMENT
AC	ACRE
ACP	ASBESTOS CEMENT PIPE
ADA	AMERICANS WITH DISABILITIES ACT
A/G	AT GRADE
AHD	AHEAD
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX.	APPROXIMATE
APT	AREA PERSONAL TRANSIT
ASPH	ASPHALT
AVE	AVENUE
B/B	BACK TO BACK
B/C	BACK OF CURB
BCCP	BITUMINOUS COATED CORRUGATED PIPE
BD	BALLAST DRAIN
BH	BORED HOLE
BK	BACK
BLDG	BUILDING
BLVD	BOULEVARD
BNSF	BNSF RAILWAY
B.M.	BENCH MARK
BOT	BOTTOM
BRG	BEARING
CB	CATCH BASIN
C	RUNOFF COEFFICIENT
CC	CENTER OF CURVE
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CG	CONCRETE GUTTER
C&G	CURB AND GUTTER
CI	CAST IRON, CURB INLET
CIP	CAST IRON PIPE, CAST IN PLACE
CL	CLASS
C/L	CURB LINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COD	CITY OF DALLAS
COL	COLUMN
COMM	COMMUNICATIONS
CONC	CONCRETE
CONST	CONSTRUCT
CP	CONTROL POINT
CS	CURVE TO SPIRAL POINT
CTR	CENTER
CULV	CULVERT
CWR	CONTINUOUS WELDED RAIL
CY	CUBIC YARD
DART	DALLAS AREA RAPID TRANSIT
DBL	DOUBLE
D,DEG	DEGREE OF CURVE
DFW	DALLAS/FORT WORTH INTERNATIONAL AIRPORT
D/FW	DALLAS/FORT WORTH
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
D.M.S.	DEGREE MINUTE SECOND
DR	DRIVE
DWG	DRAWING
DWU	DALLAS WATER UTILITY
E	EAST,ELECTRIC
Ea	ACTUAL SUPERELEVATION IN INCHES
EBFR	EASTBOUND FRONTAGE ROAD
EBML	EASTBOUND MAINLANE
EL OR ELEV.	ELEVATION
ENCSMT	ENCASEMENT
ESMT	EASEMENT
Es	EXTERNAL DISTANCE OF SPIRAL CURVE
Eu	SUPERELEVATION UNBALANCED IN INCHES
EX. OR EXIST.	EXISTING
FAA	FEDERAL AVIATION ADMINISTRATION
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FIG.	FIGURE
FL	FLOW LINE
FLG	FLANGE
F TO F	FACE TO FACE
FOC	FIBER OPTIC CABLE
FRWY	FREEWAY
FT	FOOT OR FEET
FW	FORT WORTH
G	GAS
GA	GAUGE
GI	GRATE INLET
GM	GAS METER
GP	GRAND PRAIRIE
GV	GATE VALVE
H.C.	HANDICAP
HMAC	HOT MIX ASPHALTIC CONCRETE
HR	HOUR
HPG	HIGH PRESSURE GAS LINE
HORZ	HORIZONTAL
HWY	HIGHWAY
I	RAINFALL INTENSITY
ICLRT	INTERMEDIATE CAPACITY LIGHT RAIL TRANSIT
IN.	INCH
INV	INVERT
ISF	INSIDE FACE
K	RATE OF VERTICAL CURVATURE
KV	KILOVOLT
L	LEFT (DEFLECTION)
Lc	TOTAL LENGTH OF CIRCULAR CURVE
LF	LINEAR FEET
LH	LEFT HAND
LN	LANE
LNG	LIQUEFIED NATURAL GAS LINE
LRT	LIGHT RAIL TRANSIT
L_S	TOTAL LENGTH OF SPIRAL
LSG	LONE STAR GAS
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MCB	MULTIPLE CONDUIT BANK
MH	MANHOLE
MIN	MINUTES OR MINIMUM
ML	MAINLANE
MPH	MILES PER HOUR
MSE	MECHANICALLY STABILIZED EARTH
N	NORTH
NB	NORTHBOUND
NBFR	NORTHBOUND FRONTAGE ROAD
NBML	NORTHBOUND MAINLANE
NG	NATURAL GROUND, NATURAL GAS
NCTCOG	NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NIC	NOT IN CONTRACT
No.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTERS
OCEW	ON CENTER EACH WAY
OH	OVERHEAD
OHE	OVERHEAD ELECTRIC
ONCOR	ONCOR ELECTRIC DELIVERY
ORD	ORDINATE
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	POLYETHLENE
PEJ	PREFORMED EXPANSION JOINT
PERM	PERMANENT
PF	POINT OF FROG
PG	PROFILE GRADE
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PITO	POINT OF INTERSECTION-TURNOUT
PKWY	PARKWAY
PL	PROPERTY LINE
POB	POINT OF BEGINNING
POC	POINT ON CURVE
POE	POINT OF ENDING
POLY	POLYETHYLENE
POS	POINT ON SPIRAL
POT	POINT ON TANGENT
POTO	POWER OPERATED TURNOUT
PS	POINT OF SWITCH
PREM	PREMOLDED
PRES	PRESIDENT
PROP	PROPOSED
PROT	PROTECTION
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE, POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENT
Q	STORM WATER DISCHARGE
R	RADIUS
RCB	REINFORCED CONCRETE BOX CULVERT
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REFL	REFLECTIVE
RH	RIGHT HAND
ROW	RIGHT OF WAY
RR	RAILROAD
RI	RIGHT (DEFLECTION)
RSC	RAILROAD SIGNAL CABLE
RT	RIGHT
S	SOUTH , SLOPE
SB	SOUTHBOUND
SBFR	SOUTHBOUND FRONTAGE ROAD
SBML	SOUTHBOUND MAINLANE
SC	SPIRAL TO CURVE POINT
SD	STORM DRAIN
SEJ	SEALED EXPANSION JOINT
S & I	SERVICE & INSPECTION
SH	STATE HIGHWAY
SHT	SHEET
SIG	SIGNAL
SMH	SEWER MANHOLE
SS	SANITARY SEWER
ST	SPIRAL TO TANGENT POINT, STREET
STA	STATION
STD	STANDARD
STL	STEEL
STM	STORM
SUE	SUB-SURFACE UTILITY ENGINEERING
SURF	SURFACE
SWR	SEWER
T	LENGTH OF TANGENT, TELEPHONE
TI	TOTAL LENGTH OF TANGENT
T(UG)	UNDERGROUND TELEPHONE
TBM	TEMPORARY BENCH MARK
TBR	TO BE REMOVED
T_C	TIME OF CONCENTRATION
TEMP	TEMPORARY
TG	TELEGRAPH
TGMH	TELEGRAPH MANHOLE
TLWY	TOLLWAY
TMH	TELEPHONE MANHOLE
TO.	TURNOUT

GENERAL NOTES:

1. THE CONSTRUCTION OF THE D2 SUBWAY SHALL CONFORM WITH APPROVED CONTRACT DOCUMENTS, DART STANDARD DRAWINGS AND STANDARD SPECIFICATIONS.
2. THE RIGHT TRACK IS DETERMINED BY LOOKING IN THE DIRECTION OF INCREASING TRACK STATIONING. THIS TRACK IS REFERENCED AS THE (EB) EASTBOUND TRACK FOR THE CBD-2 ALIGNMENT AND SB FOR THE SE-1 ALIGNMENT AND IS ALSO THE STATIONING CONTROL TRACK. THE PROFILE GRADE LINE (PGL) IS THE LOW RAIL OF THE CBD-2 EB AND SE-1 SB TRACK CENTERLINES.
3. BASIS OF BEARINGS FOR THIS SURVEY ARE BASED ON LTRA CONTROL PROVIDED IN MAY 2018 WITH UPDATES FROM NDM IN SUMMER/FALL 2018 NEW TRAVERSE POINTS SET BY NDM IN 2019.
4. THE PROPOSED ROW SHOWS THE APPROXIMATE REQUIREMENTS NEEDED TO CONSTRUCT THE D2 RAIL SYSTEM. FINAL DESIGNER SHALL VERIFY ROW/EASEMENT/AGREEMENT NEEDS DURING FINAL DESIGN.
5. WORK INVOLVING DRAINAGE FACILITIES, STREET RECONSTRUCTION OR OTHER PUBLIC IMPROVEMENTS WITHIN PUBLIC RIGHTS-OF-WAY SHALL CONFORM WITH THE STANDARD SPECIFICATIONS AND STANDARD CONSTRUCTION DETAILS OF THE LOCAL JURISDICTIONS, THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
6. COORDINATION WITH TXDOT REQUIRED IN THE AREA OF WOODALL ROGERS EXPRESSWAY AND IH-345.
7. COORDINATE ALL TEMPORARY AND PERMENANT CONSTRUCTION WORK WITH OTHER TRADES.
8. ALL UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
9. WORK INVOLVING UTILITIES NOT OWNED BY DART (ELECTRIC POWER, GAS, TELEPHONE, CABLE TELEVISION & FIBER/COMMUNICATIONS), SHALL CONFORM WITH THE REQUIREMENTS OF THE OWNING/OPERATING UTILITY COMPANY.
10. THE BASIS OF DRAINAGE DESIGN FOR THE DART D2 SUBWAY USES A 100-YEAR FREQUENCY STORM RECURRENCE INTERVAL.
11. DRAINAGE DITCHES ARE SHOWN ON THE CROSS SECTIONS AS TYPICAL ONLY AND WILL NEED TO BE DESIGNED FOR HYDRAULIC CAPACITY.
12. FINAL DESIGNER SHALL DESIGN THE GUIDEWAY IN ACCORDANCE WITH NFPA-130 STANDARD FOR FIXED GUIDEWAY TRANSIT AND PASSENGER RAIL SYSTEMS AND ALL APPLICABLE FIRE, BUILDING, AND ENERGY CODES OF THE LOCAL JURISDICTION.
13. WHERE SPECIFIC MODEL AND/OR MANUFACTURER OF AN ITEM IS SPECIFIED, THIS INDICATES THE BASIS OF DESIGN. ITEMS OF EQUAL DESIGN MAY BE SUBMITTED FOR CONSIDERATIONS AS APPROVED EQUAL.
14. COORDINATE AND MAINTAIN TRAIN OPERATIONS AND PASSENGER SERVICES DURING THE REMOVAL OF EXISTING TRACK AND INSTALLATION OF PROPOSED TRACK AT TIE-IN LOCATIONS OR IN PROXIMITY TO EXISTING TRACK.
15. CONSTRUCTION WORK IN AREAS ADJACENT TO ACTIVE TRE COMMUTER RAIL SHALL MAINTAIN SAFE WORKING DISTANCES FROM ACTIVE TRE COMMUTER RAIL TRACK. IF SAFE DISTANCES ARE NOT POSSIBLE, WORK SHALL BE PERFORMED WITH THE FULL KNOWLEDGE AND APPROVAL OF TRE AND UTILIZE TRE RAILROAD WORKER PROTECTION AS REQUIRED.

ABBREVIATIONS (CONT'D)

TOD	TRANSIT ORIENTED DEVELOPMENT
TPSS	TRACTION POWER SUBSTATION
T/R	TOP OF RAIL
TRA	TRINITY RIVER AUTHORITY
TS	TANGENT TO SPIRAL POINT
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TY	TYPE
TYP	TYPICAL
UD	UNDERDRAIN
UD	UNDERDRAIN
UG	UNDERGROUND
UGT	UNDERGROUND TELEPHONE
UP	UNION PACIFIC RAILROAD
USC&GS	U.S. COAST & GEODETIC SURVEY
V	VELOCITY
WBFR	WESTBOUND FRONTAGE ROAD
WBML	WESTBOUND MAINLANE
WL	WATER LINE
WM	WATER METER
WSEL	WATER SURFACE ELEVATION
WV	WATER VALVE
WW	WASTEWATER
WWF	WELDED WIRE FABRIC
YR	YEAR

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CONTRACT SHEET No. 3 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GENERAL NOTES
AND ABBREVIATIONS

CONTRACT | DWG No. GC1-0003 | REV

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DANGLE
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DWG No. GC1-0004

SYMBOLS

- PROFILE GRADE LINE / ELEVATION CONTROL POINT
- DIRECTION OF FLOW
- ℄ OR ℔ CENTERLINE OR BASELINE
- FUTURE OR NOT IN CONTRACT
- ℄ CENTERLINE
- ℔ BASELINE
- ℙ PROPERTY LINE
- DIMENSION LINE CONTINUES
- MATCH LINE
- 510 CONTOUR LINE
- TRACK (TRANSIT) CENTERLINE
- EXISTING FENCE LINE
- PROPOSED FENCE LINE
- STRUCTURE OUTLINE
- RAILROAD TRACKS
- CO CLEANOUT
- MH MANHOLE
- SIDEWALK AND MISC. LINES
- DROP INLET, CATCH BASIN OR DRAIN - TO SCALE
- CULVERT HEADWALLS - TO SCALE
- X 543.5 SPOT ELEVATION
- CURB LINE
- EXISTING BARRIER/RETAINING WALL
- PROPOSED RETAINING WALL
- PROPOSED BALLAST WALL
- NOISE IMPACT AREA
- GUARDRAIL
- HANDRAIL
- UNPAVED ROADS
- CONCRETE GUARD FENCE
- VEGETATION LINE
- (T) TREE
- (S) SHRUB
- POLE

- TL TRAFFIC POLE
- UTILITY POLE
- SS SANITARY (DIRECTION OF FLOW) , PLUG
- GRID OF THE STATE PLANE COORDINATE SYSTEM
- BILLBOARD
- △ TOTAL CENTRAL ANGLE OF SPIRAL AND CIRCULAR CURVES
- △ C1 SUFFIX (1) AT THE SYMBOL DENOTES DATA FOR THE FIRST CIRCULAR CURVE OF A COMPOUND CURVE
- △ C2 SUFFIX (2) AT THE SYMBOL DENOTES DATA FOR THE SECOND CIRCULAR CURVE OF A COMPOUND CURVE
- ⊖S CENTRAL ANGLE OF SPIRAL OR SPIRAL ANGLE
- ⊖aAC CENTRAL ANGLE OF COMPOUND SPIRAL OR COMPOUND ANGLE (CS1 TO CS2)
- ⊖sAT TOTAL CENTRAL ANGLE OF COMPOUND SPIRAL OR TOTAL COMPOUND SPIRAL ANGLE (FROM SPO TO SC2)
- SMH SANITARY OR STORM SEWER MANHOLE
- EMH, TMH, WUMH ELECTRICAL, TELEPHONE, OR WESTERN UNION MANHOLE
- REDUCER
- WM WATER METER
- WV WATER VALVE
- FH FIRE HYDRANT
- CAP OR PLUG
- GV GAS VALVE
- GM GAS METER
- PB PULL BOX OR SPLICING CHAMBER
- LIGHT POLE
- FS FIRE SERVICE STAND PIPE
- TRAFFIC SIGN
- POLE GUY AND ANCHOR
- TRANSMISSION LINE TOWER
- TRAFFIC CONTROL GATE
- TEST BORING LOCATION
- (O/H) OVERHEAD LINES
- (O/H) E OVERHEAD ELECTRIC LINES
- UG(T) UNDERGROUND TELEPHONE LINE
- UG(E) UNDERGROUND ELECTRIC LINE

- AERIAL UTILITY
- UTILITY FACILITY LESS THAN 24"
- MAJOR UTILITY FACILITY 24" OR LARGER IN PLAN VIEW
- FACILITY TO BE ABANDONED
- DOUBLE CROSSOVER
- POINT OF SWITCH
- EXISTING DITCH
- PROPOSED DITCH
- DITCH PROPOSED SPECIAL DITCH
- SD STORM DRAIN
- UD UNDERDRAIN
- SS SANITARY SEWER
- W WATER LINE
- G GAS LINE
- TS TRAFFIC SIGNALIZATION LINE
- E ELECTRIC POWER LINE
- ESL ELECTRIC LINE, STREET LIGHTING
- T TELEPHONE LINE
- TG TELEGRAPH LINE
- TV CABLEVISION LINE
- PROPOSED CASING
- PROPOSED STREET CLOSING
- PROPOSED STREET CONSTRUCTION
- EXISTING STREET/RAILROAD RIGHT-OF-WAY LINE
- EXISTING PROPERTY LINE
- DART PROPOSED RIGHT-OF-WAY LINE
- EXISTING EASEMENT LINE
- DART PROPOSED EASEMENT LINE
- EXIST ○ SET ● COPPER, IRON PIN, PIPE IRON ROD MARKERS OR ANY PROPERTY CORNER
- □ ■ RIGHT-OF-WAY OR CONTROL MONUMENT OR MARKERS
- EXISTING INTERSECTION OF PROPERTY LINES
- INTERSECTION OF PROPOSED DART RIGHT-OF-WAY LINES
- PROPOSED DART RIGHT-OF-WAY MONUMENT

- LEFT HAND TURNOUT
- RIGHT HAND TURNOUT
- DERAIL SWITCH
- PI/PVI/PITO
- NON-INSULATED JOINT
- (F) SWITCH NUMBERING "F" INDICATES FUTURE
- I3-A CURVE NUMBER
- BLUE FLAG
- BUMPING POST
- EQUILATERAL TURNOUT
- GABION BLANKET

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CONTRACT SHEET No. 4 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SYMBOLS

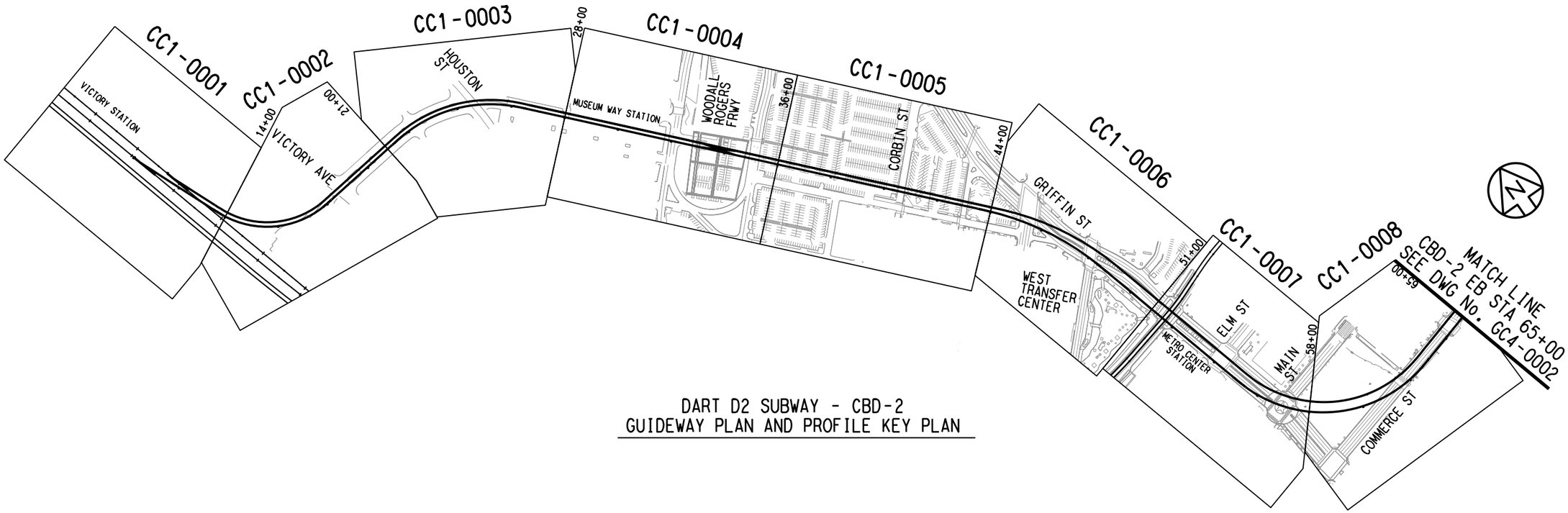
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DART D2 SUBWAY - CBD-2
GUIDEWAY PLAN AND PROFILE KEY PLAN

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CONTRACT SHEET No. 5 OF 276

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DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

PROJECT KEY PLAN
SHEET 1 OF 3

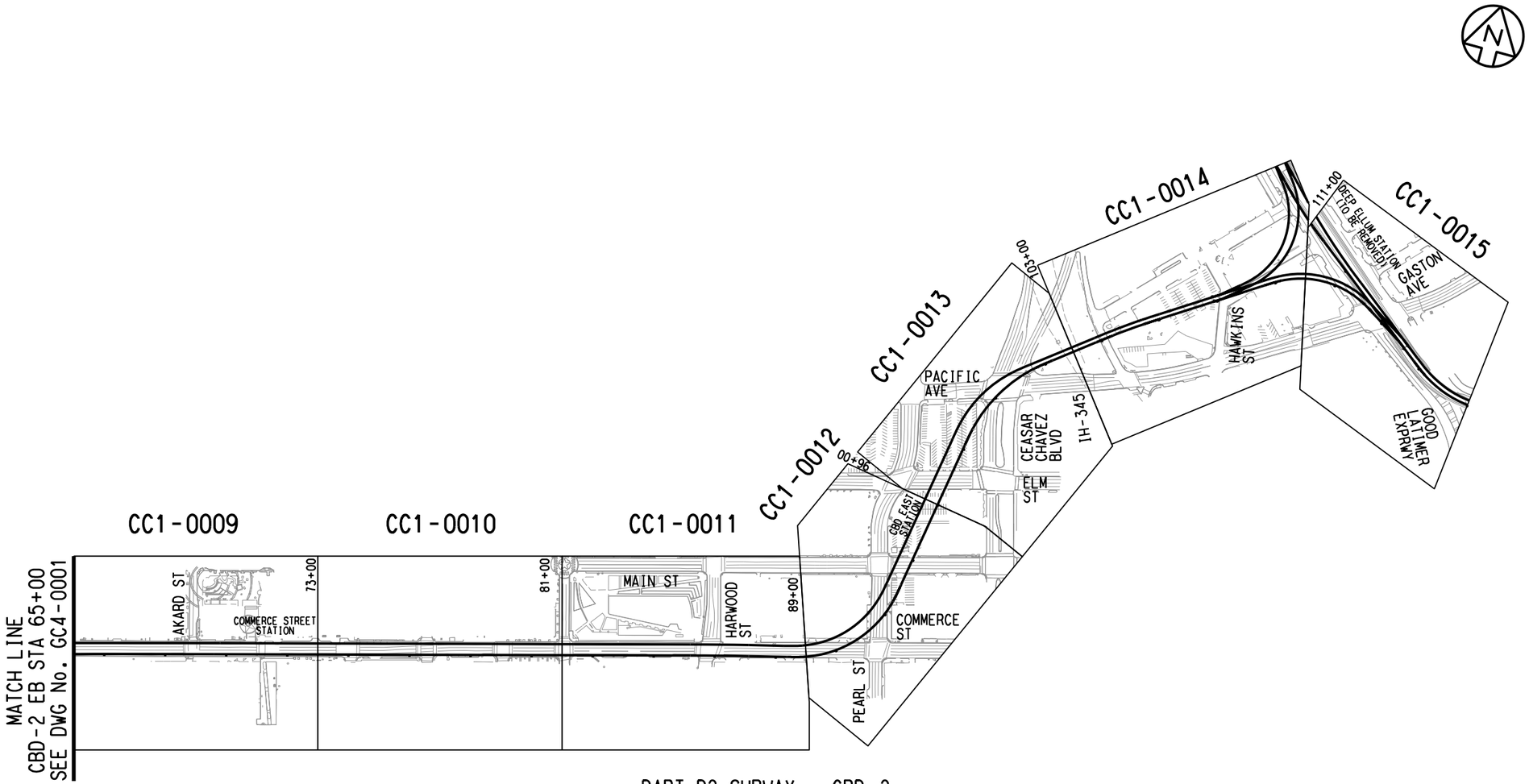
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	GC4-0001	

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DART D2 SUBWAY - CBD-2
GUIDEWAY PLAN AND PROFILE KEY PLAN

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DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

PROJECT KEY PLAN
SHEET 2 OF 3

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IN CHARGE	A. STAHLNECKER
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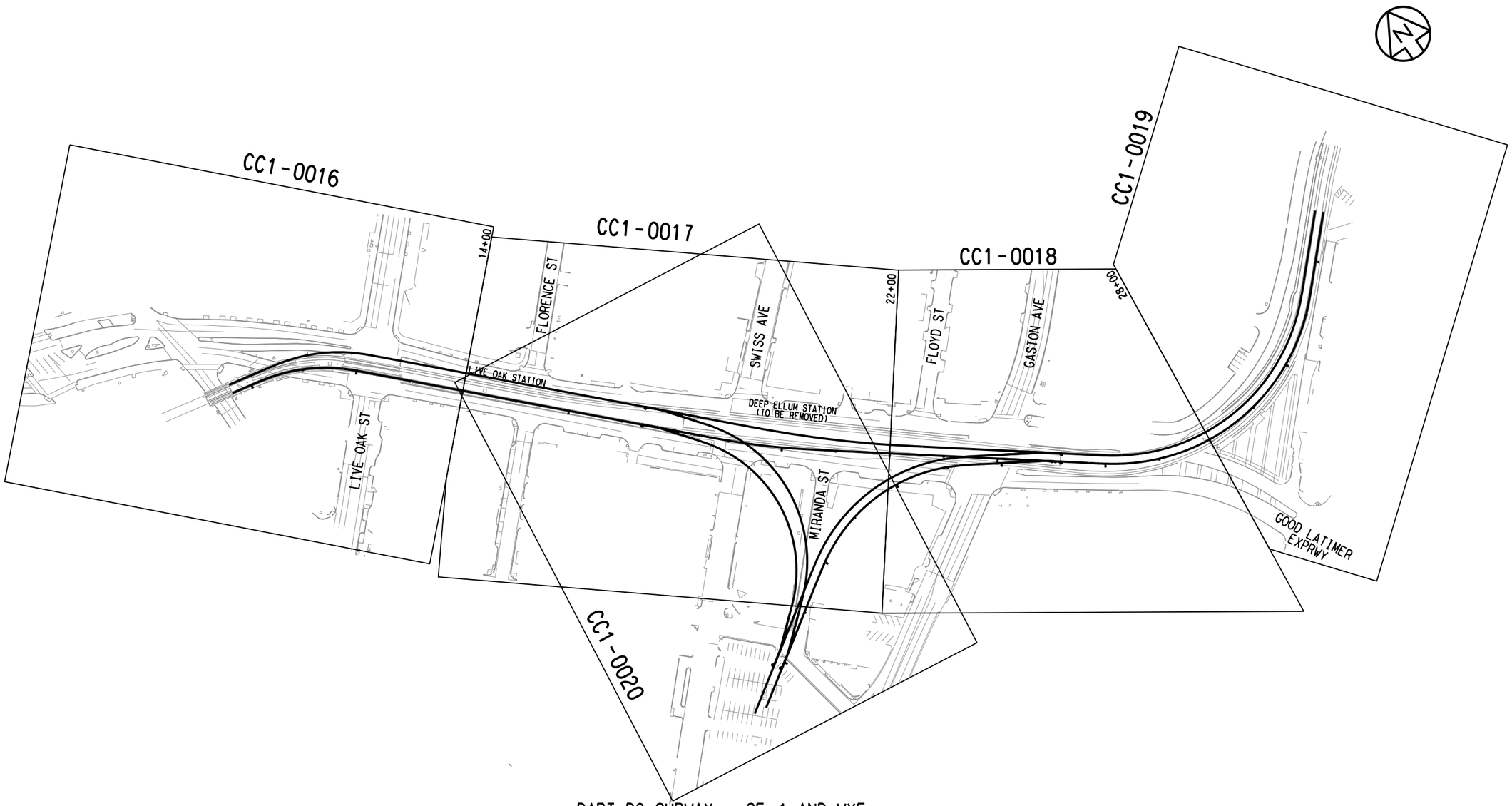
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DANGLE

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DART D2 SUBWAY - SE-1 AND WYE
GUIDEWAY PLAN AND PROFILE KEY PLAN

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CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

PROJECT KEY PLAN
SHEET 3 OF 3

CONTRACT | DWG No. GC4-0003 | REV

Friday, February 28, 2020 01:06:35 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC4-0001

PERMANENT ALIGNMENT CONTROL MONUMENTS

POINT	NORTHING	EASTING	ELEVATION	REMARKS
2	6974412.95	2488616.80	418.95	TRAV LTRA SET-MAGNL
3	6974321.87	2488703.70	420.60	TRAV LTRA SET-MAGNL
7	6972547.11	2489689.60	429.62	TRAV LTRA SET-MAGNL
8	6972554.79	2489588.98	429.48	TRAV LTRA X-FND
9	6972285.84	2489784.26	429.16	TRAV LTRA SET-MAGNL
10	6972127.37	2489905.72	429.54	TRAV LTRA SET-MAGNL
12	6971335.00	2490091.25	427.63	TRAV LTRA SET-MAGNL
14	6971078.72	2490582.84	423.49	TRAV LTRA SET-MAGNL
15	6970853.59	2491241.20	430.99	TRAV LTRA SET-MAGNL
16	6970933.34	2491731.60	444.73	TRAV LTRA X-FND
17	6971050.98	2492311.45	448.00	TRAV LTRA SET-MAGNL
18	6971199.12	2492405.28	447.47	TRAV LTRA BRASS-DISK-FND
19	6971361.85	2492996.26	442.91	TRAV LTRA SET-MAGNL
20	6971269.77	2492901.36	442.49	TRAV LTRA SET-MAGNL
21	6971672.08	2493498.73	448.85	TRAV LTRA SET-MAGNL
22	6971836.95	2493949.78	452.74	TRAV LTRA SET-MAGNL
23	6971960.05	2494390.36	454.80	TRAV LTRA SET-MAGNL
24	6972509.48	2494141.84	460.91	TRAV LTRA SET-MAGNL
25	6972665.55	2494724.68	463.98	TRAV LTRA SET-MAGNL
26	6972795.99	2494942.78	465.46	TRAV LTRA SET-MAGNL
27	6972852.67	2495425.82	463.14	TRAV LTRA SET-MAGNL
28	6972946.00	2495530.83	463.12	TRAV LTRA SET-MAGNL
29	6973063.32	2495384.80	465.69	TRAV LTRA SET-MAGNL
30	6973413.36	2495418.46	468.32	TRAV LTRA SET-MAGNL
31	6973879.97	2495721.29	472.62	TRAV LTRA SET-MAGNL
32	6973624.62	2495226.19	475.09	TRAV LTRA SET-MAGNL
33	6973899.13	2495060.68	476.02	TRAV LTRA SET-MAGNL
34	6973894.68	2494861.68	475.38	TRAV 34 /MAG
35	6974264.01	2494630.16	473.98	TRAV LTRA SET-MAGNL
36	6974187.80	2494549.27	473.61	TRAV 36 /MAG
37	6974434.91	2494302.89	475.31	TRAV LTRA SET-MAGNL
38	6974515.35	2494357.84	475.52	TRAV LTRA SET-MAGNL
39	6971972.78	2493856.66	453.77	TRAV LTRA SET-MAGNL
41	6971534.81	2493510.40	447.24	TRAV LTRA SET-MAGNL
42	6972394.49	2494047.43	459.75	TRAV LTRA SET-MAGNL
44	6972033.62	2493199.91	455.17	TRAV LTRA X-FND
45	6971642.41	2492782.73	440.71	TRAV LTRA SET-MAGNL
46	6971781.33	2493369.25	450.69	TRAV LTRA SET-MAGNL
48	6970833.94	2490233.16	422.34	TRAV LTRA SET-MAGNL
49	6970075.14	2490430.38	416.03	TRAV LTRA SET-MAGNL
50	6970648.33	2490201.54	421.29	TRAV LTRA FND-MAGNL-AZB-CONTROL
51	6969985.12	2490387.54	415.18	TRAV LTRA SET-MAGNL
52	6971883.05	2492756.08	443.42	TRAV LTRA SET-MAGNL
65	6971785.45	2492258.04	438.39	TRAV 65 /MAG
66	6971987.85	2492213.96	437.17	TRAV 66
240	6973683.78	2494054.62	470.34	TRAV 240

POINT	NORTHING	EASTING	ELEVATION	REMARKS
241	6973610.96	2493923.75	468.82	TRAV 241
242	6973438.99	2493906.79	468.06	TRAV 242
348	6972307.58	2493397.96	457.25	TRAV 348
355	6971914.17	2491708.26	432.42	TRAV 355
400	6973938.98	2494395.85	472.38	TRAV 400
401	6973829.56	2494283.84	471.60	TRAV 401
405	6973237.94	2493586.93	466.04	TRAV 405
406	6972979.85	2493542.31	461.56	TRAV 406
407	6972851.17	2493270.92	465.29	TRAV 407
408	6972786.11	2493032.12	466.38	TRAV 408
409	6972289.42	2493081.90	457.81	TRAV 409
410	6972185.88	2492674.40	447.85	TRAV 410
419	6972076.94	2490372.67	428.07	TRAV 419
420	6972026.09	2489922.21	429.63	TRAV 420
423	6972772.65	2489820.99	429.10	TRAV 423
424	6972863.89	2490023.27	429.22	TRAV 424
425	6972554.79	2490138.57	429.16	TRAV 425
426	6973448.13	2489969.07	428.65	TRAV 426
427	6973805.88	2490001.43	425.32	TRAV 427
470	6972896.08	2489941.30	428.02	TRAV 470
471	6973261.11	2489658.65	429.05	TRAV 471
472	6973442.68	2489527.84	429.74	TRAV 472
473	6973613.69	2489724.17	427.33	TRAV 473
474	6973693.26	2489301.34	430.69	TRAV 474
477	6973080.80	2489775.02	427.87	TRAV 477
483	6974035.49	2489729.35	422.25	TRAV 483
484	6973875.09	2489553.86	425.18	TRAV 484
490	6973354.88	2489801.01	428.26	TRAV 490
492	6972648.79	2490144.56	429.42	TRAV 492
608	6973289.97	2493753.27	467.57	TRAV 608
615	6971980.65	2493150.06	454.66	TRAV 615
628	6971596.21	2490754.39	422.32	TRAV 628
629	6971490.68	2490369.32	424.63	TRAV 629
630	6971282.36	2490544.77	423.02	TRAV 630
640	6971928.30	2491971.68	433.40	TRAV 640
644	6973753.92	2494647.40	473.09	TRAV 644
653	6971462.63	2489981.20	427.92	TRAV 653
654	6971757.52	2489985.27	427.11	TRAV 654
661	6974194.71	2494737.98	474.52	TRAV 661
662	6974030.76	2494928.12	475.64	TRAV 662
667	6972667.57	2490076.33	429.28	TRAV 667
668	6973057.66	2489828.50	427.62	TRAV 668
674	6973530.20	2489865.58	429.38	TRAV 674
675	6973963.52	2489647.15	423.54	TRAV 675
703	6971876.30	2490417.58	424.10	TRAV 703
705	6973222.19	2493219.40	465.10	TRAV 705

POINT	NORTHING	EASTING	ELEVATION	REMARKS
706	6973039.99	2492942.81	463.95	TRAV 706
708	6972494.51	2493025.72	461.37	TRAV 708
709	6972530.10	2492891.86	459.86	TRAV 709
710	6972447.42	2492560.12	454.46	TRAV 710
715	6971734.27	2491013.69	425.38	TRAV 715
716	6971874.16	2491490.88	431.28	TRAV 716
717	6972057.71	2492452.04	442.49	TRAV 717
718	6973415.13	2494124.34	468.71	TRAV 718
719	6973555.29	2494454.31	471.47	TRAV 719
720	6973081.79	2493821.25	461.60	TRAV 720
742	6972463.54	2493678.43	456.16	TRAV 742
744	6972724.60	2493614.35	459.21	TRAV 744
746	6972566.54	2493315.24	460.61	TRAV 746
750	6971423.56	2490063.31	427.79	TRAV 750
751	6971478.22	2490266.94	425.43	TRAV 751
752	6972004.81	2491982.60	0.00	TRAV 752
803	6971864.45	2491459.70	431.04	TRAV 803
816	6974529.06	2494207.67	476.56	TRAV 816
818	6974951.43	2493723.53	471.97	TRAV 818
819	6974615.29	2493973.90	475.01	TRAV 819
820	6974722.07	2494192.04	476.04	TRAV 820
821	6975031.91	2493538.57	472.00	TRAV 821
836	6972546.91	2489969.36	729.57	TRAV 836
837	6972533.11	2490067.56	430.08	TRAV 837
838	6972501.79	2490269.17	428.53	TRAV 838
842	6972237.70	2490269.77	428.82	TRAV 842
843	6973389.97	2489521.34	429.72	TRAV 843
844	6973535.61	2489442.24	432.40	TRAV 844
872	6973863.56	2489034.13	428.98	TRAV 872
876	6973425.18	2489039.31	431.69	TRAV 876
878	6973617.32	2488974.39	430.08	TRAV 878
879	6974053.89	2489535.52	423.30	TRAV 879
881	6972248.85	2492903.25	453.44	TRAV 881
950	6973272.10	2493797.17	466.17	TBM 950
951	6972914.59	2493326.71	464.32	TBM 951
952	6972573.14	2493029.65	462.15	TBM 952
953	6972234.01	2492890.67	452.91	TBM 953
955	6971932.22	2491961.55	433.07	TBM 955
956	6971779.65	2491192.23	427.68	TBM 956
957	6971670.12	2490784.04	422.00	TBM 957
958	6971851.00	2490566.33	422.60	TBM 958
959	6972077.05	2490136.77	428.75	TBM 959
961	6973159.86	2490047.82	427.82	TBM 961
962	6973704.91	2489950.57	426.99	TBM 962
963	6974011.72	2489806.91	421.60	TBM 963
964	6974087.32	2488884.99	426.55	TBM 964
967	6971932.08	2491478.52	429.89	TBM 967

NOTES:

1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, U.S. SURVEY FOOT.
3. THE CONTROL POINTS SHOWN HERON PROVIDED BY LTRA IN MAY 2018 WITH UPDATES FROM NDM IN SUMMER/FALL 2018 - NEW TRAVERSE POINTS SETBY NDM IN 2019

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 8 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

PERMANENT ALIGNMENT CONTROL MONUMENT DATA

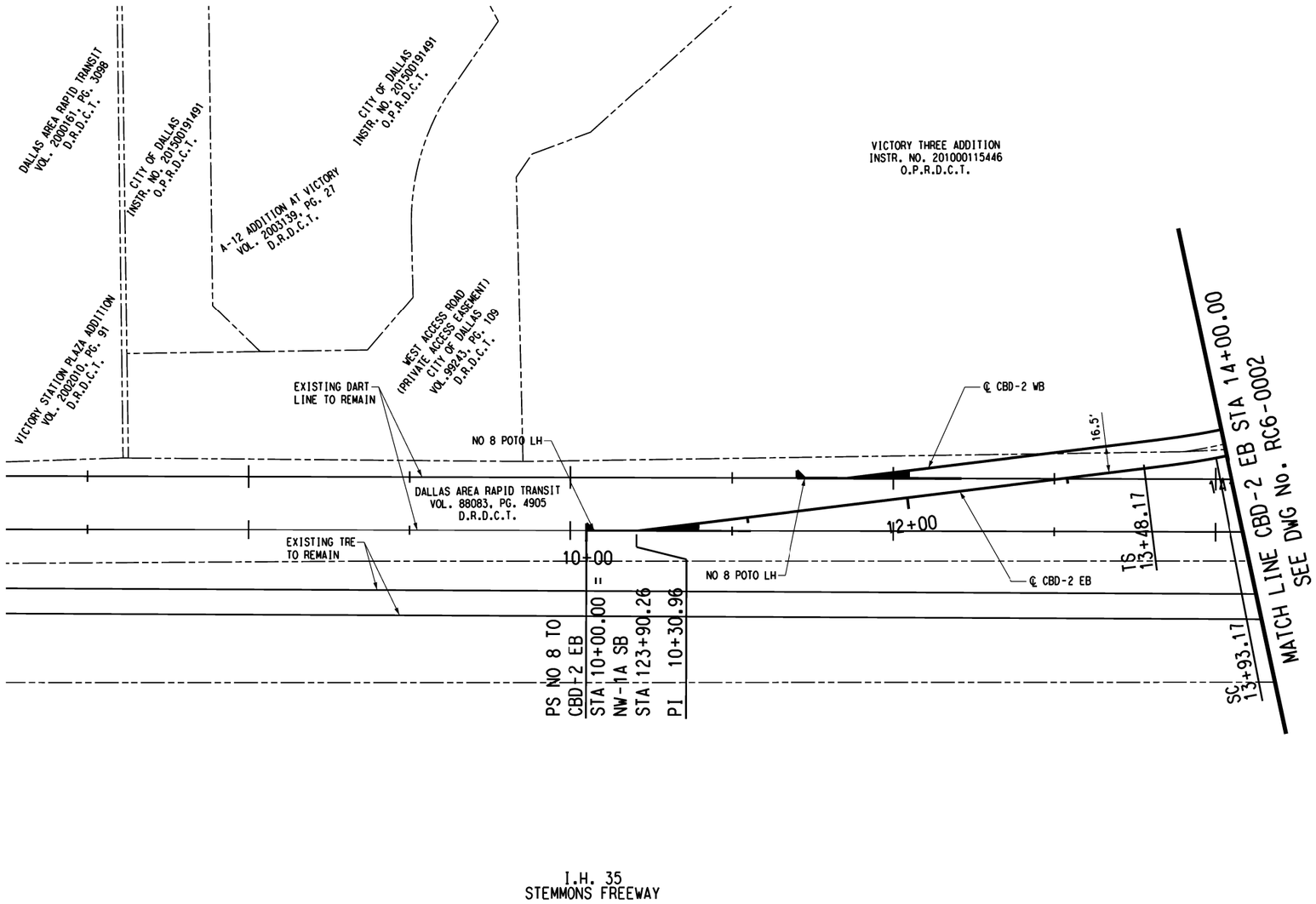
CONTRACT | DWG No. CC4-0001 | REV

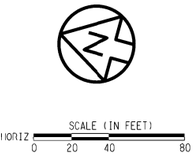
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$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE
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$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. RC6-0001





LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
2. PRELIMINARY. THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT. (RELEASE DATE 01/10/2020)
3. PROPOSED ROW LIMITS SHOWN ARE BASED ON ENGINEERING NEED AND ARE SUBJECT TO CHANGE. THESE LIMITS MAY INCLUDE ACQUISITIONS, AGREEMENTS, EASEMENTS, ETC. AND CAN BE EITHER ABOVE OR BELOW EXISTING GROUND. THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.
4. BASIS OF BEARING - BEARINGS FOR THIS SURVEY ARE BASED ON LTRA CONTROL PROVIDED IN MAY 2018 WITH UPDATES FROM NDM IN SUMMER/FALL 2018 - NEW TRAVERSE POINTS SET BY NDM IN 2019.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 9 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP
△								

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
C. MICHAEL DANIEL, RPLS
ON 03/06/2020
NATHAN D. MAIER CONSULTING ENGINEERS, INC.
TBPE FIRM NO. F-356/TBPLS NO. 100189-00
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

NDM
NATHAN D. MAIER
CONSULTING ENGINEERS, INC.
TBPE FIRM REG. NO. F-356
TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700
Dallas, Texas 75251 / (214) 726-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

CAES

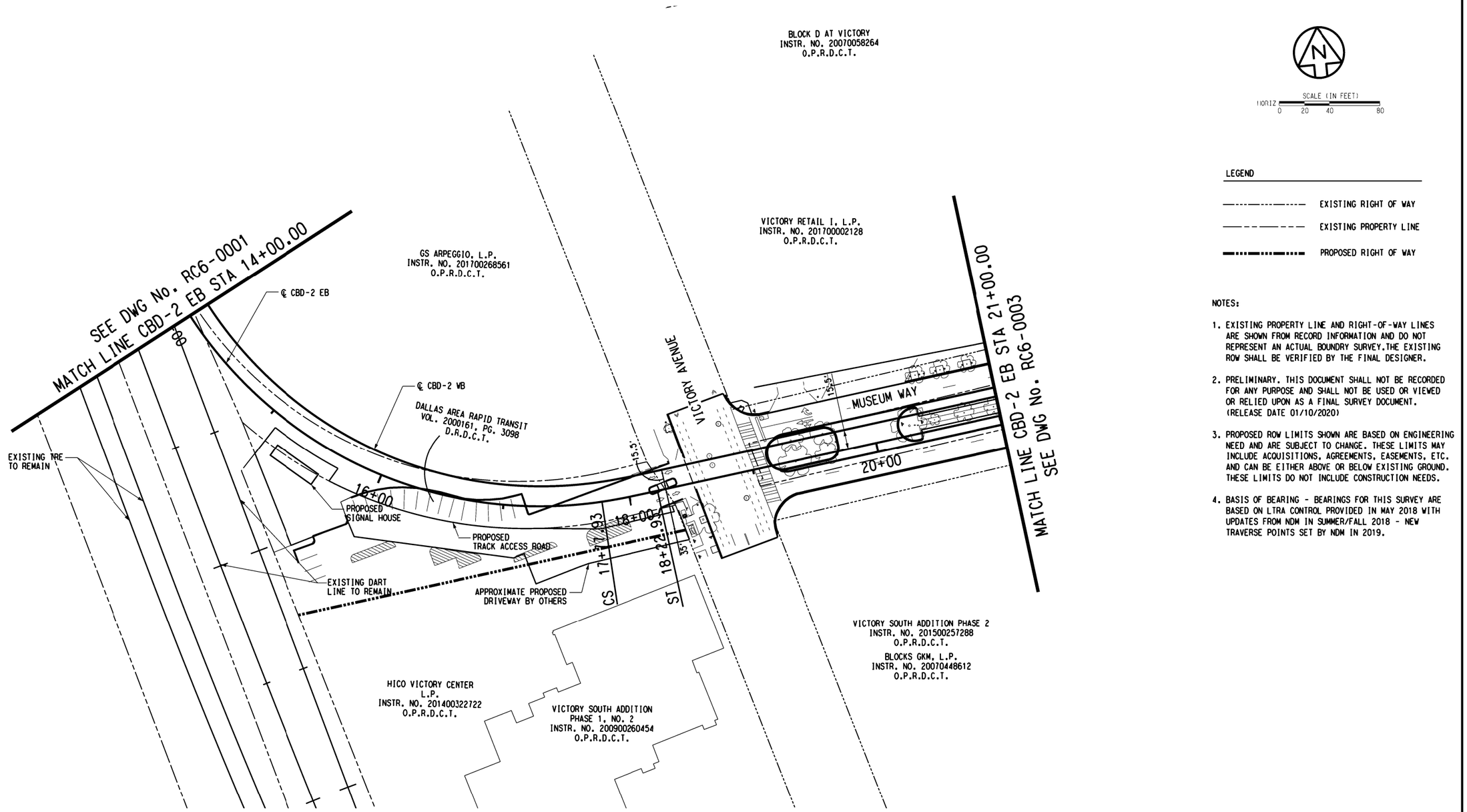
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
BEGIN OF PROJECT TO STA 14+00.00

CONTRACT	DWG No.	REV
	RC6-0001	

$$$$SYTIME$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$
$$USER$$
$$MODEL$$
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. RC6-0002



N

SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
2. PRELIMINARY. THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT. (RELEASE DATE 01/10/2020)
3. PROPOSED ROW LIMITS SHOWN ARE BASED ON ENGINEERING NEED AND ARE SUBJECT TO CHANGE. THESE LIMITS MAY INCLUDE ACQUISITIONS, AGREEMENTS, EASEMENTS, ETC. AND CAN BE EITHER ABOVE OR BELOW EXISTING GROUND. THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.
4. BASIS OF BEARING - BEARINGS FOR THIS SURVEY ARE BASED ON LTRA CONTROL PROVIDED IN MAY 2018 WITH UPDATES FROM NDM IN SUMMER/FALL 2018 - NEW TRAVERSE POINTS SET BY NDM IN 2019.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 10 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF: C. MICHAEL DANIEL, RPLS ON 03/06/2020 NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM NO. F-356/TBPLS NO. 100189-00 IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

NDM NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

gpc SIX

DART PROJECT

DART

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

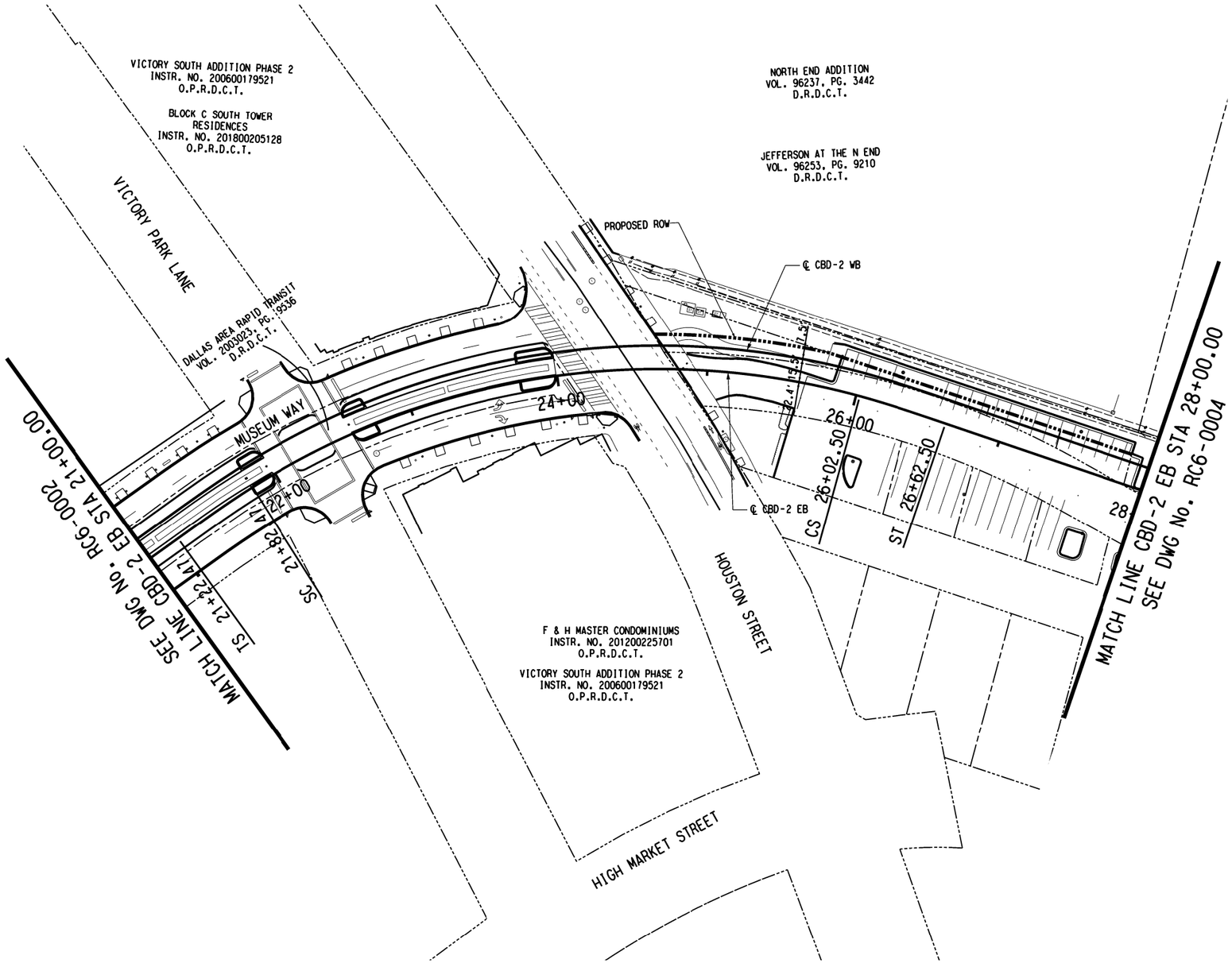
RIGHT-OF-WAY PLAN
STA 14+00.00 TO STA 21+00.00

CONTRACT	DWG No.	REV
	RC6-0002	

$$$$DGN$SPECIFICATION$$$$$$$$$$

$$$$$$SYTIME$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$
$$USER$$
$$MODEL$$

DWG No. RC6-0003



SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 11 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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NDM NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REC. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART gpc SIX

DART PROJECT

DART

SCALE 1" = 40'
DRAWN D.VALDEZ
DESIGNED M.SALCEDO
CHECKED D.GRIFFIN
IN CHARGE M.DANIEL
DATE 03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 21+00.00 TO STA 28+00.00

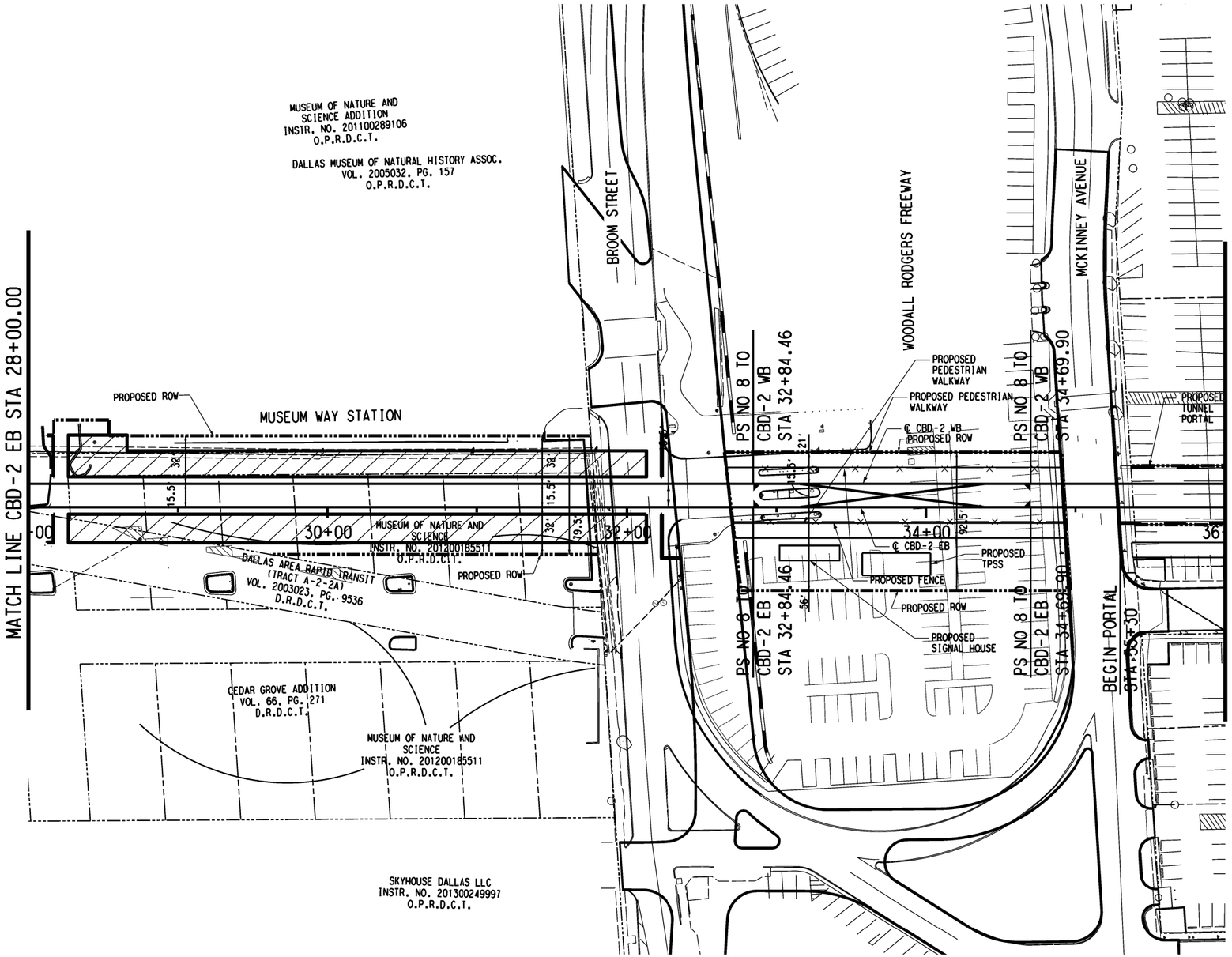
CONTRACT | DWG No. RC6-0003 | REV

$$$$DGN$SPECIFICATION$$$$$$$$$

$$$$$$SYTIME$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

$$USER$$
$$MODEL$$

DWG No. RC6-0004



SCALE (IN FEET)
HORIZ 0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 12 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF: C. MICHAEL DANIEL, RPLS ON 03/06/2020 NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM NO. F-356/TBPLS NO. 100189-00 IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

NDM NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

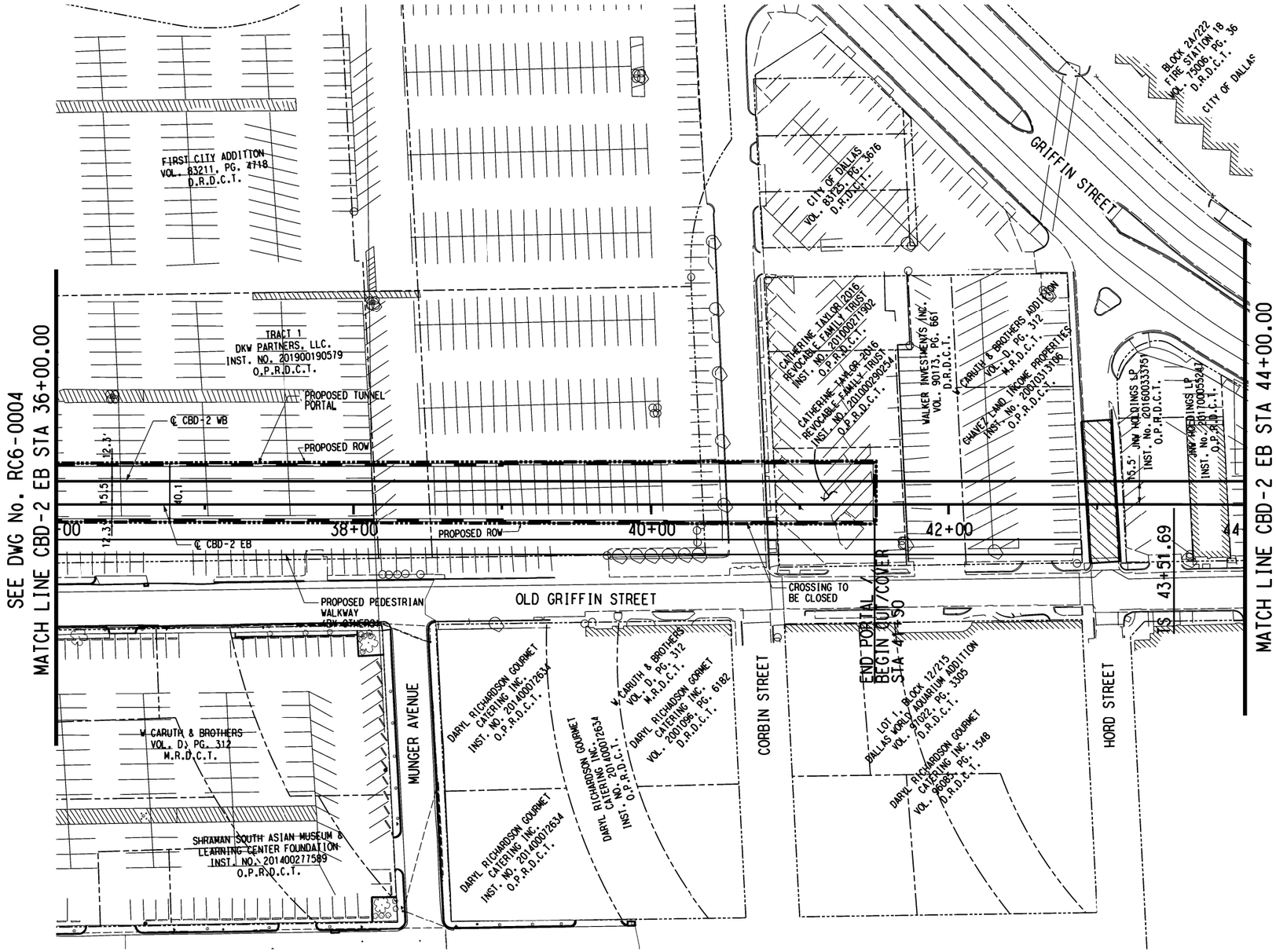
RIGHT-OF-WAY PLAN
STA 28+00.00 TO STA 36+00.00

CONTRACT	DWG No.	REV
	RC6-0004	

$$$$DGN$$SPECIFICATION$$$$$$$$$$

$$$$$$$$SYTIME$$$$$$$$
$$$$DGN$$SPECIFICATION$$$$$$$$$$
$$USER$$$
$$MODEL$$

DWG No. RC6-0005



SCALE (IN FEET)
HORIZ 0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY. THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 13 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
C. MICHAEL DANIEL, RPLS
ON 03/06/2020
NATHAN D. MAIER CONSULTING ENGINEERS, INC.
TBPE FIRM NO. F-356/TBPLS NO. 100189-00
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

NDM NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

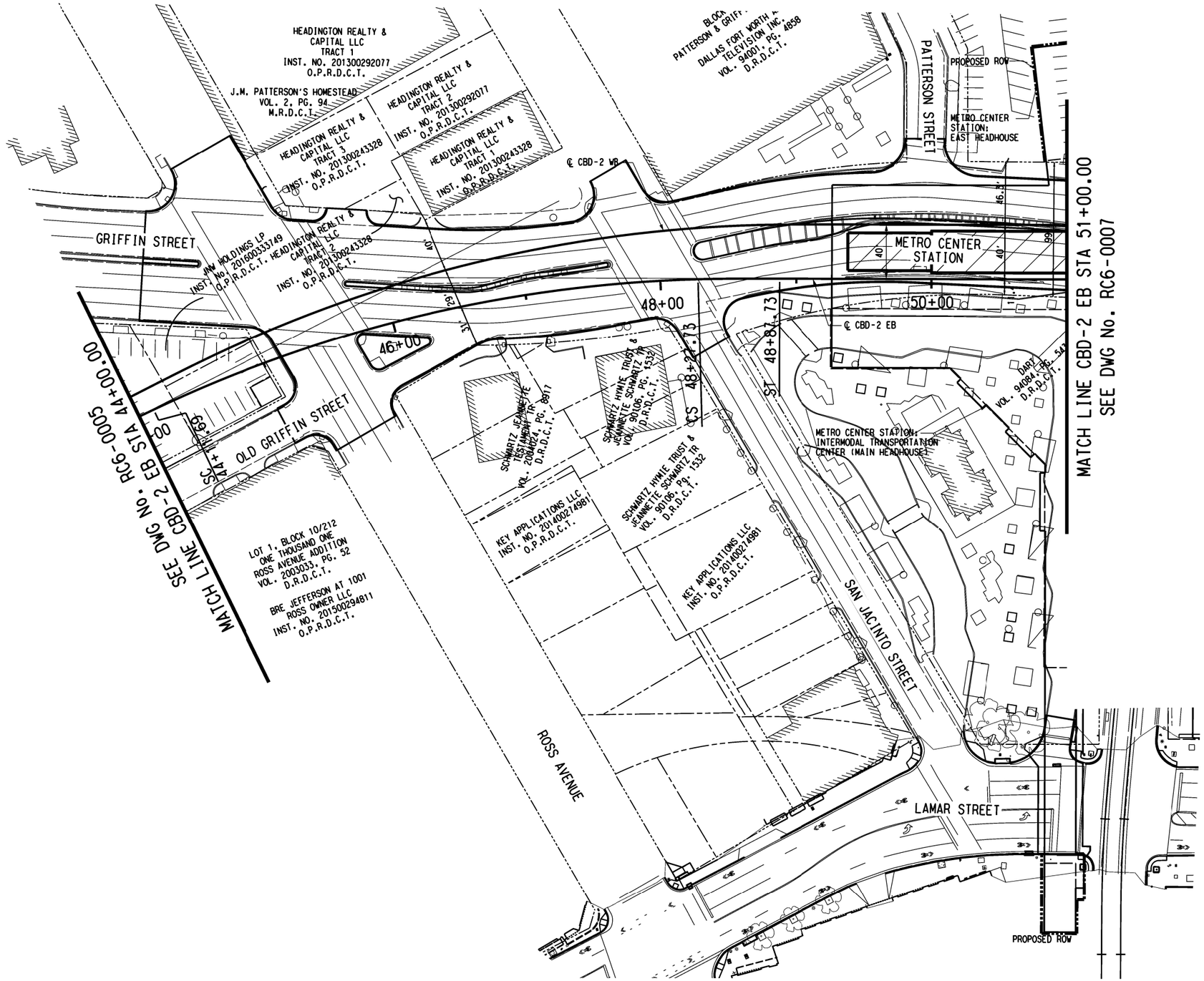
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 36+00.00 TO STA 44+00.00

CONTRACT	DWG No.	REV
	RC6-0005	

$$$$DGN$$SPECIFICATION$$$$$$$$$$
$$$$$$SYTM$$$$$$$
$$$$DGN$$SPECIFICATION$$$$$$$$$$
$$USER$$
$$MODEL$$

DWG No. RC6-0006



SCALE (IN FEET)
HORIZ 0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY. THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 14 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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NDM NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

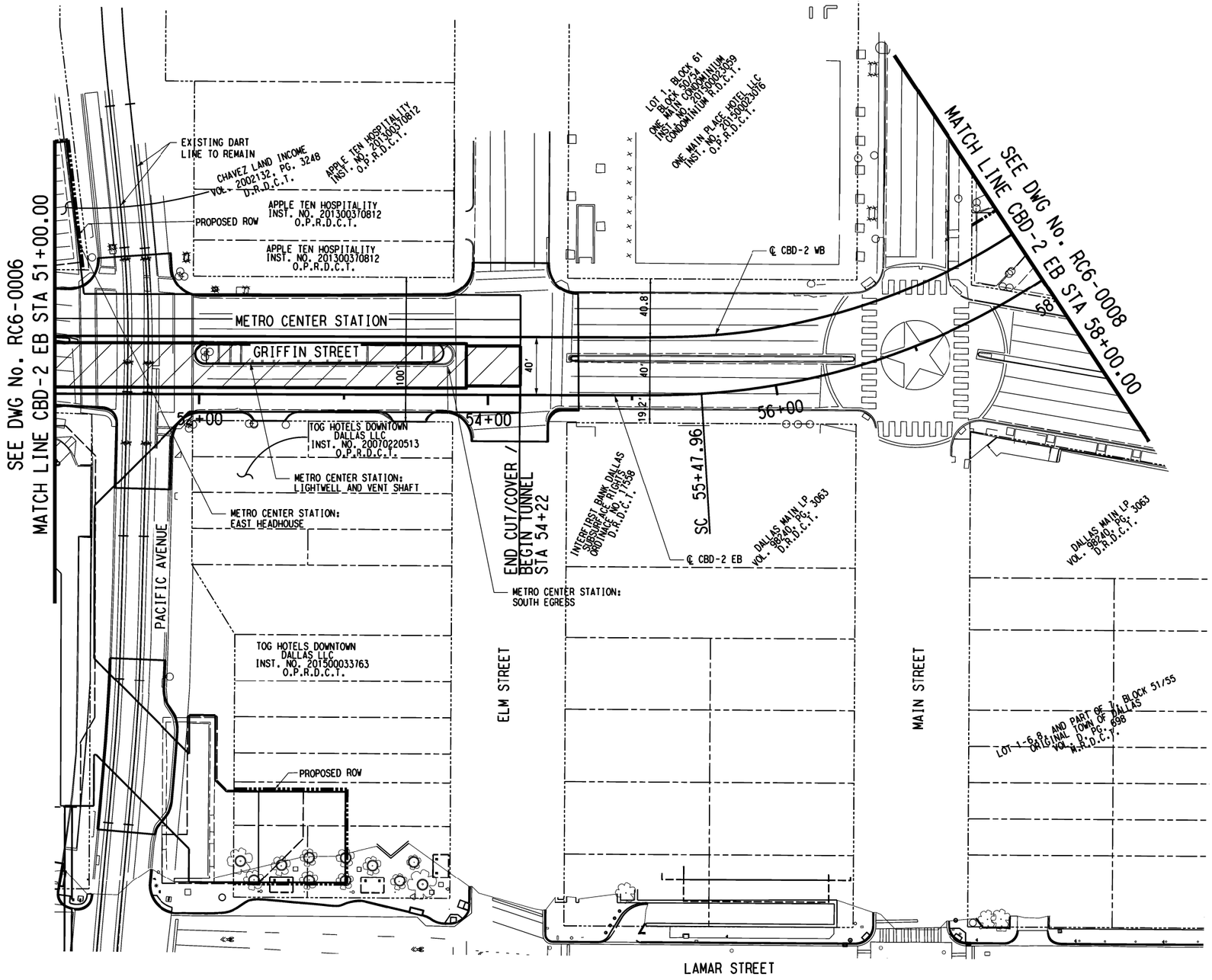
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 44+00.00 TO STA 51+00.00

CONTRACT | DWG No. RC6-0006 | REV

$$$$USER$$$$
$$$$MODEL$$$$
$$$$SYSTIME$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. RC6-0007



SCALE (IN FEET)
HORIZ 0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 15 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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NDM
NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 51+00.00 TO STA 58+00.00

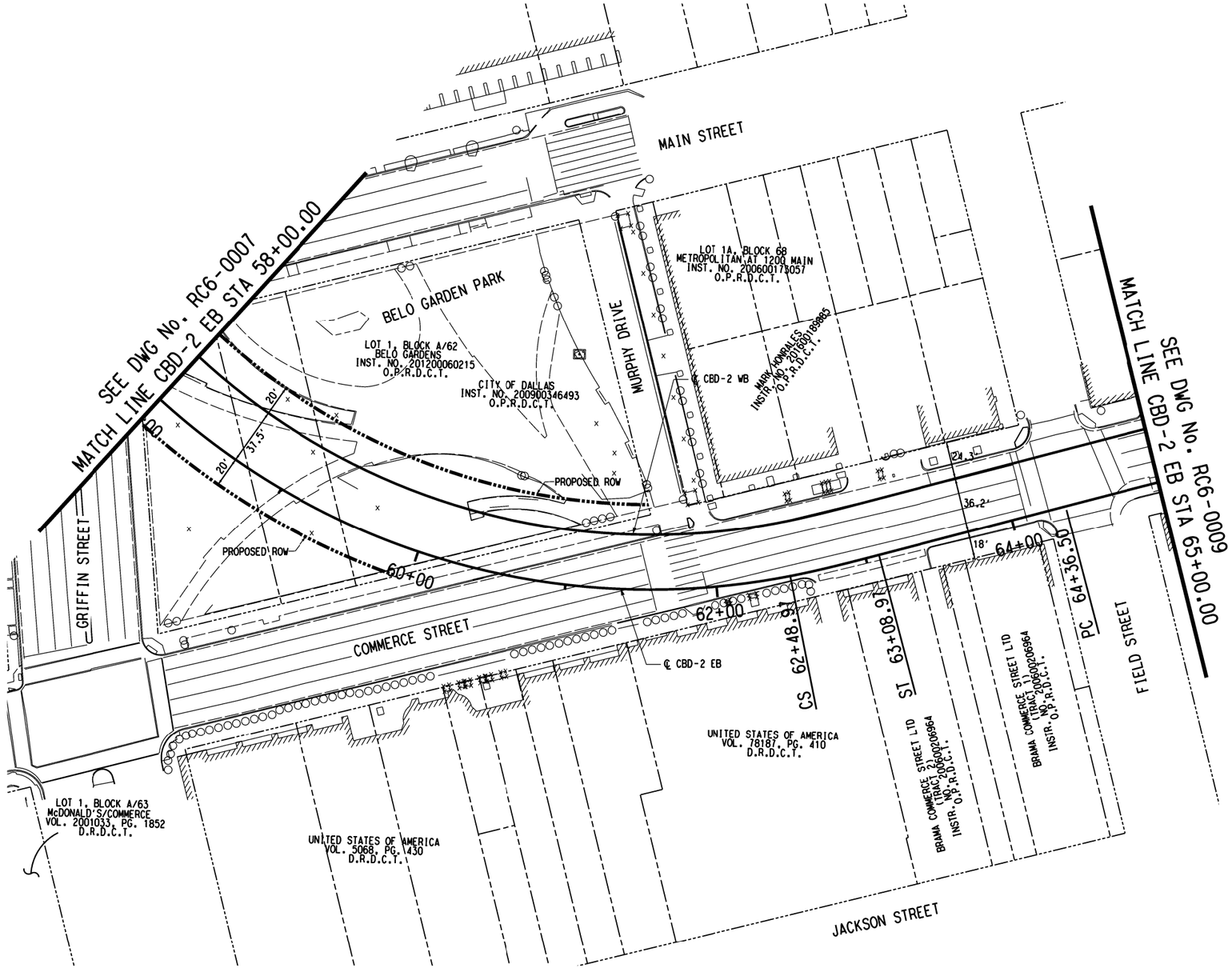
CONTRACT	DWG No.	REV
	RC6-0007	

$$$$USER$$$
$$$MODEL$$

$$$$$$SYTIME$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. RC6-0008



SCALE (IN FEET)
HORIZ 0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 16 OF 276

$$$$SYSTIME$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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NDM
NATHAN D. MAIER CONSULTING ENGINEERS, INC
TBPE FIRM REG. NO. F-356
TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700
Dallas, Texas 75251 / (214) 736-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

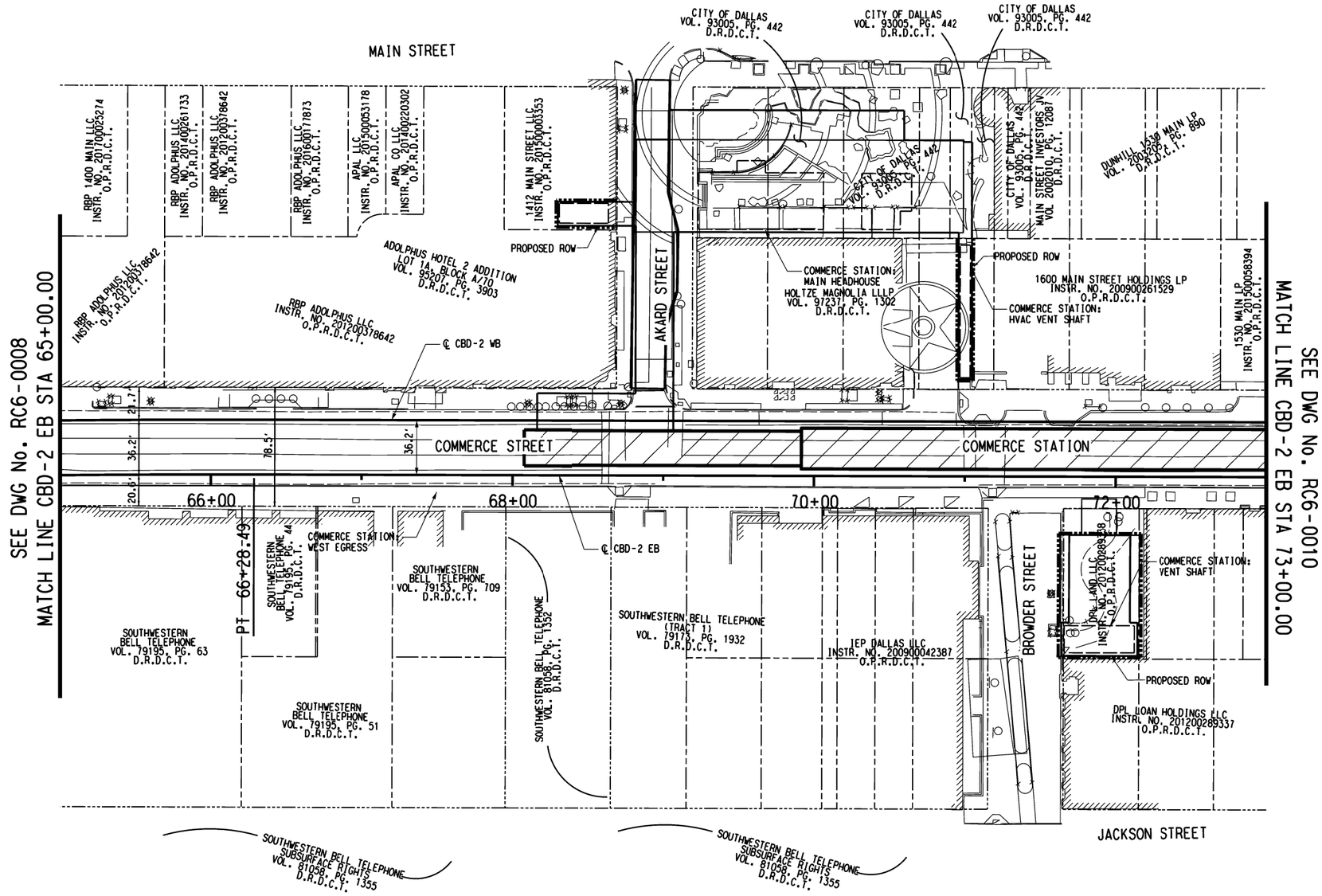
RIGHT-OF-WAY PLAN
STA 58+00.00 TO STA 65+00.00

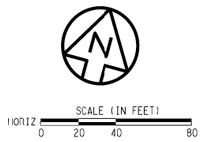
CONTRACT | DWG No. RC6-0008 | REV

$$USER$$
$$MODEL$$

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. RC6-0009





LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 17 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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NDM NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

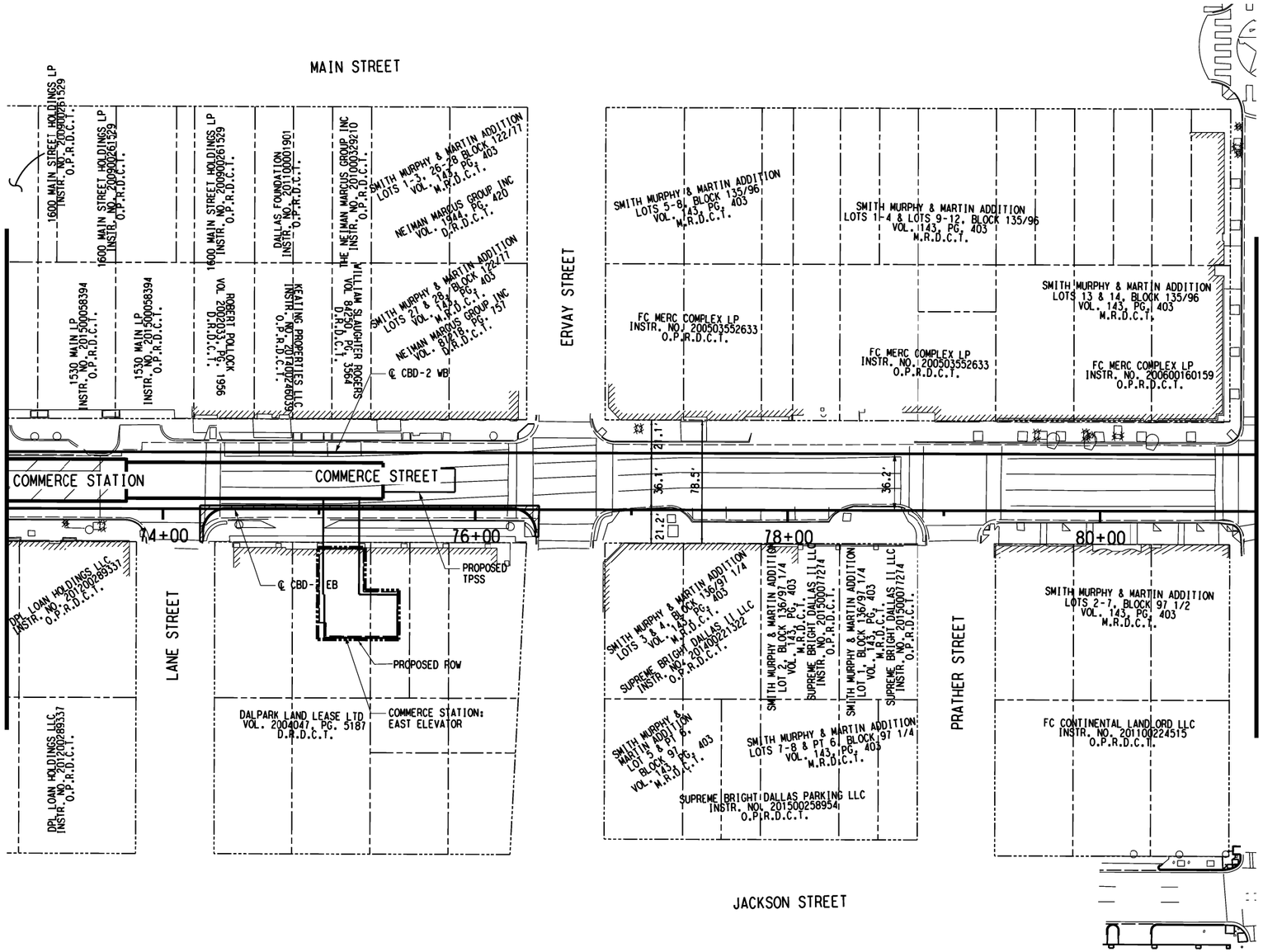
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 65+00.00 TO STA 73+00.00

CONTRACT	DWG No.	REV
	RC6-0009	

$$$$$SYTIME$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$
$$USER$$
$$MODEL$$
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. RC6-0010



NORTH

SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

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NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 18 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

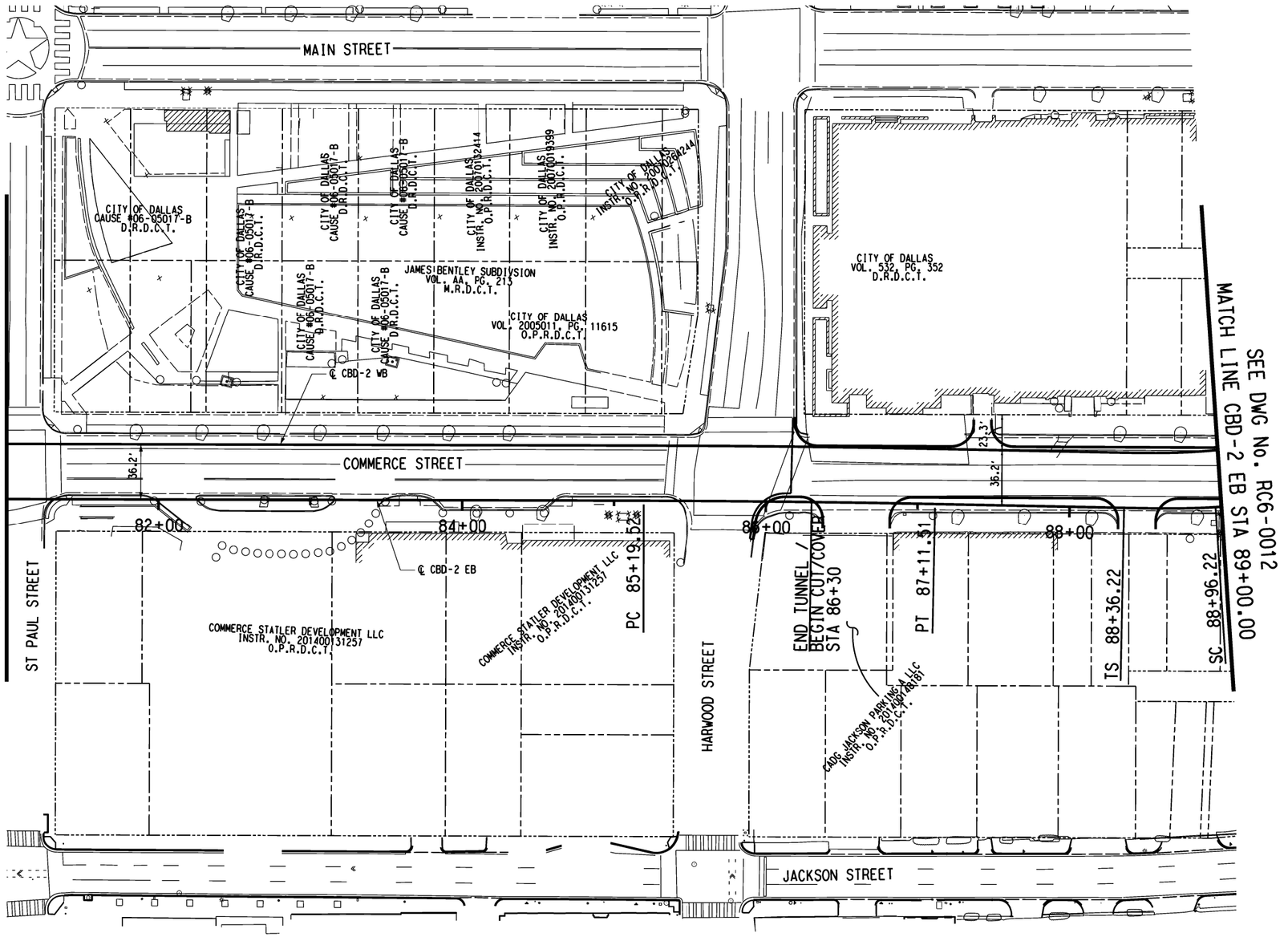
RIGHT-OF-WAY PLAN
STA 73+00.00 TO STA 81+00.00

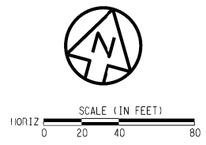
CONTRACT | DWG No. RC6-0010 | REV

$$$$USER$$
$$$$MODEL$$
$$$$$$$$SYTIME$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. RC6-0011





LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

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NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 19 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 726-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 81+00.00 TO STA 89+00.00

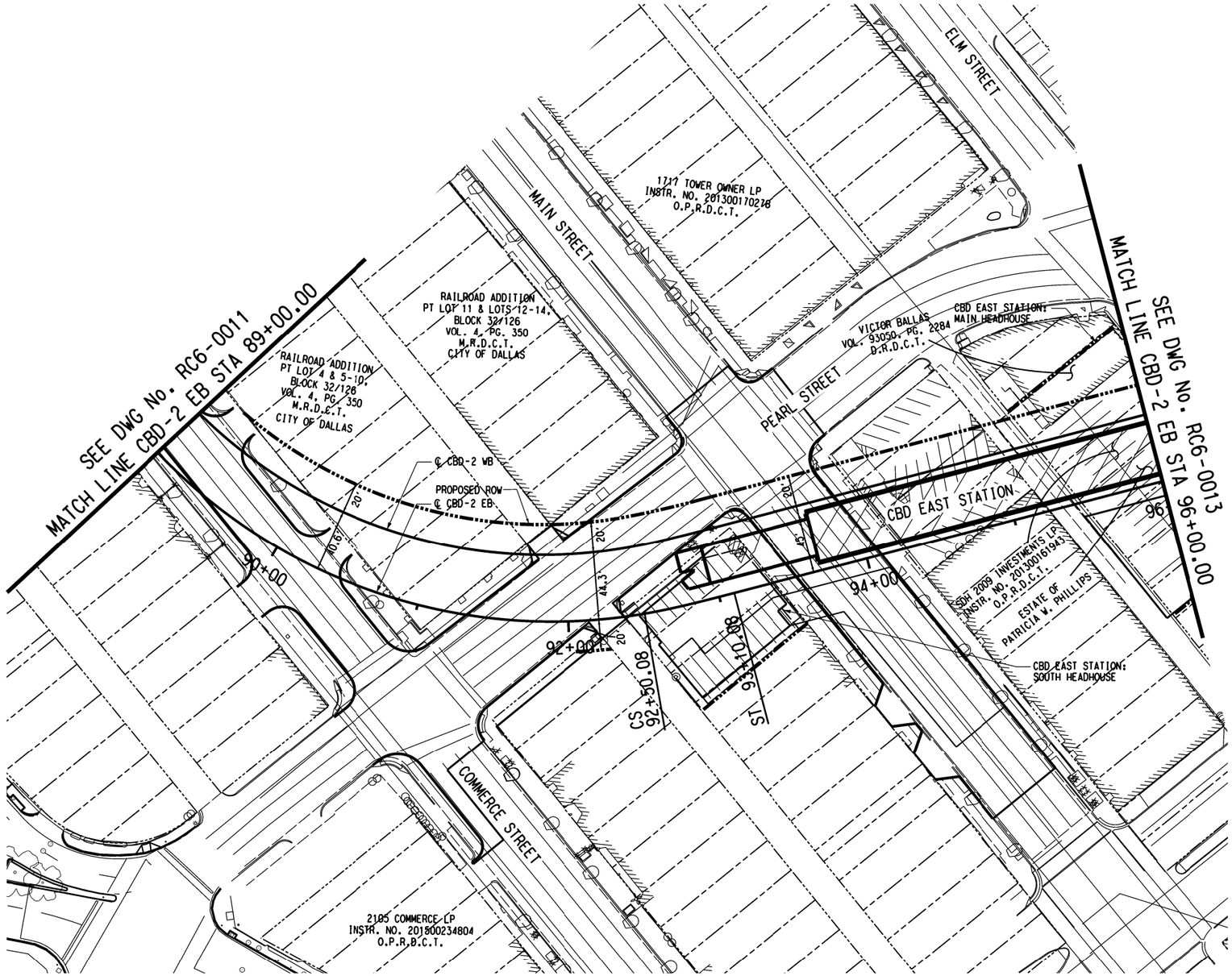
CONTRACT	DWG No.	REV
	RC6-0011	

$$$$DGN$SPECIFICATION$$$$$$$$$

$$$$$SYTIME$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

$$USER$$
$$MODEL$$

DWG No. RC6-0012



SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 20 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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NDM
NATHAN D. MAIER
CONSULTING ENGINEERS, INC.
TBPE FIRM REG. NO. F-356
TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700
Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 89+00.00 TO STA 96+00.00

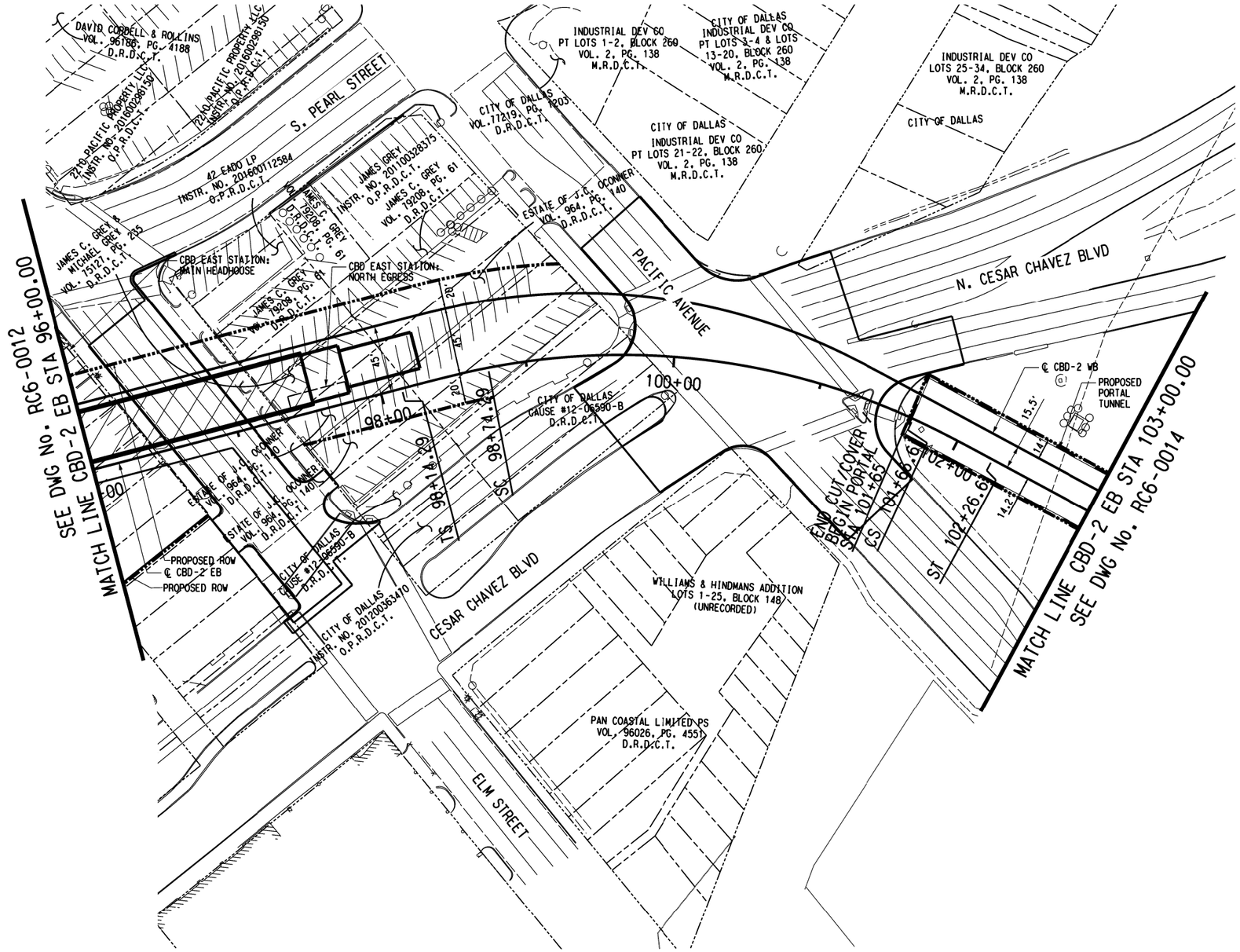
CONTRACT	DWG No.	REV
	RC6-0012	

$$$$USER$$$
$$$MODEL$$

$$$$$$$SYTIME$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. RC6-0013



LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 21 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 96+00.00 TO STA 103+00.00

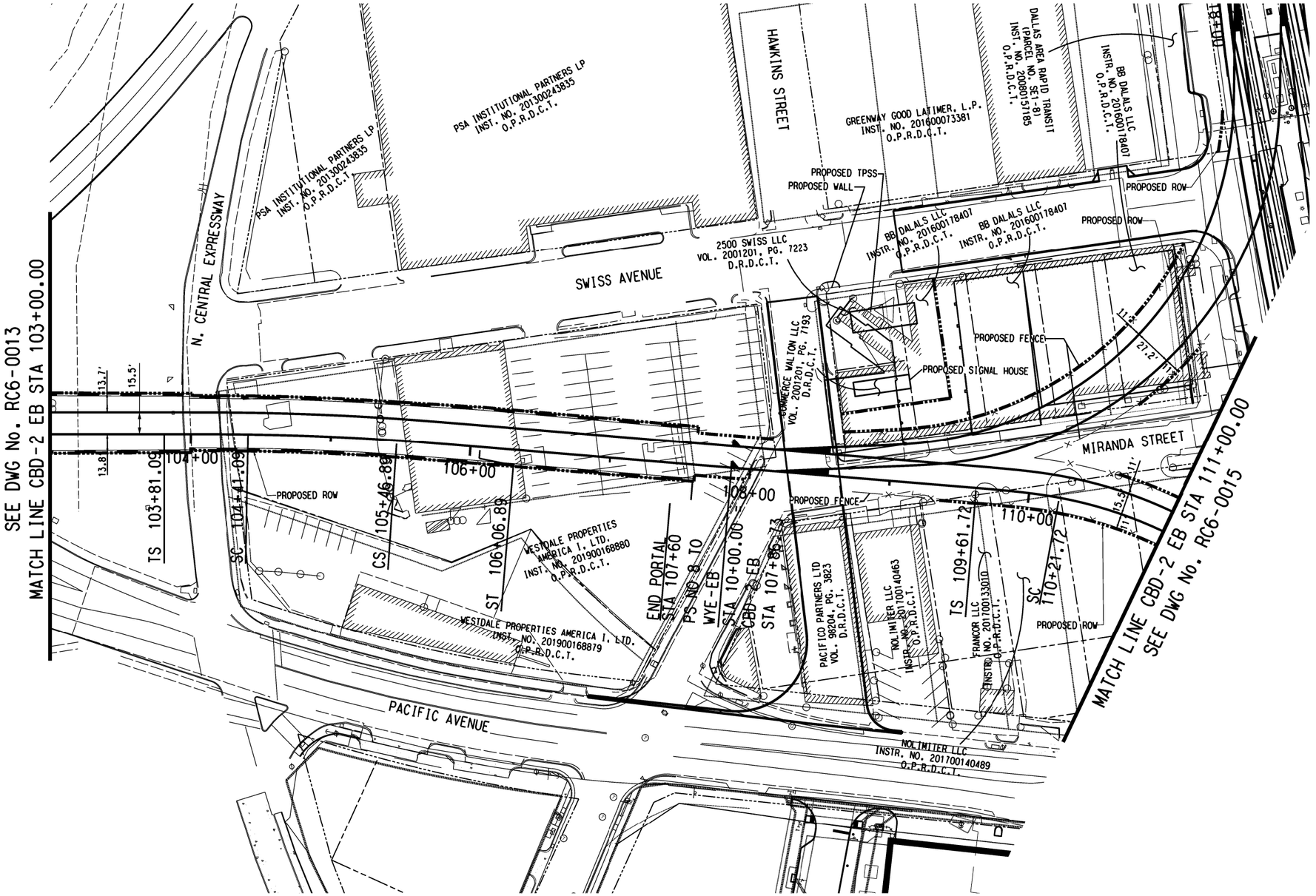
CONTRACT	DWG No.	REV
	RC6-0013	

$$$$DGN$$SPECIFICATION$$$$$$$$$$

$$$$$$SYTIME$$$$$$$
$$$$DGN$$SPECIFICATION$$$$$$$$$$

$$USER$$
$$MODEL$$

DWG No. RC6-0014



SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 22 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP
△								

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
C. MICHAEL DANIEL, RPLS
ON 03/06/2020
NATHAN D. MAIER CONSULTING ENGINEERS, INC.
TBPE FIRM NO. F-356/TBPLS NO. 100189-00
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

NDM
NATHAN D. MAIER CONSULTING ENGINEERS, INC.
TBPE FIRM REG. NO. F-356
TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700
Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 103+00.00 TO STA 111+00.00

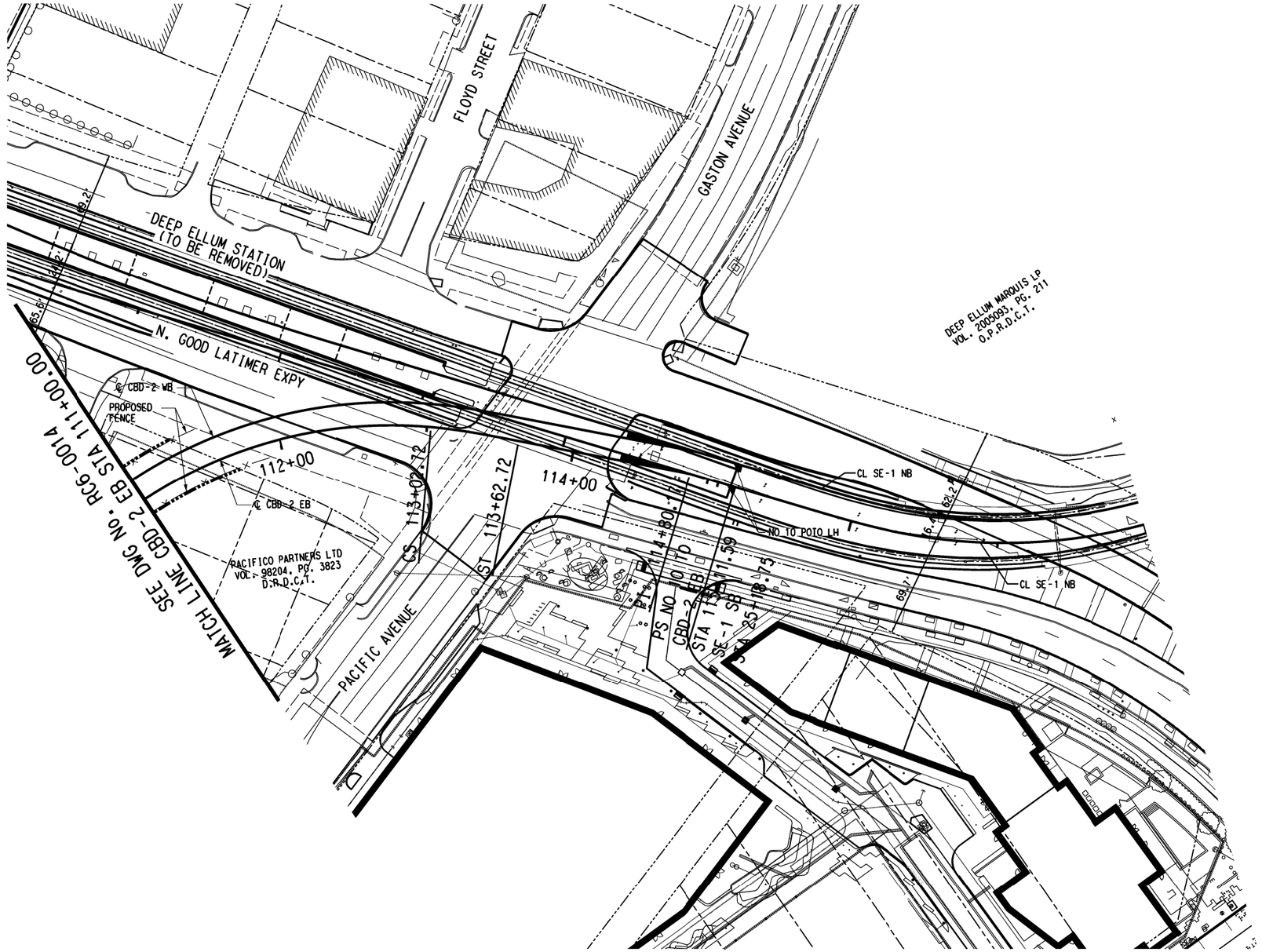
CONTRACT	DWG No.	REV
	RC6-0014	

$$$$USER$$$
$$$$MODEL$$$

$$$$$$$SYTIME$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. RC6-0015



SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 23 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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NDM NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

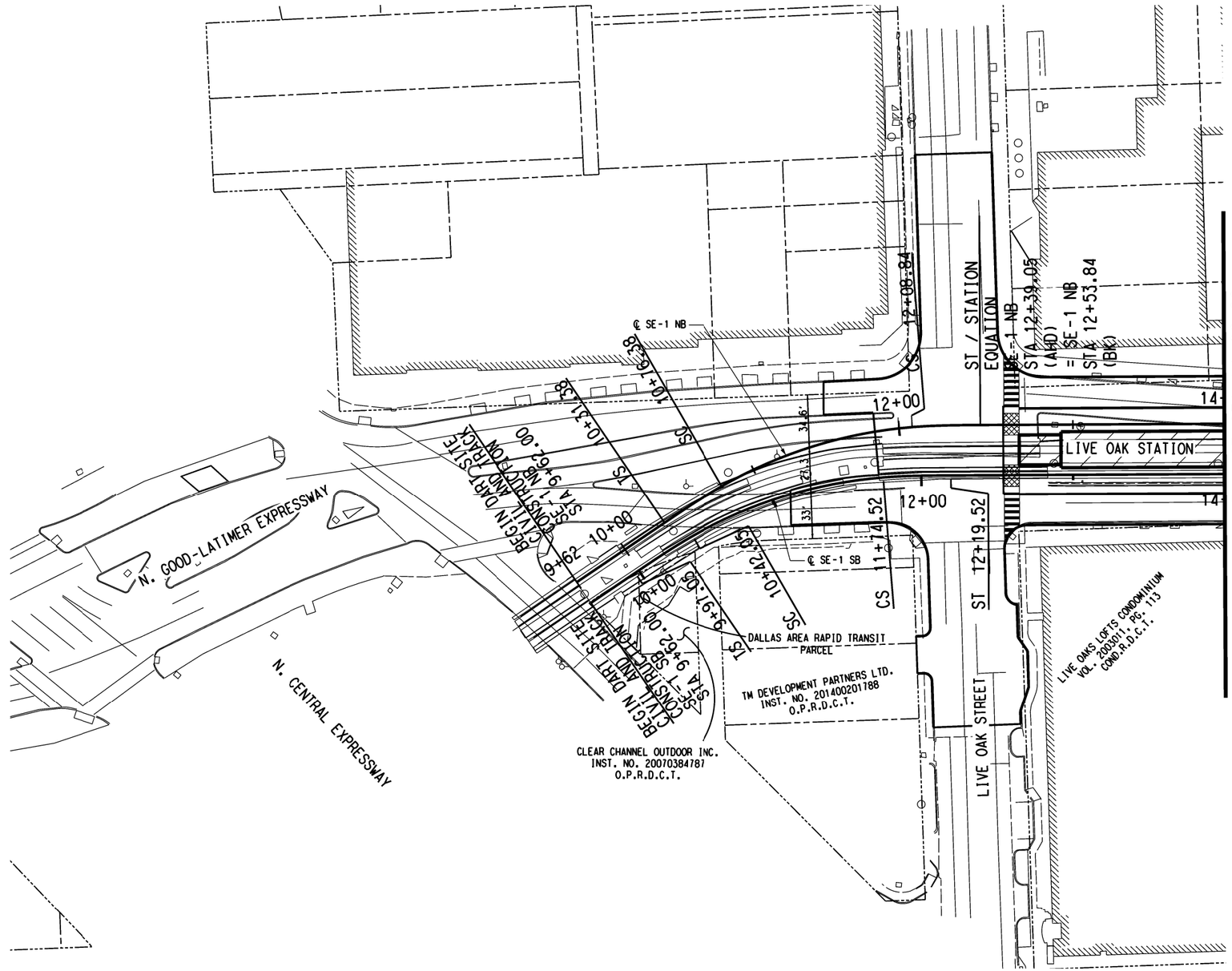
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 111+00.00 TO END OF CBD-2

CONTRACT	DWG No.	REV
	RC6-0015	

$$$$SYTIME$$$$$$
$$$$DGN$$SPECIFICATION$$$$$$$$$$
$$USER$$
$$MODEL$$
$$$$DGN$$SPECIFICATION$$$$$$$$$$

DWG No. RC6-0016



SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 24 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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NDM
NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

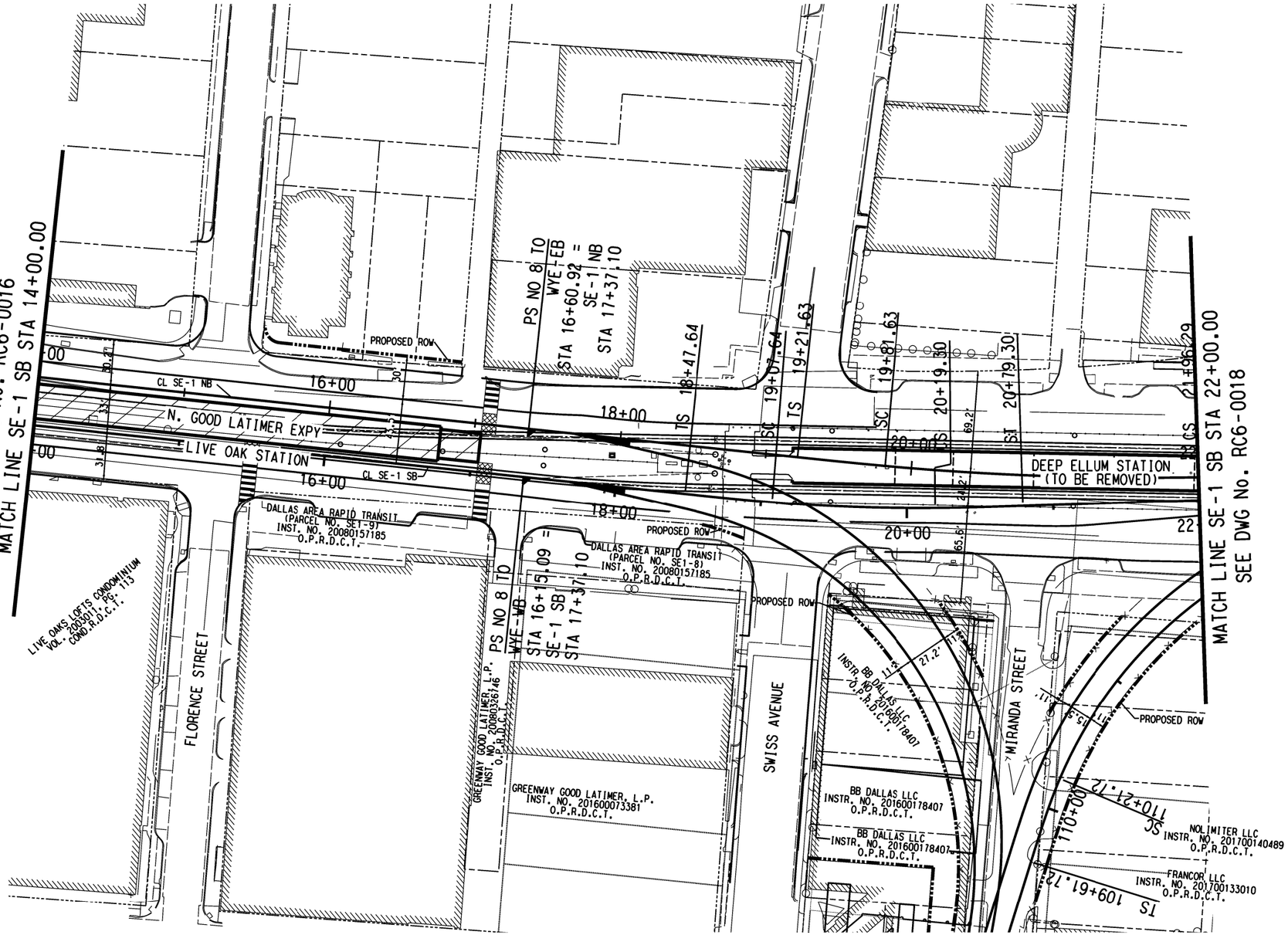
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
BEGIN OF SE-1 TO STA 14+00.00

CONTRACT	DWG No.	REV
	RC6-0016	

$$$$$SYTIME$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$
$$USER$$
$$MODEL$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. RC6-0017



SCALE (IN FEET)
HORIZ 0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDRY SURVEY.THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.
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NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 25 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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NDM NATHAN D. MAIER CONSULTING ENGINEERS, INC. TBPE FIRM REG. NO. F-356 TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

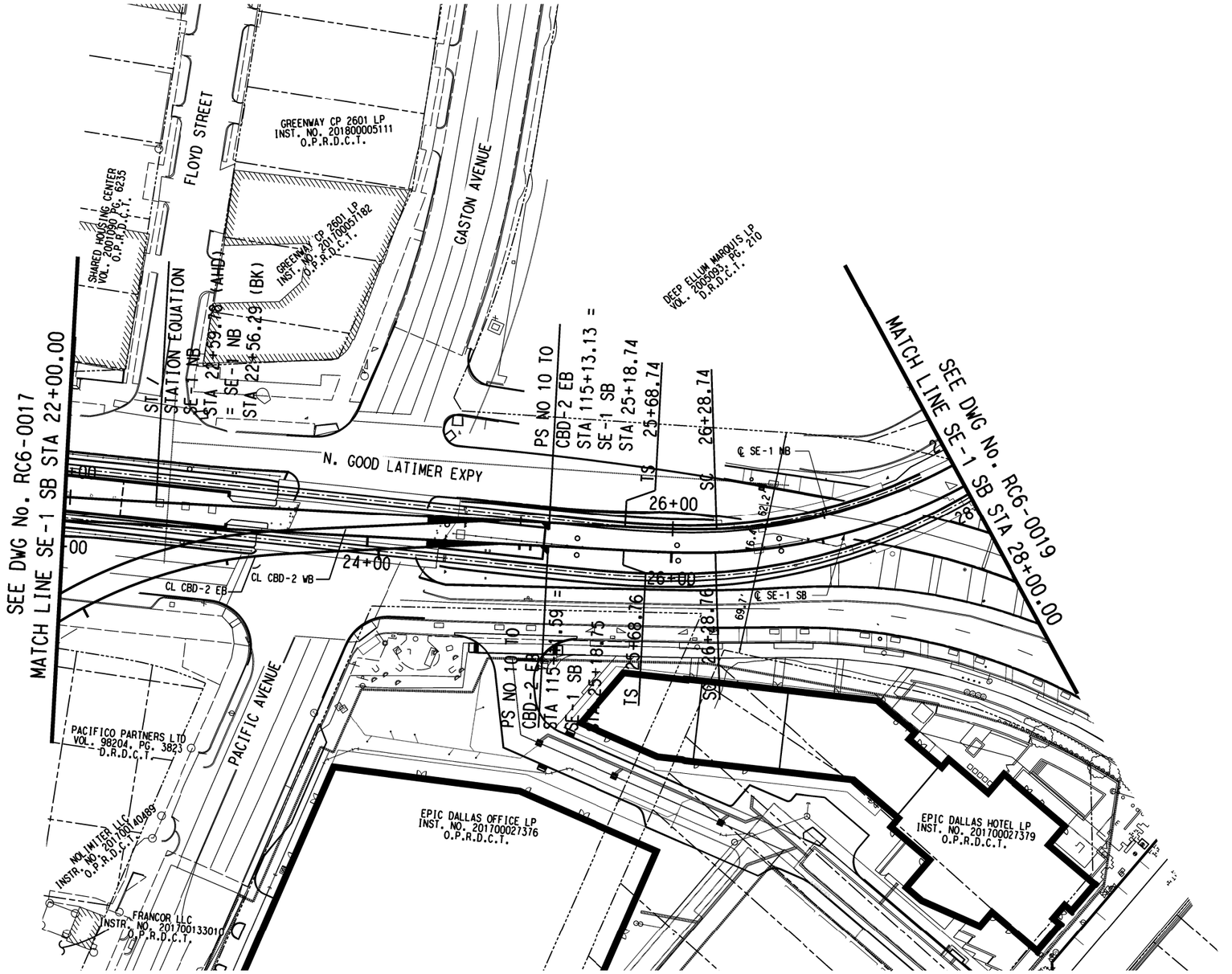
RIGHT-OF-WAY PLAN
STA 14+00.00 TO STA 22+00.00

CONTRACT	DWG No.	REV
	RC6-0017	

$$$$DGN$SPECIFICATION$$$$$$$$$

$$$$$$SITIME$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$
$$USER$$
$$MODEL$$

DWG No. RC6-0018



SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

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NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 26 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP
△								

IN-PROGRESS

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TBPE FIRM REG. NO. F-356
TBPLS FIRM REG. NO. 100189-00
Lakeside Square / 12377 Merit Drive / Suite 700
Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 22+00.00 TO STA 28+00.00

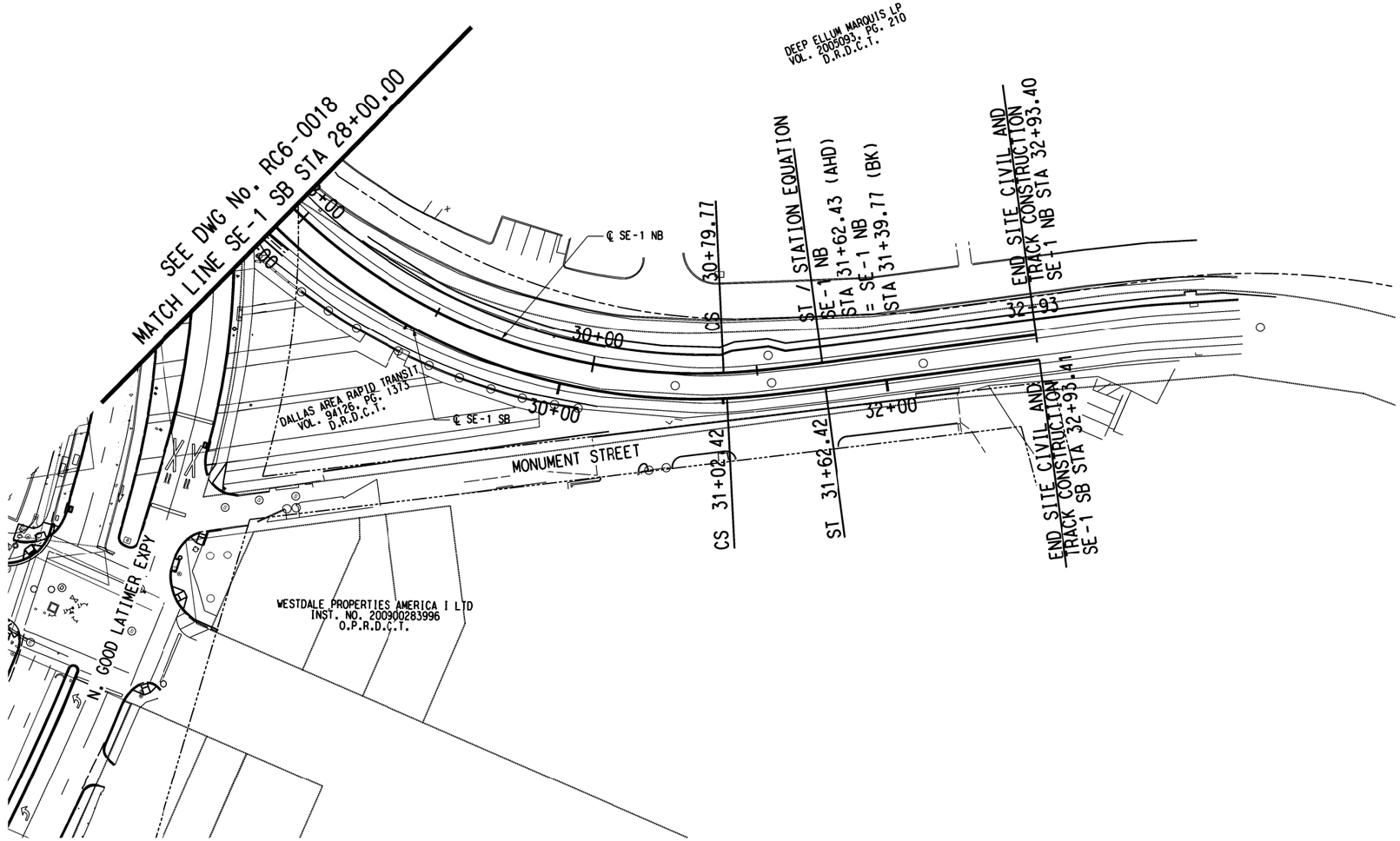
CONTRACT	DWG No.	REV
	RC6-0018	

$$$$DGN$SPECIFICATION$$$$$$$$$$

$$$$$$SYTIME$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

$$USER$$
$$MODEL$$

DWG No. RC6-0019



SCALE (IN FEET)
HORIZ
0 20 40 80

LEGEND

- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 27 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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Lakeside Square / 12377 Merit Drive / Suite 700 Dallas, Texas 75251 / (214) 739-4741

DART PROJECT

SCALE	1" = 40'
DRAWN	D.VALDEZ
DESIGNED	M.SALCEDO
CHECKED	D.GRIFFIN
IN CHARGE	M.DANIEL
DATE	03/06/2020

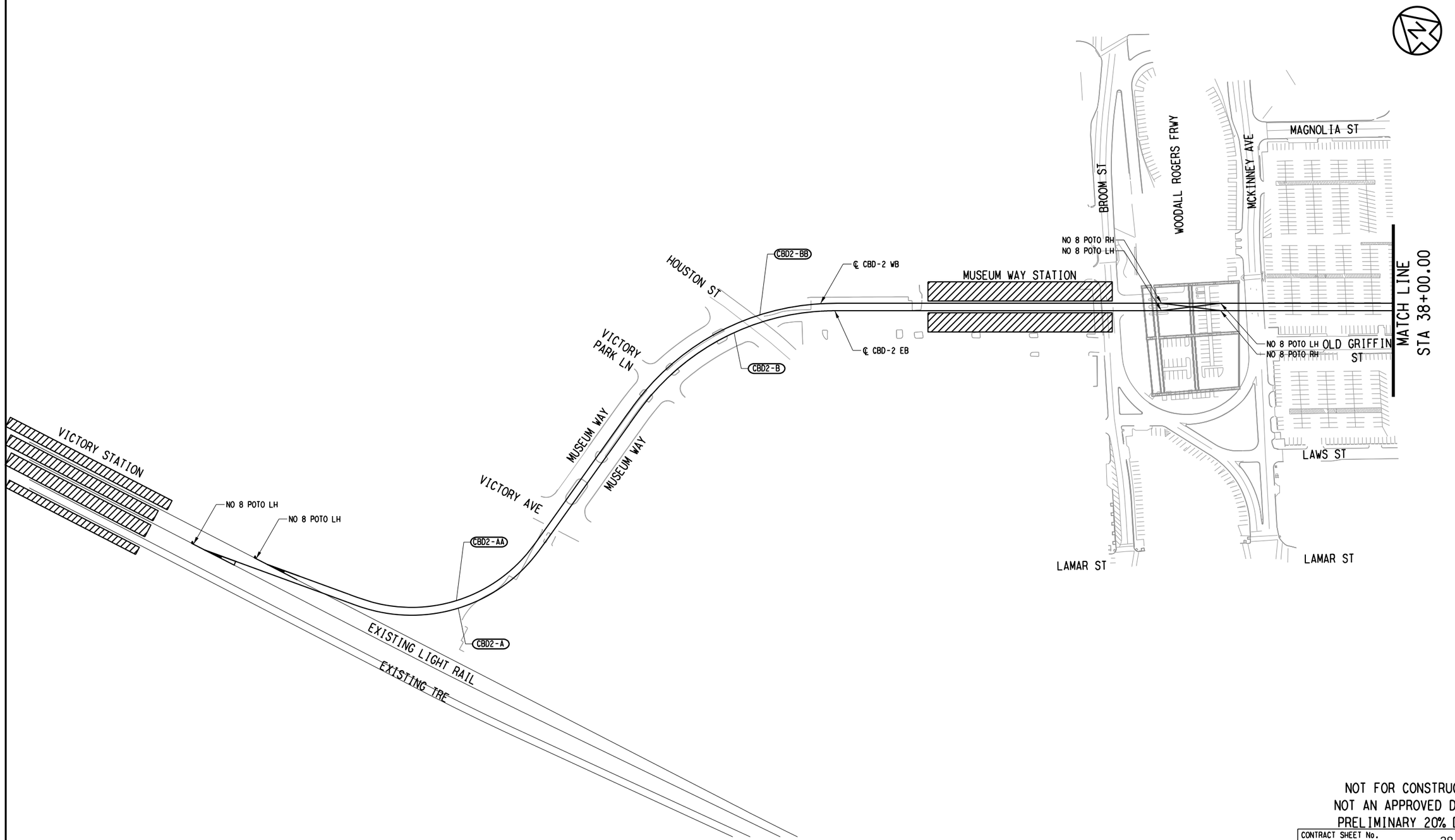
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

RIGHT-OF-WAY PLAN
STA 28+00.00 TO END OF SE-1

CONTRACT	DWG No.	REV
	RC6-0019	

$$$$USER$$$
$$$$MODEL$$$
$$$$$$$$SYTIME$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$
$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC5-0001



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 28 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

HORIZONTAL ALIGNMENT
SCHEMATIC
SHEET 1 OF 4

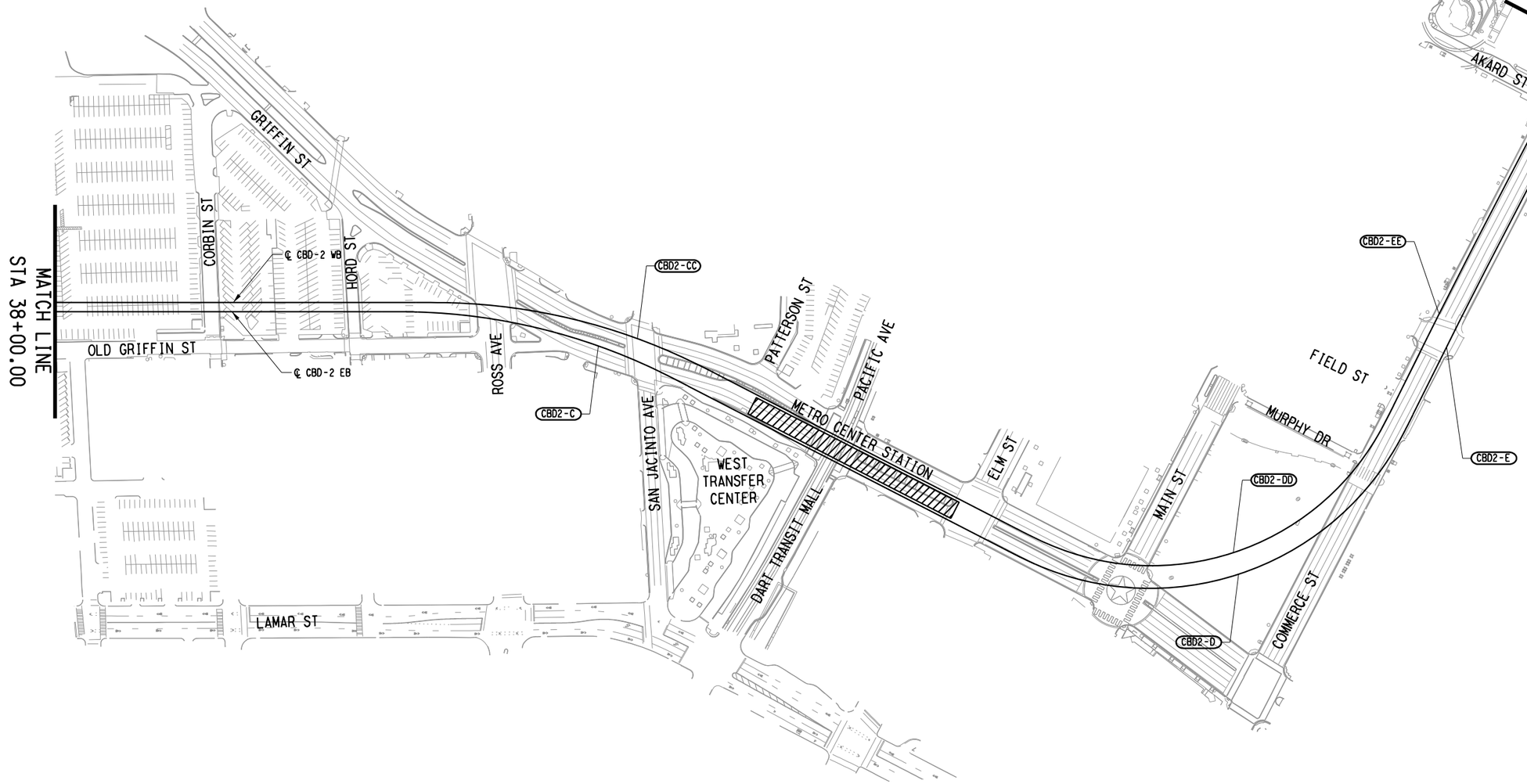
CONTRACT | DWG No. CC5-0001 | REV

Friday, February 28, 2020 01:08:44 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC5-0002



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 29 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

HORIZONTAL ALIGNMENT
SCHEMATIC
SHEET 2 OF 4

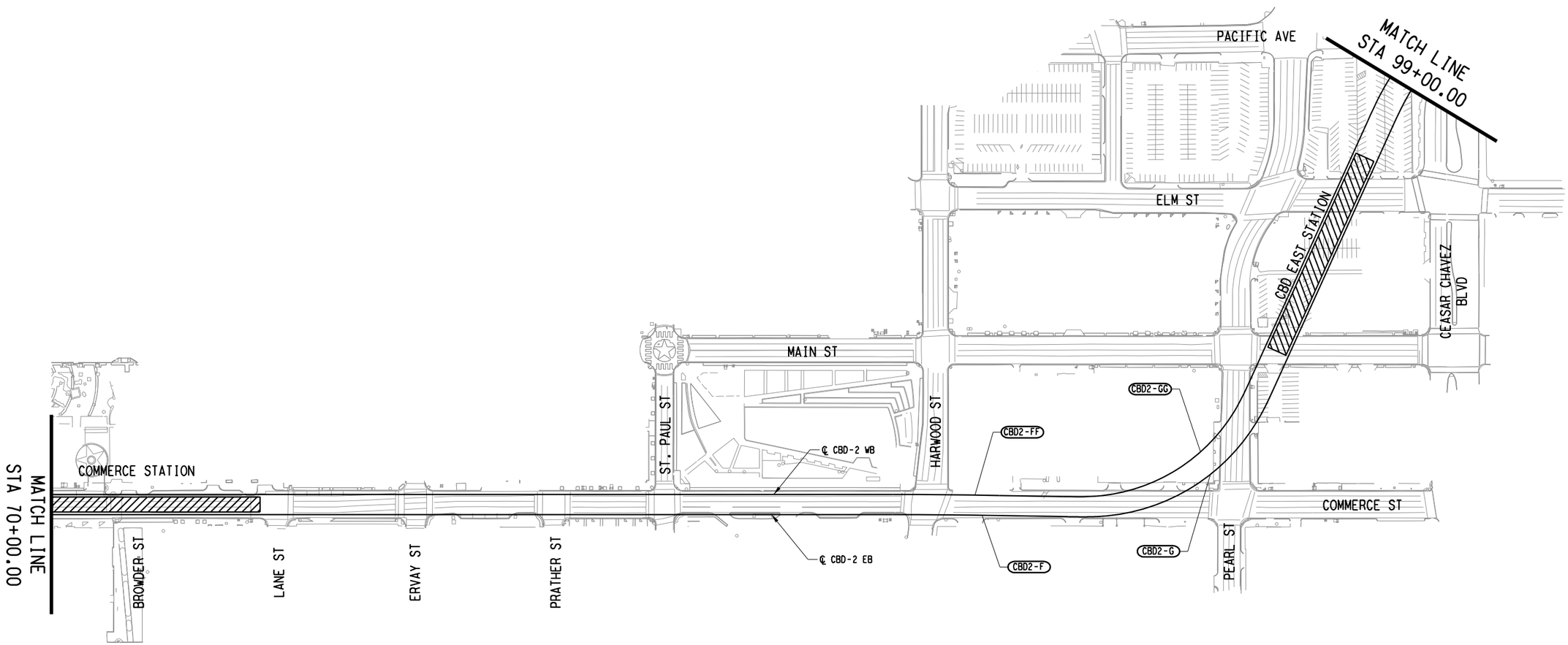
CONTRACT	DWG No.	REV
	CC5-0002	

Friday, February 28, 2020 01:08:47 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC5-0003



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 30 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

HORIZONTAL ALIGNMENT
SCHEMATIC
SHEET 3 OF 4

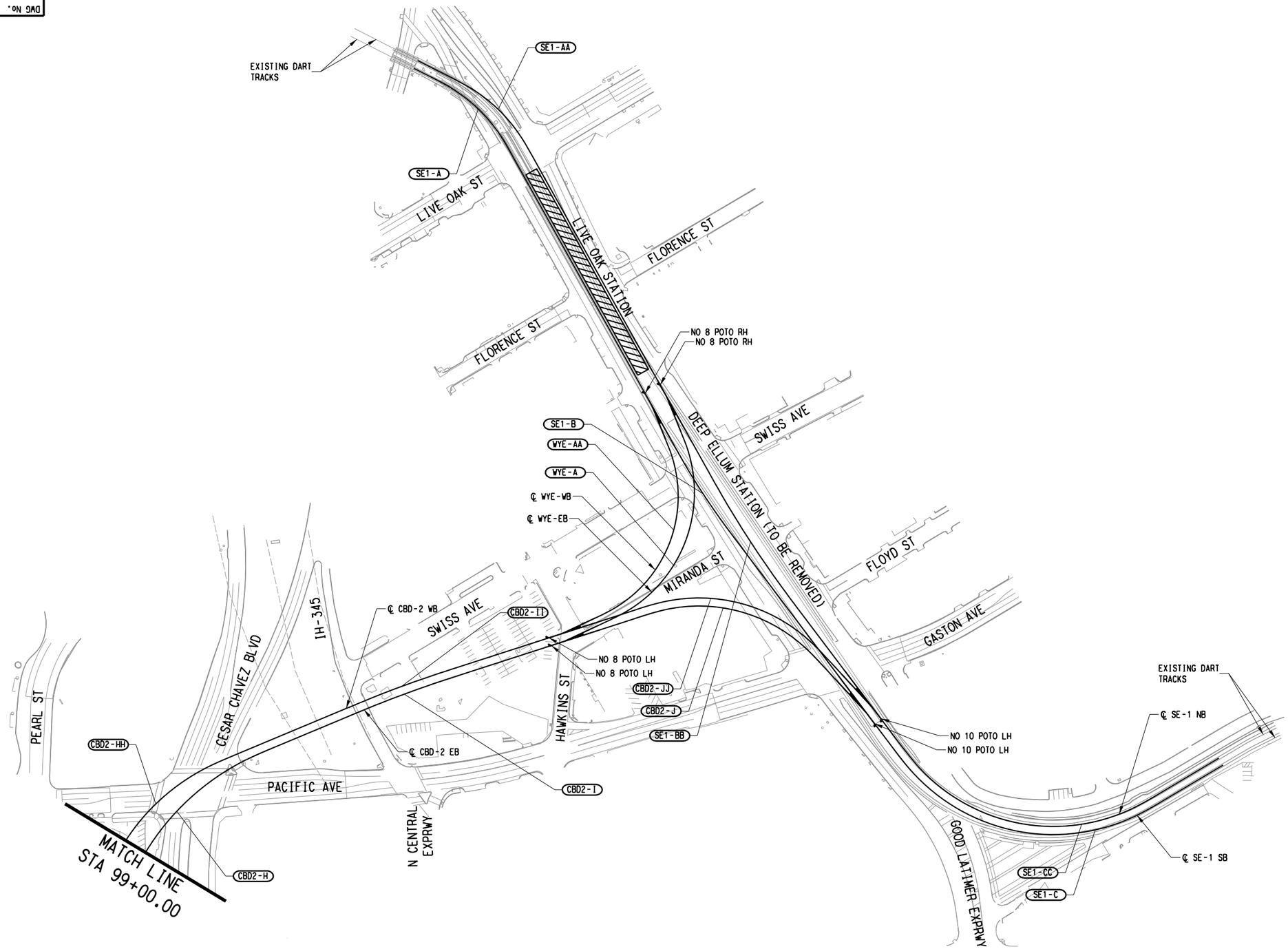
CONTRACT	DWG No.	REV
	CC5-0003	

Friday, February 28, 2020 01:08:51 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC5-0004



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 31 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

HORIZONTAL ALIGNMENT
SCHEMATIC
SHEET 4 OF 4

CONTRACT | DWG No. CC5-0004 | REV

Friday, February 28, 2020 01:08:54 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$$

DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$$

DWG No. CC5-0005

LINE SECTION CBD-2 EB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF EASTBOUND TRACK

CURVE NAME	POINT	CHAINAGE (FT)	NORTHING (FT)	EASTING (FT)	ELEMENT	LENGTH (FT)	DEGREE OF CURVATURE (D.M.S.)	Ea (IN)	Eu (IN)	Passenger Speed (MPH)	DEFLECTION ANGLE
	POB	10+00.00	6974996.78	2487462.37							
					STRAIGHT	30.96					
	PI	10+30.96	6974966.89	2487470.45							
					STRAIGHT	317.21					7° 09' 10" Left
	TS	13+48.17	6974673.38	2487590.77							
					SPIRAL	45.00					
	SC	13+93.17	6974632.15	2487608.78							
CBD2-A	PI	16+10.78	6974436.90	2487704.84	R = 330.00	384.76	Dc = 17° 21' 36"	0.50	0.71	10	66° 48' 10" Left
	CS	17+77.93	6974448.29	2487922.15							
					SPIRAL	45.00					
	ST	18+22.93	6974452.68	2487966.93							
					STRAIGHT	299.54					
	TS	21+22.47	6974488.70	2488264.29							
					SPIRAL	60.00					
	SC	21+82.47	6974494.73	2488323.98							
CBD2-B	PI	24+05.52	6974508.35	2488546.62	R = 504.50	420.03	Dc = 11° 21' 36"	0.00	1.78	15	47 °42 '11" Right
	CS	26+02.50	6974352.83	2488706.52							
					SPIRAL	60.00					
	ST	26+62.50	6974309.34	2488747.83							
					STRAIGHT	1689.19					
	TS	43+51.69	6973061.73	2489886.62							
					SPIRAL	60.00					
	SC	44+11.69	6973017.02	2489926.63							
CBD2-C	PI	46+22.76	6972856.93	2490064.18	R = 1000.00	416.04	Dc = 5° 43' 48"	1.00	1.50	25	23° 50' 14" Right
	CS	48+27.73	6972654.90	2490125.31							
					SPIRAL	60.00					
	ST	48+87.73	6972597.14	2490141.53							
					STRAIGHT	600.23					
	TS	54+87.96	6972017.67	2490298.04							
					SPIRAL	60.00					
	SC	55+47.96	6971960.09	2490314.88							
CBD2-D	PI	59+77.71	6971553.02	2490452.63	R = 480.00	701.00	Dc = 11° 56' 24"	1.00	0.88	15	83° 40' 33" Left
	CS	62+48.97	6971645.09	2490872.39							
					SPIRAL	60.00					
	ST	63+08.97	6971660.37	2490930.40							
					STRAIGHT	127.54					

NOTES:

1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, U.S. SURVEY FOOT.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

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CONTRACT SHEET No. 32 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2 EB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF EASTBOUND TRACK

CONTRACT | DWG No. CC5-0005 | REV

Friday, February 28, 2020 01:08:57 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$

DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC5-0006

LINE SECTION CBD-2 EB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF EASTBOUND TRACK

CURVE NAME	POINT	CHAINAGE (FT)	NORTHING (FT)	EASTING (FT)	ELEMENT	LENGTH (FT)	DEGREE OF CURVATURE (D.M.S.)	Ea (IN)	Eu (IN)	Passenger Speed (MPH)	DEFLECTION ANGLE
	PC	64+36.50	6971695.43	2491053.03							
CBD2-E	PI	65+32.50	6971721.81	2491145.33	R = 11000.00	191.99	Dc = 0 ° 31' 15"	0.00	0.15	20	01° 00' 00" Right
	PT	66+28.49	6971746.58	2491238.08							
					STRAIGHT	1891.03					
	PC	85+19.52	6972234.49	2493065.08							
CBD2-F	PI	86+15.52	6972259.25	2493157.83	R = 11000	191.99	Dc = 0 ° 31' 15"	0.00	0.15	20	01° 00' 00" Right
	PT	87+11.51	6972282.40	2493250.99							
					STRAIGHT	124.71					
	TS	88+36.22	6972312.47	2493372.02							
					SPIRAL	60.00					
	SC	88+96.22	6972328.56	2493429.80							
CBD2-G	PI	90+89.32	6972390.73	2493612.62	R = 356.00	353.86	Dc = 16° 05' 24"	1.50	1.03	15	56° 57' 07" Left
	CS	92+50.08	6972577.87	2493660.21							
					SPIRAL	60.00					
	ST	93+10.08	6972636.74	2493671.71							
					STRAIGHT	504.21					
	TS	98+14.29	6973134.11	2493754.40							
					SPIRAL	60.00					
	SC	98+74.29	6973193.07	2493765.49							
CBD2-H	PI	100+25.35	6973340.20	2493799.72	R = 470.00	292.32	Dc = 12° 11' 24"	1.75	1.65	20	35° 38' 08" Right
	CS	101+66.61	6973439.84	2493913.27							
					SPIRAL	60.00					
	ST	102.26.61	6973477.45	2493960.00							
					STRAIGHT	154.48					
	TS	103+81.09	6973571.73	2494082.37							
					SPIRAL	60.00					
	SC	104+41.09	6973608.11	2494130.09							
CBD2-I	PI	104+94.00	6973639.77	2494172.48	R = 2000.00	105.81	Dc = 02° 51' 53"	0.50	0.75	25	61° 25' 03" Right
	CS	105+46.89	6973669.14	2494216.50							
					SPIRAL	60.00					
	ST	106+06.89	6973701.95	2494266.73							
					STRAIGHT	354.83					

NOTES:

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CONTRACT SHEET No. 33 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2 EB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF EASTBOUND TRACK

CONTRACT | DWG No. CC5-0006 | REV

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DWG No. CC5-0007

LINE SECTION CBD-2 EB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF EASTBOUND TRACK

CURVE NAME	POINT	CHAINAGE	NORTHING	EASTING	ELEMENT	LENGTH	DEGREE OF CURVATURE	Ea	Eu	Passenger Speed	DEFLECTION ANGLE
		(FT)	(FT)	(FT)		(FT)	(D.M.S.)	(IN)	(IN)	(MPH)	
	TS	109+61.72	6973894.48	2494564.78							
					SPIRAL	60.00					
	SC	110+21.72	6973916.20	2494598.40							
CBD2-J	PI	111+73.48	6973585.17	2495369.37	R = 300.00	281.00	Dc = 19° 05' 55"	1.50	1.50	15	53° 40' 03" Right
	CS	113+02.72	6973776.62	2494887.06							
					SPIRAL	60.00					
	ST	113+62.72	6973896.42	2494938.81							
					STRAIGHT	117.44					
	PI	114+80.17	6973833.73	2495038.11							
					STRAIGHT	31.42					
	POE	115+11.59	6973814.39	2495062.88							

NOTES:

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CONTRACT SHEET No. 34 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2 EB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF EASTBOUND TRACK

CONTRACT	DWG No.	REV
	CC5-0007	

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Friday, February 28, 2020 01:09:14 PM
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DWG No. CC5-0008

LINE SECTION CBD-2 WB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

CURVE NAME	POINT	CHAINAGE	NORTHING	EASTING	ELEMENT	LENGTH	DEGREE OF CURVATURE	Ea	Eu	Passenger Speed	DEFLECTION ANGLE
		(FT)	(FT)	(FT)		(FT)	(D.M.S.)	(IN)	(IN)	(MPH)	
	POB	11+33.54	6974879.47	2487528.29							
					STRAIGHT	30.96					
	PI	11+64.50	6974849.59	2487536.37							
					STRAIGHT	181.39					4° 33' 16" Left
	TS	13+45.89	6974681.75	2487605.17							
					SPIRAL	50.00					
	SC	13+95.89	6974636.02	2487625.35							
CBD2-AA	PI	15+98.21	6974455.51	2487716.72	R = 314.50	359.57	Dc = 18° 13' 12"	0.50	0.77	10	65° 30' 24" Left
	CS	17+55.46	6974463.81	2487918.86							
					SPIRAL	50.00					
	ST	18+05.46	6974468.50	2487968.63							
					STRAIGHT	295.95					
	TS	21+22.47	6974504.09	2488262.43							
					SPIRAL	60.00					
	SC	21+82.47	6974510.16	2488322.12							
CBD2-BB	PI	24+13.48	6974524.67	2488552.67	R = 520.00	434.78	Dc = 11° 01' 12"	0.00	1.73	15	47° 54' 21" Right
	CS	26+17.25	6974363.31	2488717.99							
					SPIRAL	60.00					
	ST	26+77.25	6974319.79	2488759.27							
					STRAIGHT	1746.42					
	TS	44+08.92	6973029.92	2489936.65							
					SPIRAL	60.00					
	SC	44+68.92	6972985.20	2489976.65							
CBD2-CC	PI	46+79.99	6972825.11	2490114.21	R = 1000.00	416.04	Dc = 5° 43' 46"	1.00	1.50	25	23° 50' 14" Right
	CS	48+84.95	6972623.08	2490175.33							
					SPIRAL	60.00					
	ST	49+44.95	6972565.32	2490191.56							
					STRAIGHT	560.28					
	TS	54+91.77	6972024.42	2490337.65							
					SPIRAL	60.00					
	SC	55+51.77	6971966.88	2490354.60							
CBD2-DD	PI	59+41.22	6971598.69	2490481.53	R = 440.00	637.58	Dc = 13° 01' 12"	1.00	1.05	15	83° 01' 29" Left
	CS	61+89.36	6971679.97	2490862.40							
					SPIRAL	60.00					
	ST	62+49.36	6971695.14	2490920.44							
					STRAIGHT	127.88					

NOTES:

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CONTRACT SHEET No. 35 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2 WB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

CONTRACT | DWG No. CC5-0008 | REV

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$$$$DGN$SPECIFICATION$$$$$$$$$

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DWG No. CC5-0009

LINE SECTION CBD-2 WB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

CURVE NAME	POINT	CHAINAGE (FT)	NORTHING (FT)	EASTING (FT)	ELEMENT	LENGTH (FT)	DEGREE OF CURVATURE (D.M.S.)	Ea (IN)	Eu (IN)	Passenger Speed (MPH)	DEFLECTION ANGLE
	PC	64+36.82	6971730.29	2491043.39							
CBD2-EE	PI	65+32.82	6971756.67	2491135.69	R = 11036.17	192.62	Dc = 0 ° 31' 15"	0.00	0.14	20	01° 00' 00" Left
	PT	66+28.49	6971781.52	2491228.74							
					STRAIGHT	1891.04					
	PC	85+19.85	6972269.51	2493056.06							
CBD2-FF	PI	86+15.84	6972294.28	2493148.80	R = 11036.17	192.62	Dc = 0 ° 31' 15"	0.00	0.14	20	01° 00' 00" Right
	PT	87+11.83	6972317.42	2493241.97							
					STRAIGHT	115.26					
	TS	88+26.46	6972345.21	2493353.83							
					SPIRAL	60.00					
	SC	88+86.46	6972361.49	2493411.55							
CBD2-GG	PI	90+56.13	6972417.63	2493571.66	R = 320.00	312.01	Dc = 17° 54' 18"	1.50	1.31	15	55° 51' 56" Left
	CS	91+98.47	6972581.66	2493615.03							
					SPIRAL	60.00					
	ST	92+58.47	6972640.49	2493626.71							
					STRAIGHT	509.81					
	TS	98+16.20	6973143.39	2493710.32							
					SPIRAL	60.00					
	SC	98+76.20	6973202.30	2493721.64							
CBD2-HH	PI	99+99.85	6973322.41	2493751.00	R = 400.00	239.85	Dc = 14° 19' 26"	1.00	1.25	15	34° 21' 20" Right
	CS	101+16.05	6973405.00	2493843.02							
					SPIRAL	60.00					
	ST	101+76.05	6973442.79	2493889.61							
					STRAIGHT	231.39					
	TS	103+82.75	6973584.01	2494072.91							
					SPIRAL	60.00					
	SC	104+42.75	6973620.39	2494120.62							
CBD2-II	PI	104+96.31	6973652.44	2494163.53	R = 2015.50	107.09	Dc = 02° 50' 34"	0.50	0.74	25	03° 02' 40" Right
	CS	105+49.84	6973682.17	2494208.09							
					SPIRAL	60.00					
	ST	106+09.84	6972005.63	2495326.77							

NOTES:

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CONTRACT SHEET No. 36 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2 WB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

CONTRACT | DWG No. CC5-0009 | REV

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DANGLE

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DWG No. CC5-0010

LINE SECTION CBD-2 WB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

CURVE NAME	POINT	CHAINAGE (FT)	NORTHING (FT)	EASTING (FT)	ELEMENT	LENGTH (FT)	DEGREE OF CURVATURE (D.M.S.)	Ea (IN)	Eu (IN)	Passenger Speed (MPH)	DEFLECTION ANGLE
					STRAIGHT	354.76					
	TS	109+61.65	6973907.46	2494556.31							
					SPIRAL	60.00					
	SC	110+21.65	6973938.39	2494607.70							
CBD2-JJ	PI	111+83.20	6974012.77	2494751.11	R = 315.50	298.62	Dc = 18° 09' 37"	1.50	1.35	15	54° 13' 50" Left
	CS	113+20.27	6973939.89	2494895.29							
					SPIRAL	60.00					
	ST	113+80.27	6973909.49	2494947.00							
					STRAIGHT	119.04					
	PI	114+81.71	6973845.94	2495047.65							
	POE	115+13.13	6973826.60	2495072.42							
					STRAIGHT	31.42					

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CONTRACT SHEET No. 37 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE FIRM NO. F-754
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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2 WB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

CONTRACT	DWG No.	REV
	CC5-0010	

DANGLE
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Friday, February 28, 2020 01:09:49 PM
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DWG No. CC5-0011

LINE SECTION SE-1 SB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF SOUTHBOUND TRACK

CURVE NAME	POINT	CHAINAGE (FT)	NORTHING (FT)	EASTING (FT)	ELEMENT	LENGTH (FT)	DEGREE OF CURVATURE (D.M.S.)	Ea (IN)	Eu (IN)	Passenger Speed (MPH)	DEFLECTION ANGLE
	POT	9+62.00	6974802.95	2493881.74							
					STRAIGHT	35.05					
	TS	9+97.05	6974795.69	2493916.03							
					SPIRAL	45.00					
	SC	10+42.05	6974785.26	2493959.79							
SE1-A	PI	11+09.38	6974766.41	2494024.43	R = 300.00	132.47	Dc = 19° 05' 55"	0.50	0.83	10	25° 17' 57" Right
	CS	11+74.52	6974721.74	2494074.81							
					SPIRAL	45.00					
	ST	12+19.52	6974690.25	2494106.94							
					STRAIGHT	628.12					
	TS	18+47.64	6974239.49	2494544.38							
					SPIRAL	60.00					
	SC	19+07.64	6974196.77	2494586.51							
SE1-B	PI	19+63.51	6974157.62	2494626.67	R = 1250.00	111.66	Dc = 04° 35' 01"	0.75	1.25	25	05° 07' 06" Left
	CS	20+19.30	6974122.18	2494669.56							
					SPIRAL	60.00					
	ST	20+79.30	6974084.88	2494716.55							
					STRAIGHT	489.46					
	TS	25+68.76	6973783.60	2495102.30							
					SPIRAL	60.00					
	SC	26+28.76	6973747.99	2495150.56							
SE1-C	PI	29+05.44	6973596.13	2495381.84	R = 365.50	473.66	Dc = 15° 40' 31"	1.75	2.63	20	74° 15' 02" Left
	CS	31+02.42	6973777.51	2495590.77							
					SPIRAL	60.00					
	ST	31+62.42	6973819.25	2495633.85							
					STRAIGHT	130.99					
	POE	32+93.41	6973912.95	2495725.39							

NOTES:

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DART PROJECT

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 38 OF 276

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 SB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF SOUTHBOUND TRACK

CONTRACT | DWG No. CC5-0011 | REV

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC5-0011

LINE SECTION SE-1 NB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF NORTHBOUND TRACK

CURVE NAME	POINT	CHAINAGE	NORTHING	EASTING	ELEMENT	LENGTH	DEGREE OF CURVATURE	Ea	Eu	Passenger Speed	DEFLECTION ANGLE
		(FT)	(FT)	(FT)		(FT)	(D.M.S.)	(IN)	(IN)	(MPH)	
	POT	9+62.00	6974819.10	2493885.16							
					STRAIGHT	69.96					
	TS	10+31.67	6974804.65	2493953.31							
					SPIRAL	45.00					
	SC	10+76.67	6974794.23	2493997.08							
SE1-AA	PI	11+44.00	6974775.37	2494061.71	R = 300.00	132.47	Dc = 19° 05' 55"	0.50	0.83	10	25° 17' 57" Right
	CS	12+09.13	6974730.70	2494112.09							
					SPIRAL	45.00					
	ST	12+54.13	6974699.21	2494144.22							
					STRAIGHT	682.58					
	TS	19+21.63	6974209.38	2494619.59							
					SPIRAL	60.00					
	SC	19+81.63	6974166.53	2494661.57							
SE1-BB	PI	20+89.06	6974090.56	2494737.55	R = 2000.00	214.66	Dc = 02° 51' 53"	0.75	0.50	25	06° 08' 59" Left
	CS	21+96.29	6974122.18	2494821.22							
					SPIRAL	60.00					
	ST	22+56.29	6973986.00	2494868.32							
					STRAIGHT	308.97					
	TS	25+68.75	6973795.82	2495111.82							
					SPIRAL	60.00					
	SC	26+28.75	6973760.27	2495160.13							
SE1-CC	PI	28+91.70	6973616.75	2495380.46	R = 350.00	451.03	Dc = 16° 22' 13"	1.75	2.82	20	73° 50' 02" Left
	CS	30+79.77	6973788.41	2495479.65							
					SPIRAL	60.00					
	ST	31+39.77	6973830.10	2495622.77							
					STRAIGHT	130.97					
	POE	32+93.40	6973912.95	2495725.39							

NOTES:

1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, U.S. SURVEY FOOT.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 39 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 NB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF NORTHBOUND TRACK

CONTRACT | DWG No. CC5-0012 | REV

Friday, February 28, 2020 01:10:05 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$

DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC5-0013

LINE SECTION WYE-EB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF EASTBOUND TRACK

CURVE NAME	POINT	CHAINAGE	NORTHING	EASTING	ELEMENT	LENGTH	DEGREE OF CURVATURE	Ea	Eu	Passenger Speed	DEFLECTION ANGLE
		(FT)	(FT)	(FT)		(FT)	(D.M.S.)	(IN)	(IN)	(MPH)	
	POB	10+00.00	6973799.53	2494417.79							
					STRAIGHT	30.96					
	PI	10+30.96	6973816.33	2494443.80							
					STRAIGHT	91.30					
	TS	11+22.26	6973875.03	2494513.72							
					SPIRAL	30.00					
	SC	11+52.26	6973894.75	2494536.33							
WYE-A	PI	13+77.02	6974048.75	2494700.03	R = 265.50	373.03	Dc = 21° 34' 49"	0.50	1.01	10	80° 30' 02" Left
	CS	15+25.29	6974235.64	2494575.16							
					SPIRAL	30.00					
	ST	15+55.29	6974259.93	2494557.57							
					STRAIGHT	74.68					
	PI	16+29.96	6974319.58	2494512.64							
					STRAIGHT	30.96					
	POE	16+60.92	6974341.80	2494491.08							

NOTES:

1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, U.S. SURVEY FOOT.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 40 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

WYE-EB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF EASTBOUND TRACK

CONTRACT	DWG No.	REV
	CC5-0013	

DANGLE
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Friday, February 28, 2020 01:10:09 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC5-0014

LINE SECTION WYE-WB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

CURVE NAME	POINT	CHAINAGE (FT)	NORTHING (FT)	EASTING (FT)	ELEMENT	LENGTH (FT)	DEGREE OF CURVATURE (D.M.S.)	Ea (IN)	Eu (IN)	Passenger Speed (MPH)	DEFLECTION ANGLE
	POB	10+00.00	6973812.55	2494409.38							
					STRAIGHT	30.96					
	PI	10+30.96	6973829.35	2494435.39							
					STRAIGHT	91.30					
	TS	11+03.05	6973875.70	2494490.60							
					SPIRAL	30.00					
	SC	11+33.05	6973895.44	2494513.18							
WYE-AA	PI	13+43.19	6974039.96	2494665.74	R = 250.00	349.50	Dc = 22° 55' 06"	0.50	1.10	10	80° 30' 02" Left
	CS	14+82.54	6974215.10	2494549.60							
					SPIRAL	30.00					
	ST	15+12.54	6974239.41	2494532.03							
					STRAIGHT	71.59					
	PI	15+84.13	6974296.60	2494488.96							
					STRAIGHT	30.96					
	POE	16+60.92	6974318.81	2494467.40							

NOTES:

1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, U.S. SURVEY FOOT.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

Friday, February 28, 2020 01:10:22 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE
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REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 41 OF 276

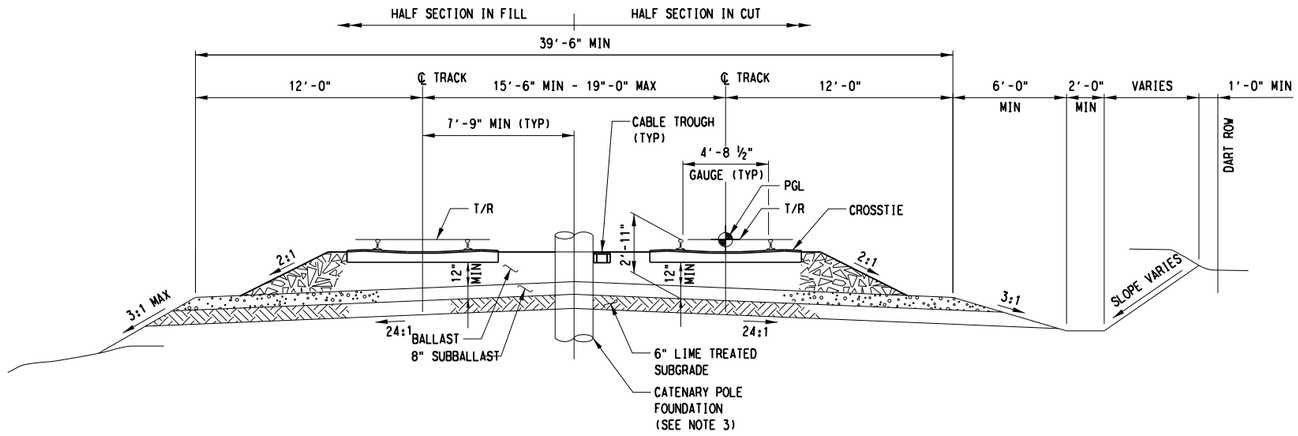
SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

WYE-WB
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

CONTRACT	DWG No.	REV
	CC5-0014	

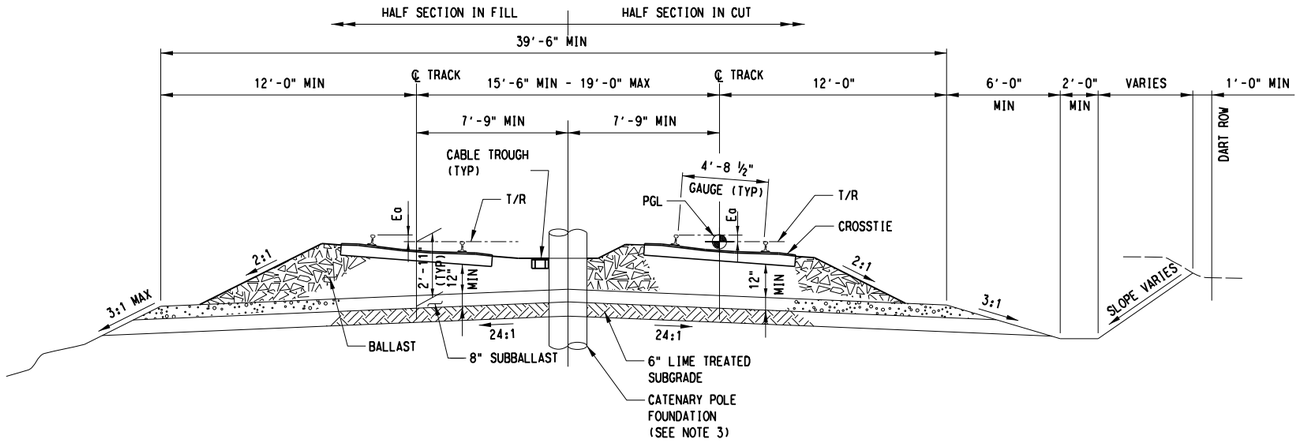
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AT GRADE BALLASTED TANGENT TRACK

NOT TO SCALE

CBD-2 STA 10+00.00 TO CBD-2 STA 13+48.17
SE-1 STA 31+62.42 TO SE-1 STA 32+93.41



AT GRADE BALLASTED SUPERELEVATED TRACK

NOT TO SCALE

CBD-2 STA 13+48.17 TO CBD-2 STA 18+43.38
SE-1 STA 27+82.81 TO SE-1 STA 31+62.42

NOTES:

1. ALL SECTIONS ARE LOOKING UPSTATION. WITH ALL STATIONING BASED ON THE CENTERLINE OF THE EASTBOUND TRACK FOR CBD-2, EASTBOUND TRACK FOR WYE, AND SOUTHBOUND TRACK FOR SE-1, UNLES OTHERWISE NOTED.
2. SEE TRACKWORK STANDARDS FOR DETAILS OF TRACK ELEMENTS. DETAILS ARE PROVIDED FOR FINAL DESIGNER'S/CONTRACTORS' INFORMATION ONLY.
3. CATENARY POLE LOCATION IS TYPICAL AND ONLY SHOWN AS AN ILLUSTRATION. ALL SYSTEM ELEMENTS SHOWN ARE FOR INFORMATION PURPOSES ONLY. SYSTEMS WILL BE DESIGNED AS PART OF THE FINAL DESIGN.
4. IN CURVES AND SPIRALS, THE PGL IS THE TOP OF THE LOW RAIL ON THE INSIDE OF THE CURVE OF THE EASTBOUND AND SOUTHBOUND TRACKS.
5. SEE GUIDEWAY PLAN AND PROFILE SHEETS FOR DETAILS AND LIMITS OF HORIZONTAL AND VERTICAL TRACK GEOMETRY AND WALL LOCATIONS.
6. TOP OF BALLAST SHALL BE EVEN WITH TOP OF TIE. MAINTAIN BALLAST IN CRIBS IN WITH TOP OF TIE SO THAT IT SHALL BE AT LEAST ONE INCH BELOW THE BASE OF THE RAIL. SHOULDER BALLAST SHALL EXTEND A MINIMUM OF 12 INCHES BEYOND END OF TIE. FOR RADIUS LESS THAN 1000 FEET, EXTEND BALLAST A MINIMUM OF 18 INCHES BEYOND END OF TIE ON THE OUTSIDE OF TRACK.
7. THE SUBBALLAST SHOULDER SHALL BE A MINIMUM OF 2 FEET.
8. SEE TUNNEL SHEETS FOR TUNNEL, CUT AND COVER AND PORTAL TYPICAL SECTIONS.
9. SEE ARCHITECTURAL SHEETS FOR SECTIONS THROUGH STATIONS.
10. PROPOSED FENCE AS SHOWN ON PLANS. MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10'.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 42 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

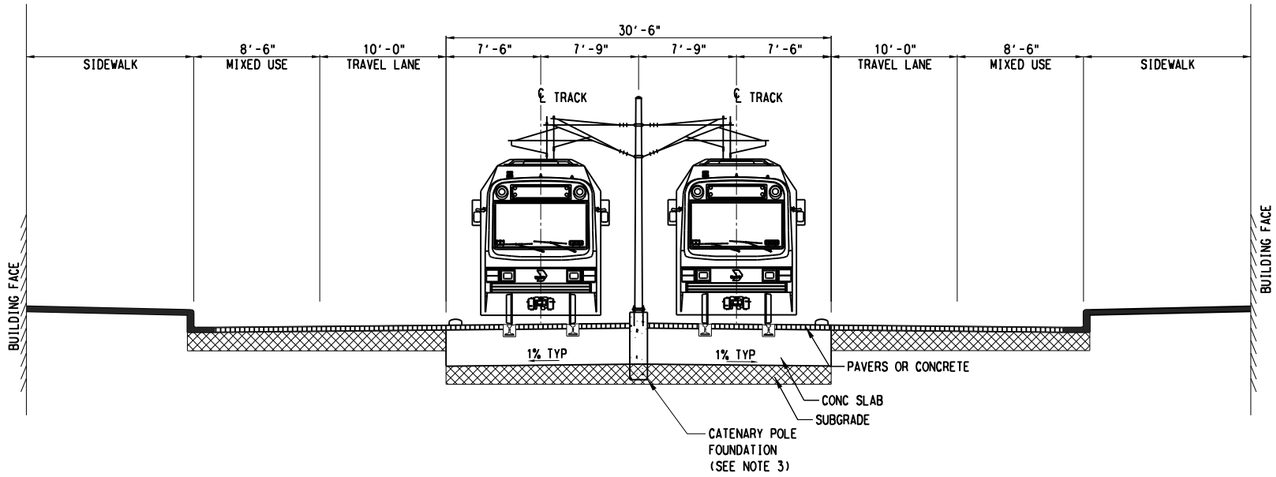
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY
TYPICAL SECTIONS
SHEET 1 OF 2

CONTRACT	DWG No.	REV
	CC6-0001	

Friday, February 28, 2020 01:10:41 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$

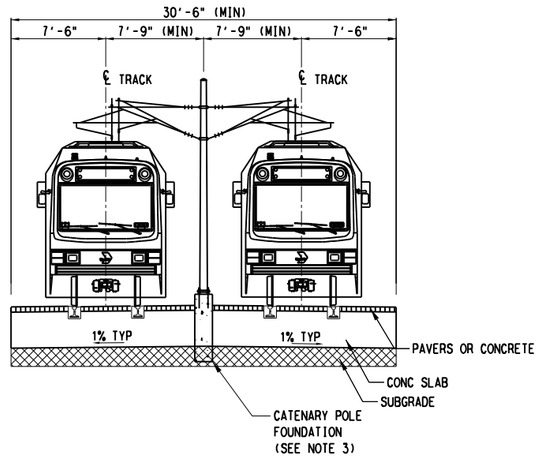
DWG No. CC6-0002



AT GRADE EMBEDDED TRACK - MUSEUM WAY

NOT TO SCALE

CBD-2 STA 18+43.38 TO CBD-2 STA 24+79.66



AT GRADE EMBEDDED TRACK

NOT TO SCALE

CBD-2 STA 24+79.66 TO CBD-2 STA 35+30.00
CBD-2 STA 107+66.73 TO CBD-2 STA 115+11.59
SE-1 STA 9+62.00 TO SE-1 STA 27+82.81
WYE STA 10+00.00 TO SE-1 STA 16+15.09

NOTES:

1. ALL SECTIONS ARE LOOKING UPSTATION. WITH ALL STATIONING BASED ON THE CENTERLINE OF THE EASTBOUND TRACK FOR CBD2 AND SOUTHBOUND TRACK FOR SE-1, UNLES OTHERWISE NOTED.
2. SEE TRACKWORK STANDARDS FOR DETAILS OF TRACK ELEMENTS. DETAILS ARE PROVIDED FOR FINAL DESIGNER'S/CONTRACTORS' INFORMATION ONLY.
3. CATENARY POLE LOCATION IS TYPICAL AND ONLY SHOWN AS AN ILLUSTRATION. ALL SYSTEM ELEMENTS SHOWN ARE FOR INFORMATION PURPOSES ONLY. SYSTEMS WILL BE DESIGNED AS PART OF THE FINAL DESIGN.
4. IN CURVES AND SPIRALS, THE PGL IS THE TOP OF THE LOW RAIL ON THE INSIDE OF THE CURVE OF THE EASTBOUND AND SOUTHBOUND TRACKS.
5. SEE GUIDEWAY PLAN AND PROFILE SHEETS FOR DETAILS AND LIMITS OF HORIZONTAL AND VERTICAL TRACK GEOMETRY AND WALL LOCATIONS.
6. SEE TUNNEL SHEETS FOR TUNNEL, CUT AND COVER AND PORTAL TYPICAL SECTIONS.
7. SEE ARCHITECTURAL SHEETS FOR SECTIONS THROUGH STATIONS.
8. PROPOSED FENCE AS SHOWN ON PLANS. MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10'.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 43 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	NO SCALE
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY
TYPICAL SECTIONS
SHEET 2 OF 2

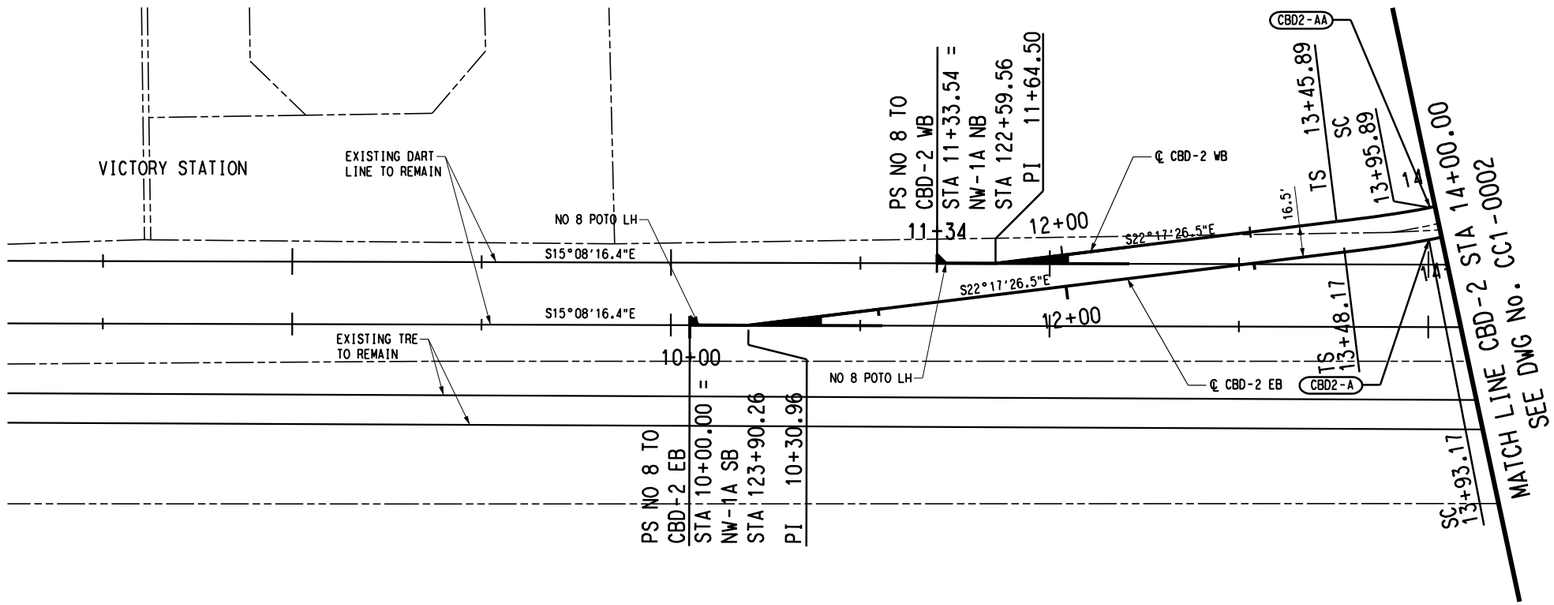
CONTRACT | DWG No. CC6-0002 | REV

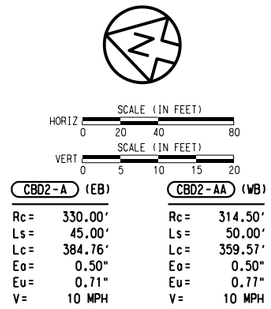
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DANGLE

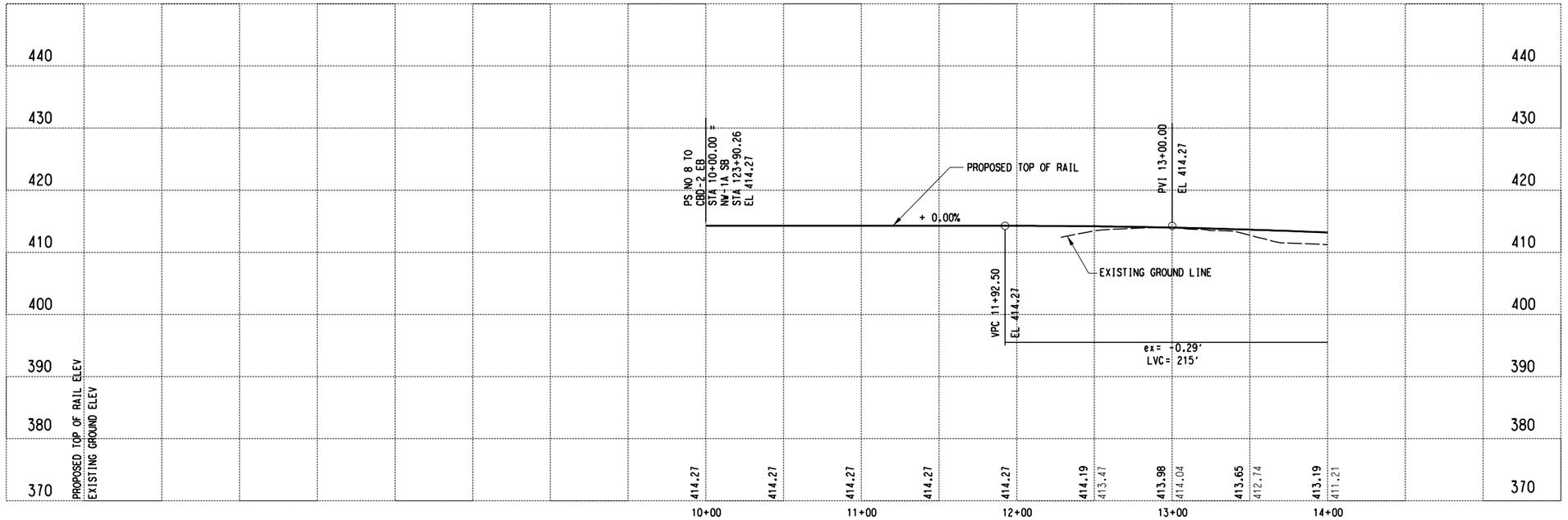
$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC1-0001





CBD2-A (EB)		CBD2-AA (WB)	
Rc=	330.00'	Rc=	314.50'
Ls=	45.00'	Ls=	50.00'
Lc=	384.76'	Lc=	359.57'
Eo=	0.50"	Eo=	0.50"
Eu=	0.71"	Eu=	0.77"
V=	10 MPH	V=	10 MPH



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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 44 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
BEGIN PROJECT TO STA 14+00.00

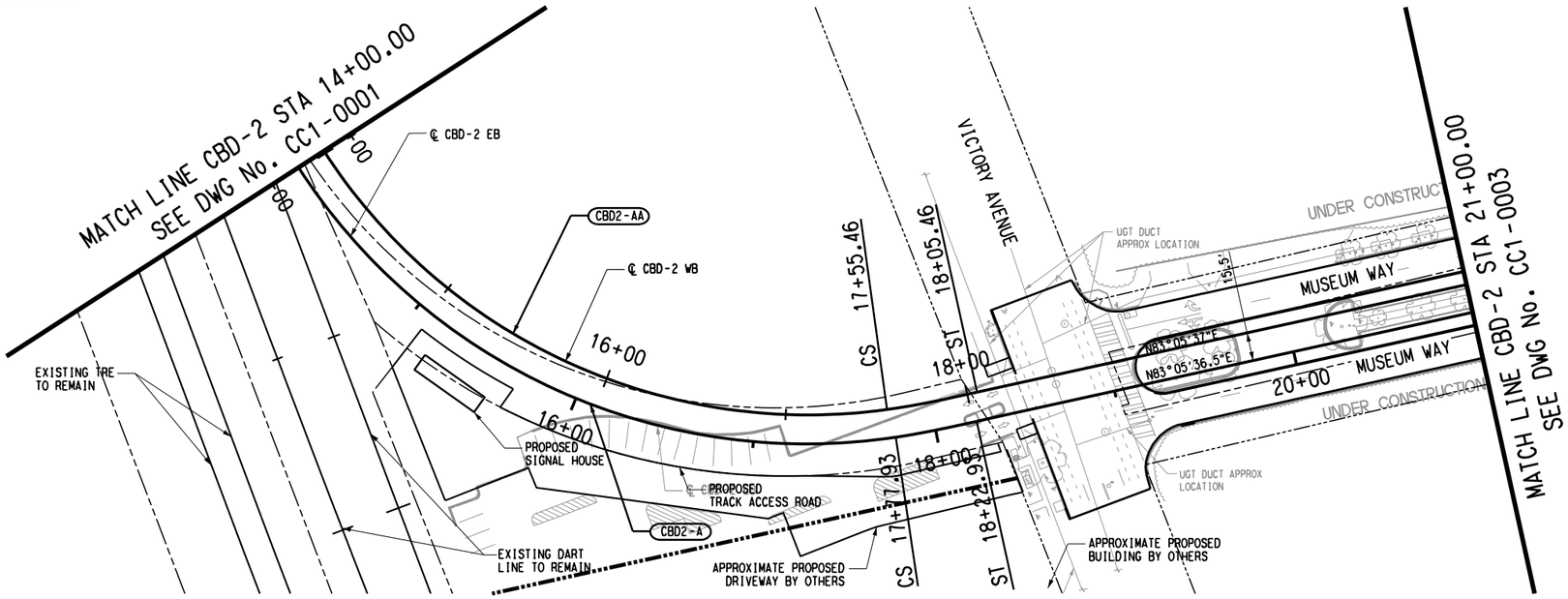
CONTRACT | DWG No. CC1-0001 | REV

Friday, February 28, 2020 01:11:01 PM
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DANGLE

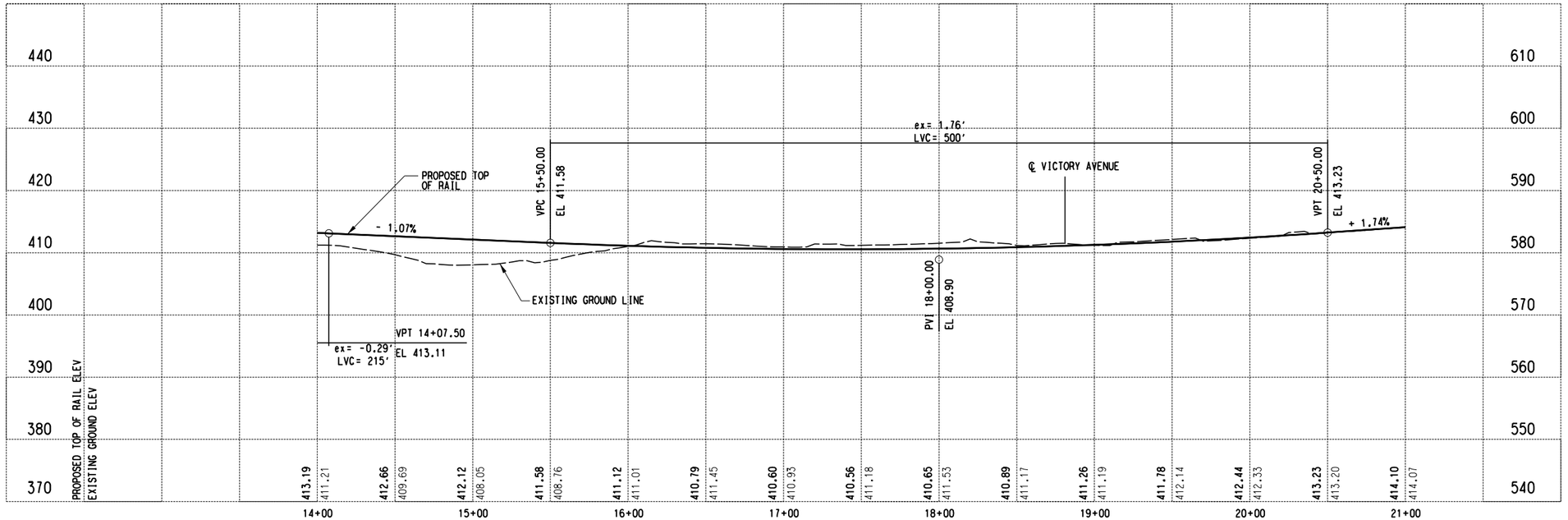
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0002



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

CBD2-A (EB)		CBD2-AA (WB)	
Rc=	330.00'	Rc=	314.50'
Ls=	45.00'	Ls=	50.00'
Lc=	384.76'	Lc=	359.57'
Eo=	0.50"	Eo=	0.50"
Eu=	0.71"	Eu=	0.77"
V=	10 MPH	V=	10 MPH



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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 45 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 14+00.00 TO STA 21+00.00

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

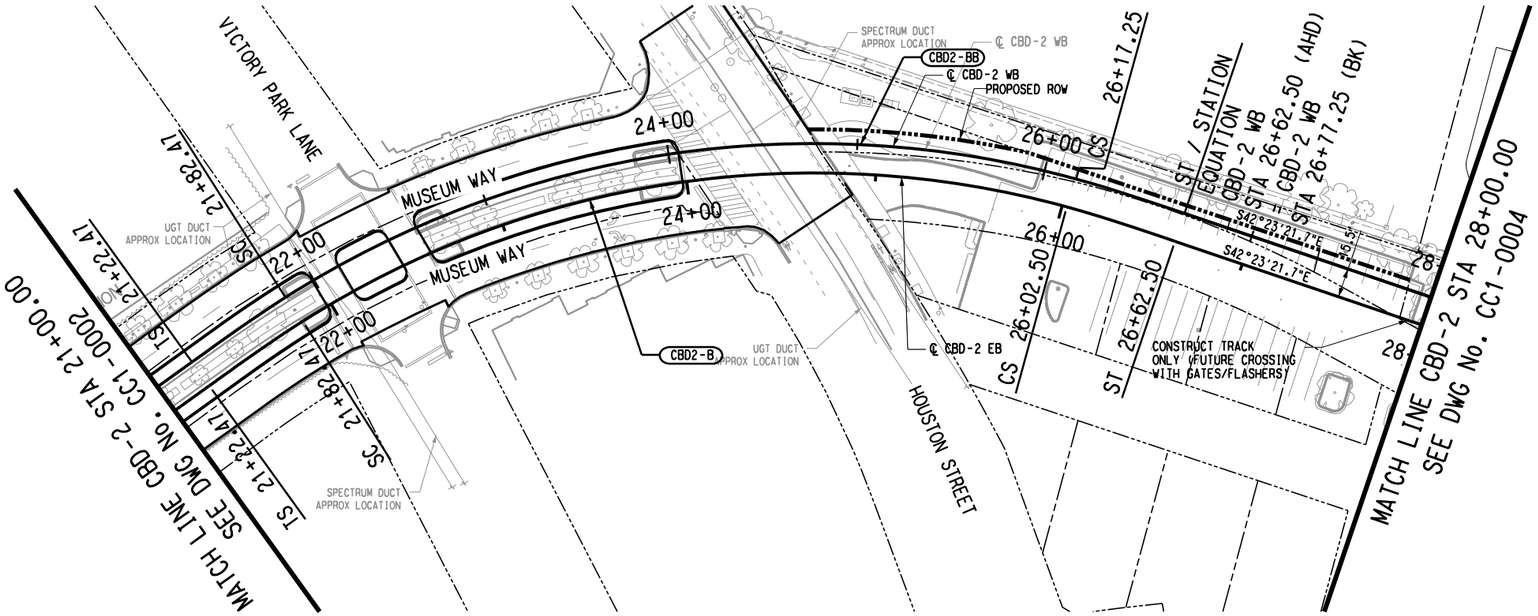
CONTRACT | DWG No. CC1-0002 | REV

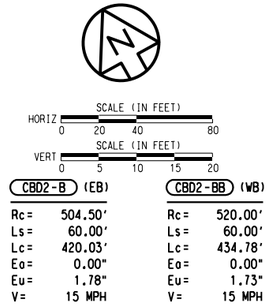
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DANGLE

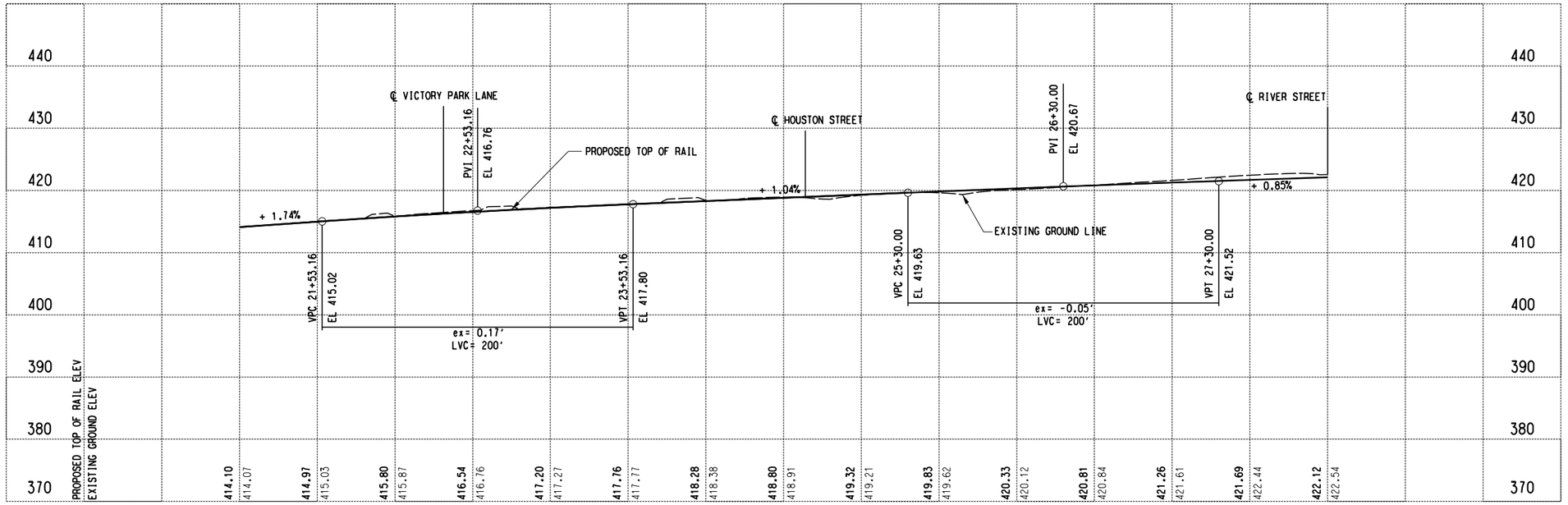
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DWG No. CC1-0003





CBD2-B (EB)		CBD2-BB (WB)	
Rc=	504.50'	Rc=	520.00'
Ls=	60.00'	Ls=	60.00'
Lc=	420.03'	Lc=	434.78'
Eo=	0.00"	Eo=	0.00"
Eu=	1.78"	Eu=	1.73"
V=	15 MPH	V=	15 MPH



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CONTRACT SHEET No. 46 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 21+00.00 TO STA 28+00.00

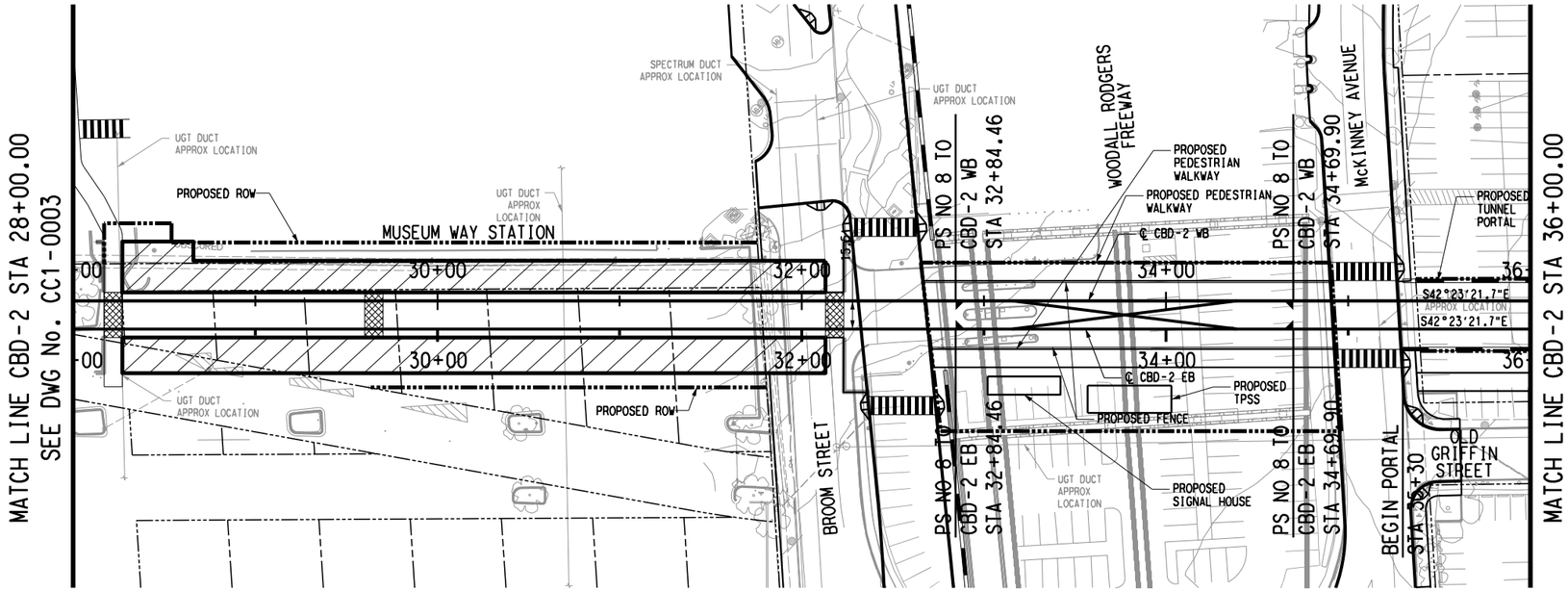
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	CC1-0003	

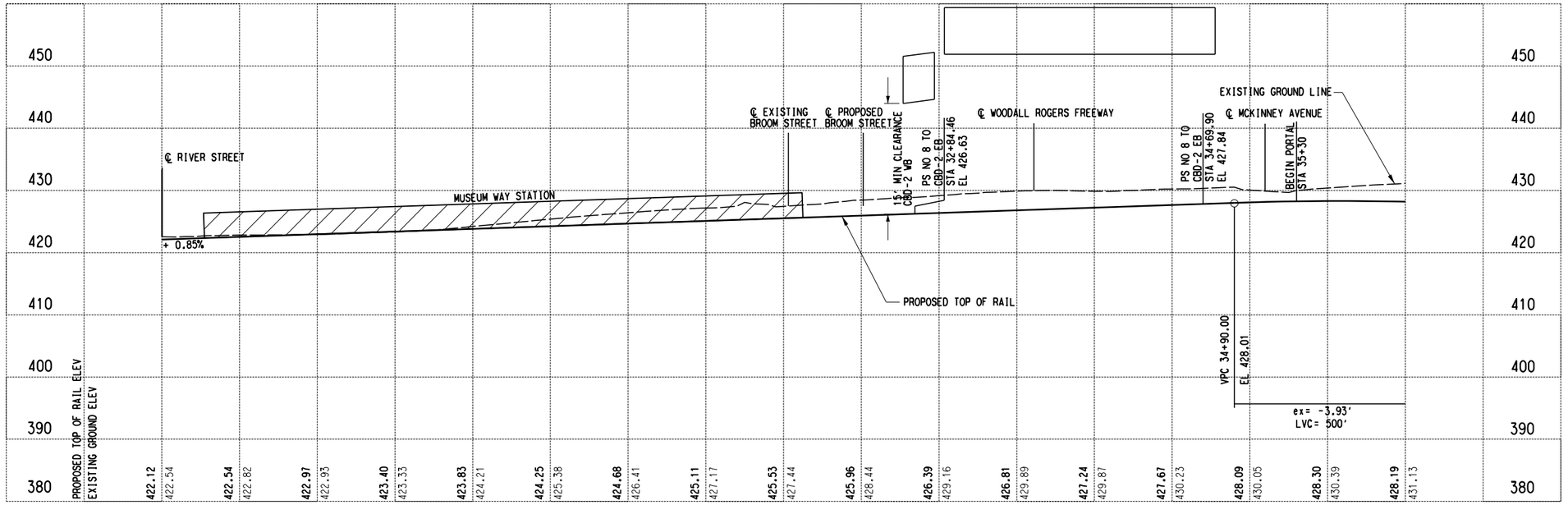
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DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0004





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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 47 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 28+00.00 TO STA 36+00.00

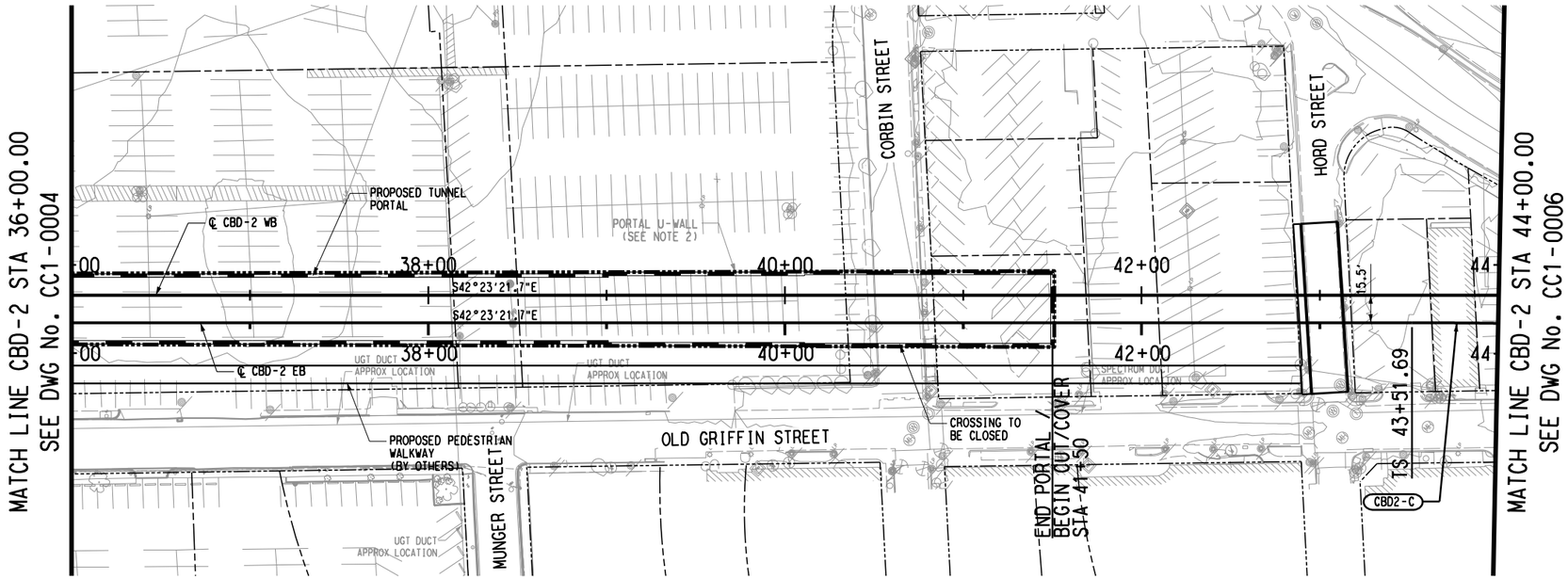
CONTRACT	DWG No.	REV
	CC1-0004	

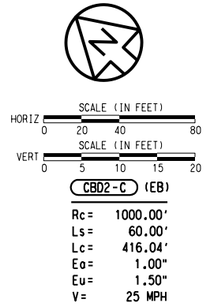
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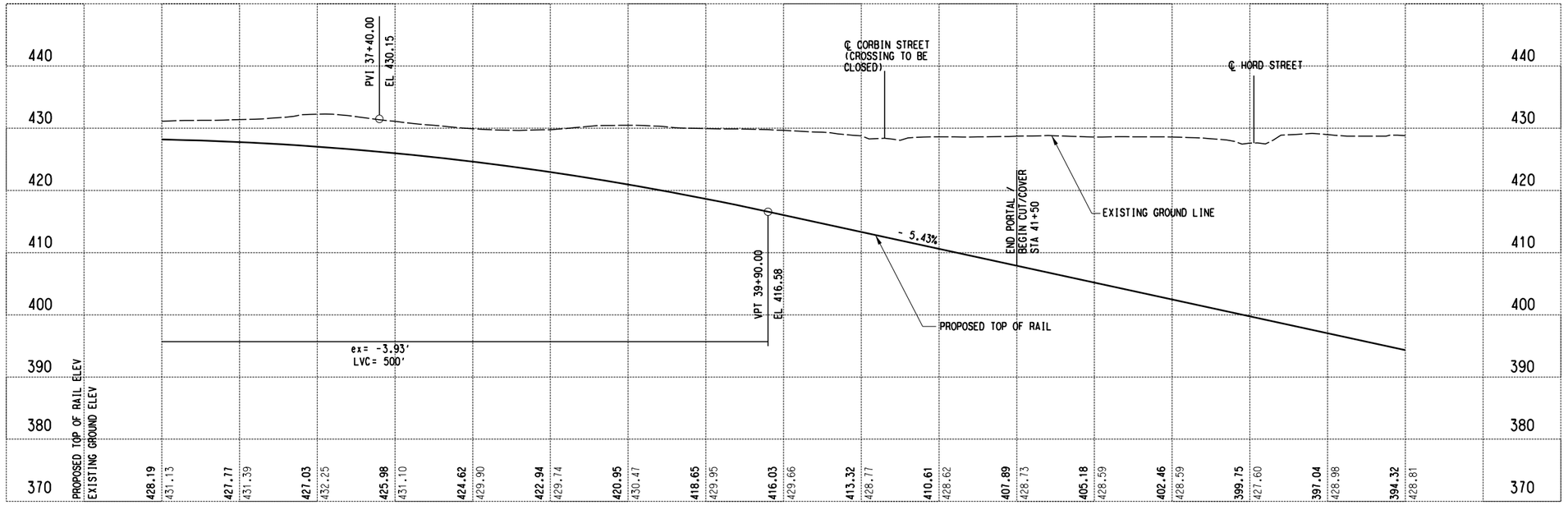
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$

DWG No. CC1-0005







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PRELIMINARY 20% DESIGN

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

CONTRACT SHEET No. 48 OF 276

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 36+00.00 TO STA 44+00.00

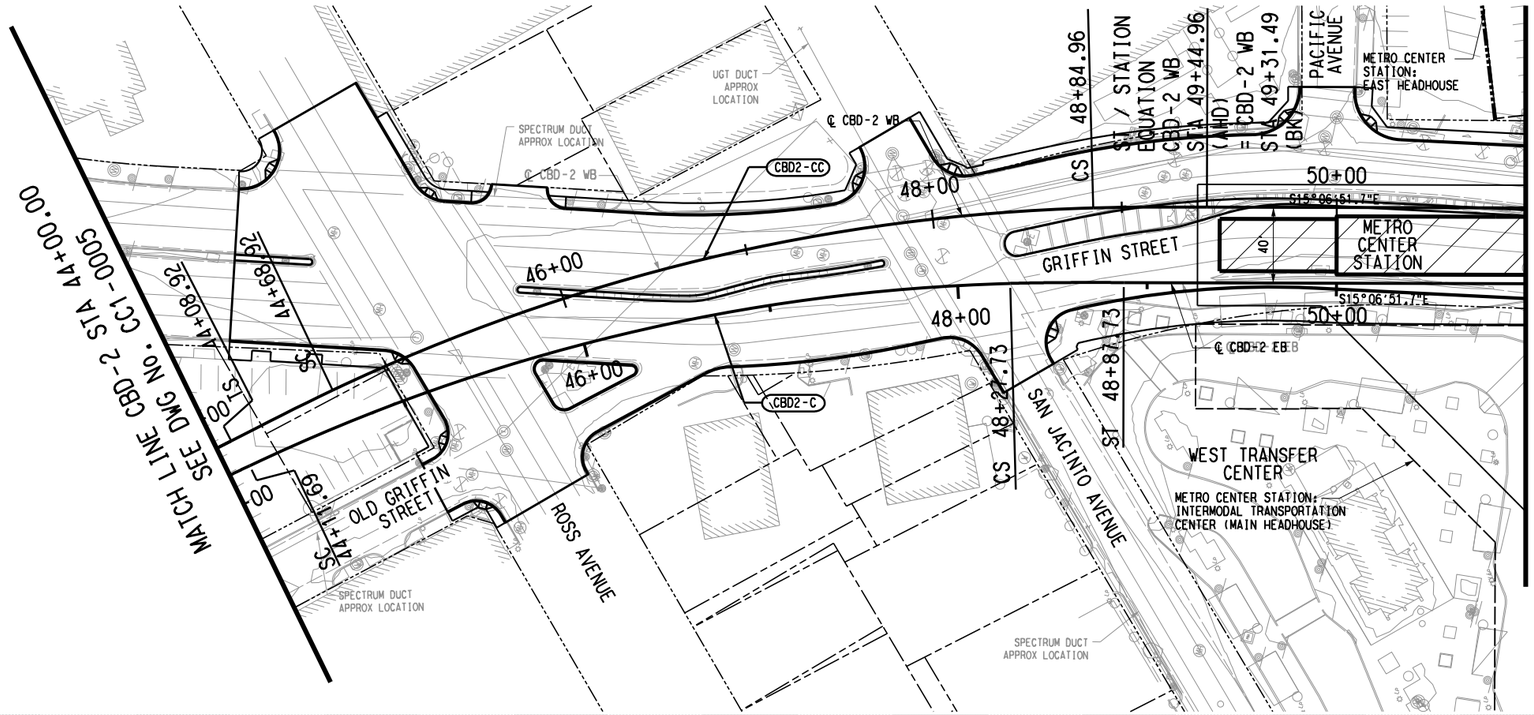
CONTRACT	DWG No.	REV
	CC1-0005	

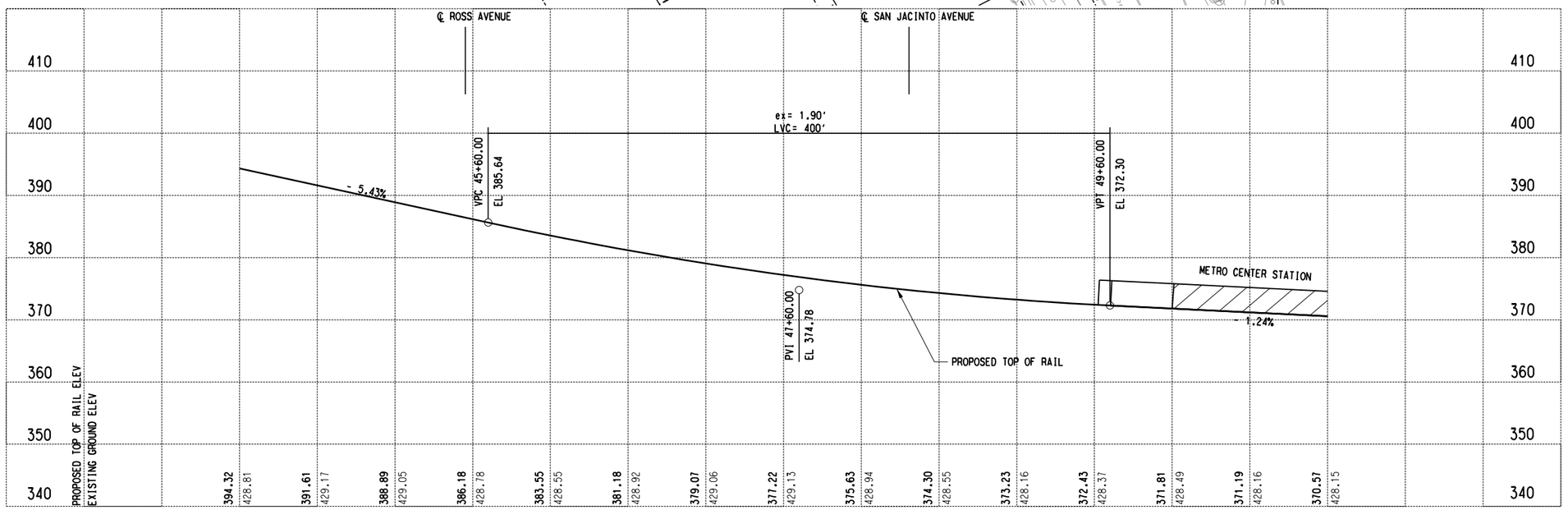
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$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0006





HORIZ SCALE (IN FEET) 0 20 40 80
VERT SCALE (IN FEET) 0 5 10 15 20

CBD2-C (EB)		CBD2-CC (WB)	
Rc=	1000.00'	Rc=	1000.00'
Ls=	60.00'	Ls=	60.00'
Lc=	416.04'	Lc=	416.04'
Eo=	1.00"	Eo=	1.00"
Eu=	1.50"	Eu=	1.50"
V=	25 MPH	V=	25 MPH

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 49 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

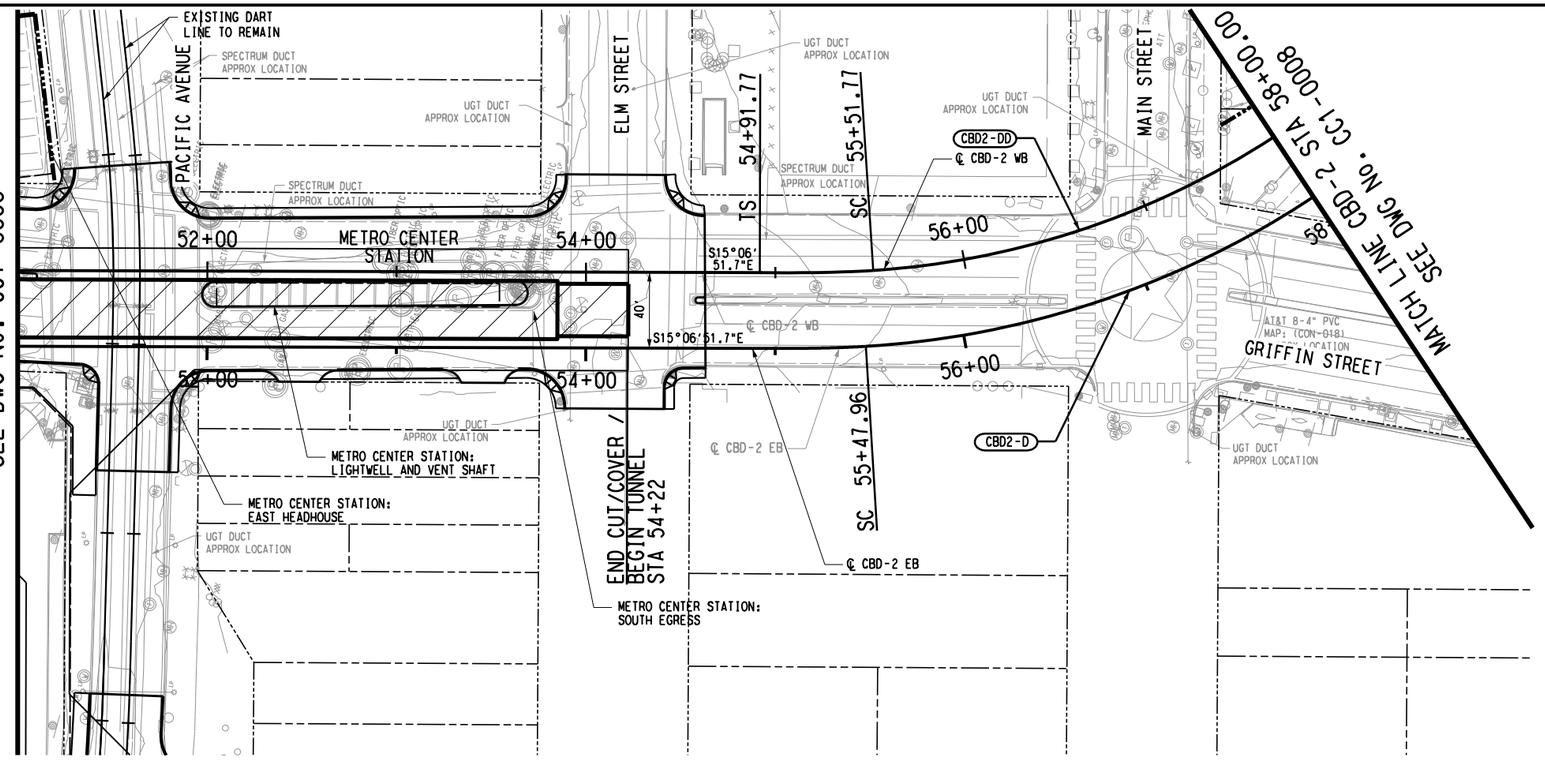
GUIDEWAY PLAN AND PROFILE
STA 44+00.00 TO STA 51+00.00

CONTRACT | DWG No. CC1-0006 | REV

Friday, February 28, 2020 01:11:45 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$

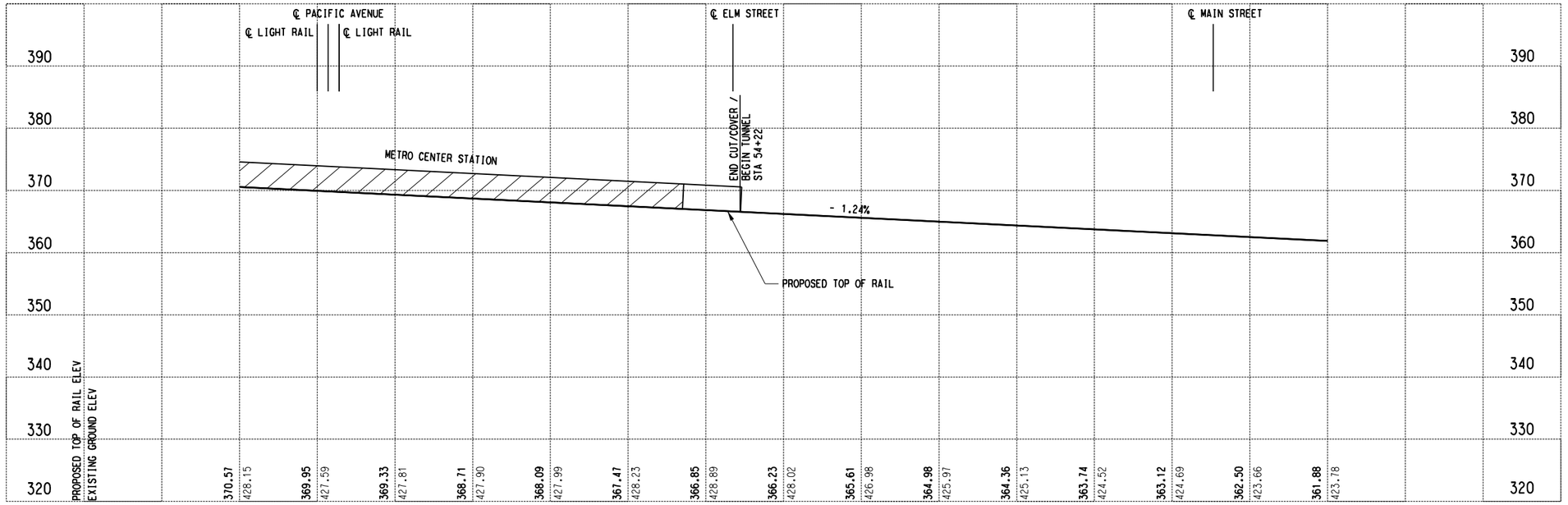
DWG No. CC1-0007

MATCH LINE CBD-2 STA 51+00.00
SEE DWG No. CC1-0006



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

CBD2-D (EB)		CBD2-DD (WB)	
Rc=	480.00'	Rc=	440.00'
Ls=	60.00'	Ls=	60.00'
Lc=	701.00'	Lc=	637.58'
Eo=	1.00"	Eo=	1.00"
Eu=	0.88"	Eu=	1.05"
V=	15 MPH	V=	15 MPH



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 50 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
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TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 51+00.00 TO STA 58+00.00

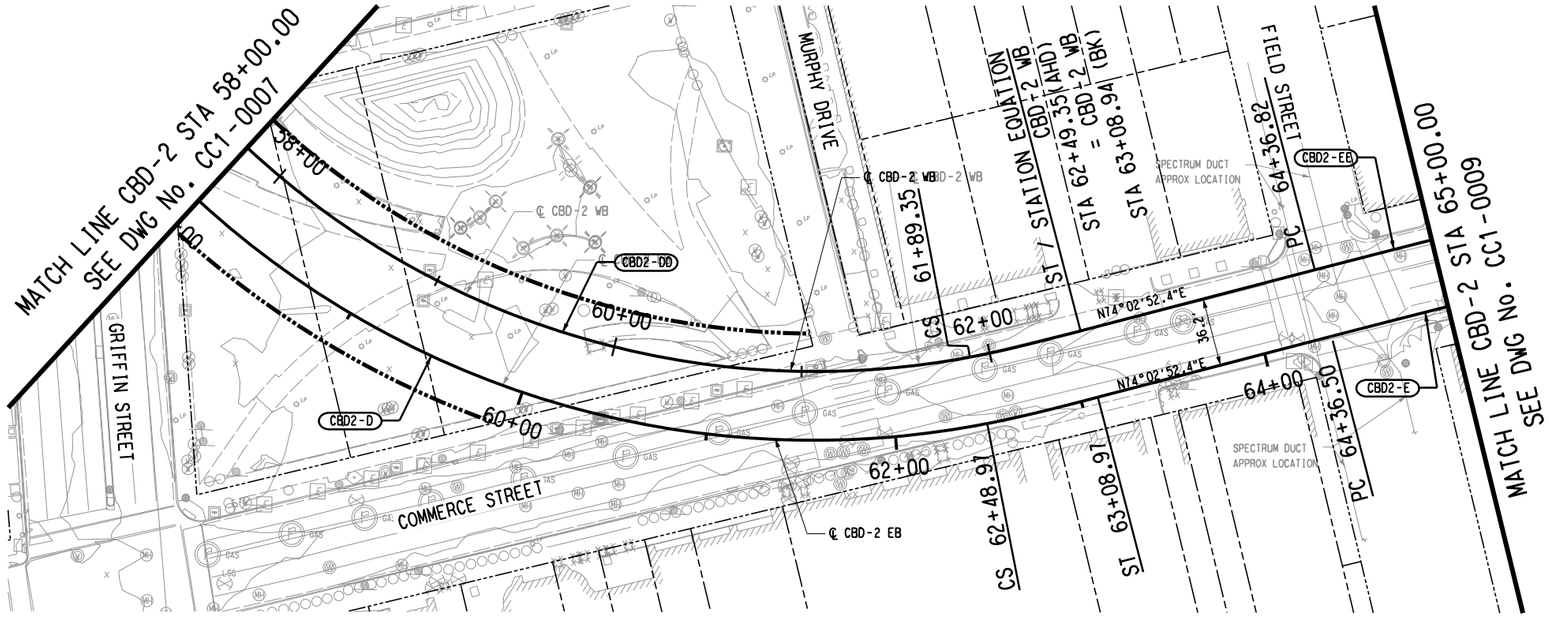
CONTRACT | DWG No. CC1-0007 | REV

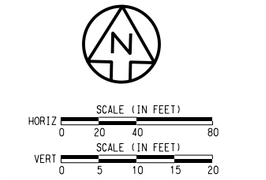
Friday, February 28, 2020 01:12:00 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

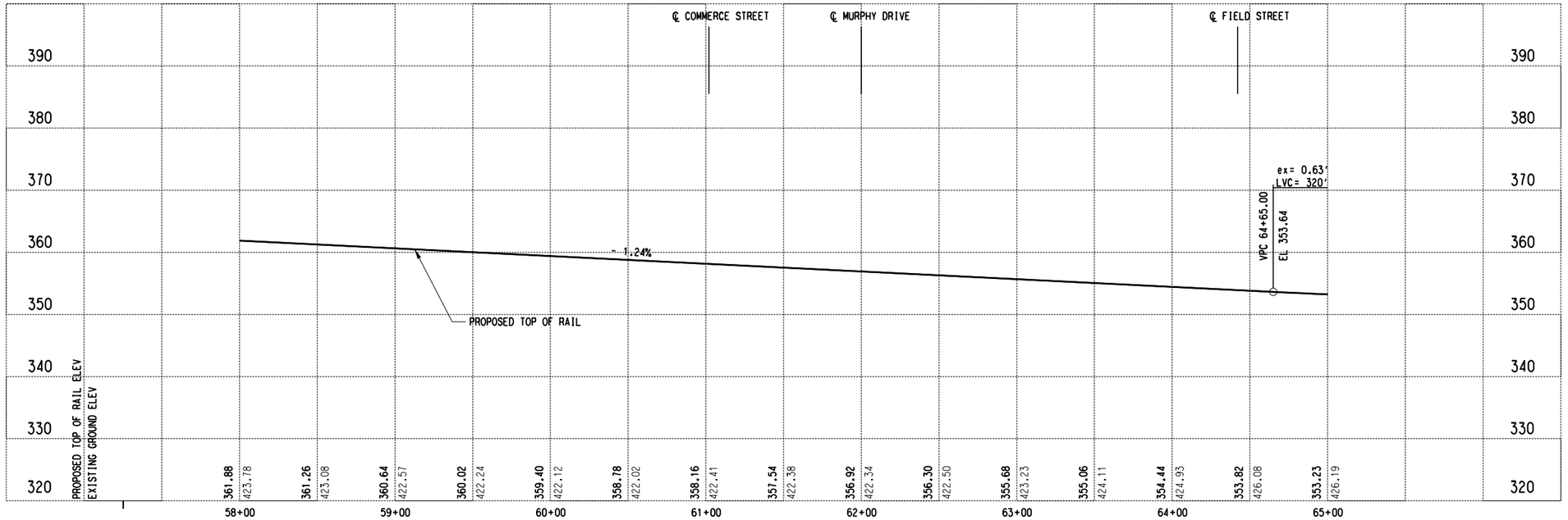
DWG No. CC1-0008





CBD2-D (EB)		CBD2-DD (WB)	
Rc=	480.00'	Rc=	440.00'
Ls=	60.00'	Ls=	60.00'
Lc=	701.00'	Lc=	637.58'
Eo=	1.00"	Eo=	1.00"
Eu=	0.88"	Eu=	1.05"
V=	15 MPH	V=	15 MPH

CBD2-E (EB)		CBD2-EE (WB)	
Rc=	11000.00'	Rc=	11036.17'
Ls=	0.00'	Ls=	0.00'
Lc=	191.99'	Lc=	192.62'
Eo=	0.00"	Eo=	0.00"
Eu=	0.15"	Eu=	0.14"
V=	20 MPH	V=	20 MPH



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 51 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 58+00.00 TO STA 65+00.00

CONTRACT | DWG No. CC1-0008 | REV

Friday, February 28, 2020 01:12:07 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0009

MATCH LINE CBD-2 STA 65+00.00
SEE DWG No. CC1-0008

MATCH LINE CBD-2 STA 73+00.00
SEE DWG No. CC1-0010

PT / STATION EQUATION
CBD-2 WB STA 66+28.18 (AHD)
= CBD-2 WB STA 66+28.81 (BK)

PT 66+28.49

AKARD STREET

COMMERCE STREET

BROWDER STREET

COMMERCE STATION

N75°02'52.4"E

36.2'

℄ CBD-2 WB

℄ CBD-2 EB

CBD2-EE

CBD2-E

COMMERCE STATION:
MAIN HEADHOUSE

COMMERCE STATION:
HVAC VENT SHAFT

COMMERCE STATION:
WEST EGRESS

COMMERCE STATION:
VENT SHAFT

UGT DUCT
APPROX LOCATION

SPECTRUM DUCT
APPROX LOCATION

66+00 68+00 70+00 72+00

SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

CBD2-E (EB)		CBD2-EE (WB)	
Rc=	11000.00'	Rc=	11036.17'
Ls=	0.00'	Ls=	0.00'
Lc=	191.99'	Lc=	192.62'
Eo=	0.00"	Eo=	0.00"
Eu=	0.15"	Eu=	0.14"
V=	20 MPH	V=	20 MPH

℄ AKARD STREET

℄ BROWDER STREET

ex = 0.63'
LVC = 320'

VPT 67+85.00
EL 352.20

PVI 66+25.00
EL 351.65

+ 0.34%

PROPOSED TOP OF RAIL

COMMERCE STATION

610 600 590 580 570 560 550 540

	65+00	66+00	67+00	68+00	69+00	70+00	71+00	72+00	73+00
PROPOSED TOP OF RAIL ELEV	353.23	352.76	352.41	352.19	352.09	352.11	352.25	352.42	352.60
EXISTING GROUND ELEV	426.19	426.87	427.56	428.36	429.21	430.00	430.64	430.95	431.02
	352.77	352.94	353.11	353.28	353.45	353.62	353.80	353.97	
	431.26	431.57	431.88	432.13	432.27	432.27	432.34	432.49	

NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 52 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 65+00.00 TO STA 73+00.00

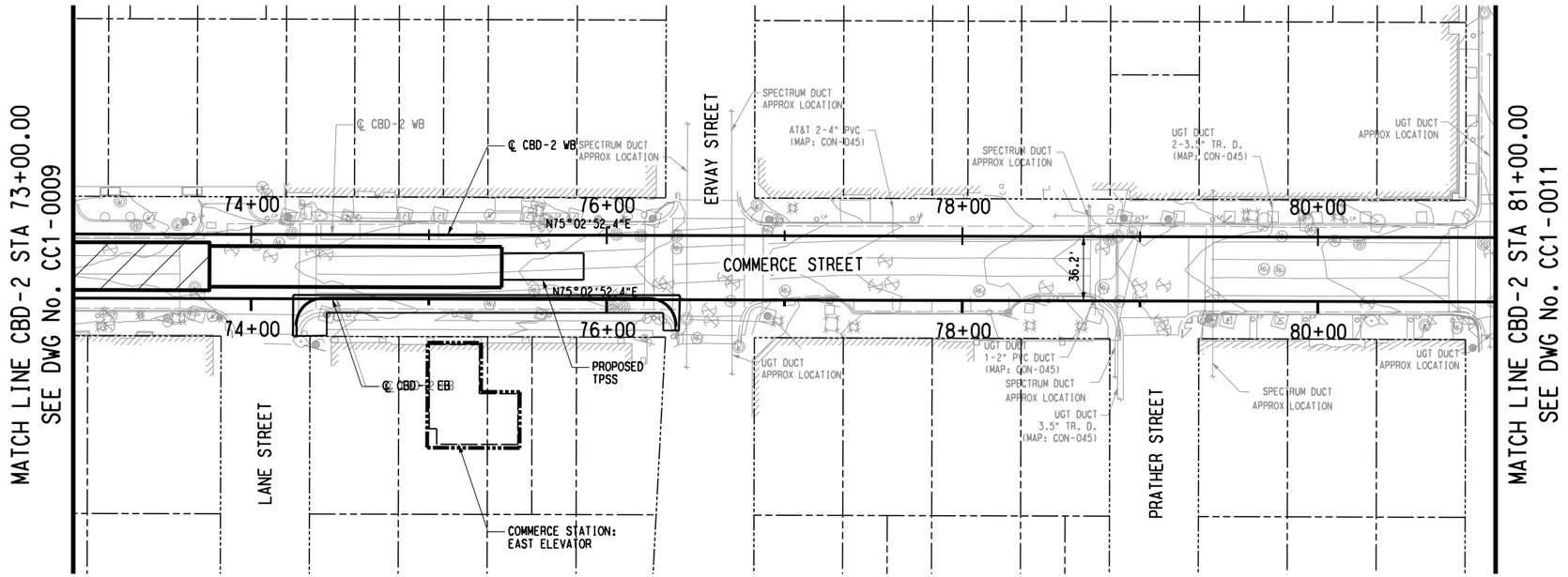
CONTRACT | DWG No. CC1-0009 | REV

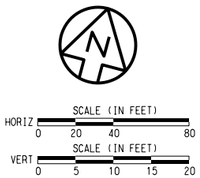
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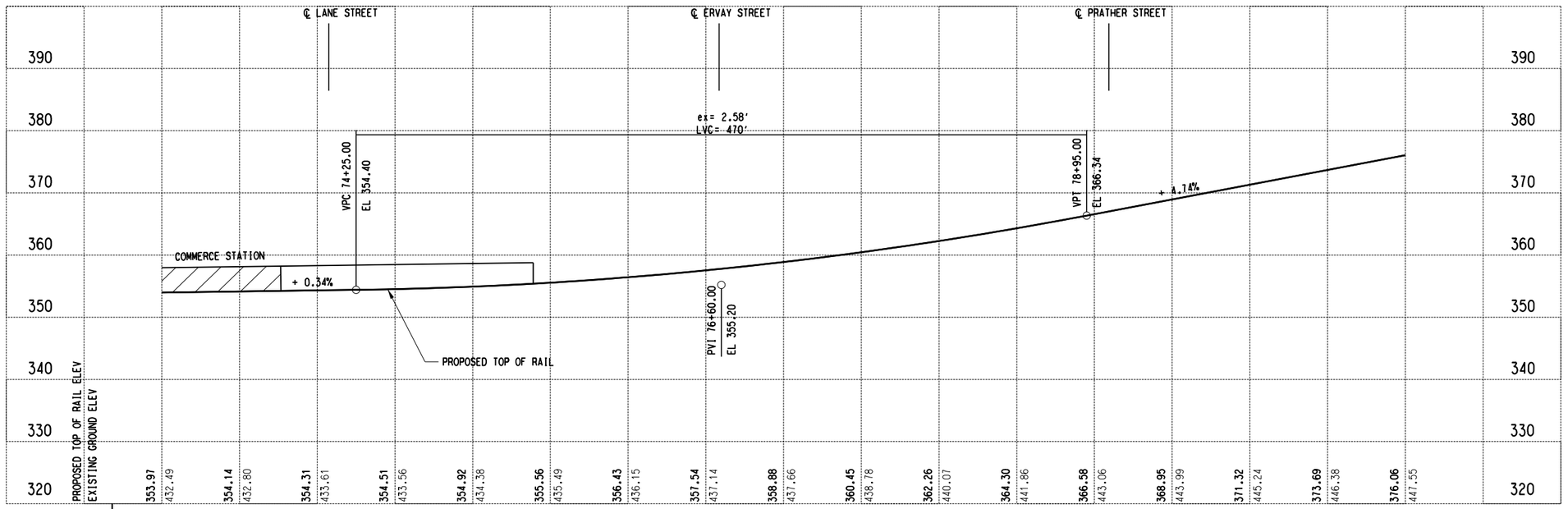
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0010







NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 53 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 73+00.00 TO STA 81+00.00

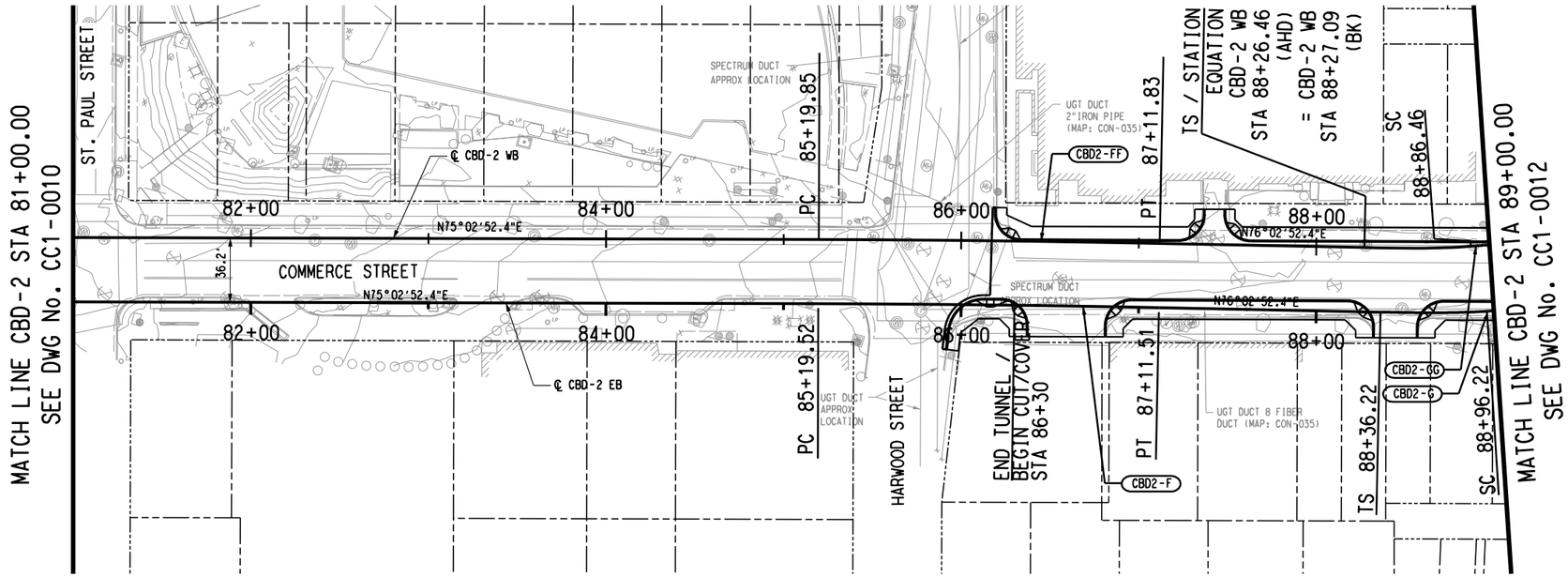
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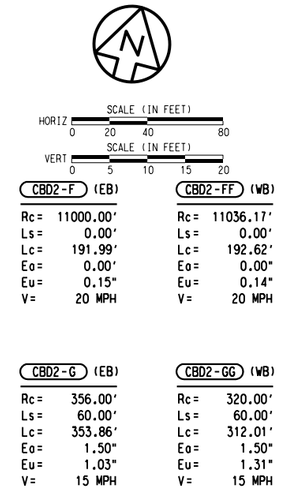
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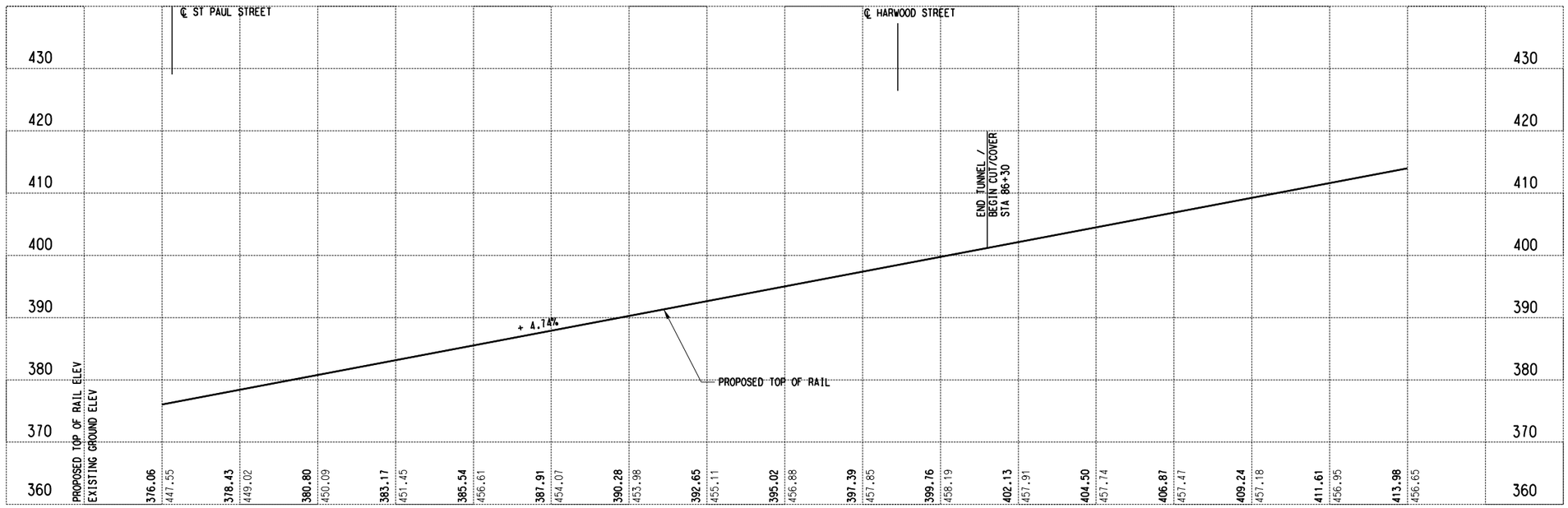
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0011







NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 54 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
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TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 81+00.00 TO STA 89+00.00

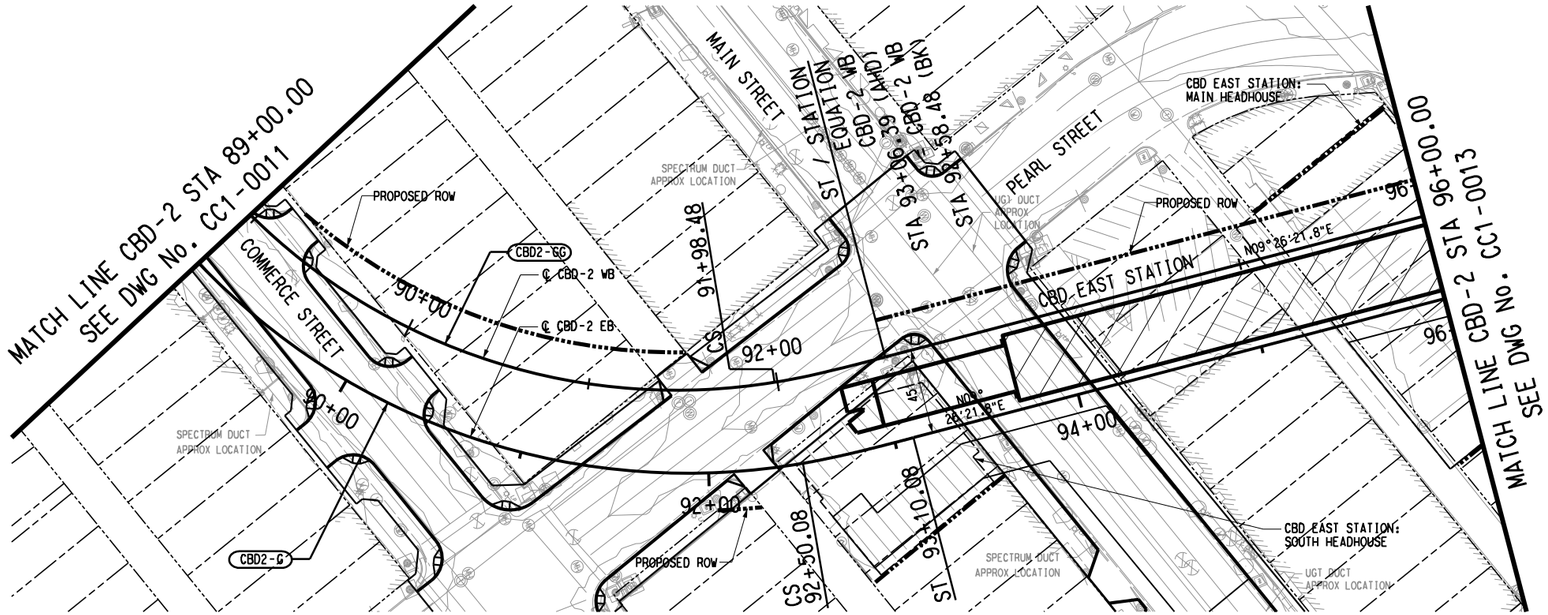
CONTRACT | DWG No. CC1-0011 | REV

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DANGLE

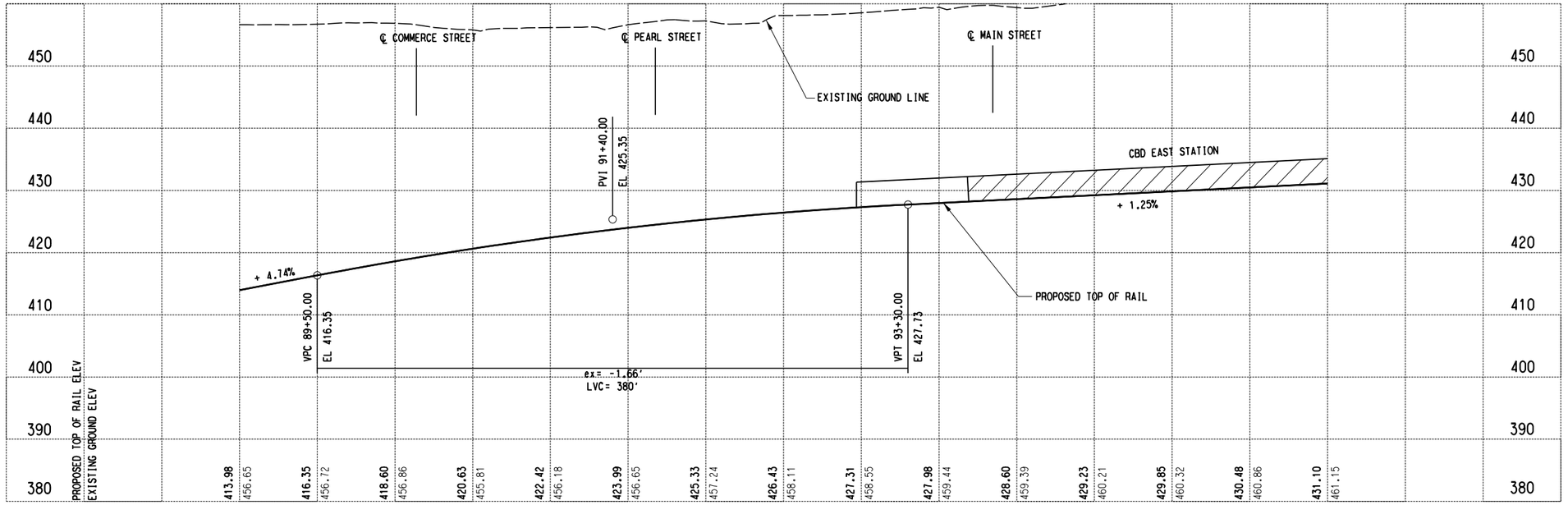
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0012



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

CBD2-G (EB)		CBD2-GG (WB)	
Rc=	356.00'	Rc=	320.00'
Ls=	60.00'	Ls=	60.00'
Lc=	353.86'	Lc=	312.01'
Eo=	1.50"	Eo=	1.50"
Eu=	1.03"	Eu=	1.31"
V=	15 MPH	V=	15 MPH



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 55 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 89+00.00 TO STA 96+00.00

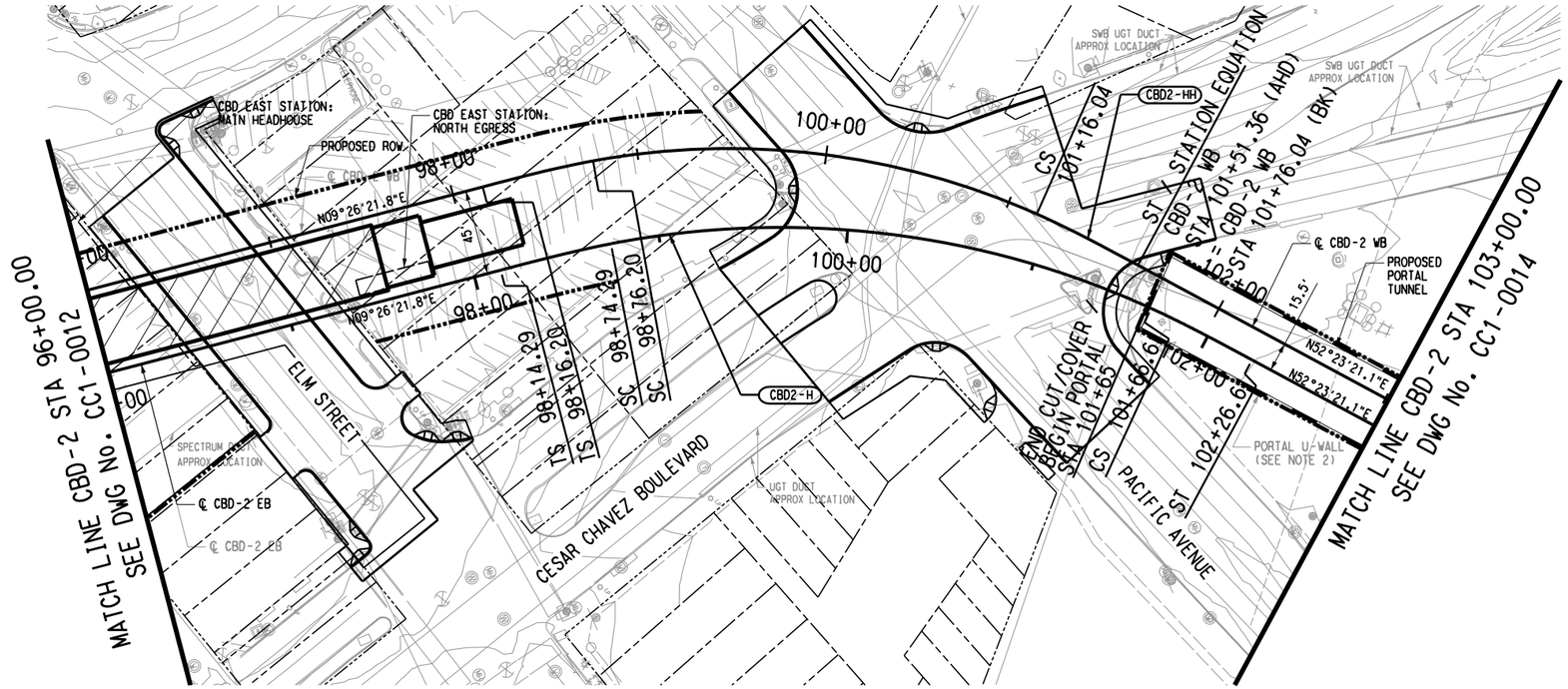
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DANGLE

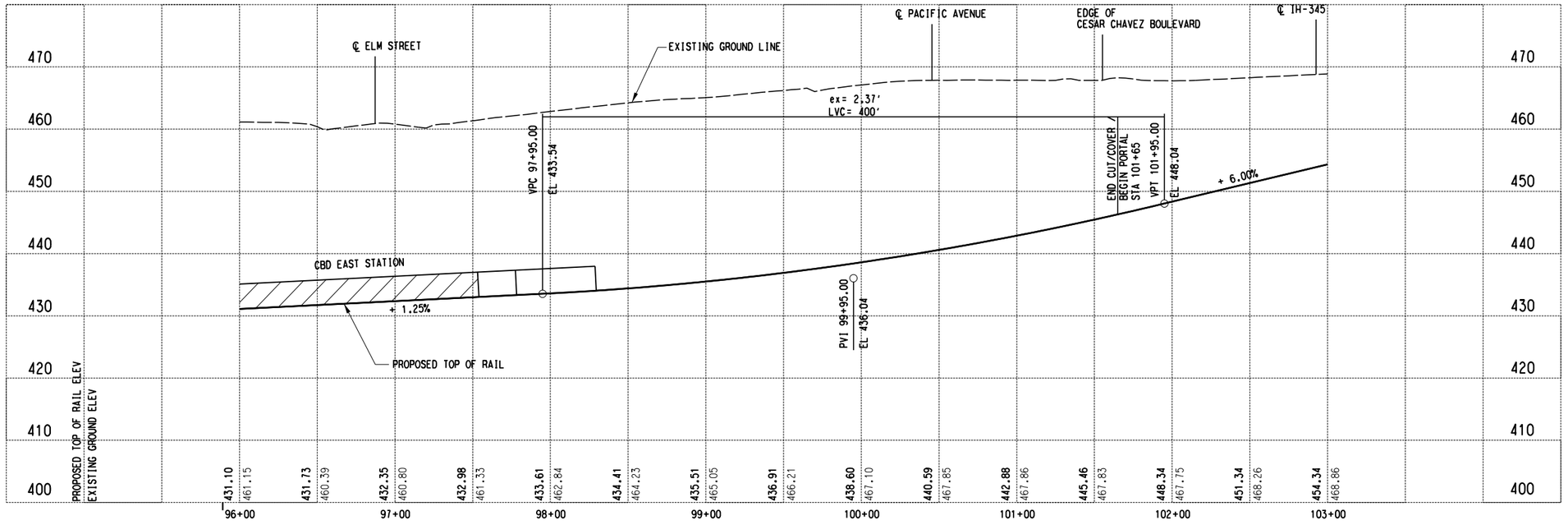
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0013



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

CBD2-H (EB)		CBD2-HH (WB)	
Rc=	470.00'	Rc=	400.00'
Ls=	60.00'	Ls=	60.00'
Lc=	292.32'	Lc=	239.85'
Eo=	1.75"	Eo=	1.00"
Eu=	1.65"	Eu=	1.25"
V=	20 MPH	V=	15 MPH



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 56 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 96+00.00 TO STA 103+00.00

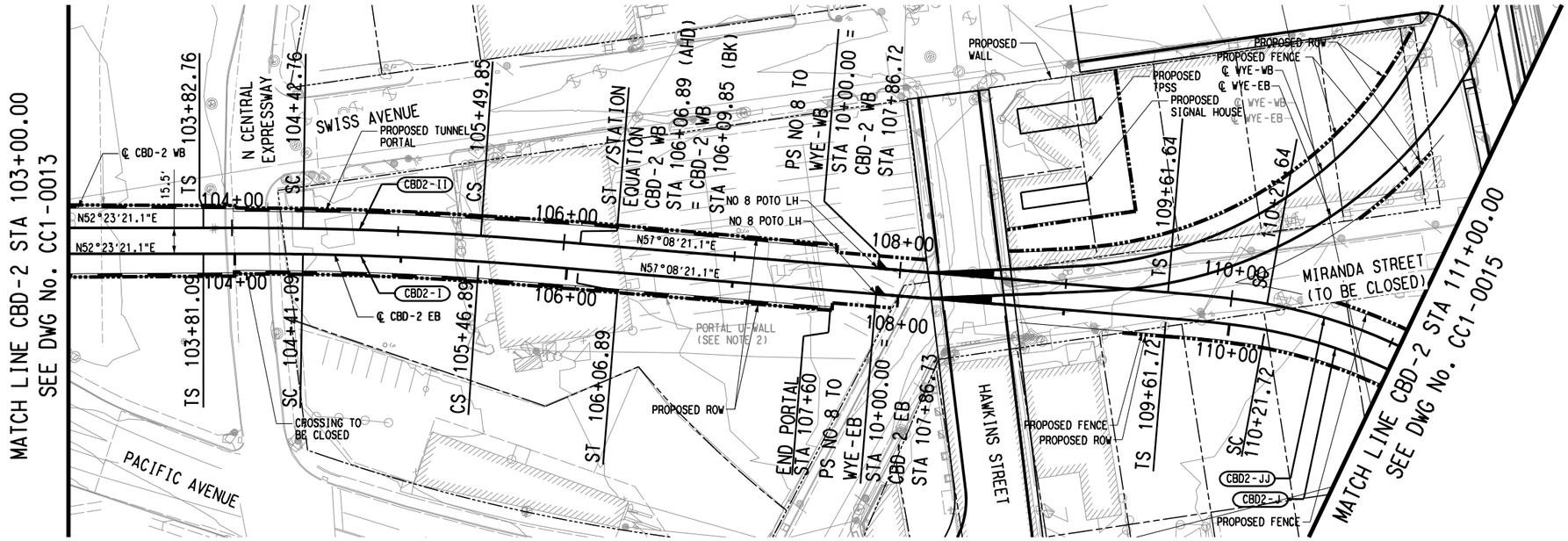
CONTRACT | DWG No. CC1-0013 | REV

Friday, February 28, 2020 01:13:16 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

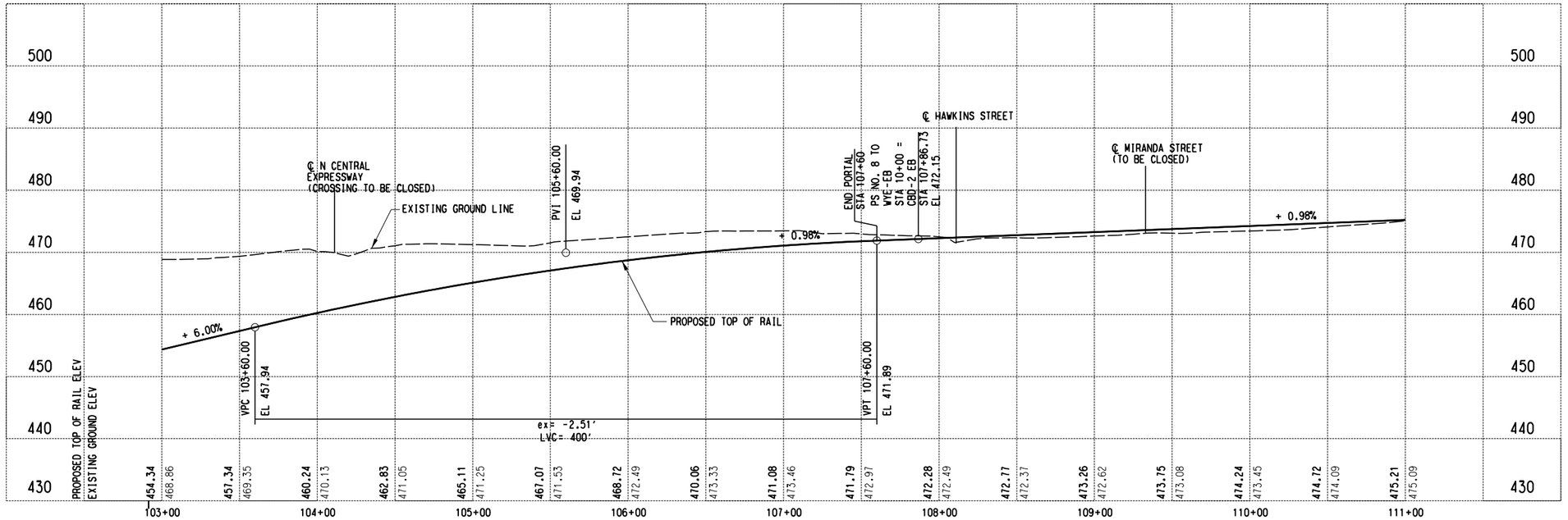
DWG No. CC1-0014



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

CBD2-I (EB)		CBD2-II (WB)	
Rc=	2000.00'	Rc=	2015.50'
Ls=	60.00'	Ls=	60.00'
Lc=	105.81'	Lc=	107.09'
Eo=	0.50"	Eo=	0.50"
Eu=	0.75"	Eu=	0.74"
V=	25 MPH	V=	25 MPH

CBD2-J (EB)		CBD2-JJ (WB)	
Rc=	300.00'	Rc=	315.50'
Ls=	60.00'	Ls=	60.00'
Lc=	281.00'	Lc=	298.62'
Eo=	1.50"	Eo=	1.50"
Eu=	1.50"	Eu=	1.35"
V=	15 MPH	V=	15 MPH



NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 57 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 103+00.00 TO STA 111+00.00

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

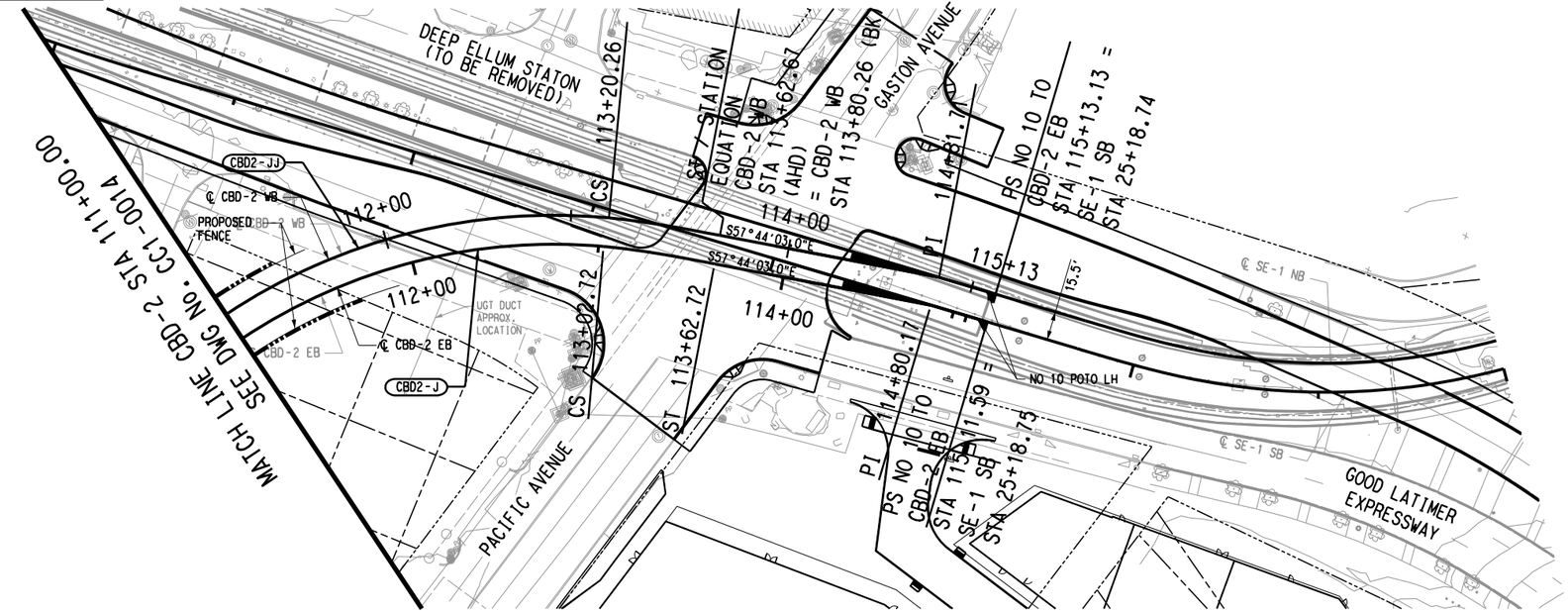
CONTRACT | DWG No. CC1-0014 | REV

Friday, February 28, 2020 01:13:34 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

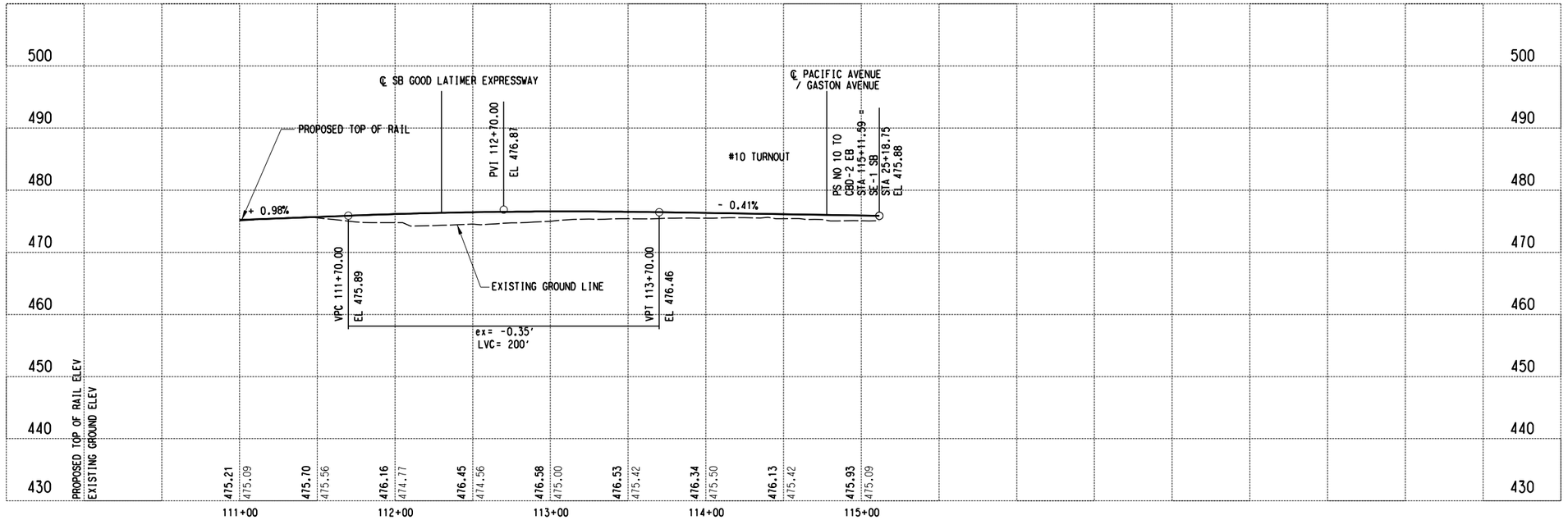
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0015



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

CBD2-J (EB)		CBD2-JJ (WB)	
Rc=	300.00'	Rc=	315.50'
Ls=	60.00'	Ls=	60.00'
Lc=	281.00'	Lc=	298.62'
Eo=	1.50"	Eo=	1.50"
Eu=	1.50"	Eu=	1.35"
V=	15 MPH	V=	15 MPH



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 58 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
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TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY PLAN AND PROFILE
STA 111+00.00 TO END OF PROJECT

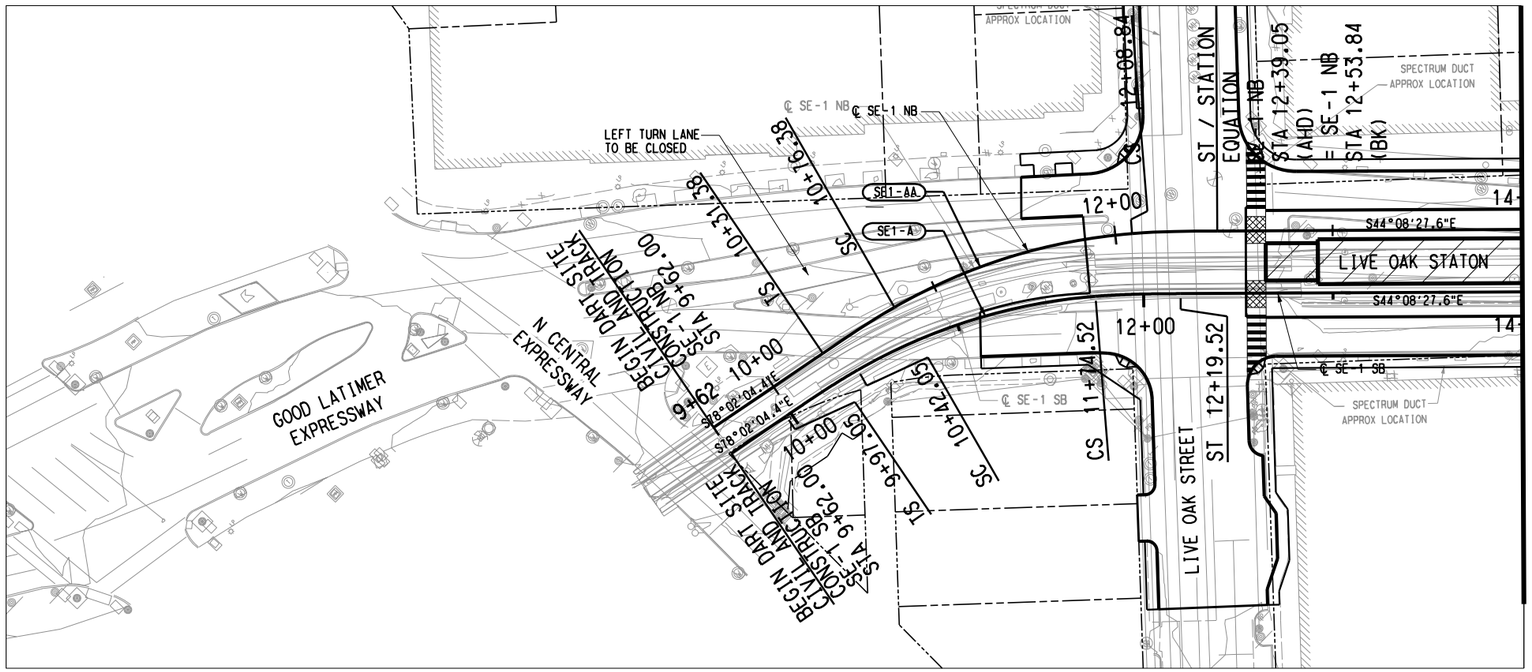
CONTRACT | DWG No. CC1-0015 | REV

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$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

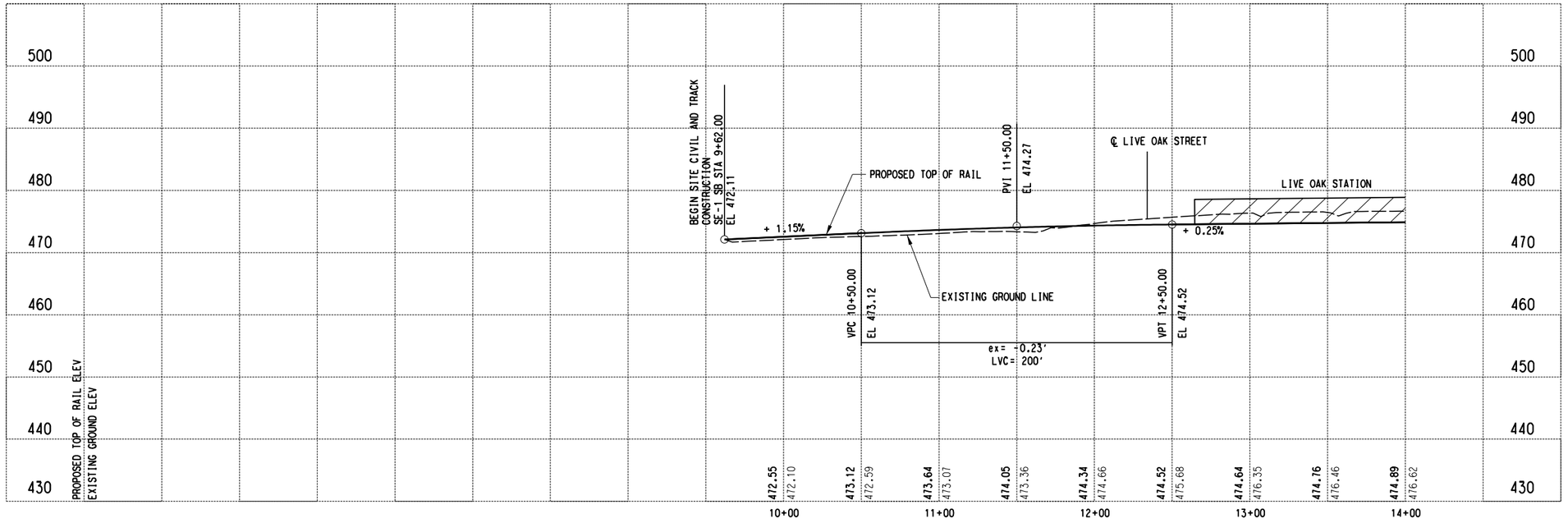
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0016



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

SE1-A (SB)		SE1-AA (NB)	
Rc=	300.00'	Rc=	300.00'
Ls=	45.00'	Ls=	45.00'
Lc=	132.47'	Lc=	132.47'
Eo=	0.50"	Eo=	0.50"
Eu=	0.83"	Eu=	0.83"
V=	10 MPH	V=	10 MPH



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 59 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 SB
GUIDEWAY PLAN AND PROFILE
BEGIN PROJECT TO STA 14+00.00

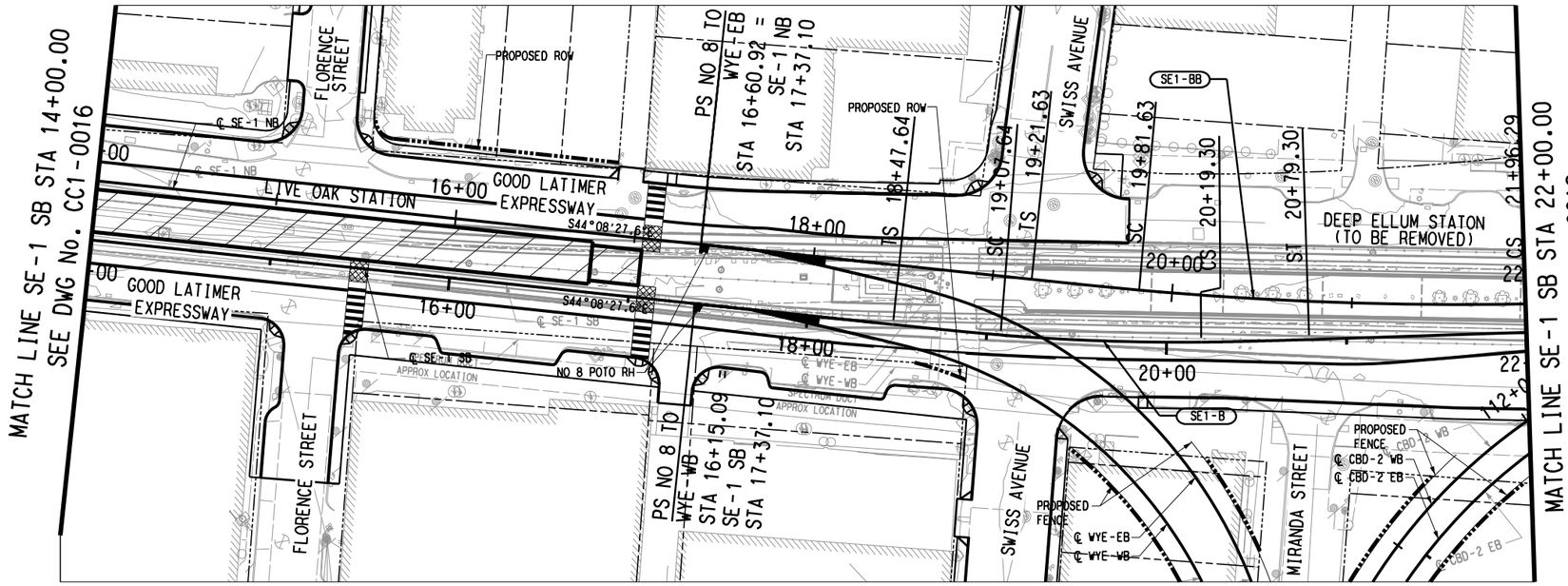
CONTRACT | DWG No. CC1-0016 | REV

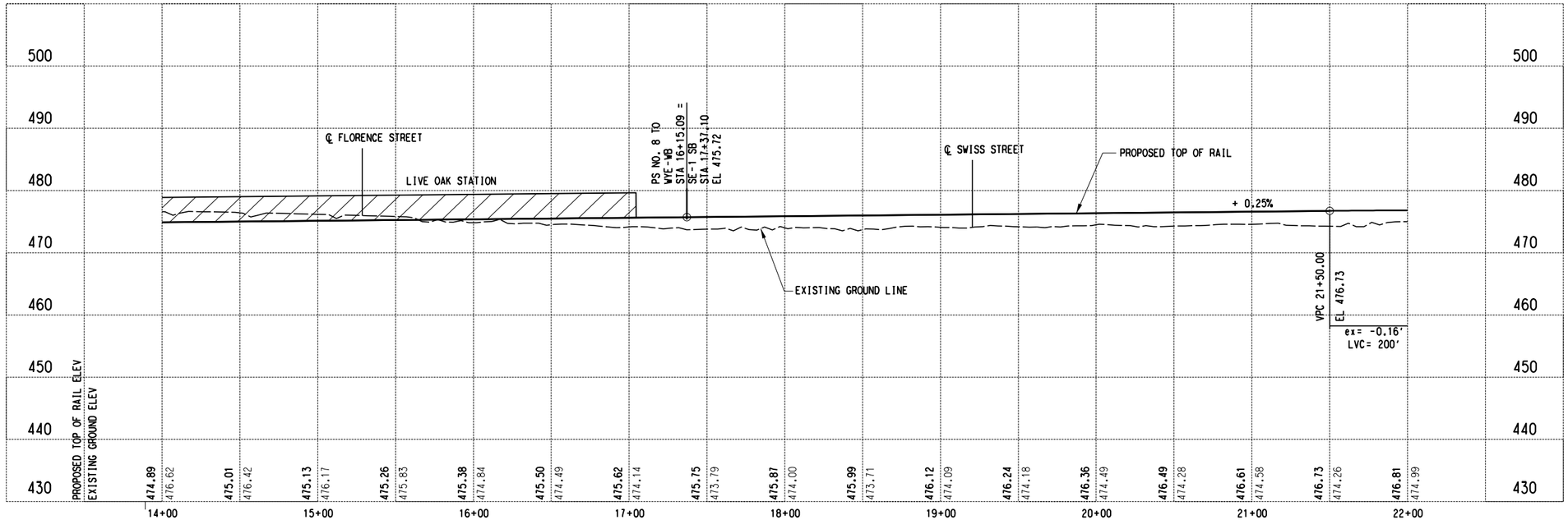
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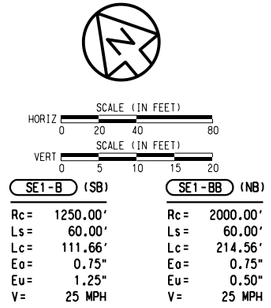
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0017







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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 60 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 SB
GUIDEWAY PLAN AND PROFILE
STA 14+00.00 TO STA 22+00.00

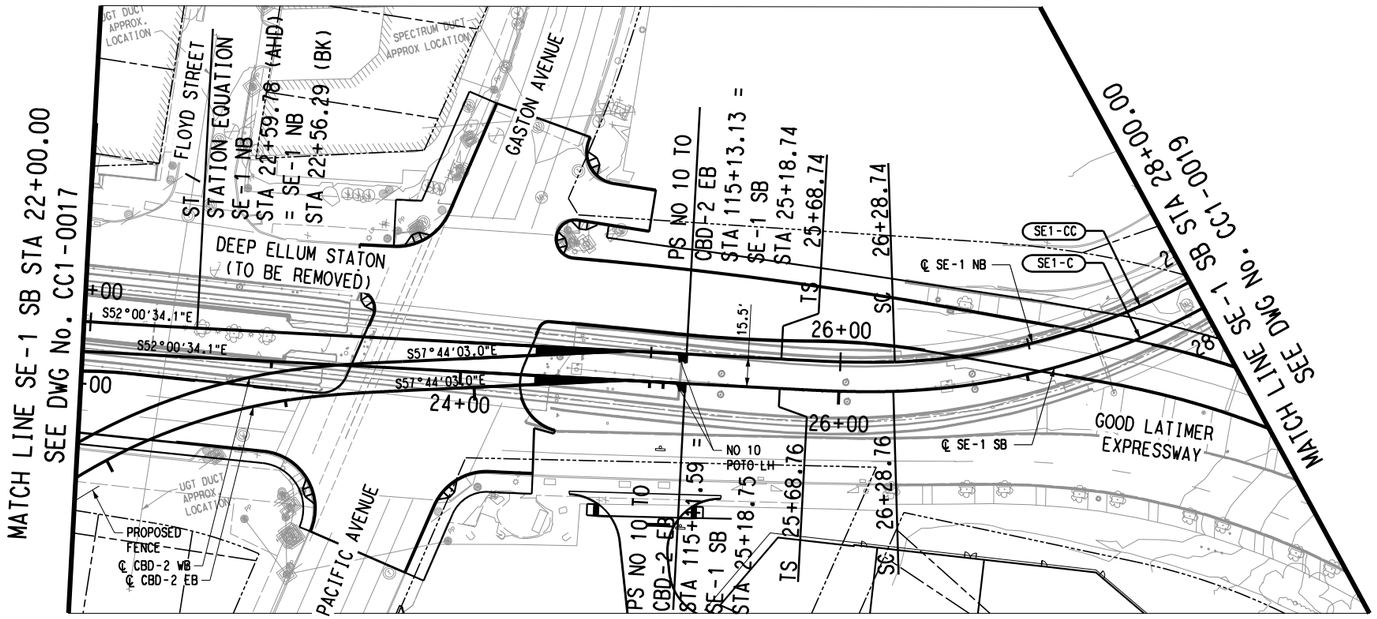
CONTRACT | DWG No. CC1-0017 | REV

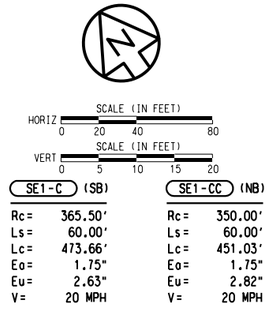
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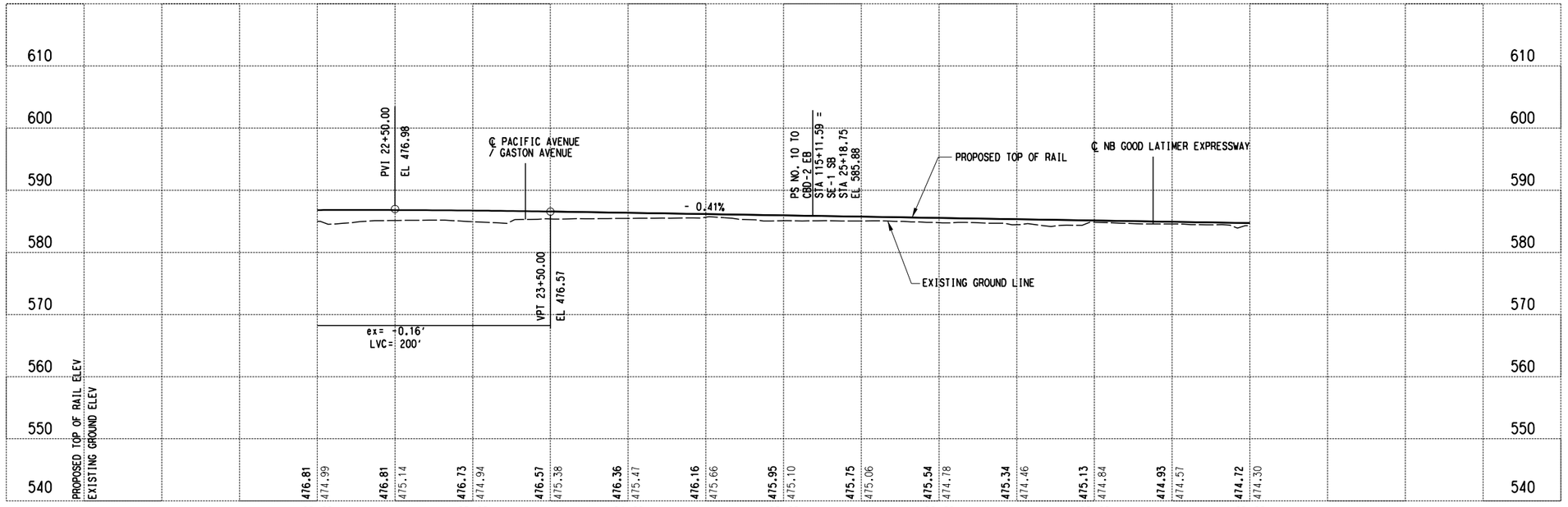
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0018







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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 61 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
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TBPE FIRM NO. F-754
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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 SB
GUIDEWAY PLAN AND PROFILE
STA 22+00.00 TO STA 28+00.00

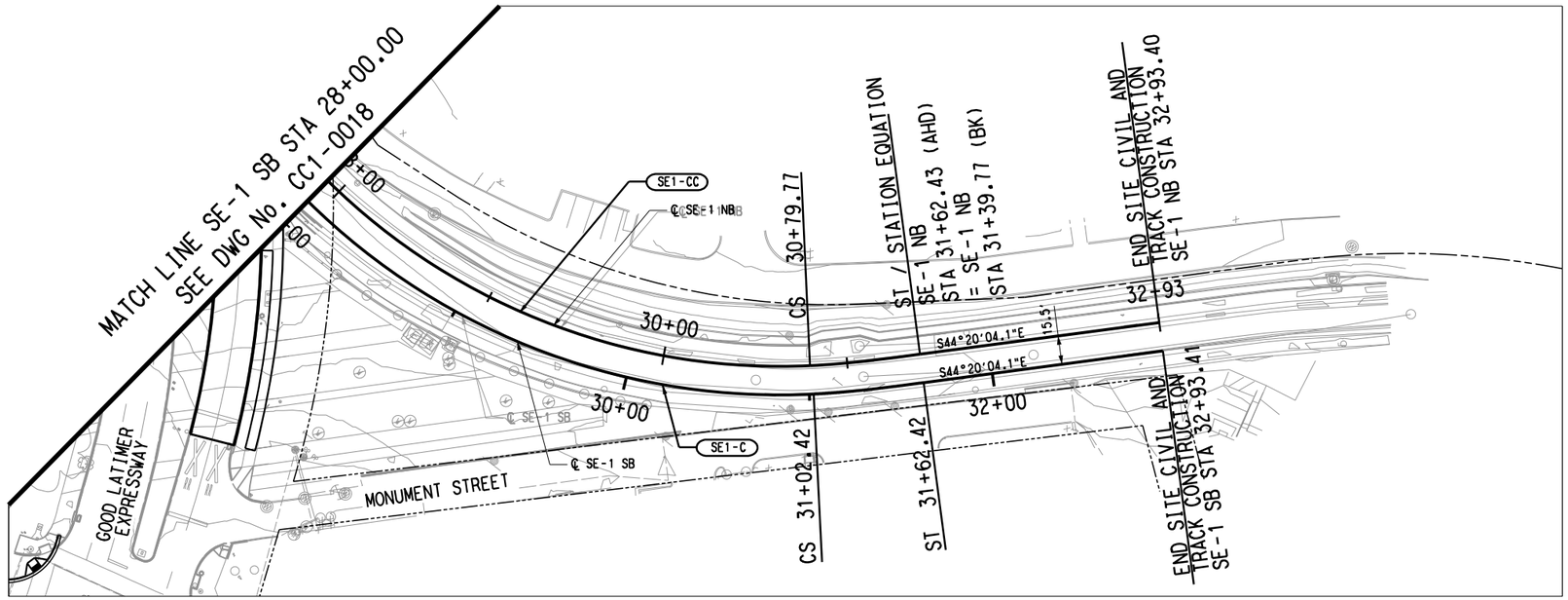
CONTRACT | DWG No. CC1-0018 | REV

Friday, February 28, 2020 01:14:32 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

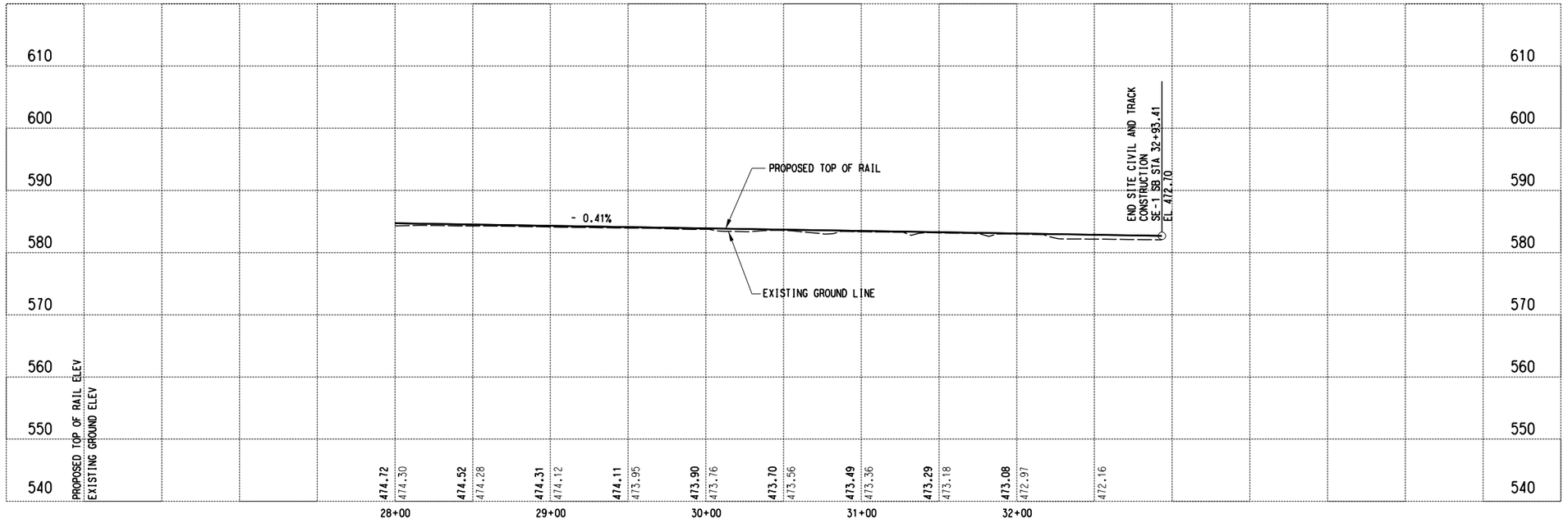
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0019



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

SE1-C (SB)		SE1-CC (NB)	
Rc=	365.50'	Rc=	350.00'
Ls=	60.00'	Ls=	60.00'
Lc=	473.66'	Lc=	451.03'
Eo=	1.75"	Eo=	1.75"
Eu=	2.63"	Eu=	2.82"
V=	20 MPH	V=	20 MPH



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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 62 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 SB
GUIDEWAY PLAN AND PROFILE
STA 28+00.00 TO END PROJECT

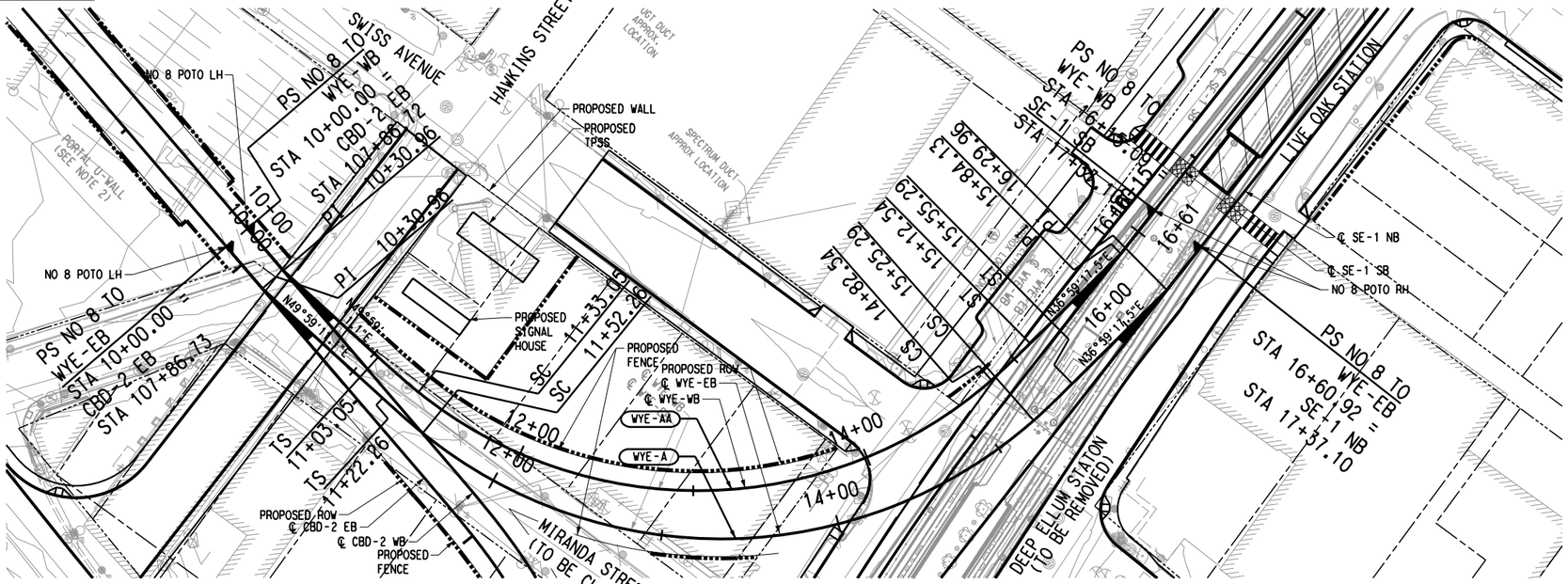
CONTRACT | DWG No. CC1-0019 | REV

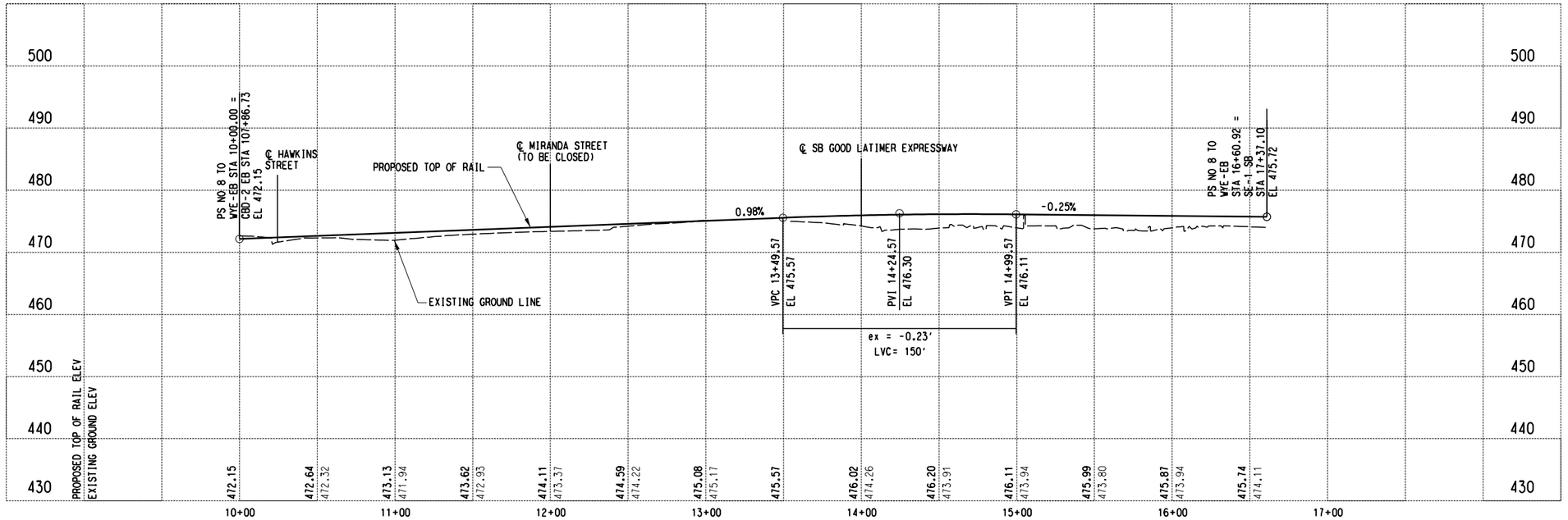
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$$$$DGN$SPECIFICATION$$$$$$$$$

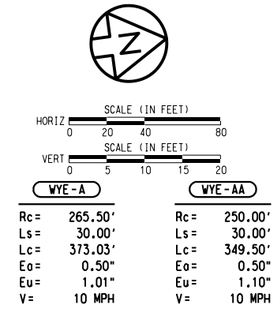
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC1-0020







WYE-A		WYE-AA	
Rc=	265.50'	Rc=	250.00'
Ls=	30.00'	Ls=	30.00'
Lc=	373.03'	Lc=	349.50'
Eo=	0.50"	Eo=	0.50"
Eu=	1.01"	Eu=	1.10"
V=	10 MPH	V=	10 MPH

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CONTRACT SHEET No. 63 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

WYE - EB
GUIDEWAY PLAN AND PROFILE

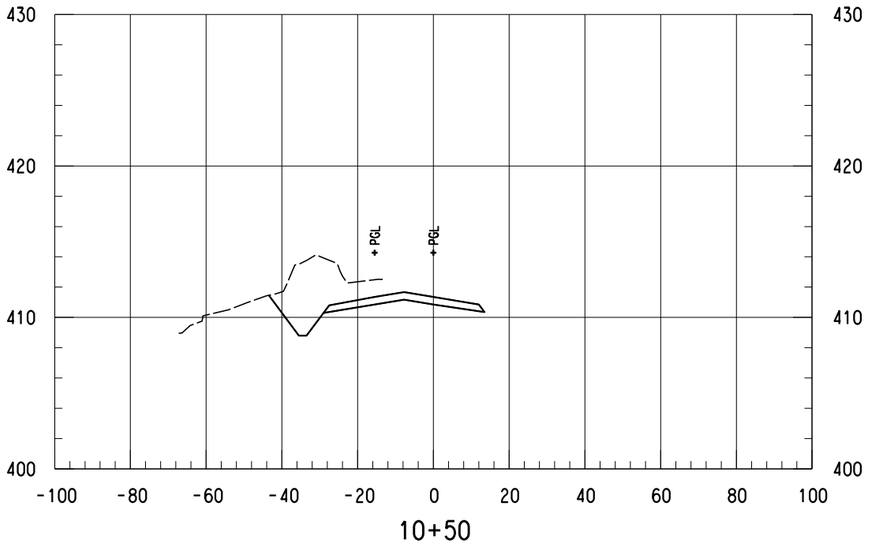
CONTRACT | DWG No. CC1-0020 | REV

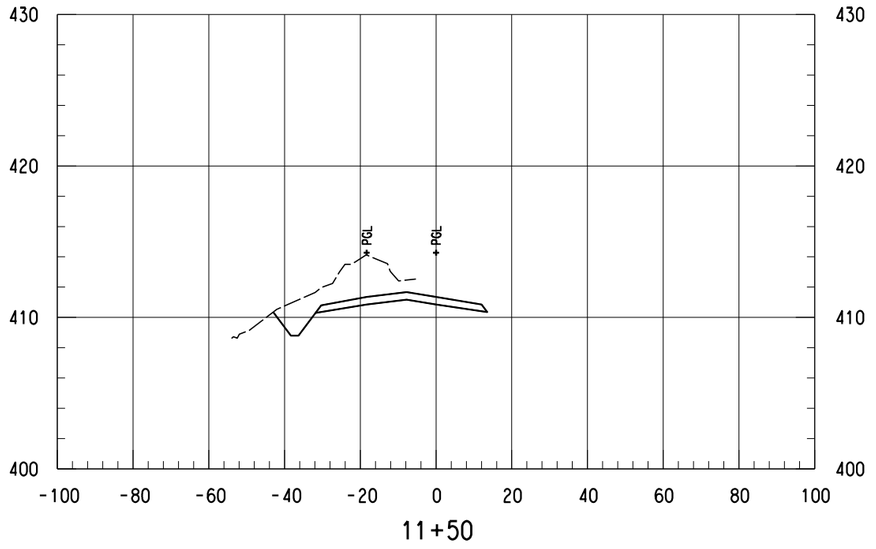
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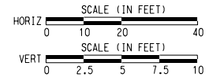
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$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0001

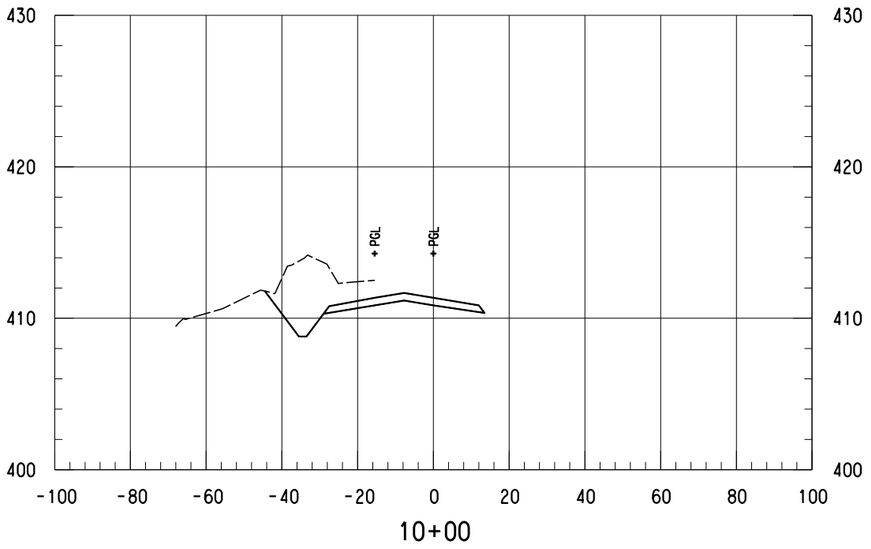


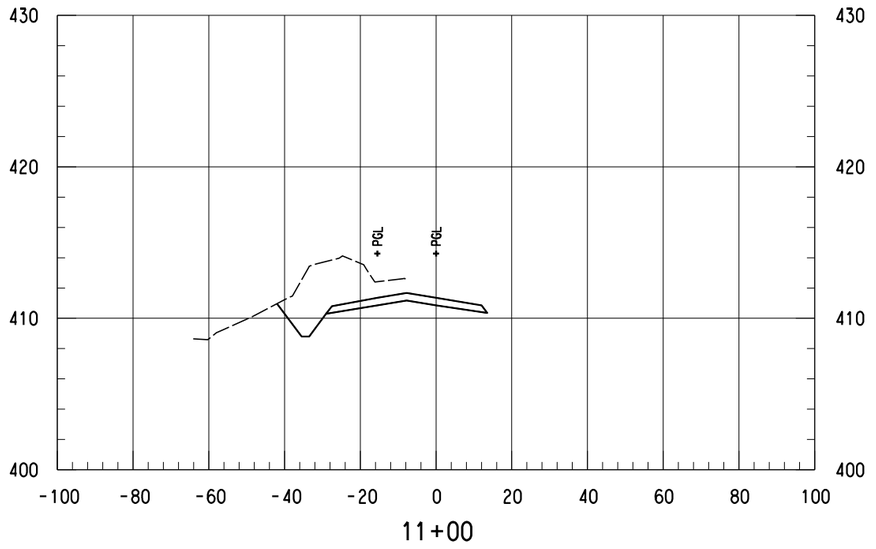




NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.





NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 64 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

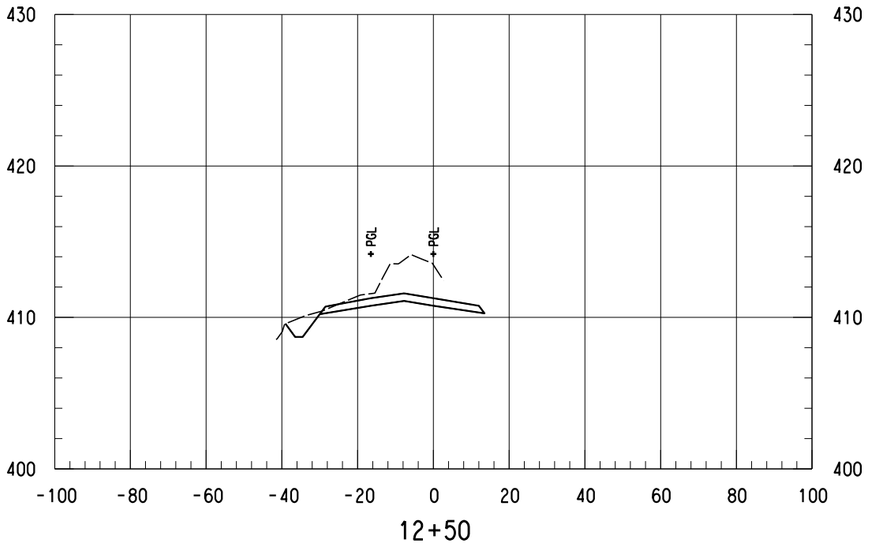
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 10+00.00 TO STA 11+50.00

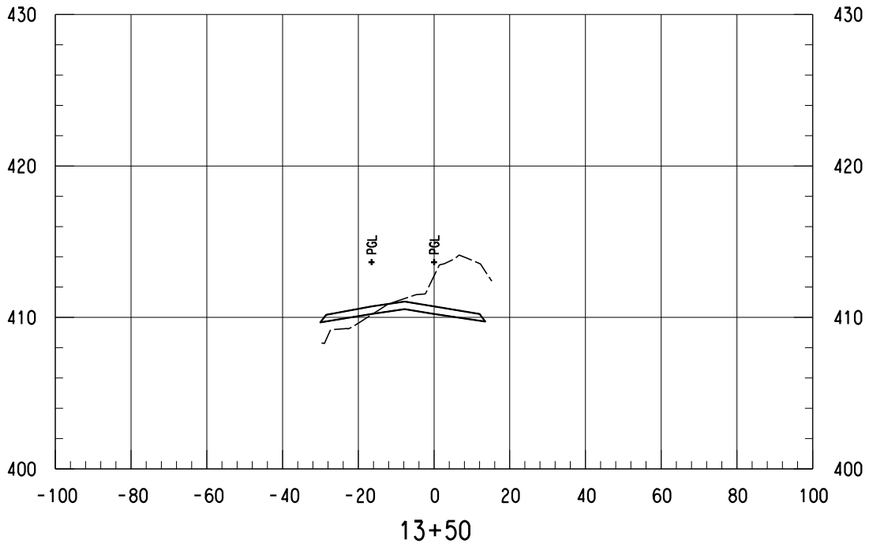
CONTRACT	DWG No.	REV
	CC8-0001	

Friday, February 28, 2020 12:51:33 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0002



12+50

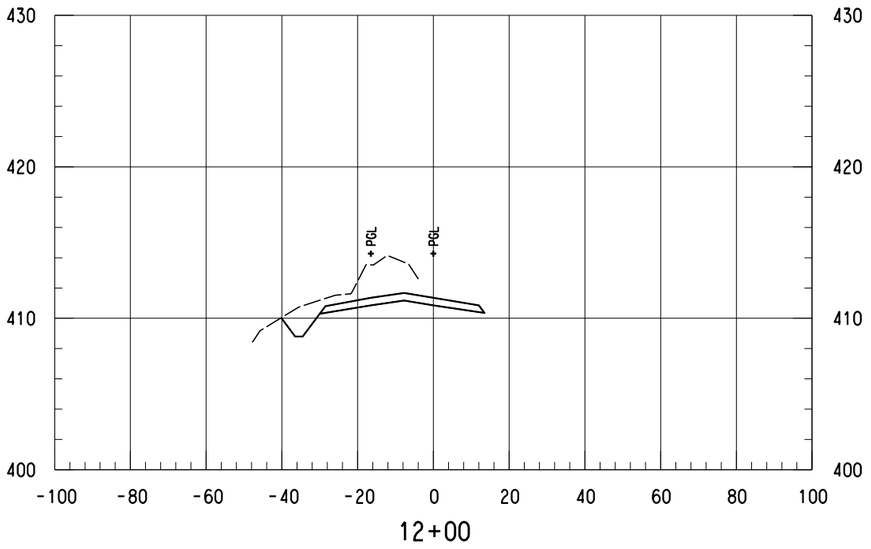


13+50

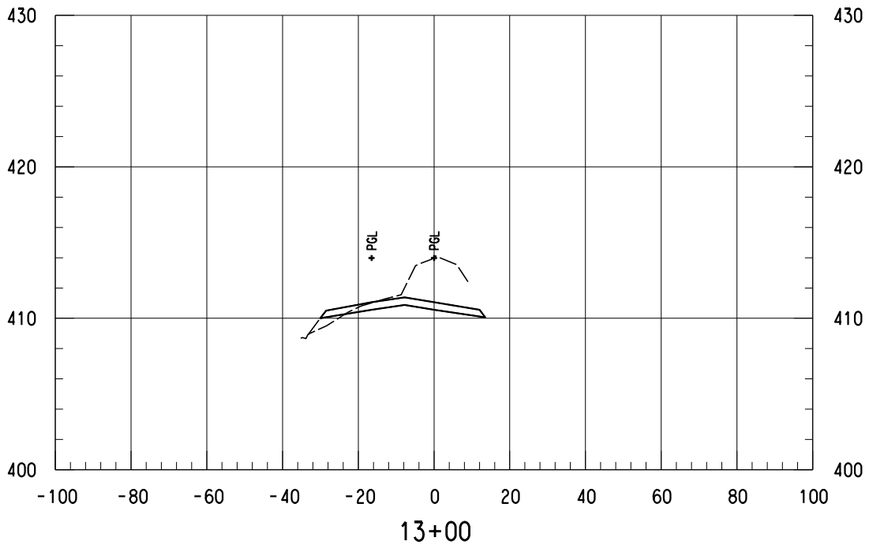
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



12+00



13+00

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 65 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

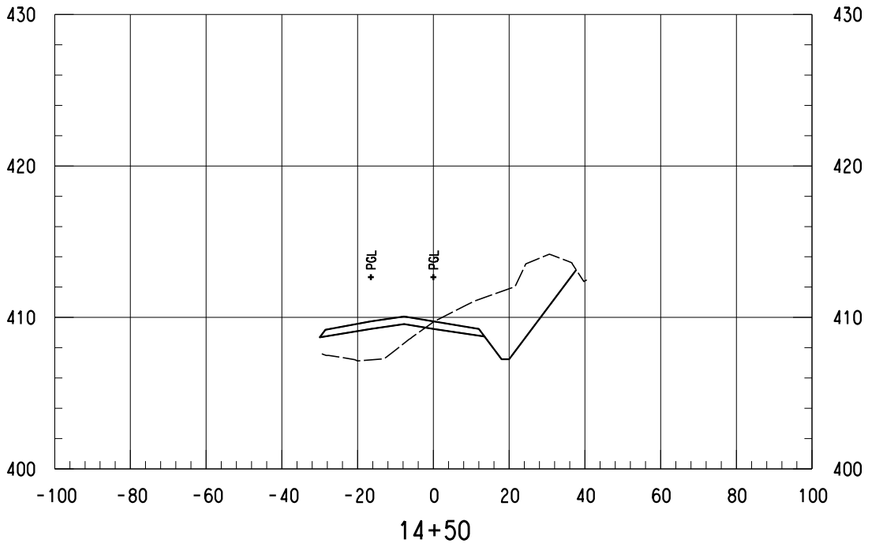
CBD-2
GUIDEWAY CROSS SECTIONS
STA 12+00.00 TO STA 13+50.00

CONTRACT	DWG No.	REV
	CC8-0002	

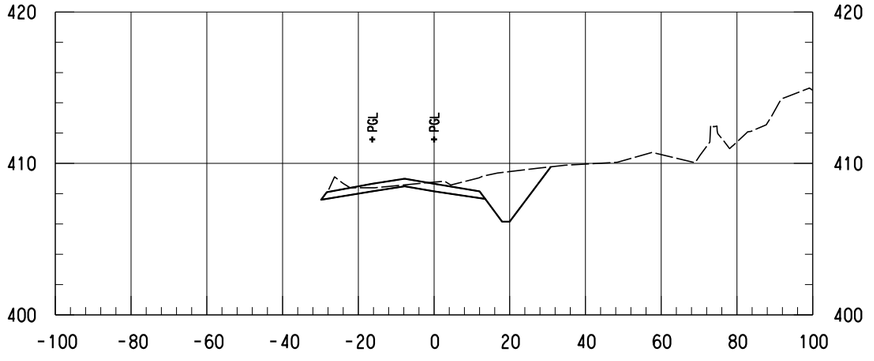
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$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

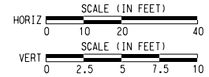
DWG No. CC8-0003



14+50

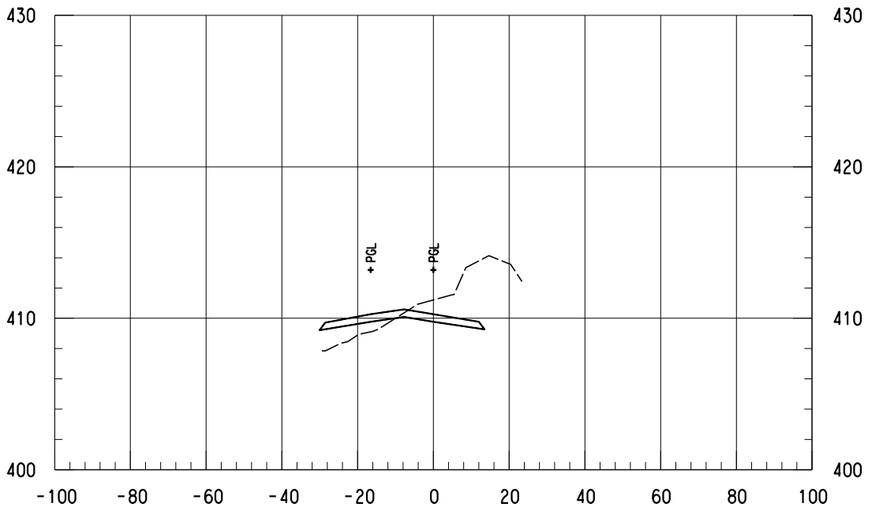


15+50

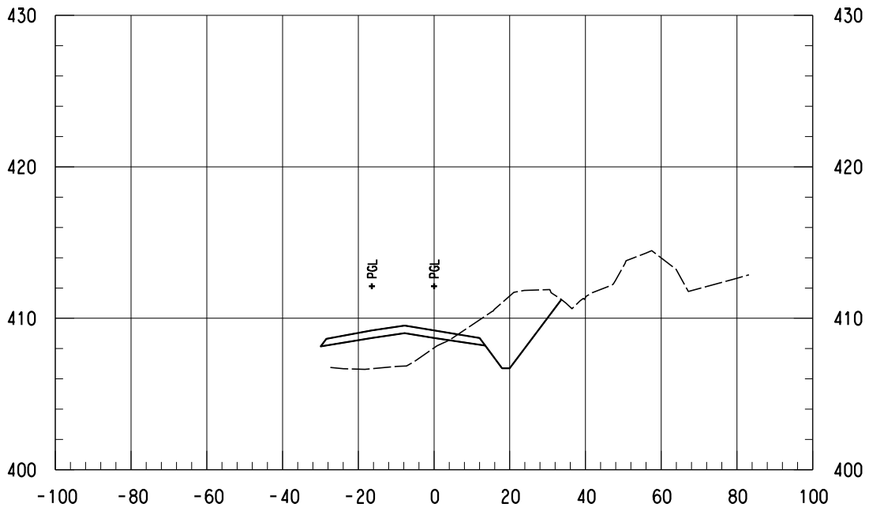


NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



14+00



15+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 66 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

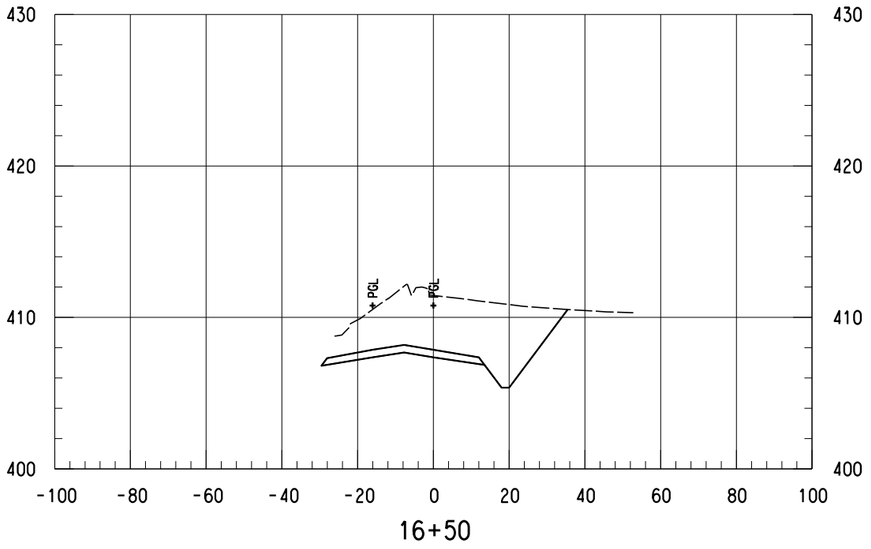
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 14+00.00 TO STA 15+50.00

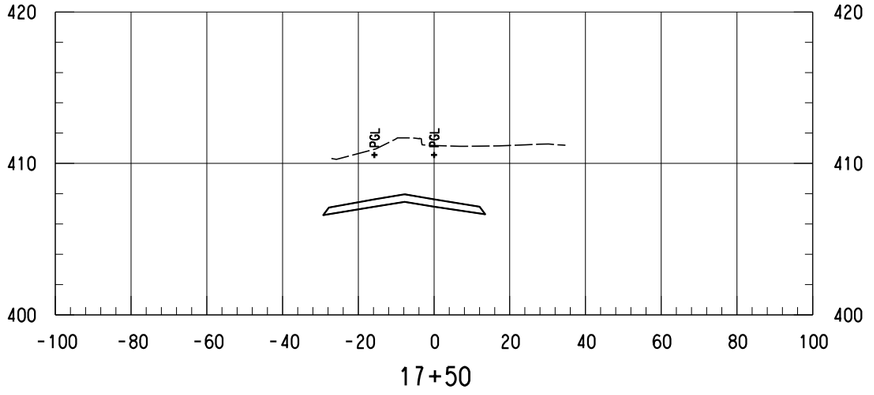
CONTRACT	DWG No.	REV
	CC8-0003	

Friday, February 28, 2020 12:57:34 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0004



16+50

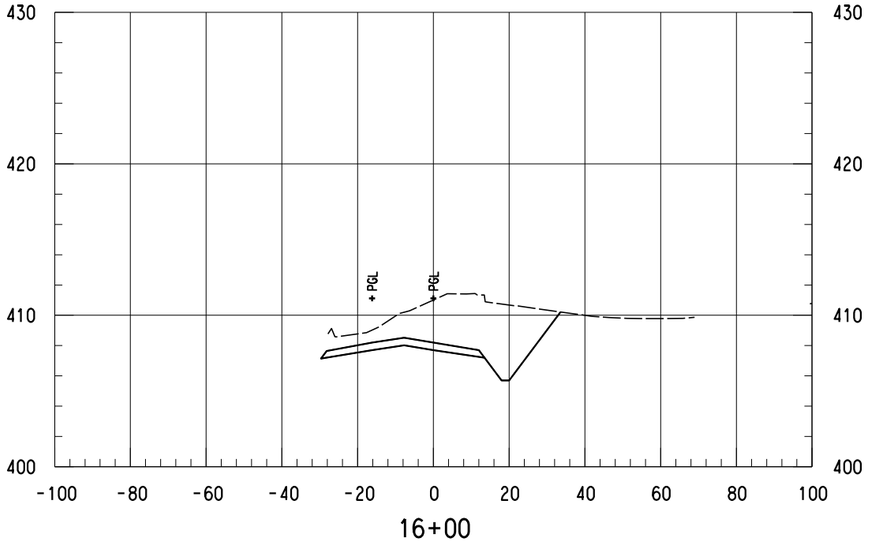


17+50

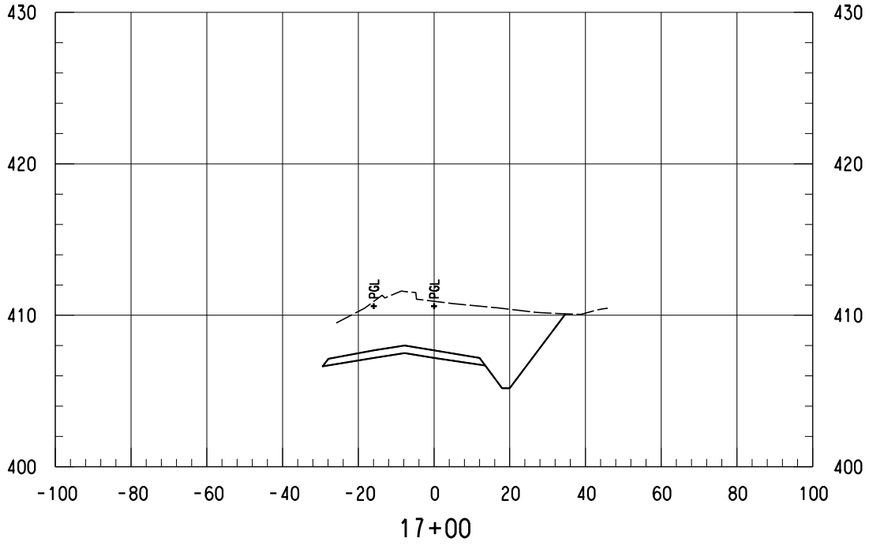
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



16+00



17+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 67 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF: AMANDA C. STAHLNECKER, P.E. NO. 124571 ON 03/06/2020 HDR ENGINEERING, INC. TBPE FIRM NO. F-754 IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 16+00.00 TO STA 17+50.00

CONTRACT	DWG No.	REV
	CC8-0004	

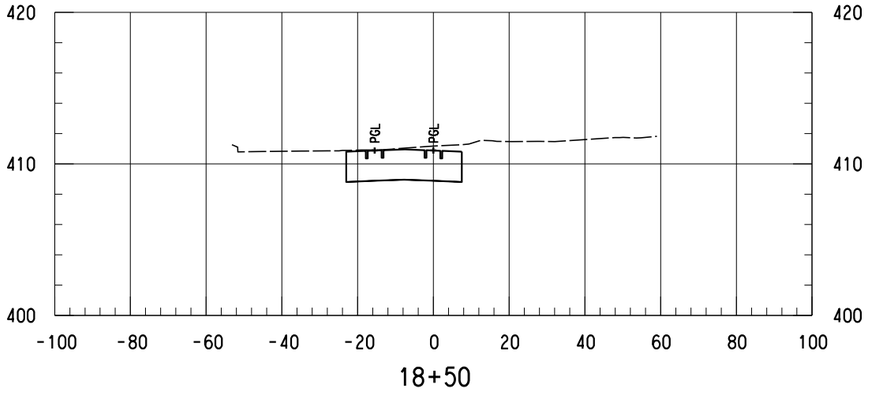
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$$$$DGN$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0005

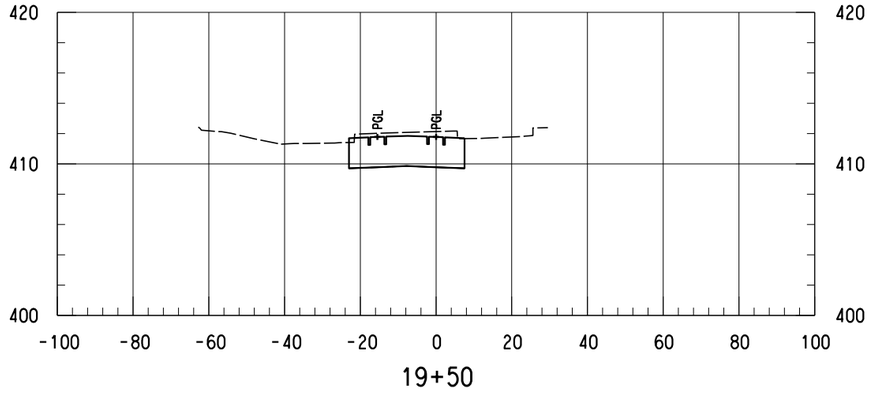
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

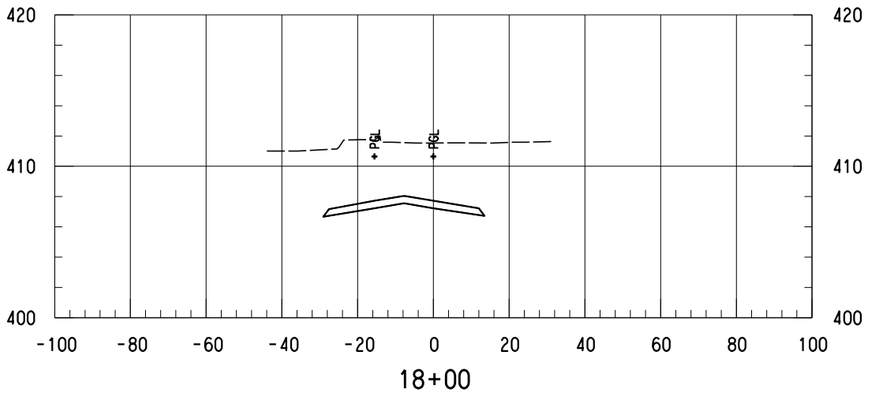
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



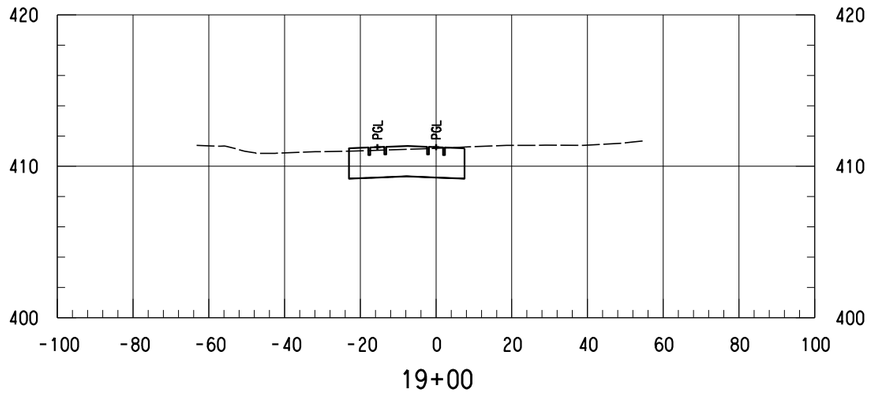
18+50



19+50



18+00



19+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 68 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 18+00.00 TO STA 19+50.00

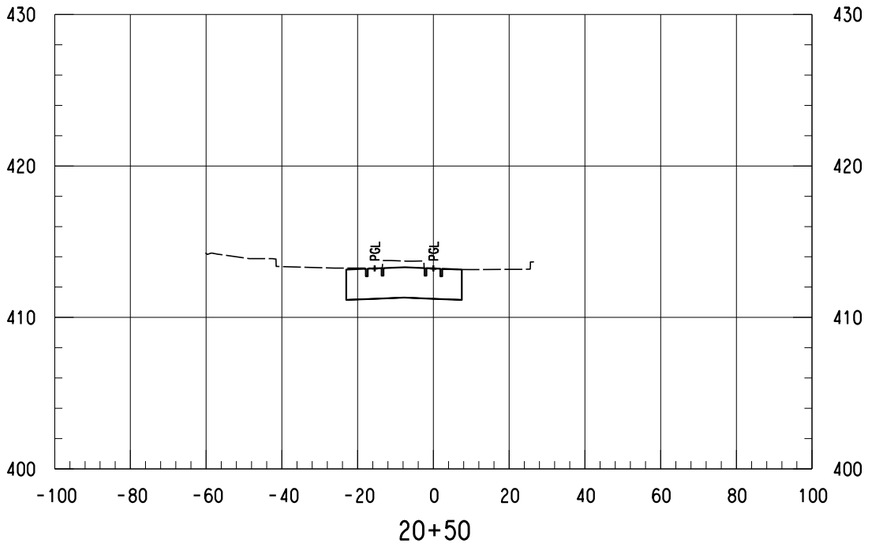
CONTRACT	DWG No.	REV
	CC8-0005	

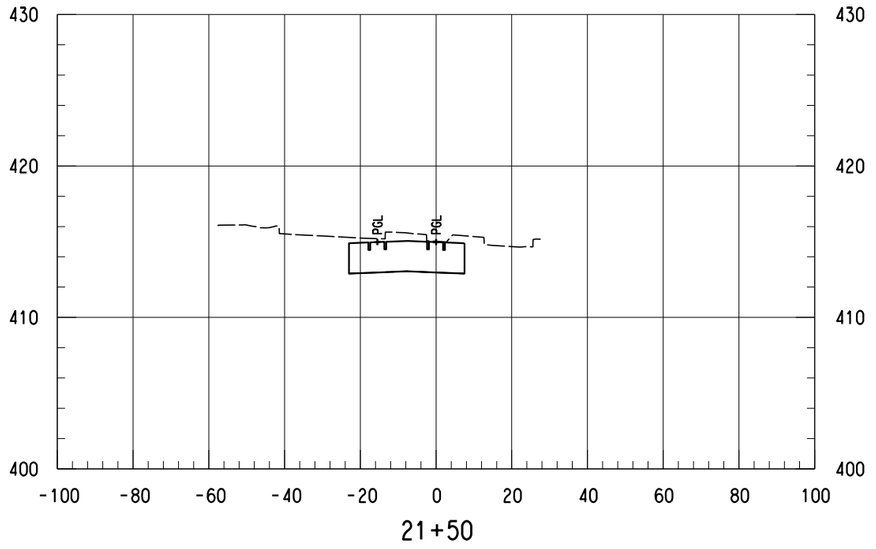
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$$$$DGN$$SPECIFICATION$$$$$$$$$

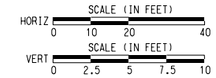
DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC8-0006

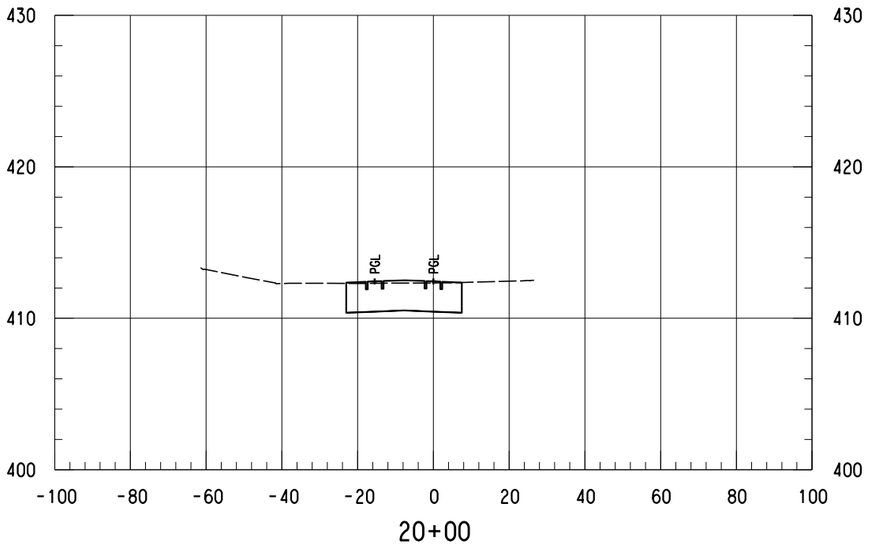


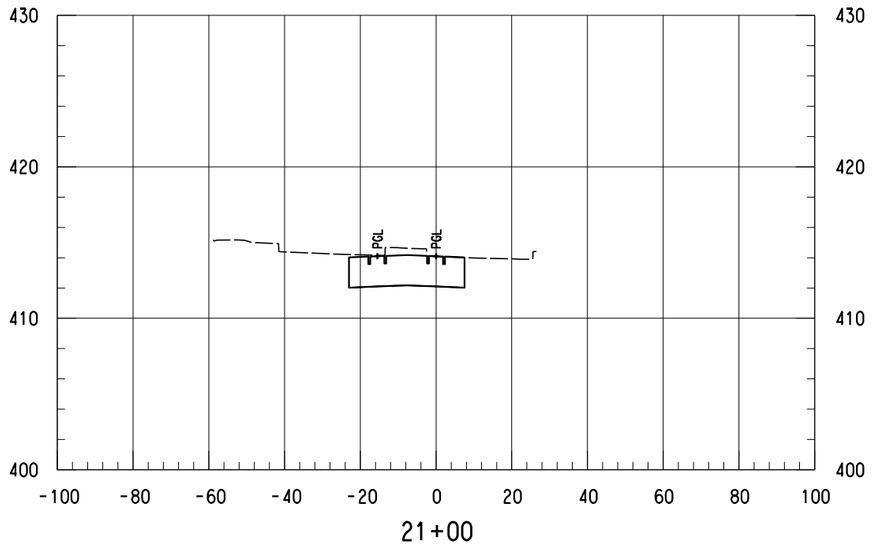




NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.





NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 69 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 20+00.00 TO STA 21+50.00

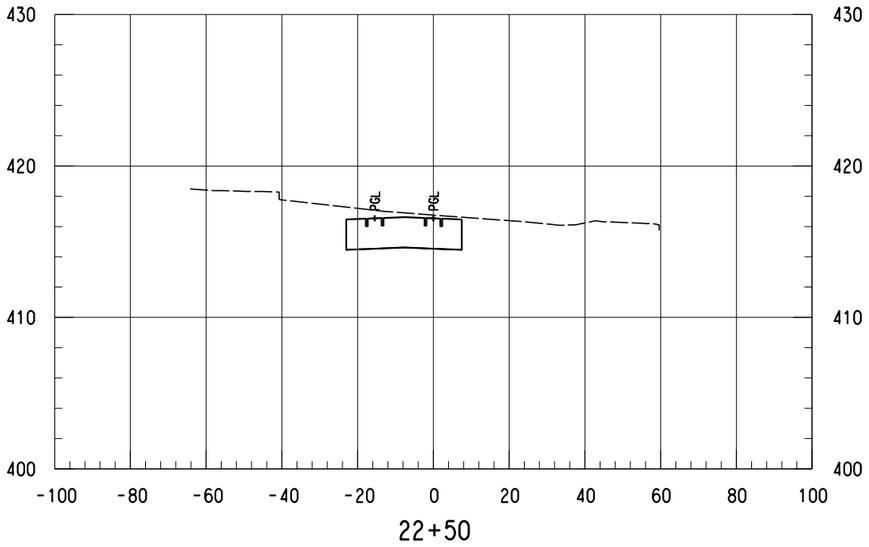
CONTRACT	DWG No.	REV
	CC8-0006	

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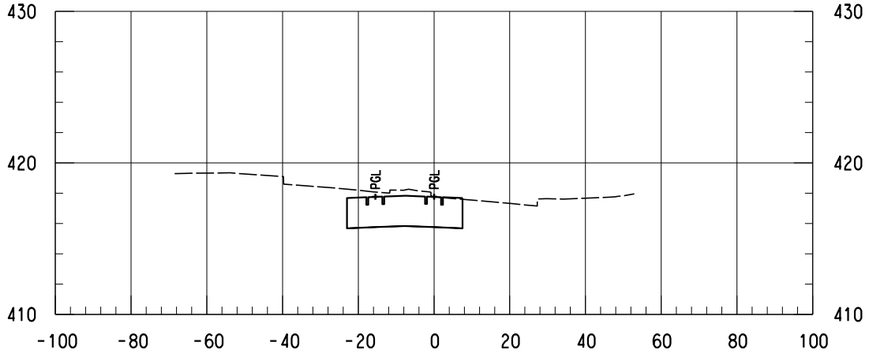
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

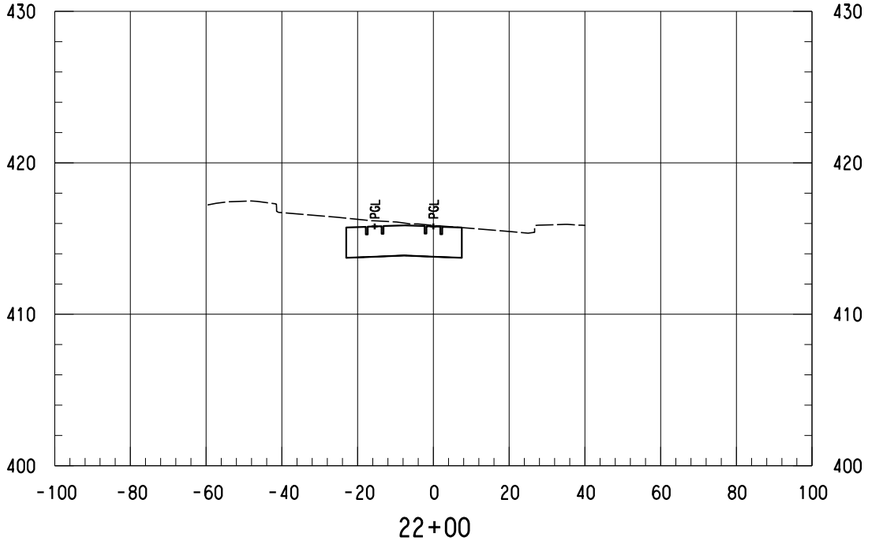
DWG No. CC8-0007



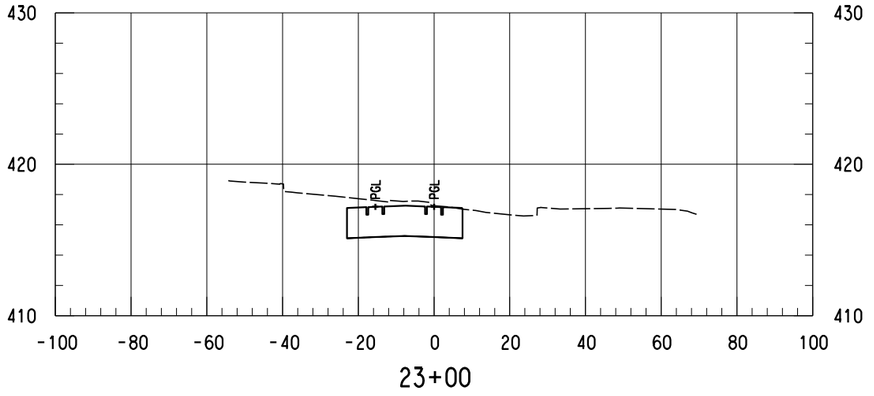
22+50



23+50



22+00



23+00

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 70 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 22+00.00 TO STA 23+50.00

CONTRACT | DWG No. CC8-0007 | REV

Friday, February 28, 2020 12:57:36 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

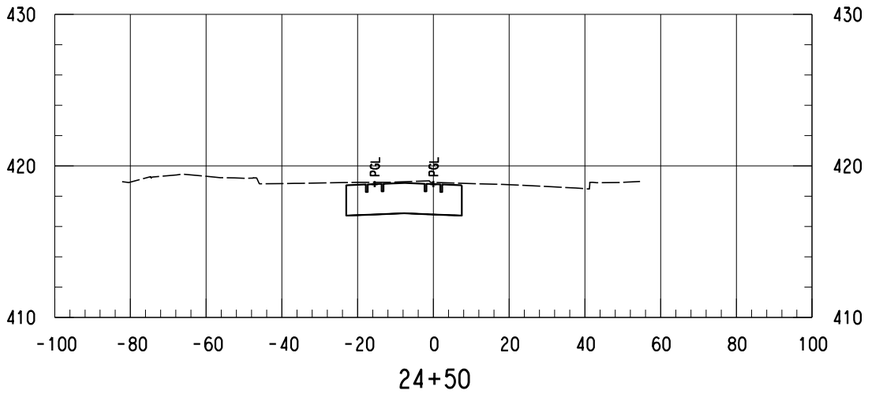
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DWG No. CC8-0008

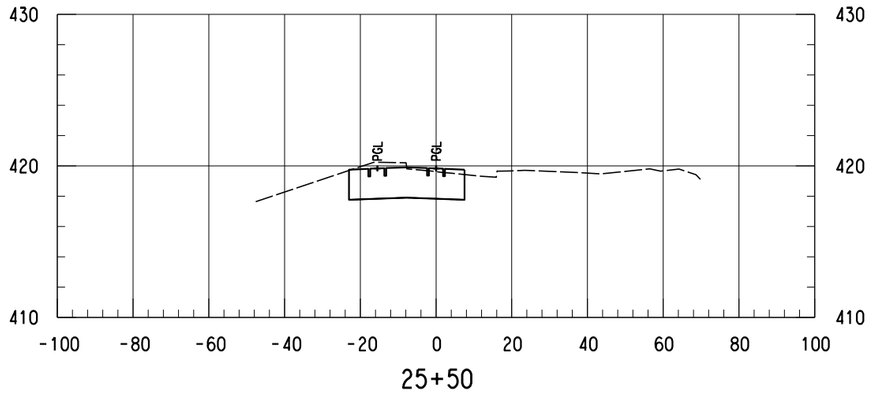
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

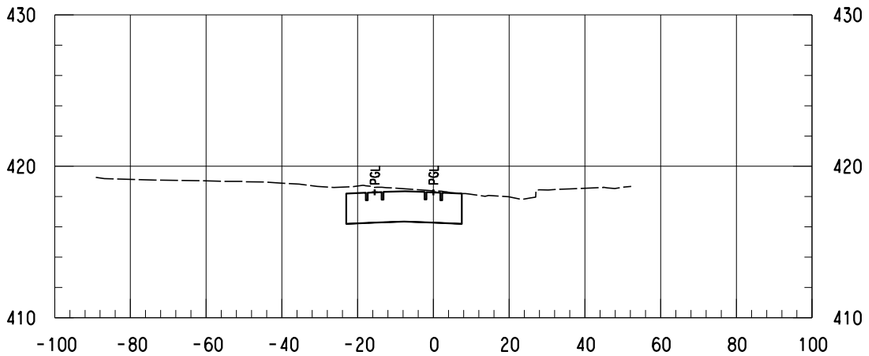
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



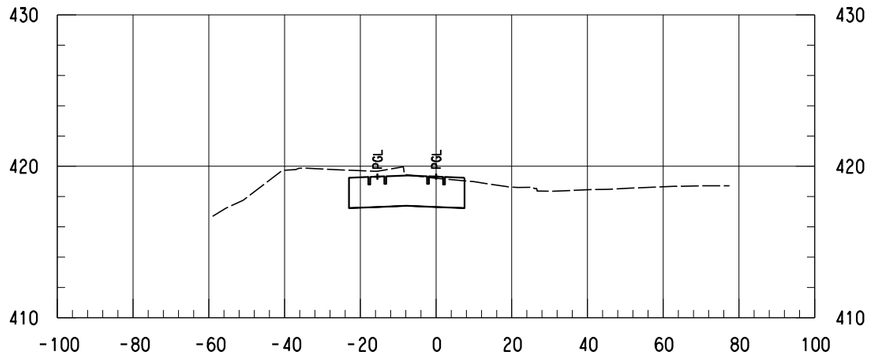
24+50



25+50



24+00



25+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 71 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 24+00.00 TO STA 25+50.00

CONTRACT	DWG No.	REV
	CC8-0008	

Friday, February 28, 2020 12:57:37 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

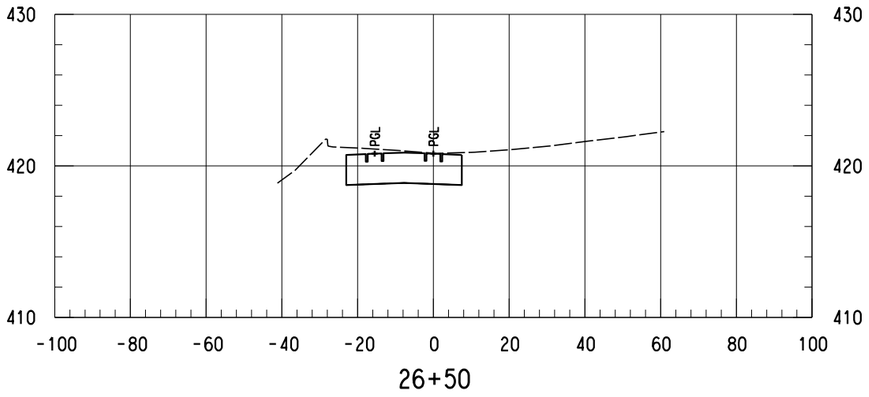
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DWG No. CC8-0009

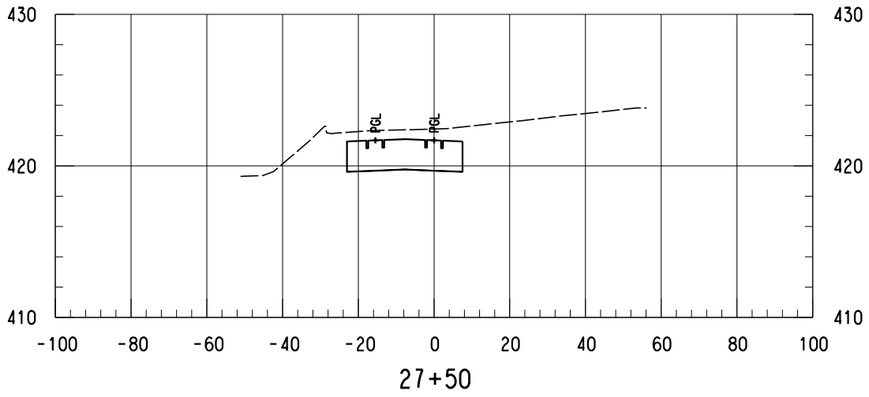
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

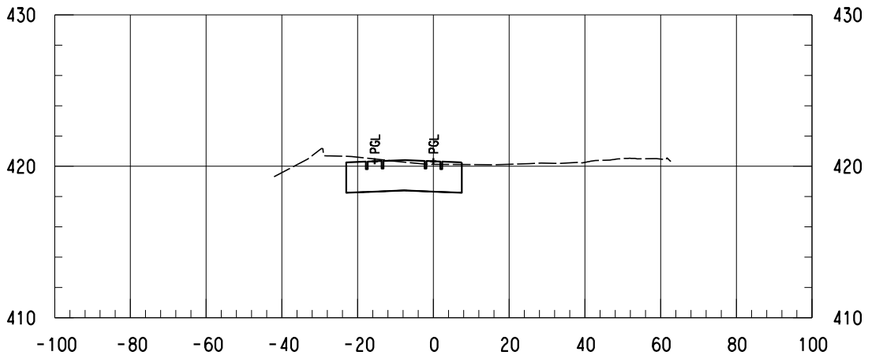
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



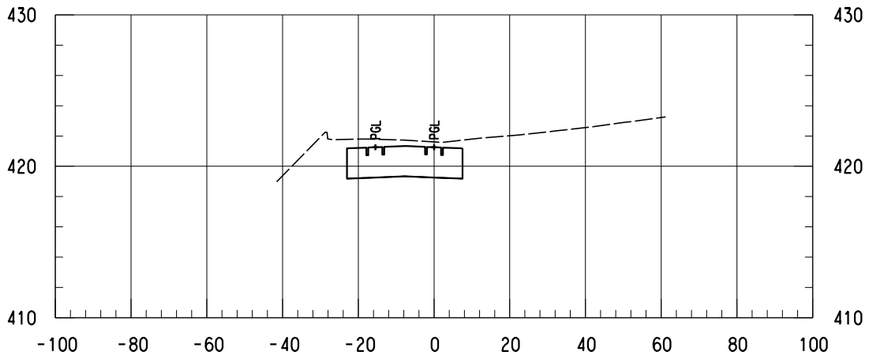
26+50



27+50



26+00



27+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 72 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 26+00.00 TO STA 27+50.00

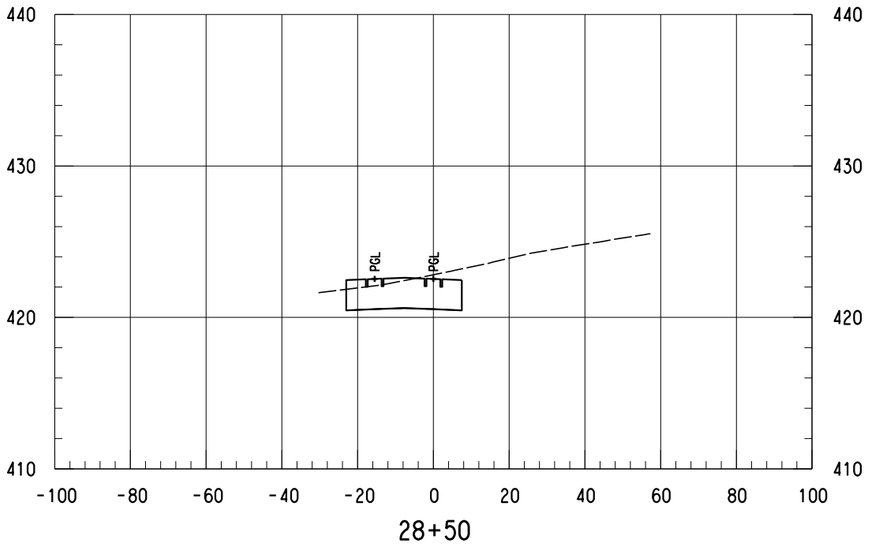
CONTRACT	DWG No.	REV
	CC8-0009	

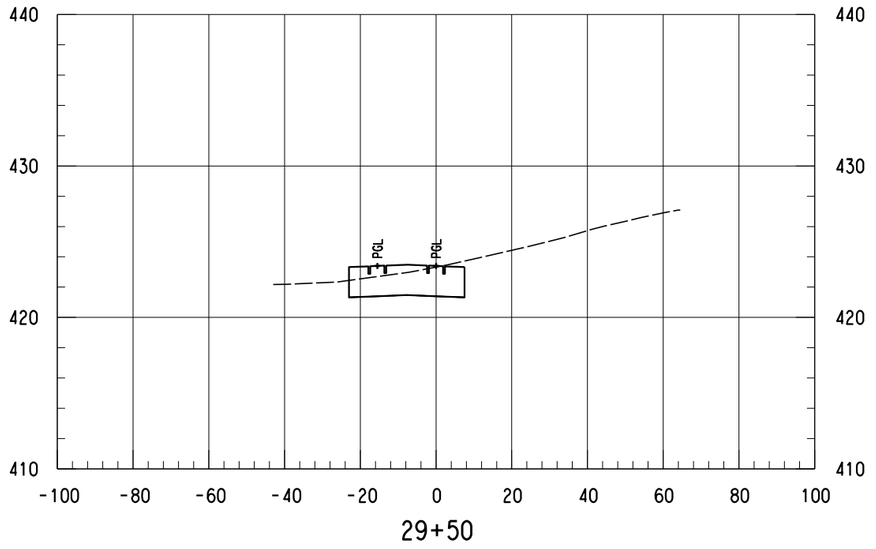
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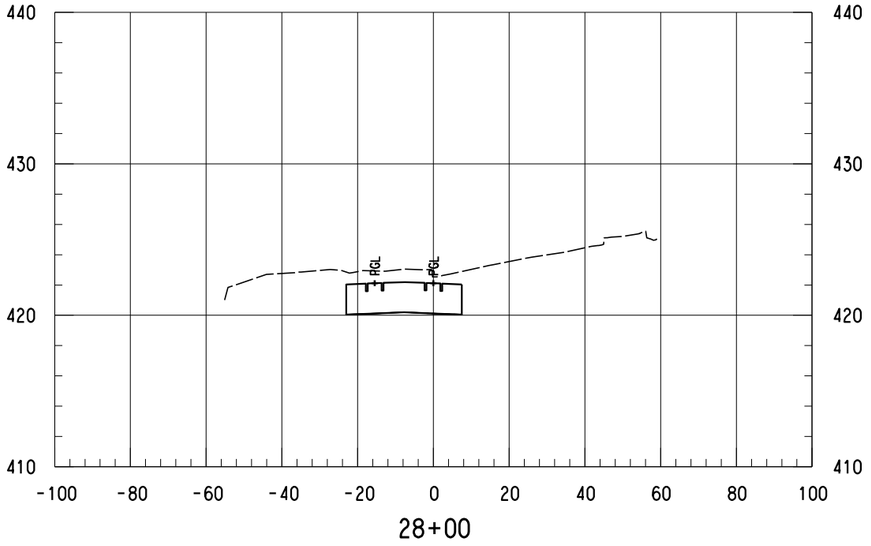
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$$$$DGN$SPECIFICATION$$$$$$$$$

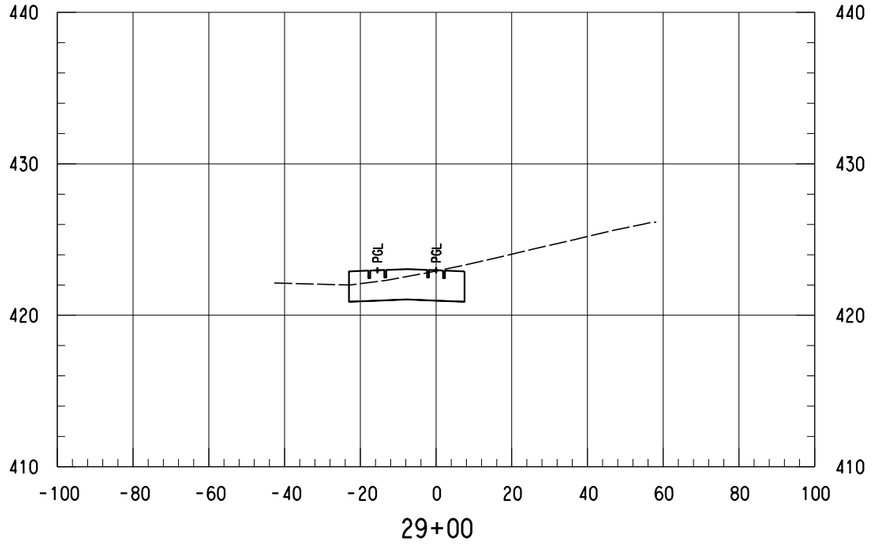
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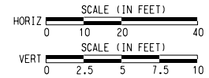
DWG No. CC8-0010











NOTES:

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NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 73 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

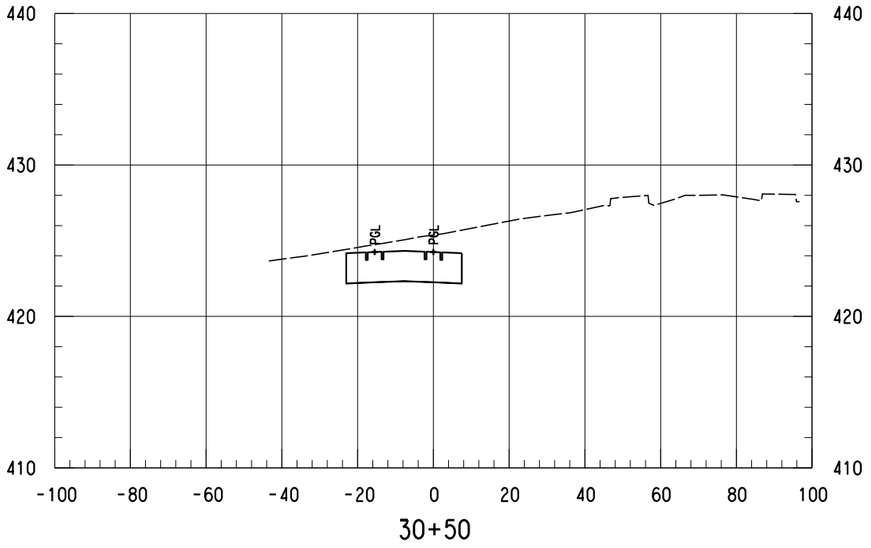
CBD-2
GUIDEWAY CROSS SECTIONS
STA 28+00.00 TO STA 29+50.00

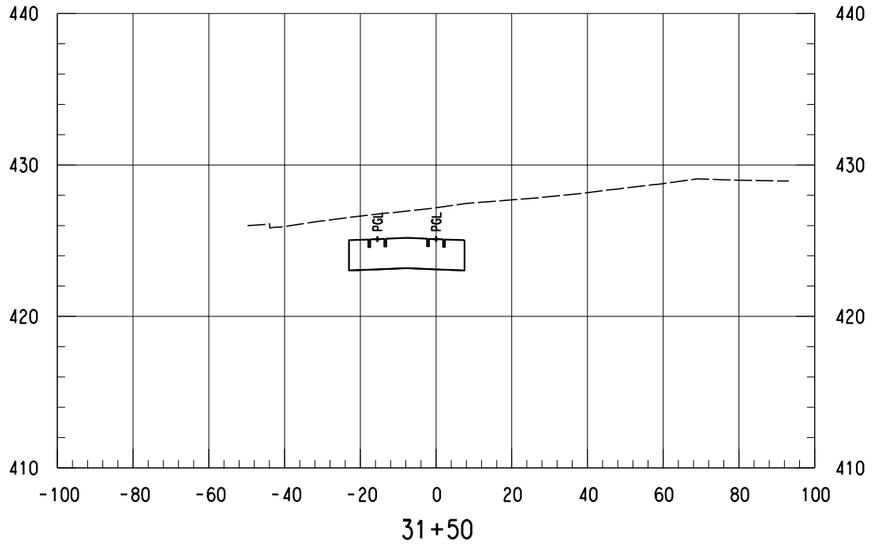
CONTRACT	DWG No.	REV
	CC8-0010	

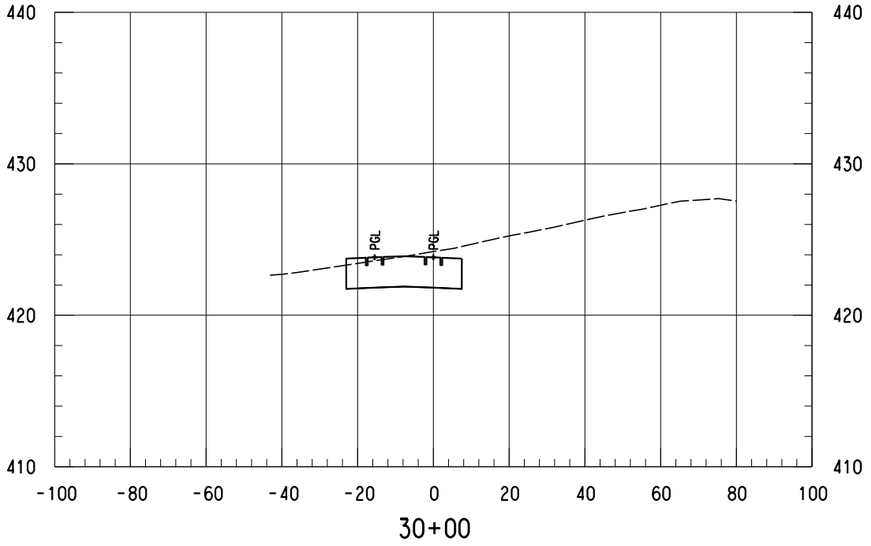
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$$$$DGN$SPECIFICATION$$$$$$$$$

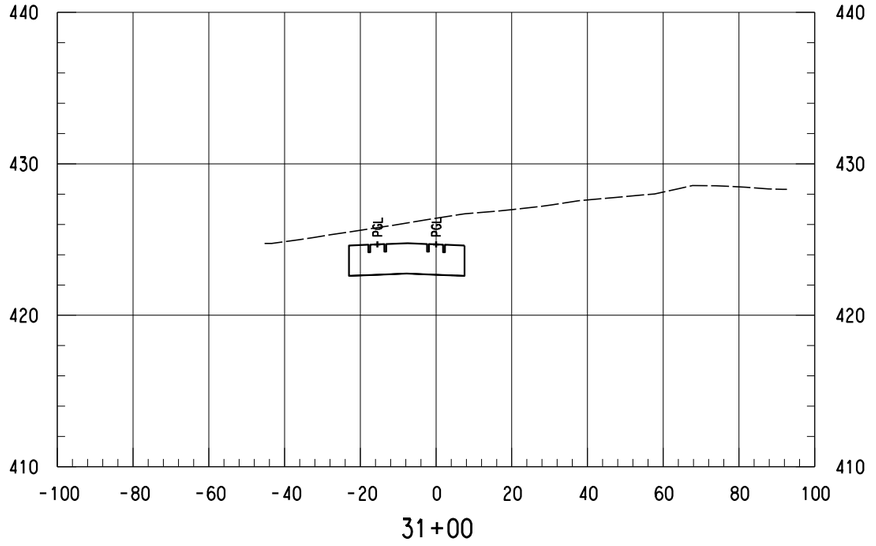
DANGLE

DWG No. CC8-0011









SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 74 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 30+00.00 TO STA 31+50.00

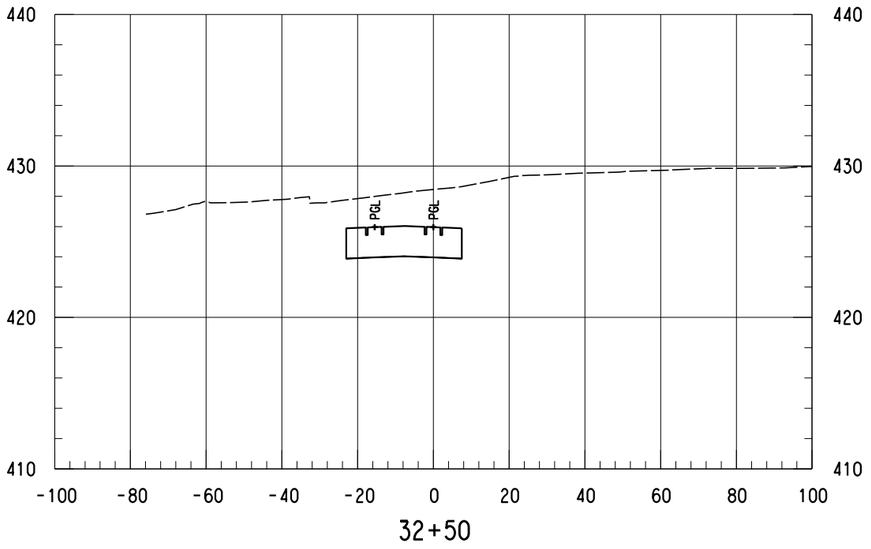
CONTRACT	DWG No.	REV
	CC8-0011	

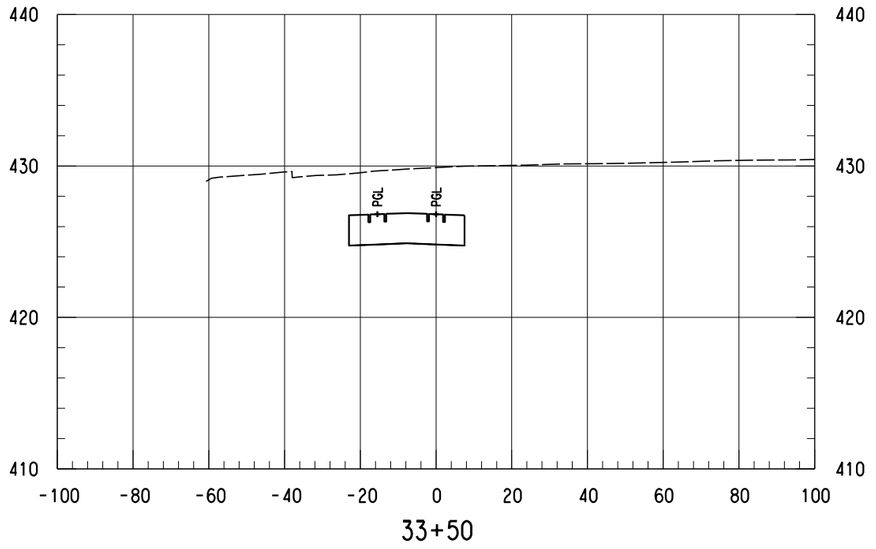
Friday, February 28, 2020 12:57:38 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

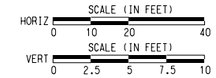
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0012

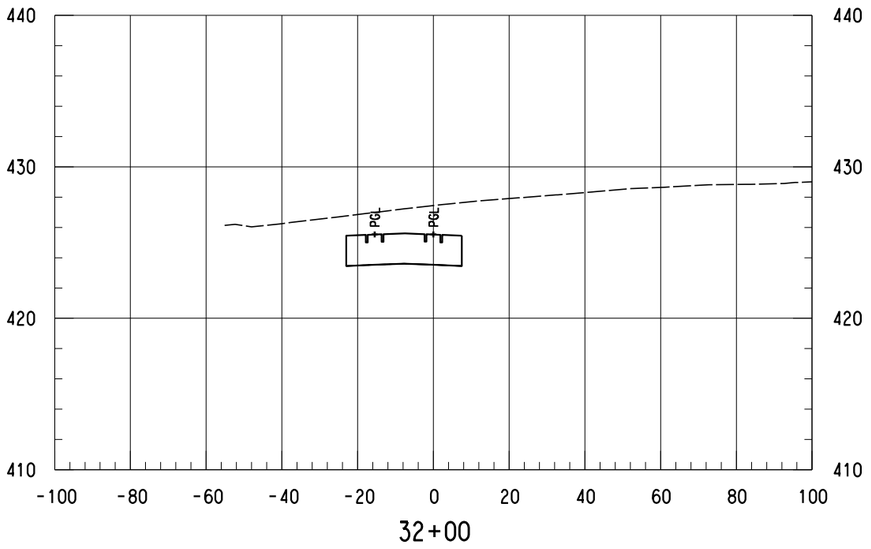


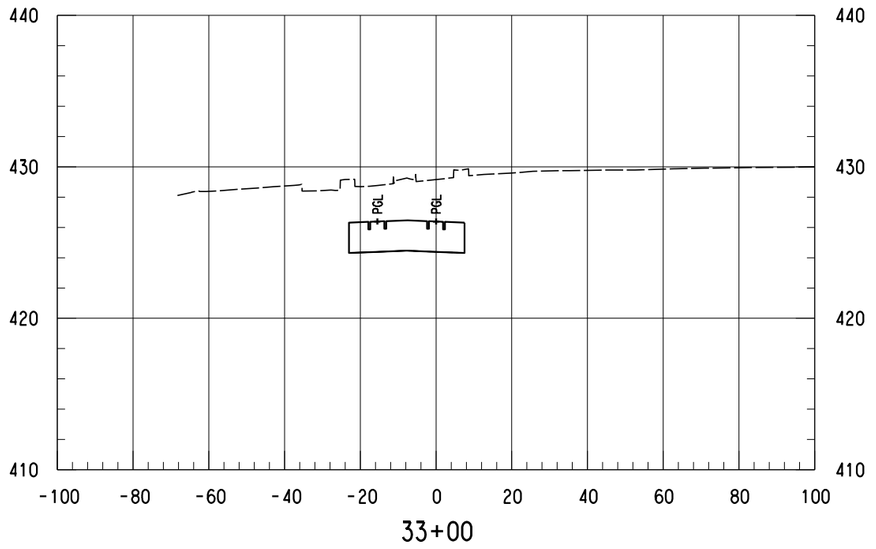




NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.





NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 75 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 32+00.00 TO STA 33+50.00

CONTRACT	DWG No.	REV
	CC8-0012	

Friday, February 28, 2020 12:57:38 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

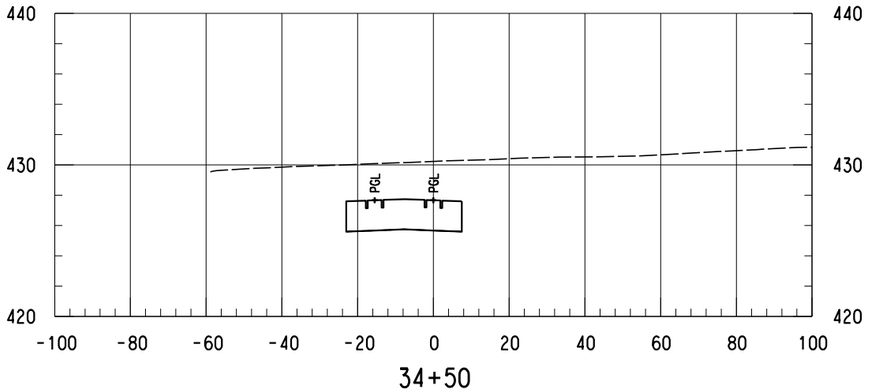
DANGLE

DWG No. CC8-0013

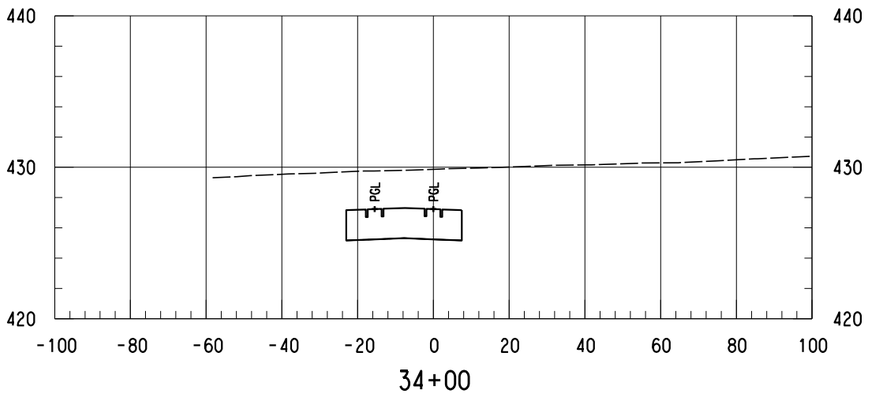
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

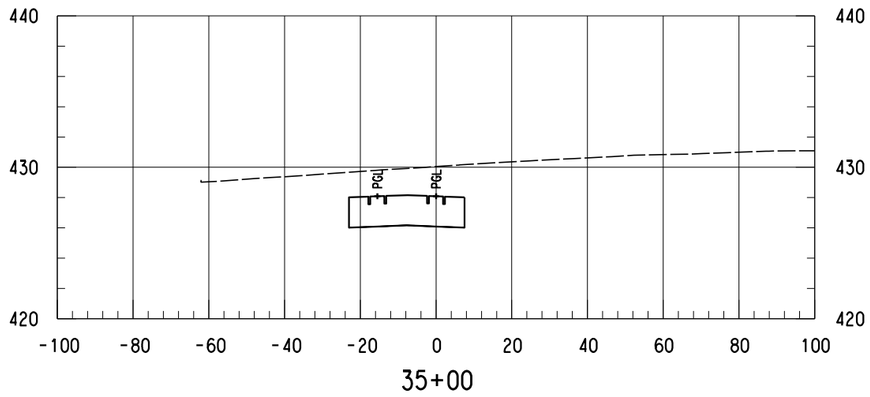
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



34+50



34+00



35+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 76 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 34+00.00 TO STA 35+00.00

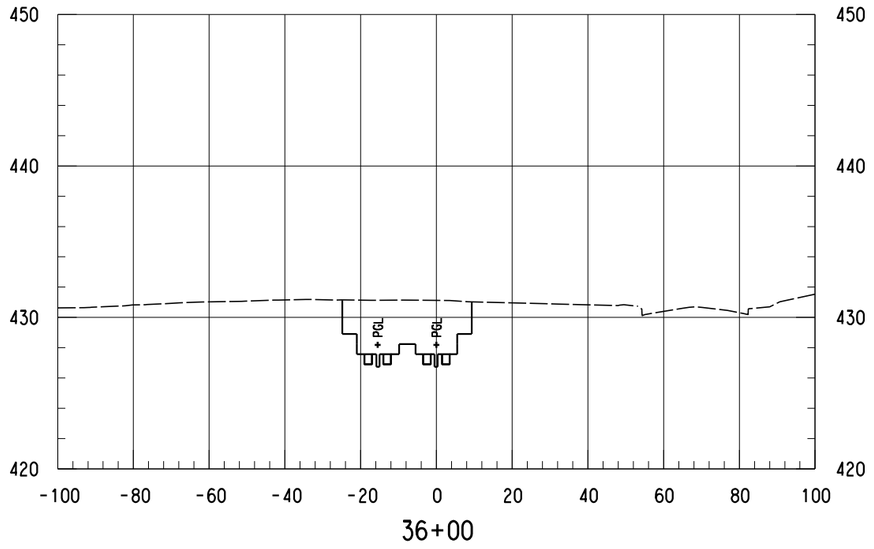
CONTRACT | DWG No. CC8-0013 | REV

Friday, February 28, 2020 12:57:39 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

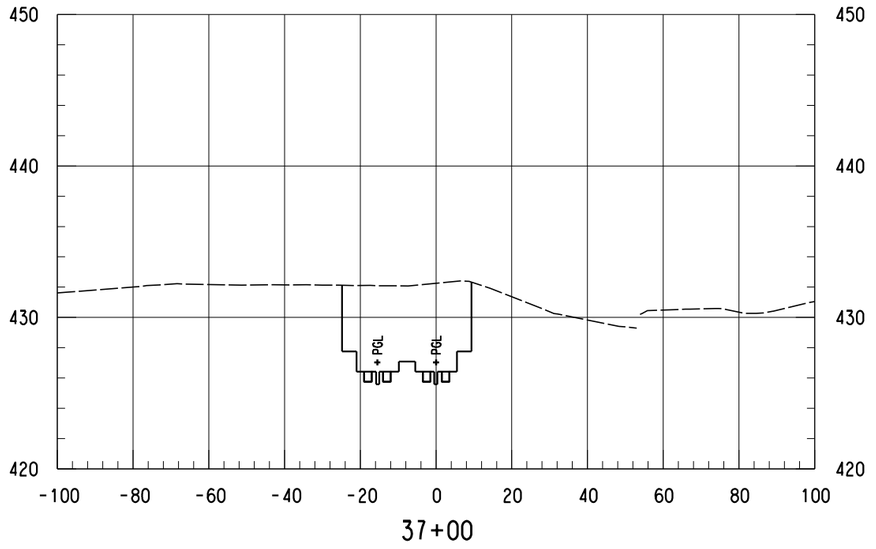
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$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC8-0014



36+00

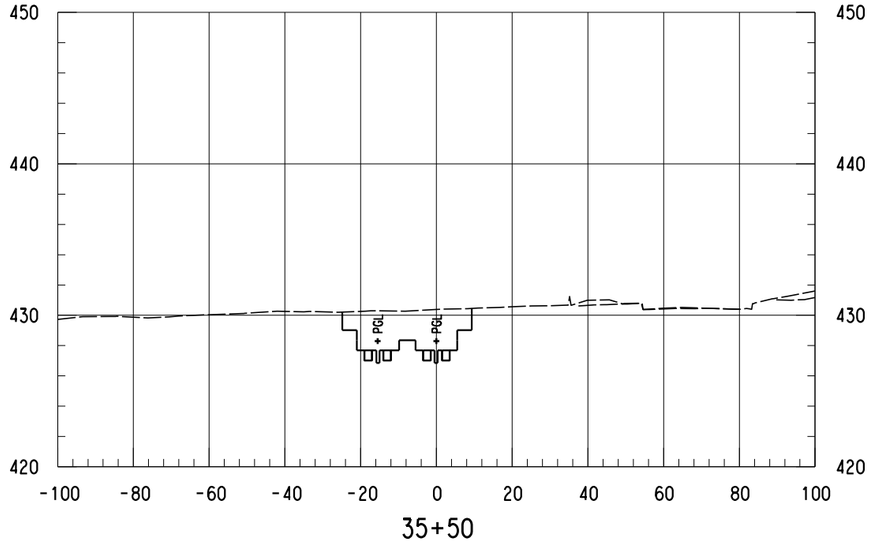


37+00

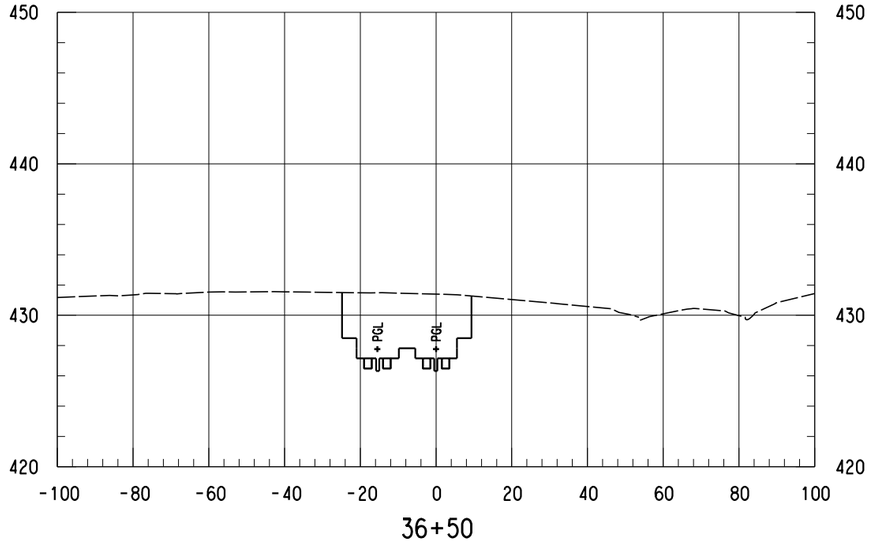
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



35+50



36+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 77 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 35+50.00 TO STA 37+00.00

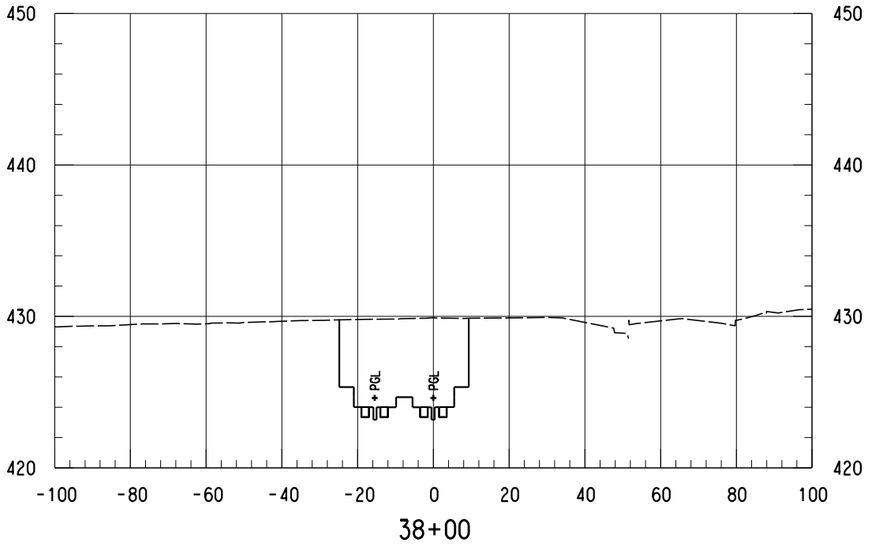
CONTRACT | DWG No. CC8-0014 | REV

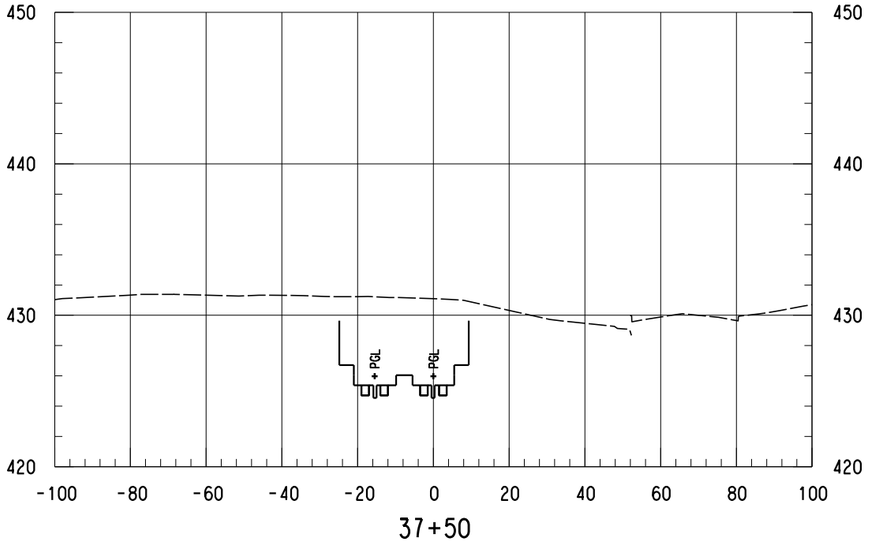
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$$$$DGN$SPECIFICATION$$$$$$$$$

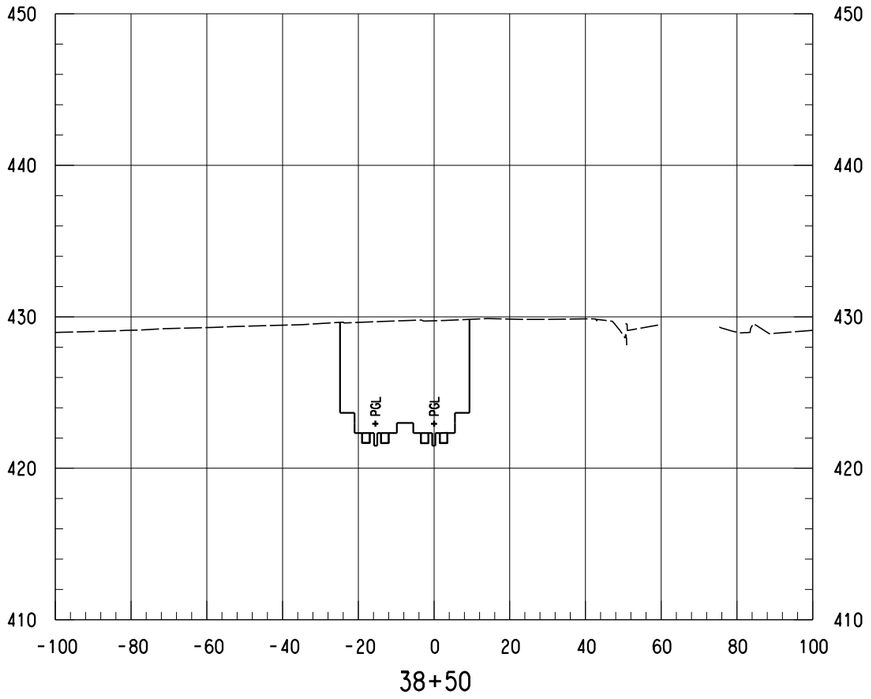
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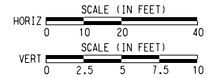
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0015









NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 78 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 37+50.00 TO STA 38+50.00

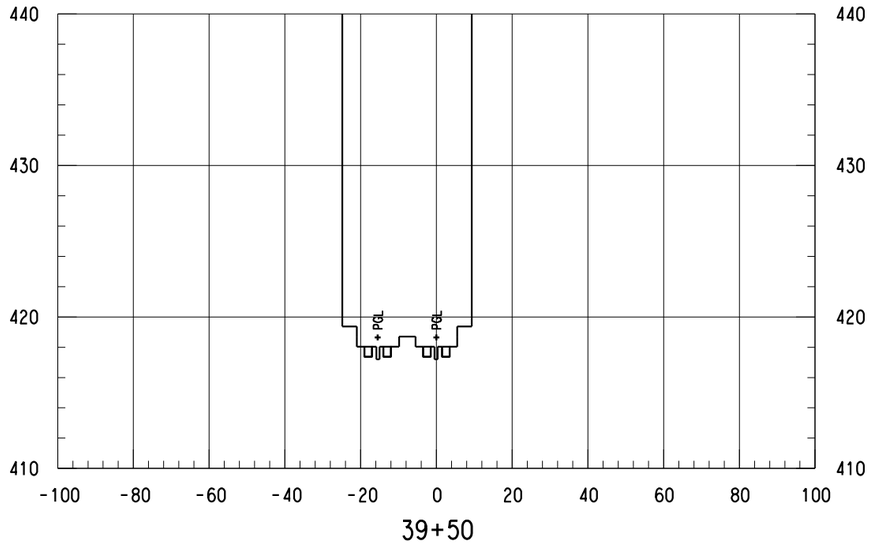
CONTRACT	DWG No.	REV
	CC8-0015	

DANGLE

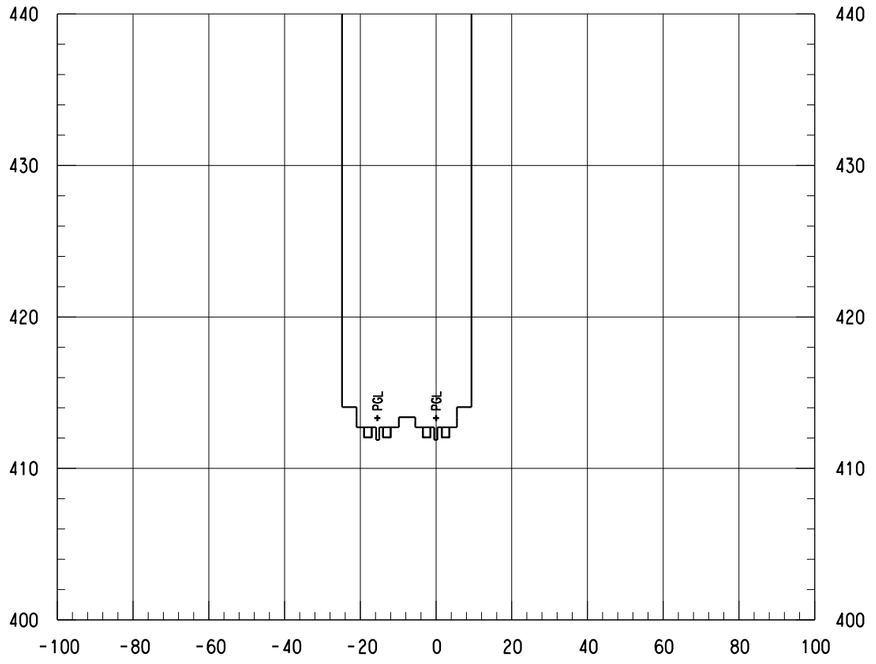
Friday, February 28, 2020 12:51:40 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$$

$$$$DGN$$SPECIFICATION$$$$$$$$$$

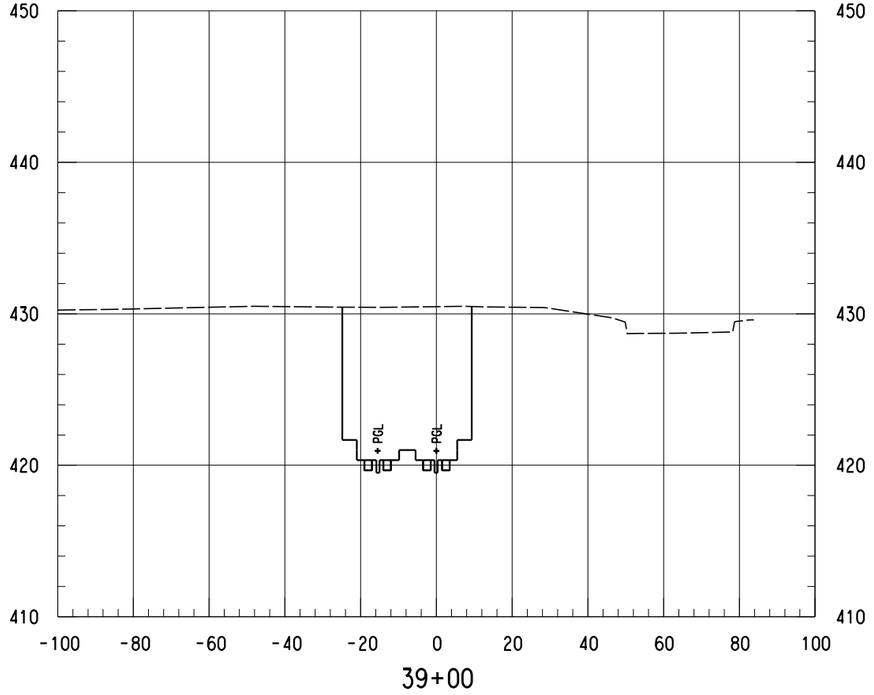
DWG No. CC8-0016



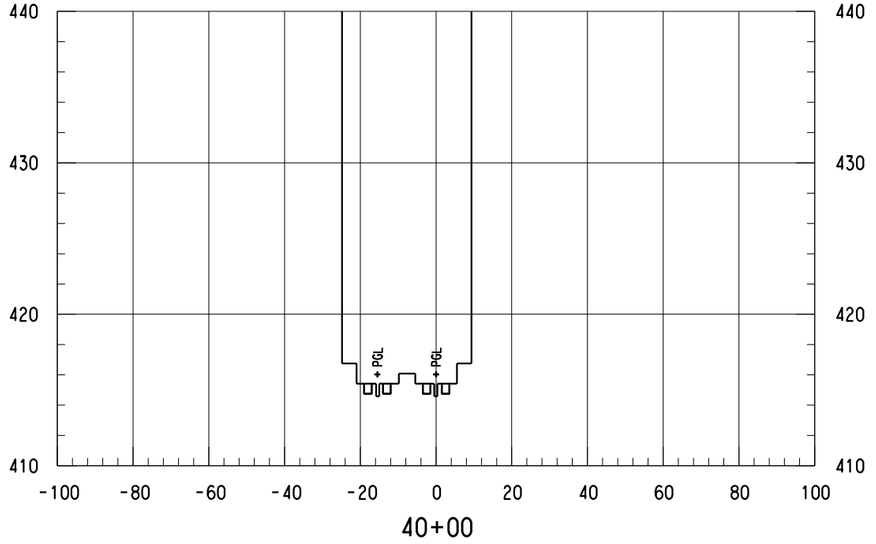
39+50



40+50



39+00



40+00

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 79 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 39+00.00 TO STA 40+50.00

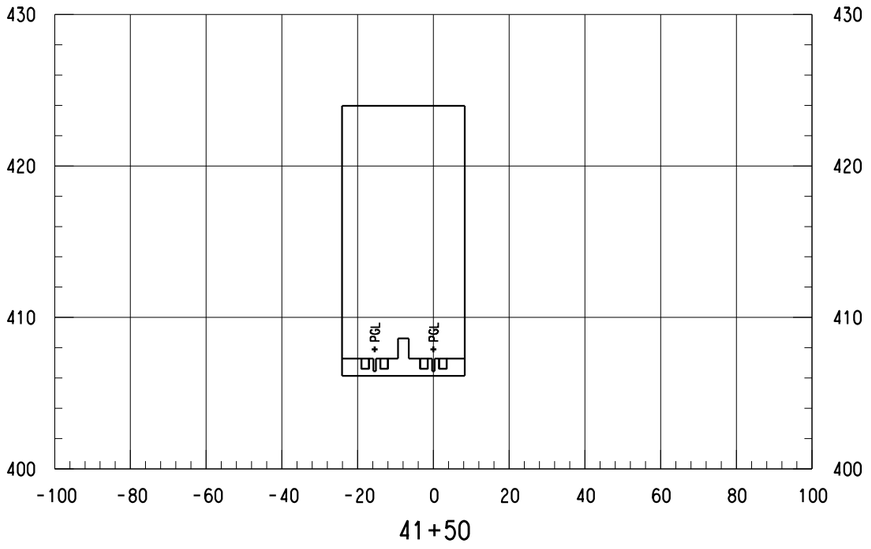
CONTRACT | DWG No. CC8-0016 | REV

DANGLE

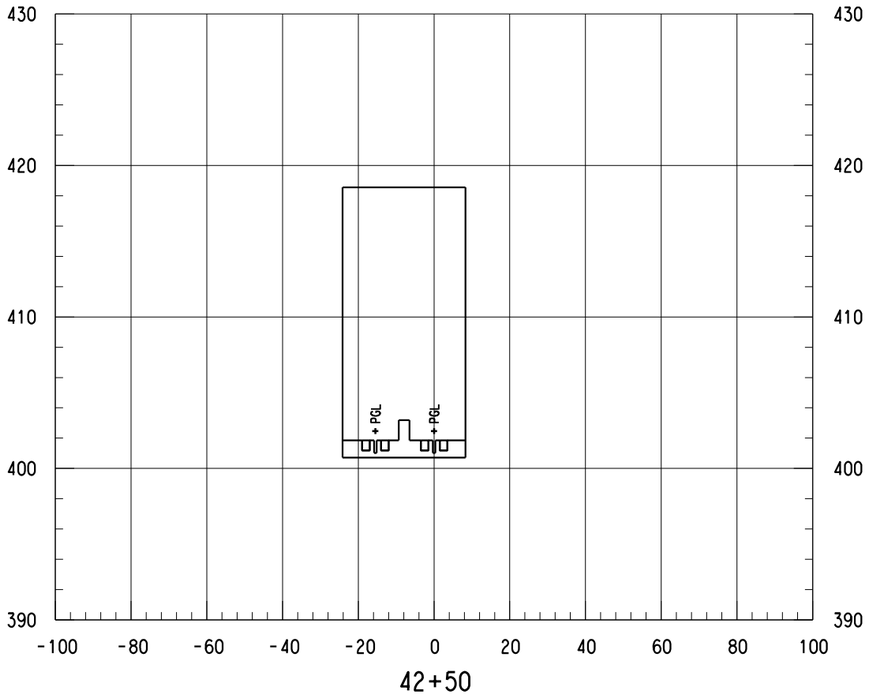
Friday, February 28, 2020 12:57:40 PM
$$$$DGN$SPECIFICATION$$$$$$$$

$$$$DGN$SPECIFICATION$$$$$$$$

DWG No. CC8-0017



41+50

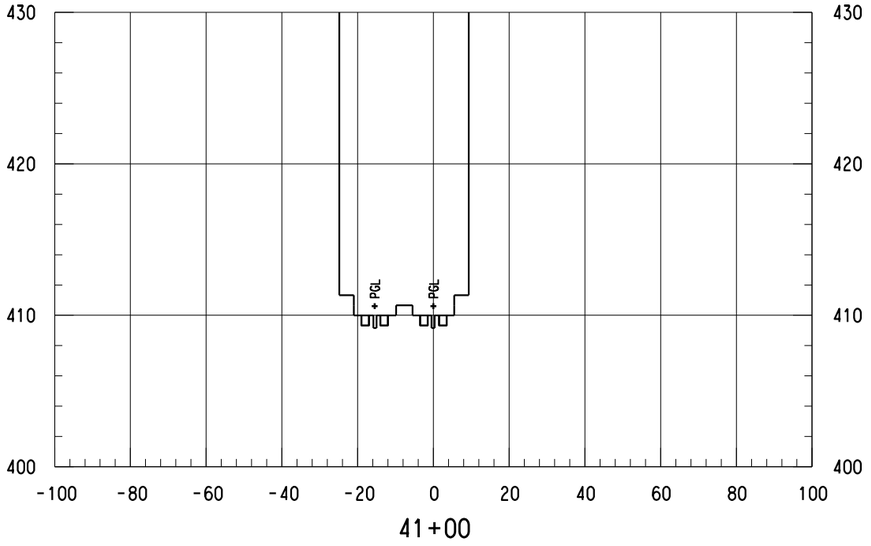


42+50

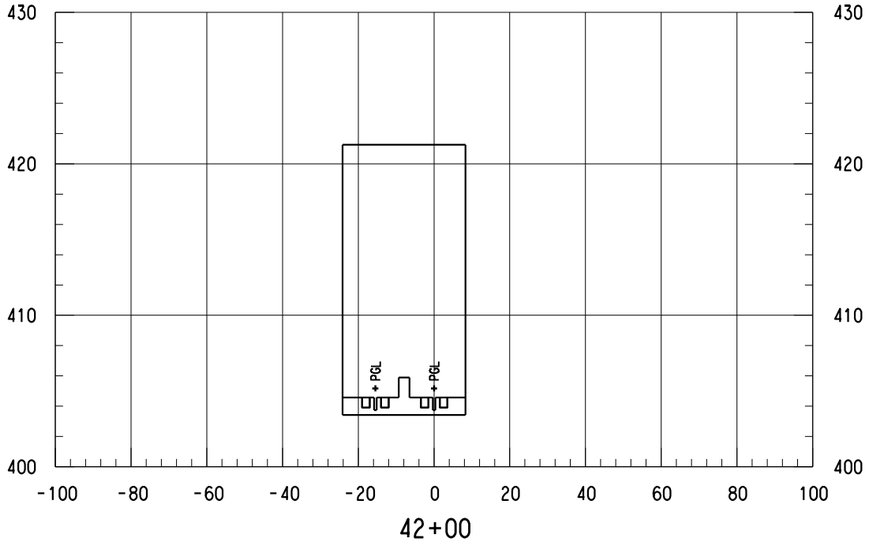
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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41+00



42+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 80 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 41+00.00 TO STA 42+50.00

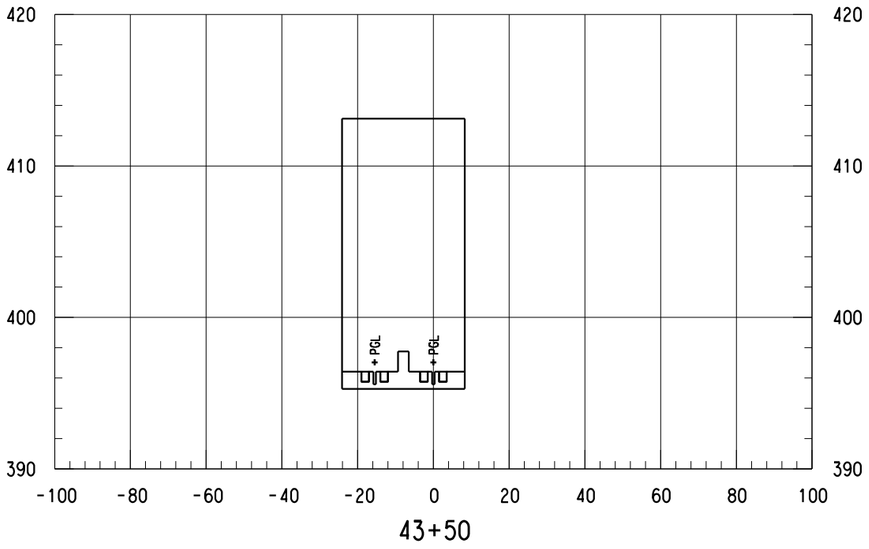
CONTRACT	DWG No.	REV
	CC8-0017	

DANGLE

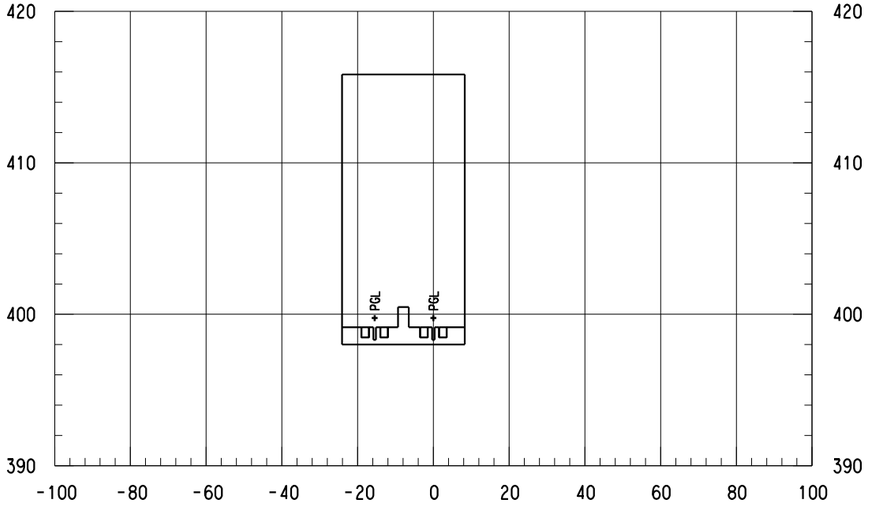
Friday, February 28, 2020 12:57:41 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

$$$$DGN$$SPECIFICATION$$$$$$$$$

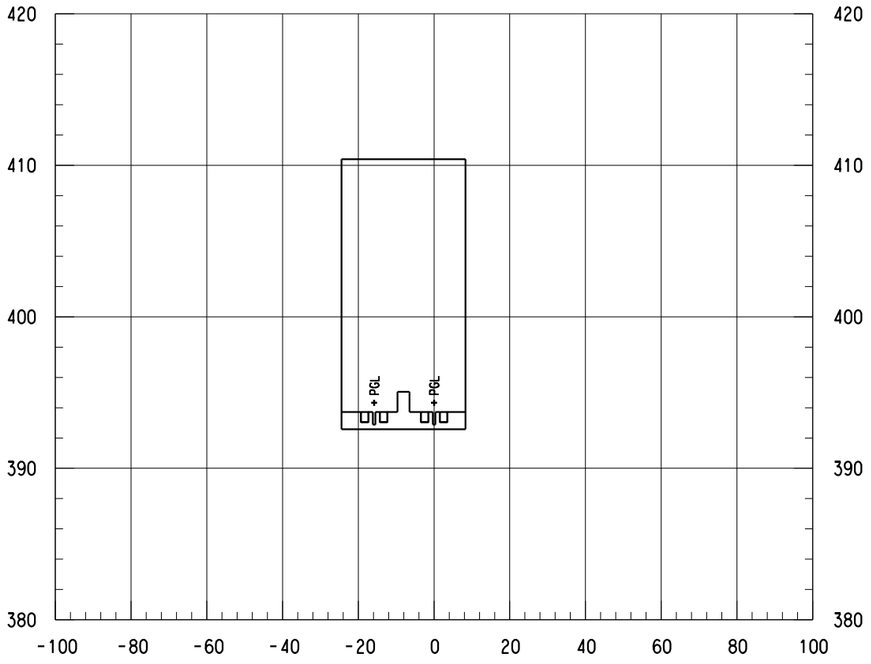
DWG No. CC8-0018



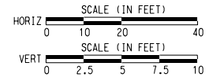
43+50



43+00



44+00



NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 81 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

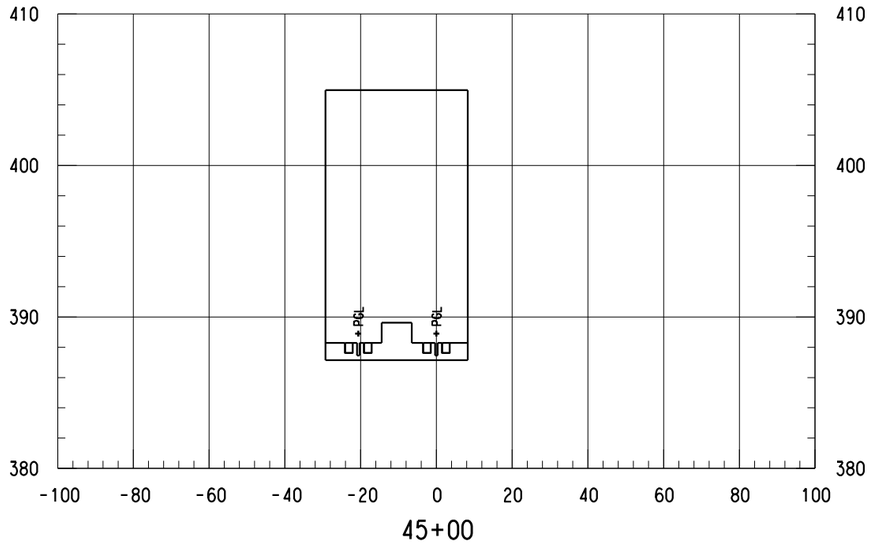
CBD-2
GUIDEWAY CROSS SECTIONS
STA 43+00.00 TO STA 44+00.00

CONTRACT	DWG No.	REV
	CC8-0018	

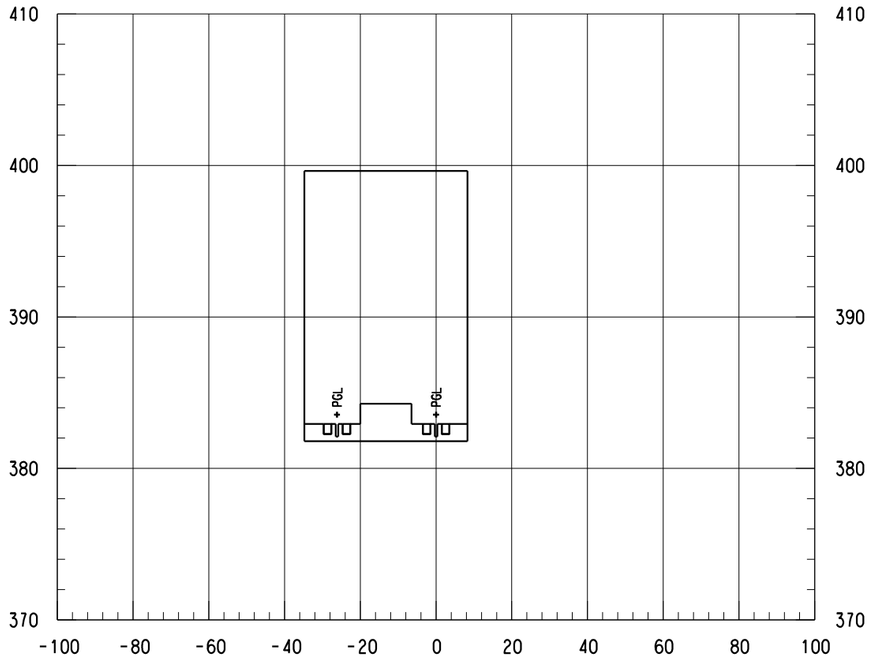
DANGLE

Friday, February 28, 2020 12:51:41 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0019



45+00

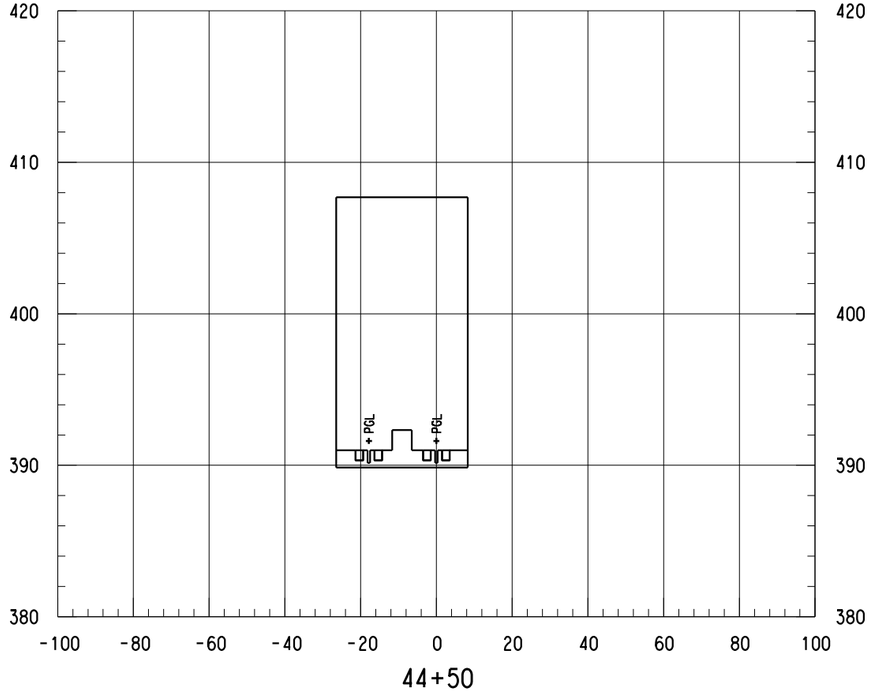


46+00

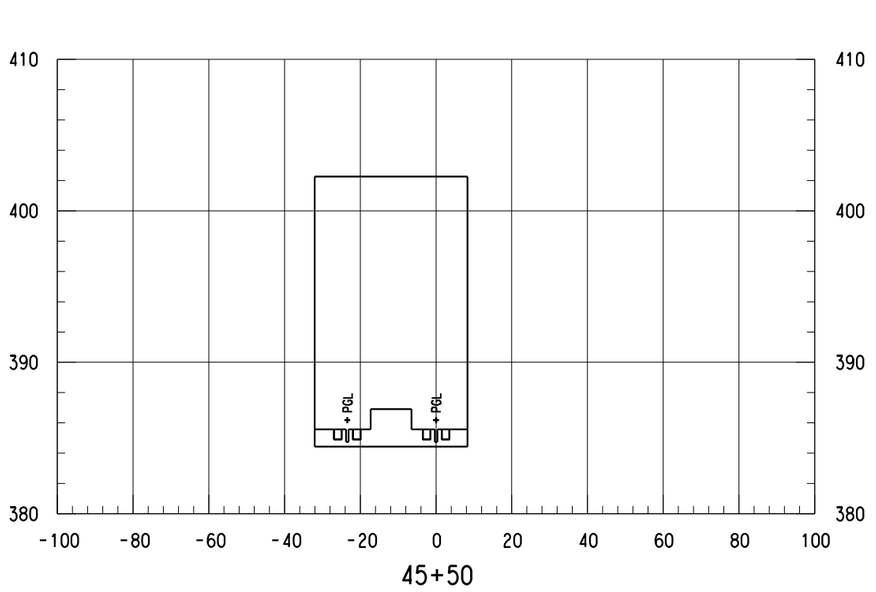
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



44+50



45+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 82 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 44+50.00 TO STA 46+00.00

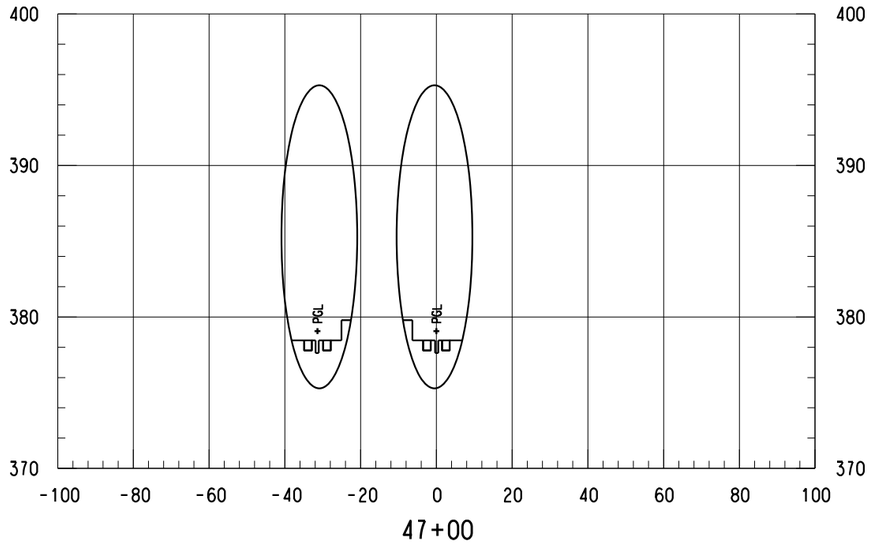
CONTRACT	DWG No.	REV
	CC8-0019	

Friday, February 28, 2020 12:57:41 PM
$$$$DGN$$SPECIFICATION$$$$$$$$

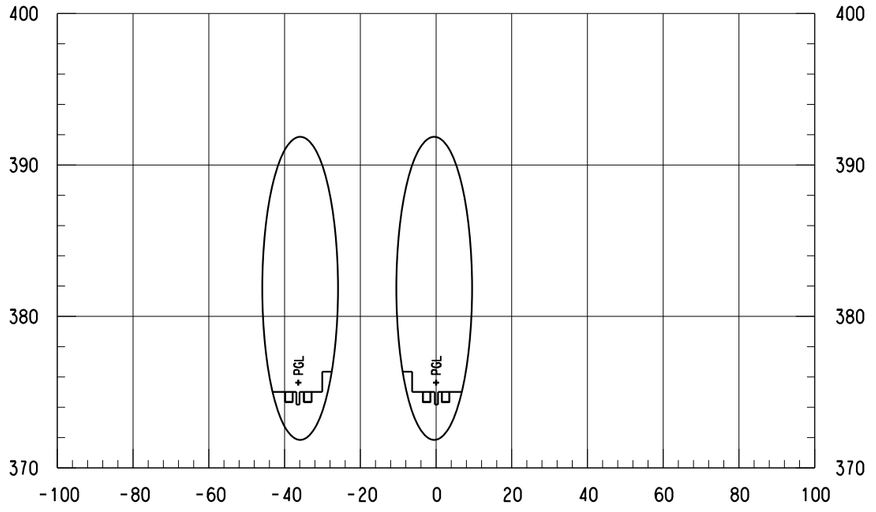
DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$

DWG No. CC8-0020



47+00

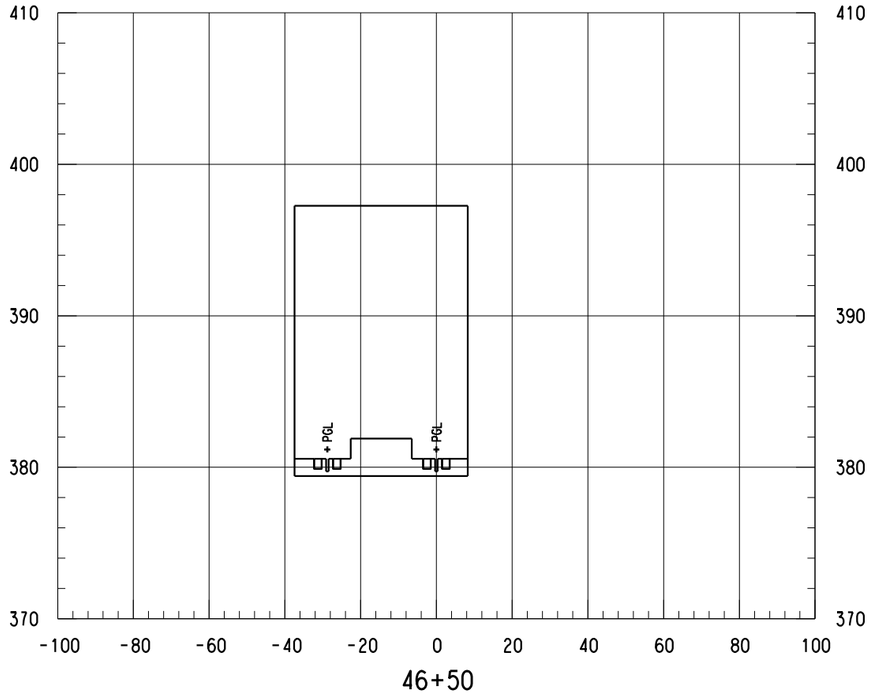


48+00

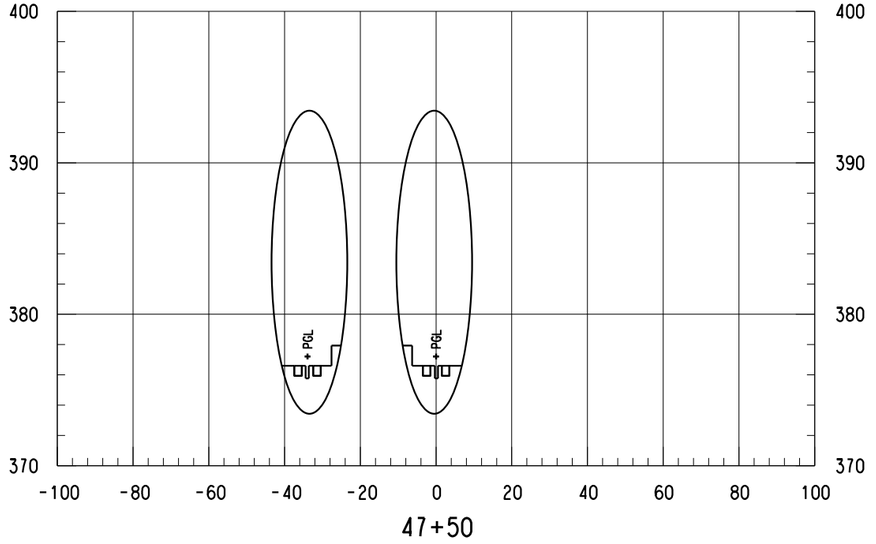
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



46+50



47+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 83 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 46+50.00 TO STA 48+00.00

CONTRACT	DWG No.	REV
	CC8-0020	

Friday, February 28, 2020 12:57:42 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

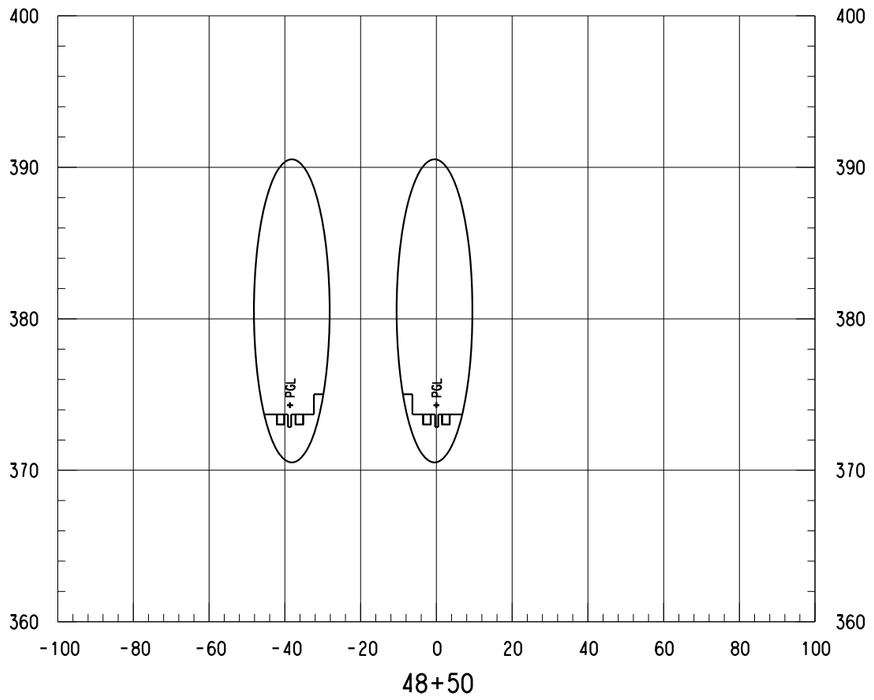
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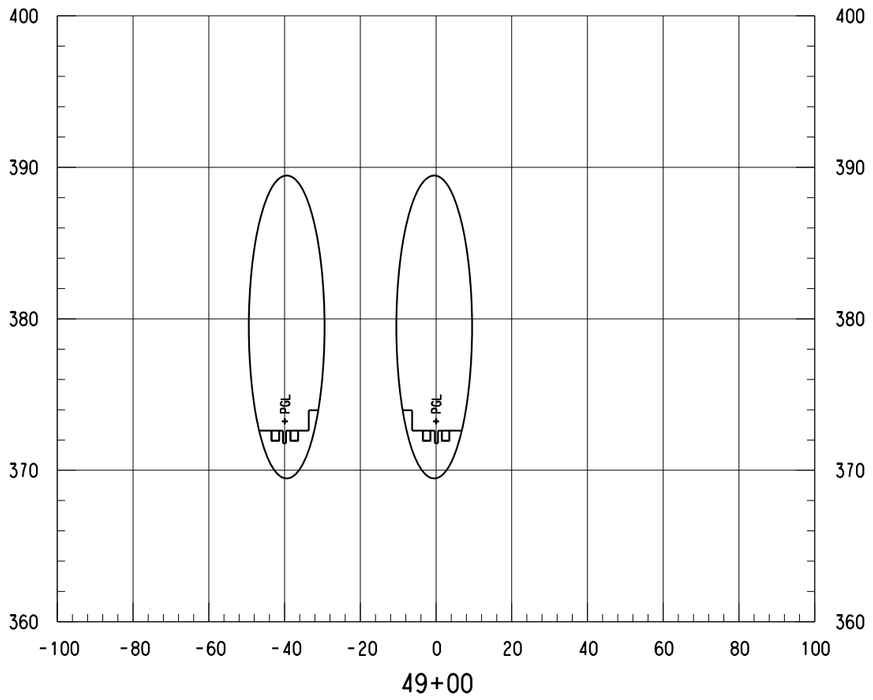
DWG No. CC8-0021

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.





NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 84 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 48+50.00 TO STA 49+00.00

CONTRACT | DWG No. CC8-0021 | REV

Friday, February 28, 2020 12:57:42 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

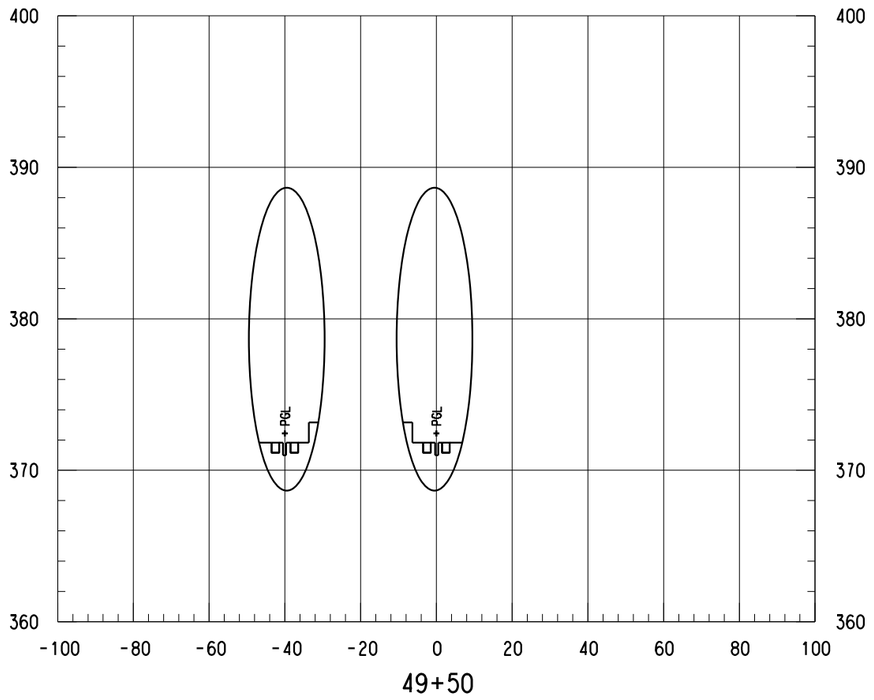
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DWG No. CC8-0022

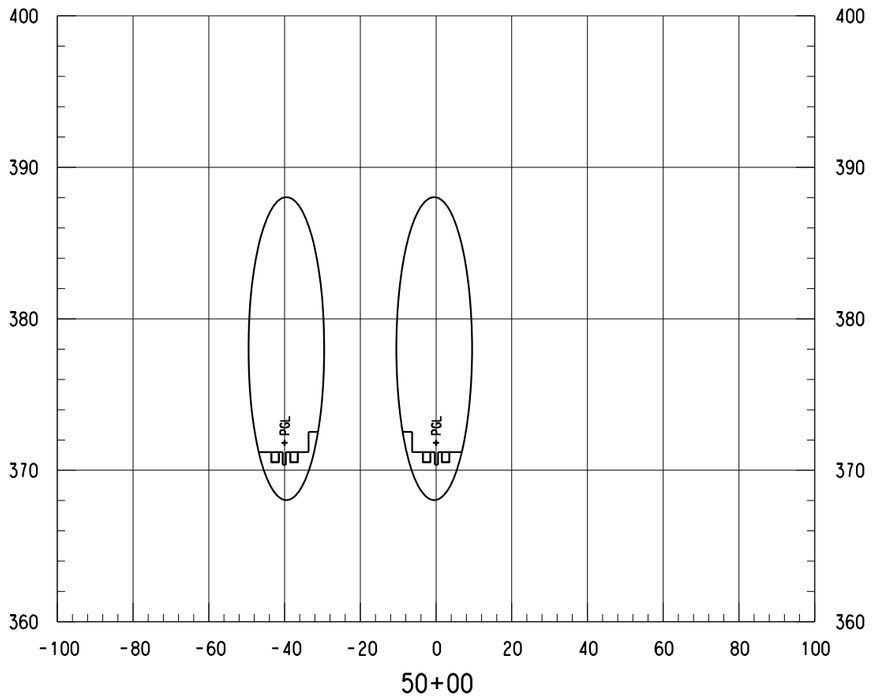
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



49+50



50+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 85 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

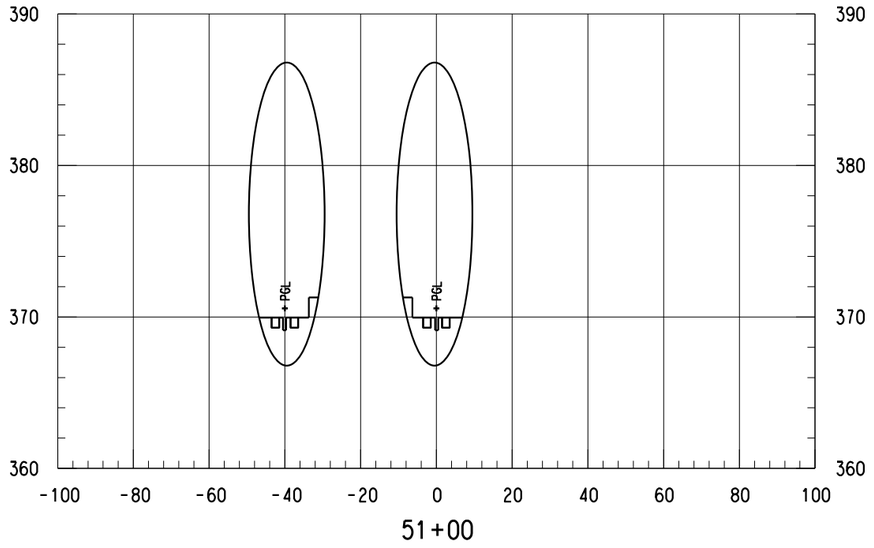
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 49+50.00 TO STA 50+00.00

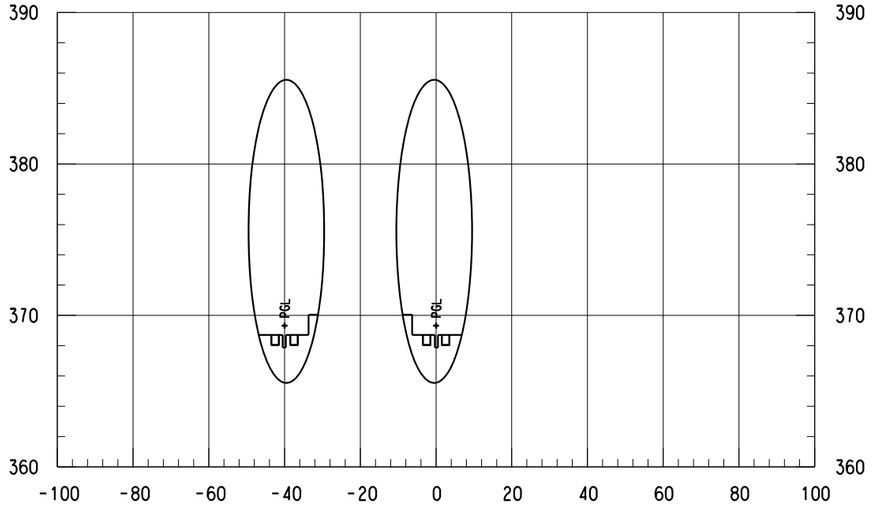
CONTRACT | DWG No. CC8-0022 | REV

Friday, February 28, 2020 12:57:43 PM
$$$$DGN$SPECIFICATION$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$

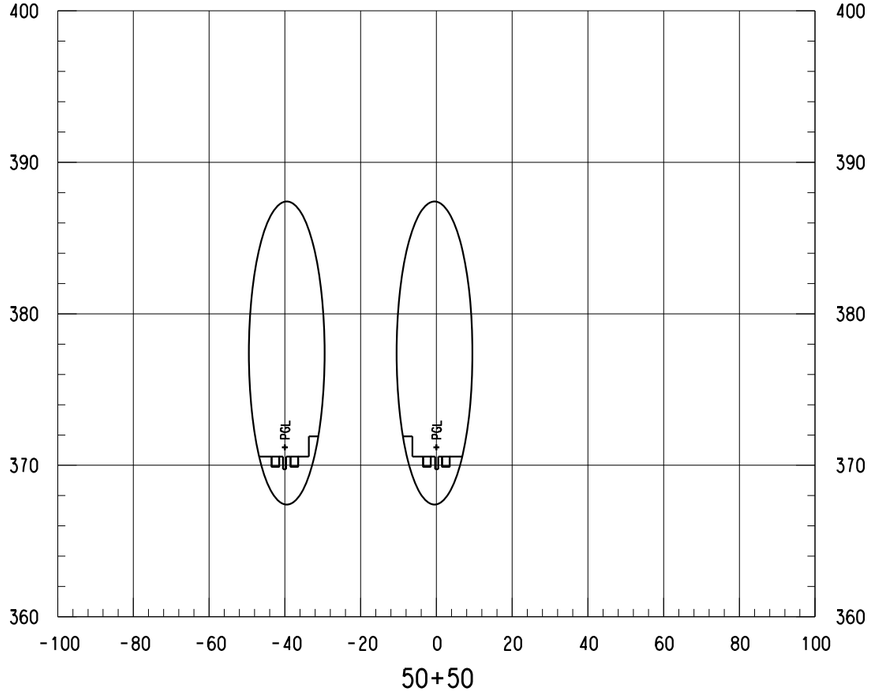
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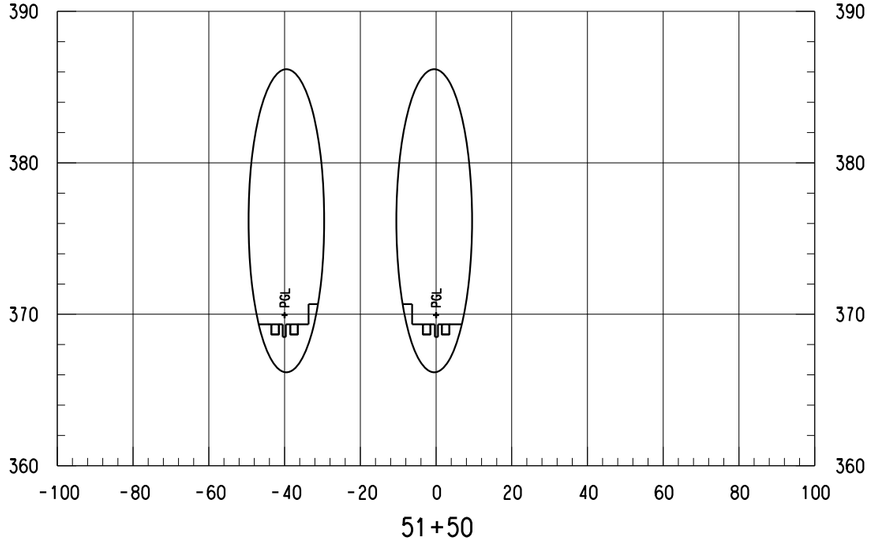
51+00



52+00



50+50



51+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 86 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

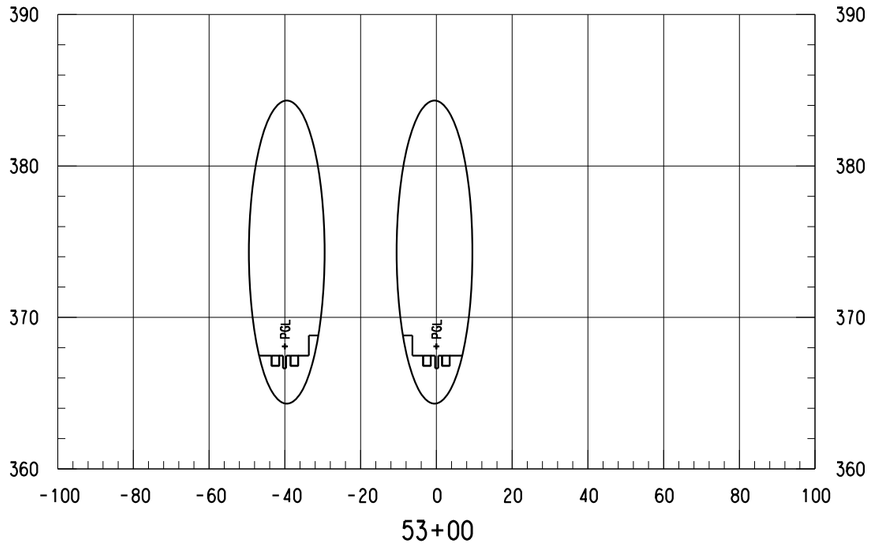
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 50+50.00 TO STA 52+00.00

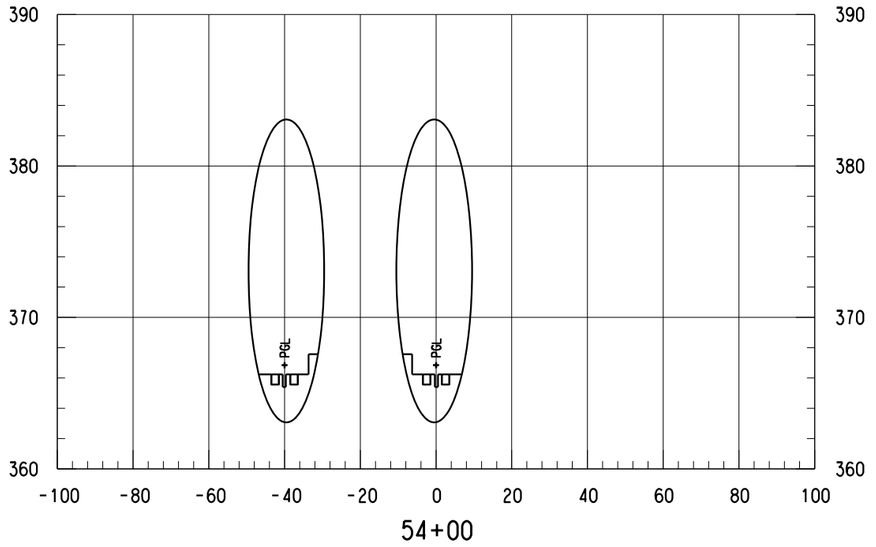
CONTRACT | DWG No. CC8-0023 | REV

Friday, February 28, 2020 12:57:43 PM
$$$$DGN$$SPECIFICATION$$$$$$$$
DANGLE
$$$$DGN$$SPECIFICATION$$$$$$$$

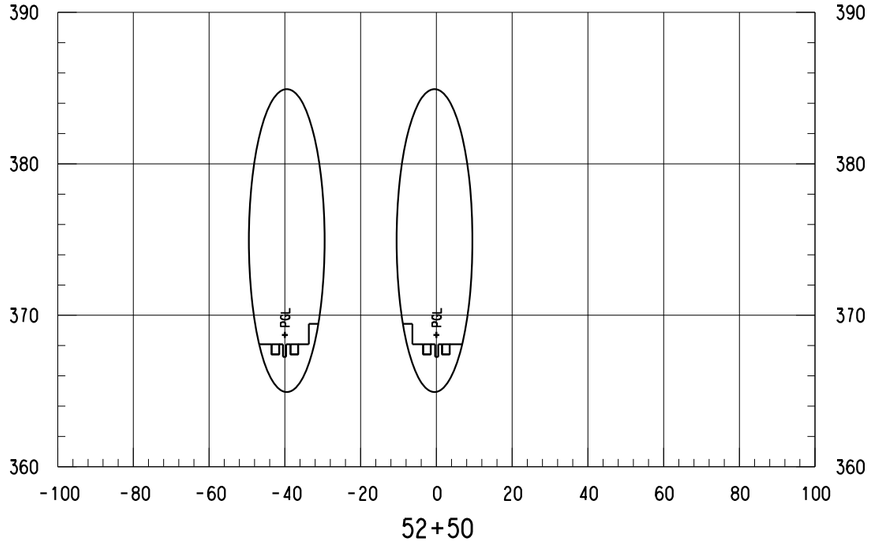
DWG No. CC8-0024



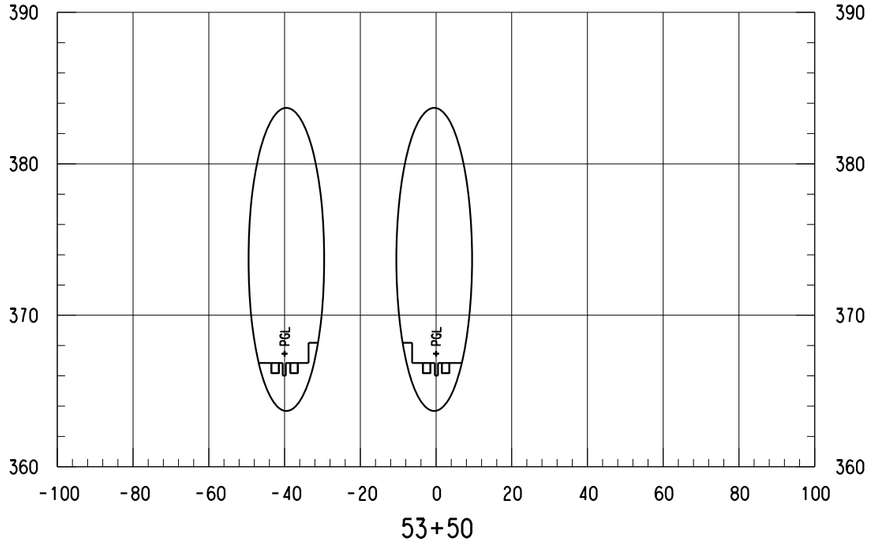
53+00



54+00



52+50



53+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 87 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

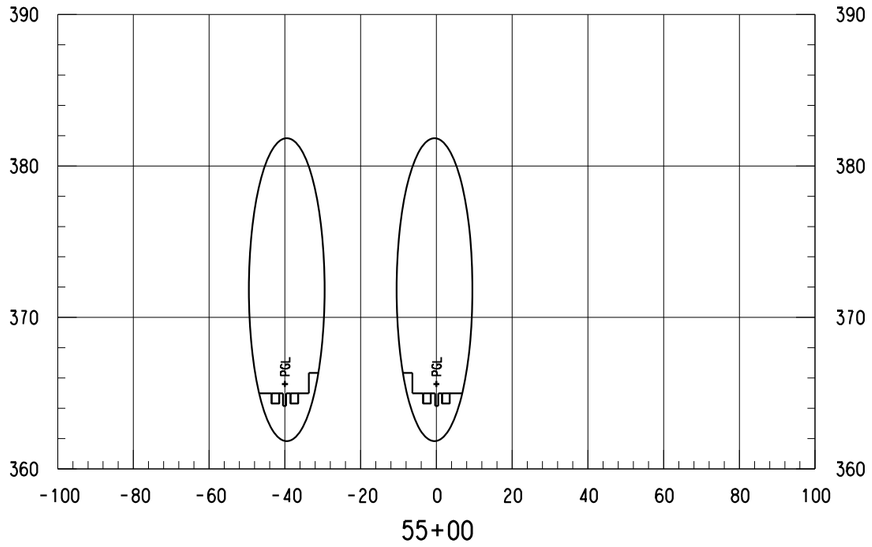
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

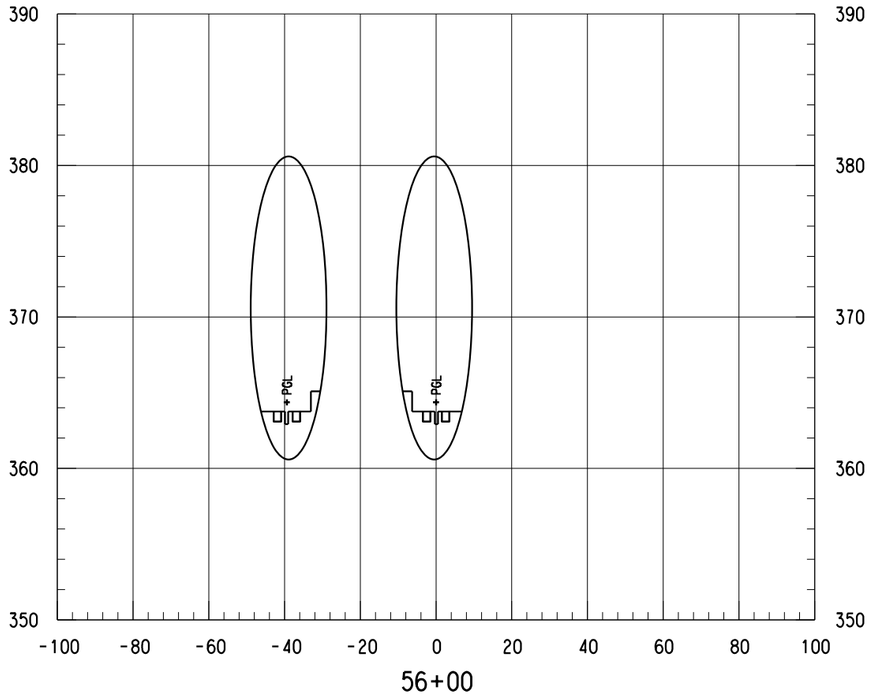
CBD-2
GUIDEWAY CROSS SECTIONS
STA 52+50.00 TO STA 54+00.00

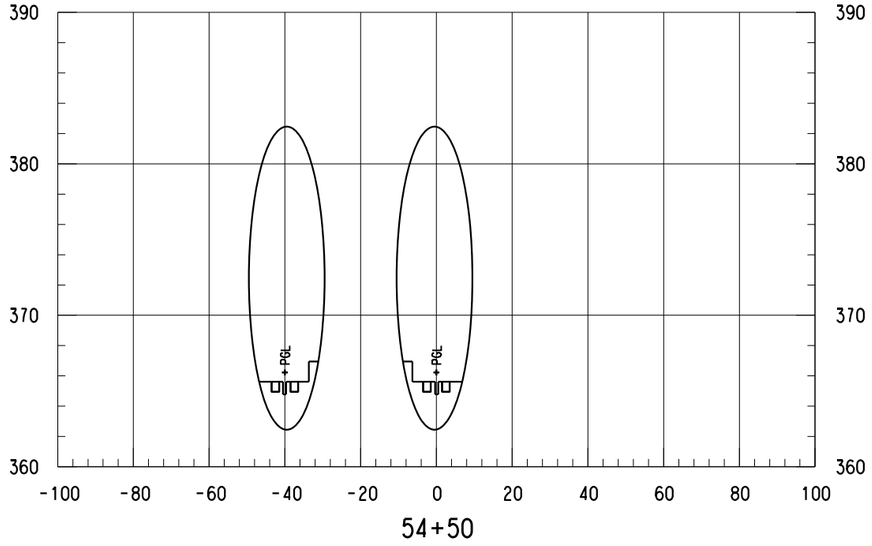
CONTRACT	DWG No.	REV
	CC8-0024	

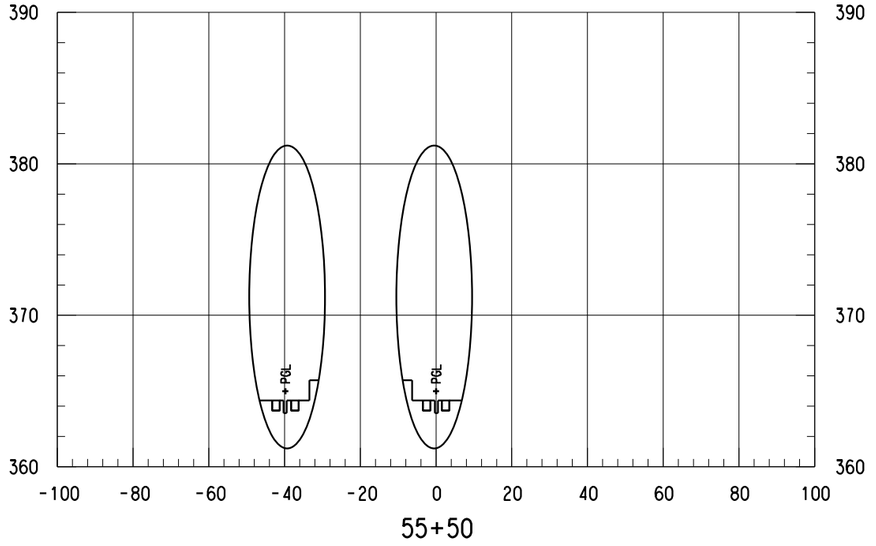
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$$$$DGN$$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$$SPECIFICATION$$$$$$$$$$

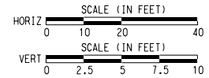
DWG No. CC8-0025











NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 88 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 54+50.00 TO STA 56+00.00

CONTRACT	DWG No.	REV
	CC8-0025	

Friday, February 28, 2020 12:51:44 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$$

DANGLE

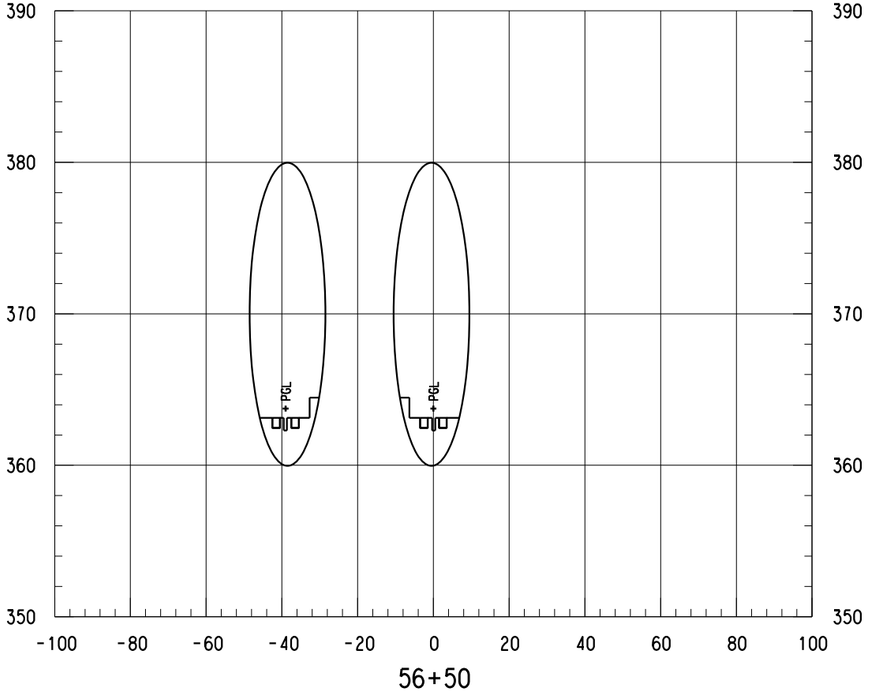
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DWG No. CC8-0026

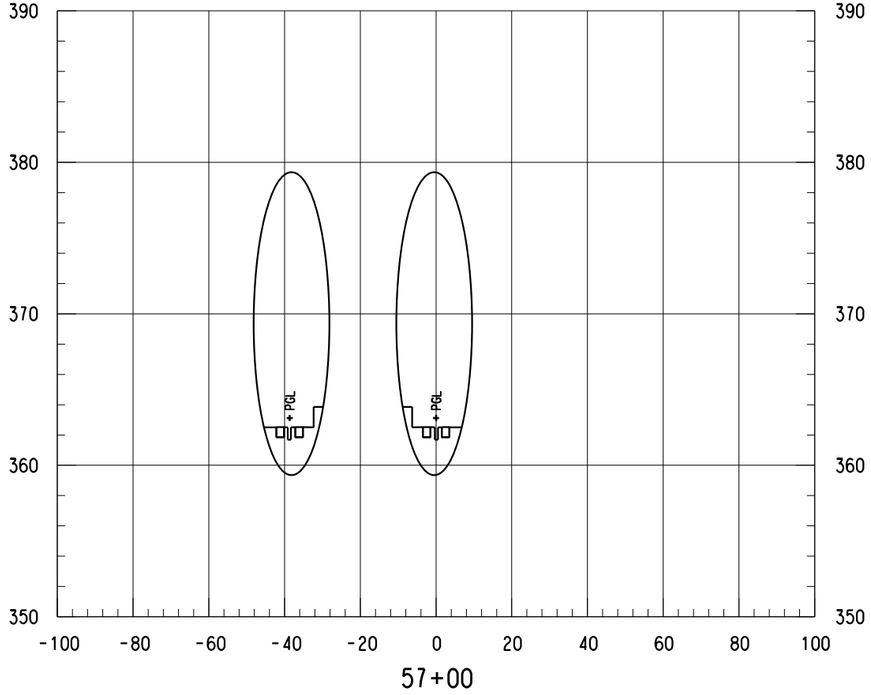
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



56+50



57+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 89 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 56+50.00 TO STA 57+00.00

CONTRACT | DWG No. CC8-0026 | REV

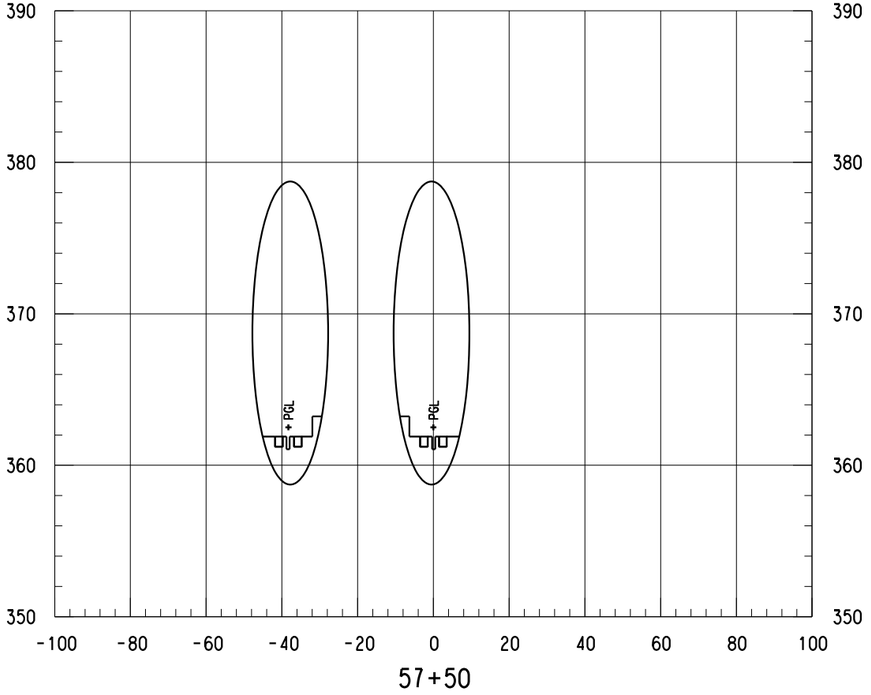
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DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$

DWG No. CC8-0027

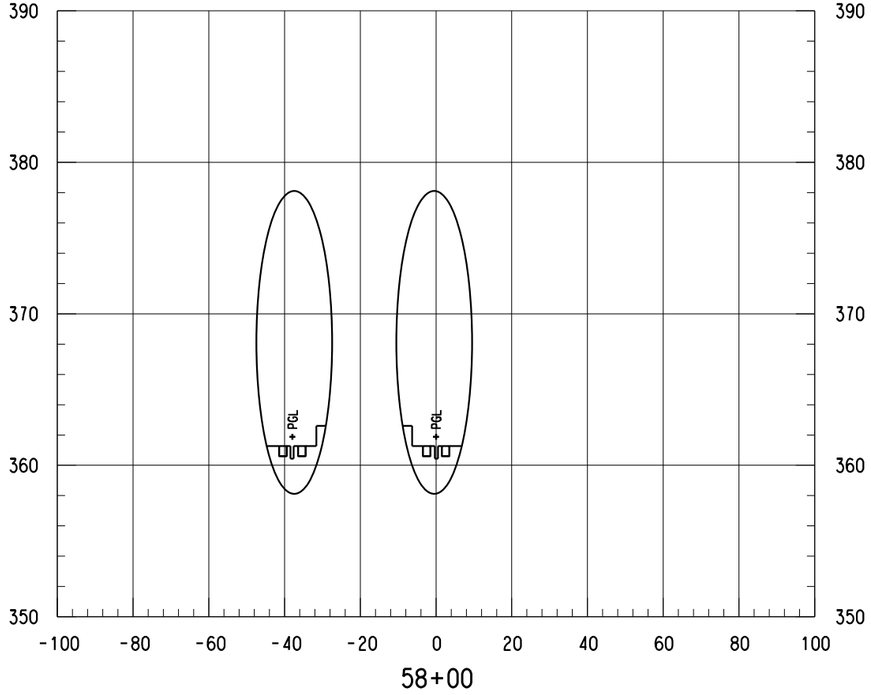
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



57+50



58+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 90 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 57+50.00 TO STA 58+00.00

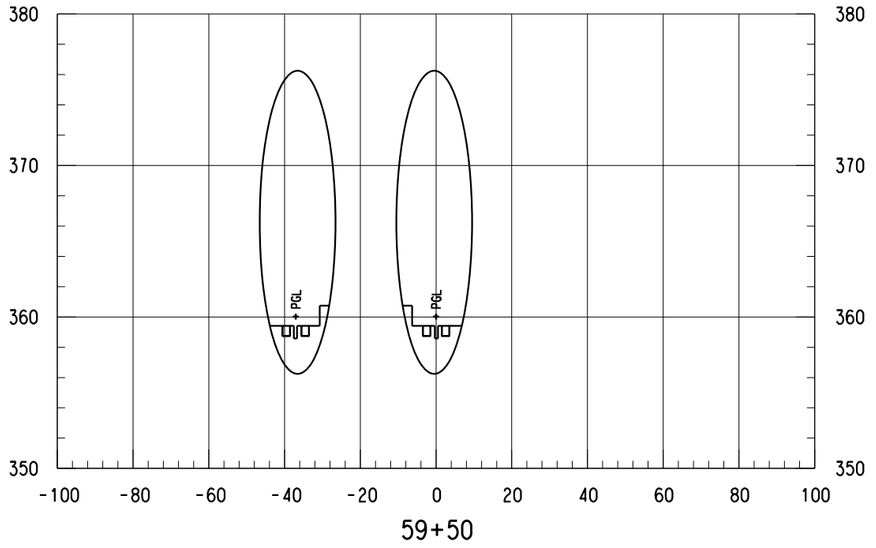
CONTRACT | DWG No. CC8-0027 | REV

Friday, February 28, 2020 12:57:45 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC8-0028

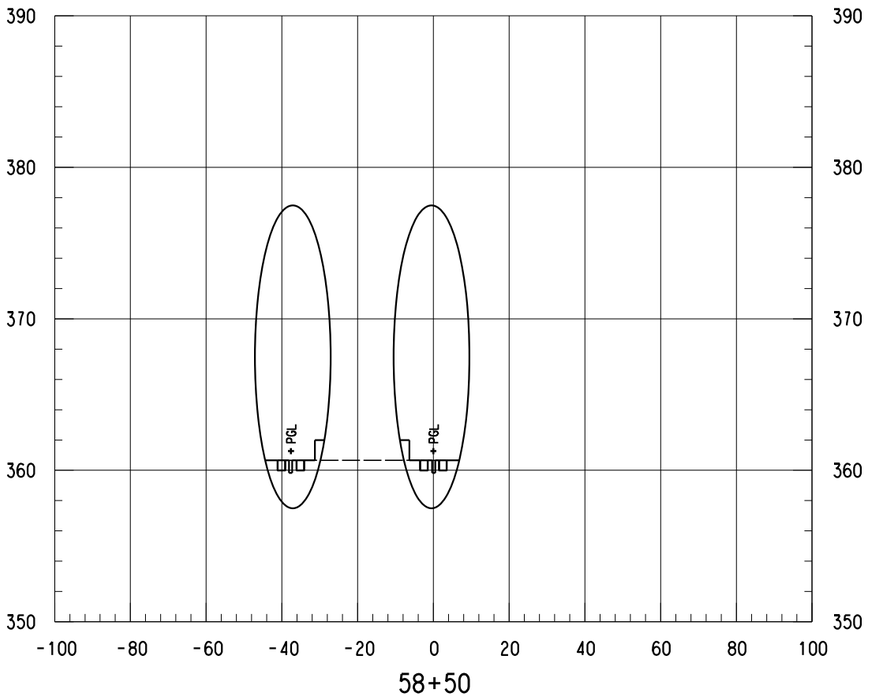


59+50

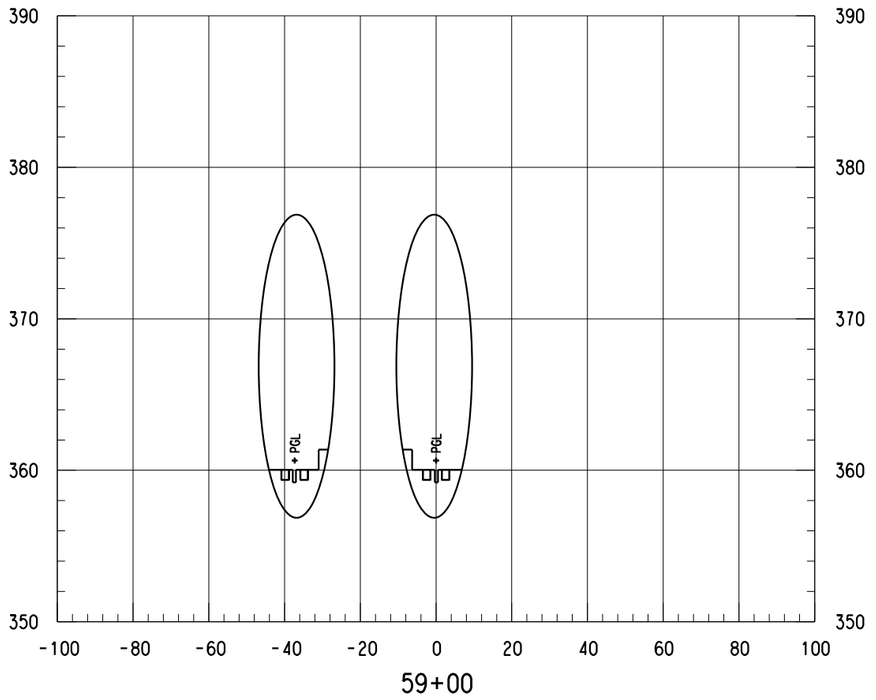
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



58+50



59+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 91 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 58+50.00 TO STA 59+50.00

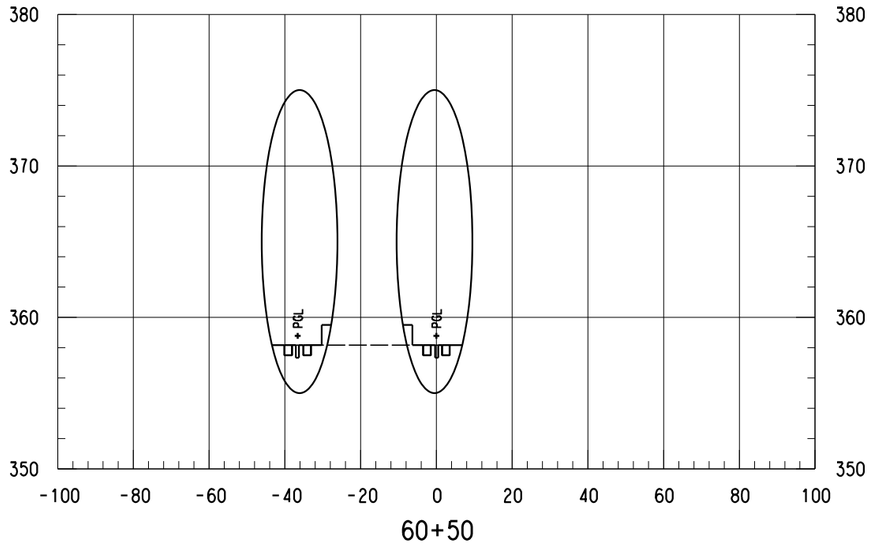
CONTRACT | DWG No. CC8-0028 | REV

Friday, February 28, 2020 12:57:46 PM
$$$$DGN$SPECIFICATION$$$$$$$$

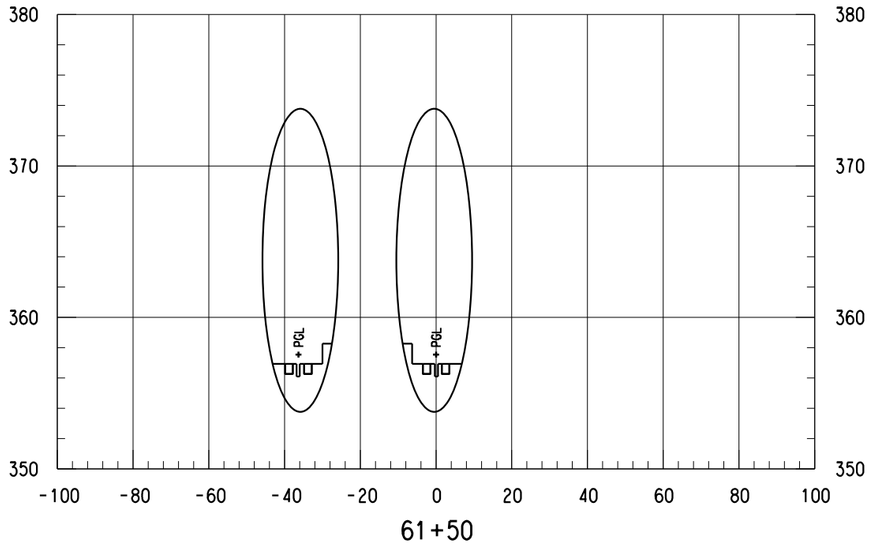
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$

DWG No. CC8-0029



60+50

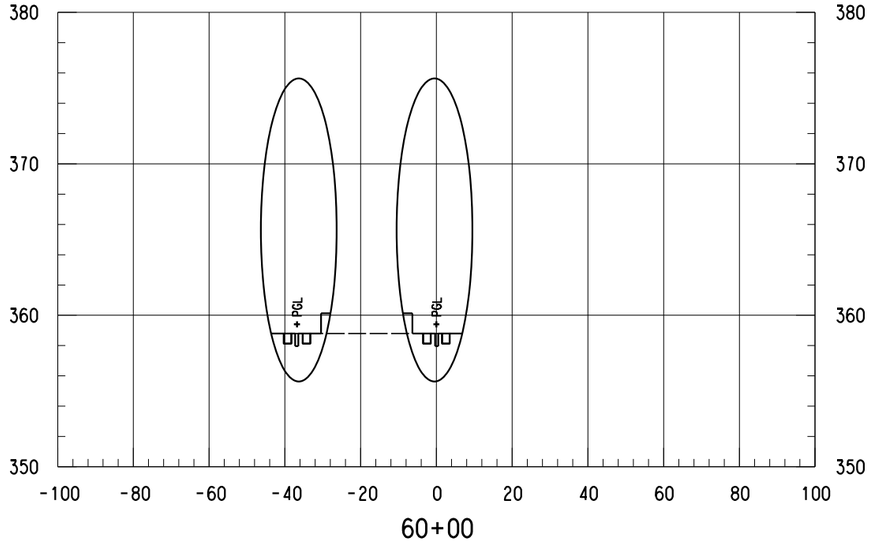


61+50

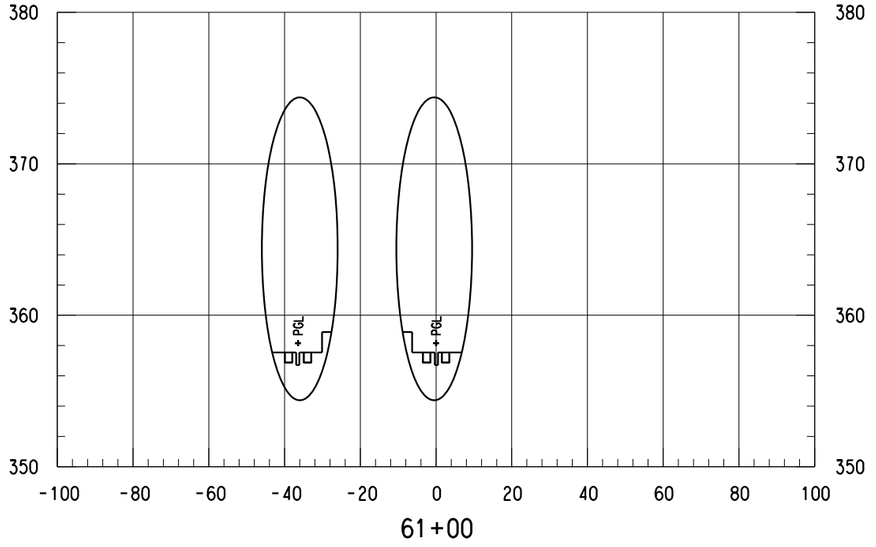
SCALE (IN FEET)
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



60+00



61+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 92 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 60+00.00 TO STA 61+50.00

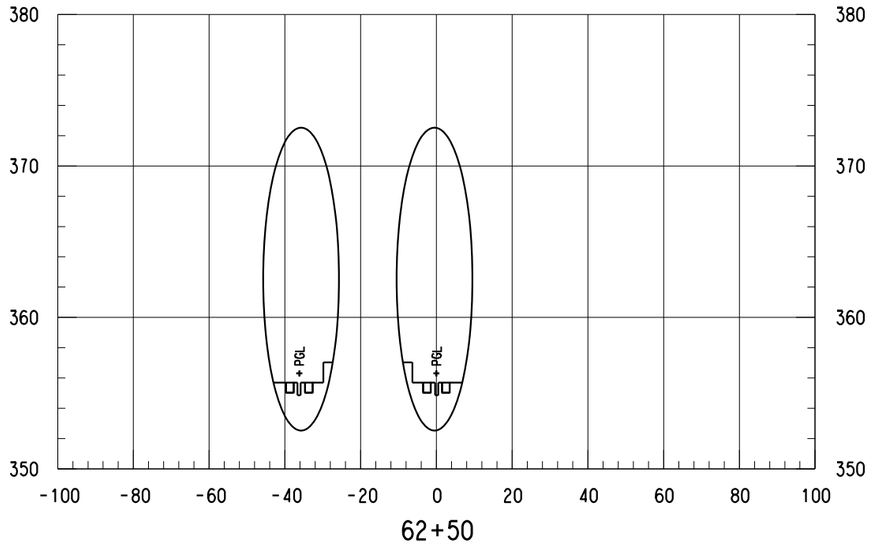
CONTRACT	DWG No.	REV
	CC8-0029	

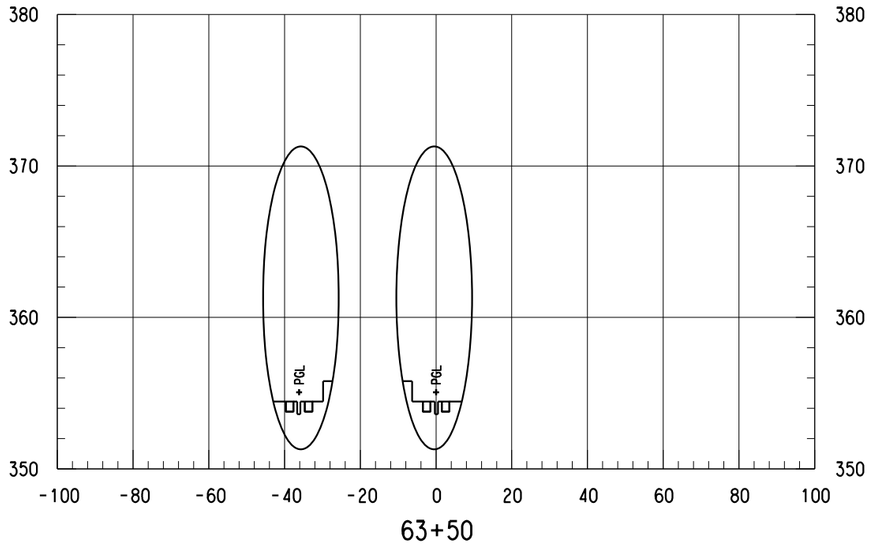
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$$$$DGN$SPECIFICATION$$$$$$$$$

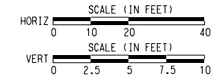
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$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0030

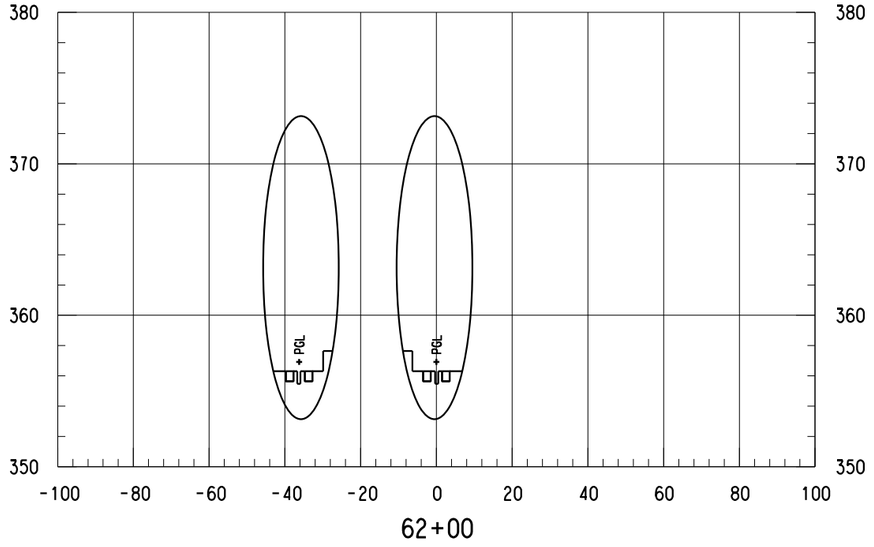


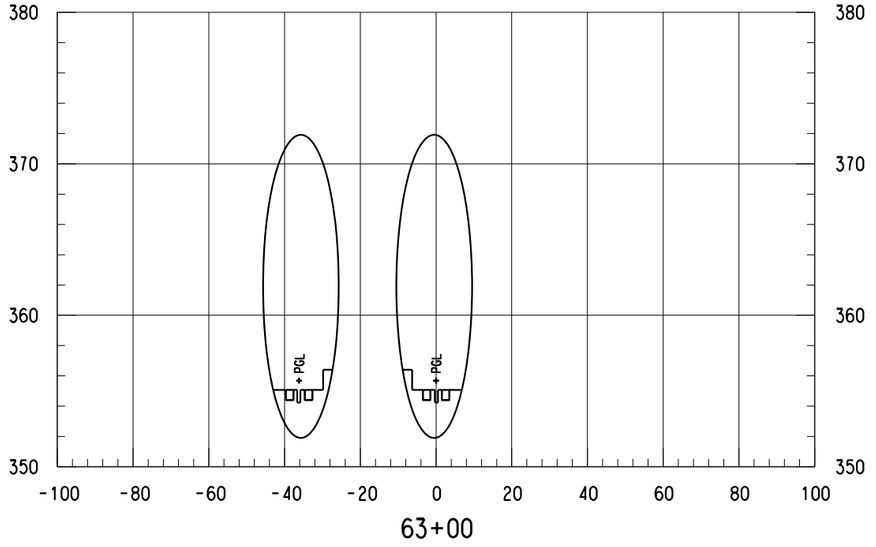




NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.





NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 93 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 62+00.00 TO STA 63+50.00

CONTRACT	DWG No.	REV
	CC8-0030	

Friday, February 28, 2020 12:51:46 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

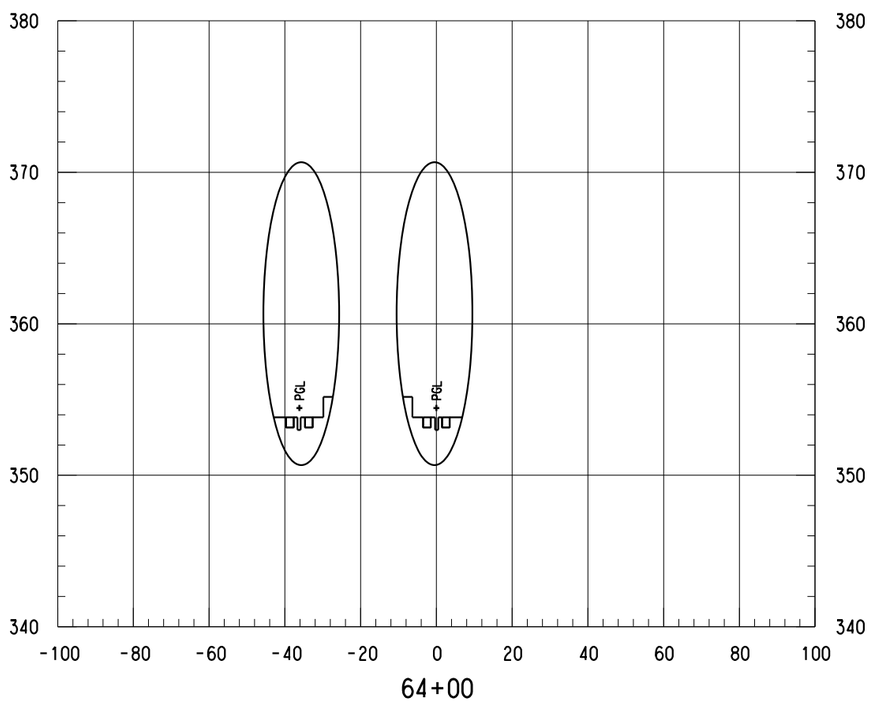
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DWG No. CC8-0031

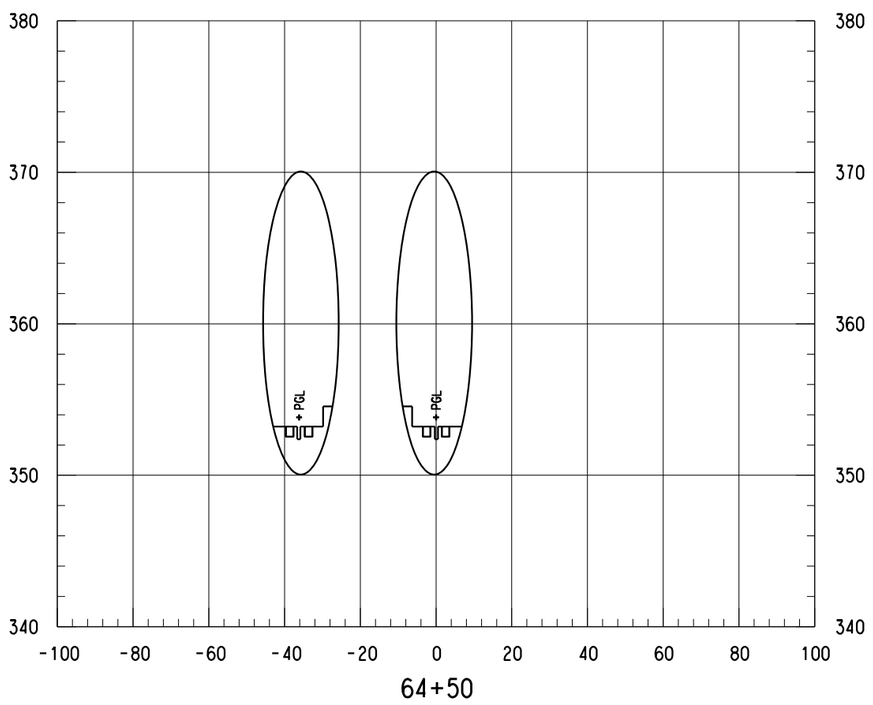
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



64+00



64+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 94 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 64+00.00 TO STA 64+50.00

CONTRACT | DWG No. CC8-0031 | REV

Friday, February 28, 2020 12:57:47 PM
$$$$DGN$$SPECIFICATION$$$$$$$$

DANGLE

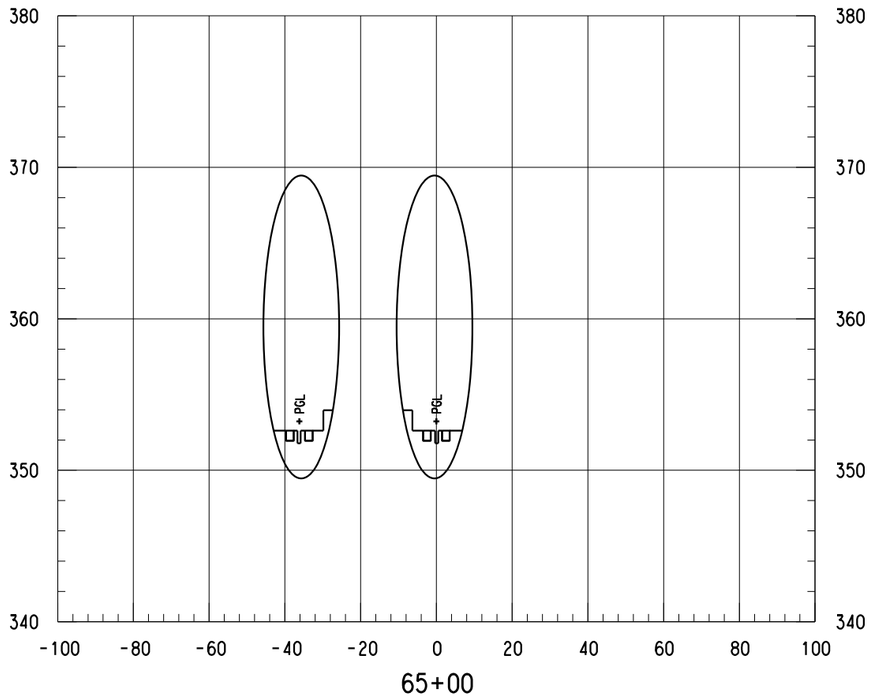
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DWG No. CC8-0032

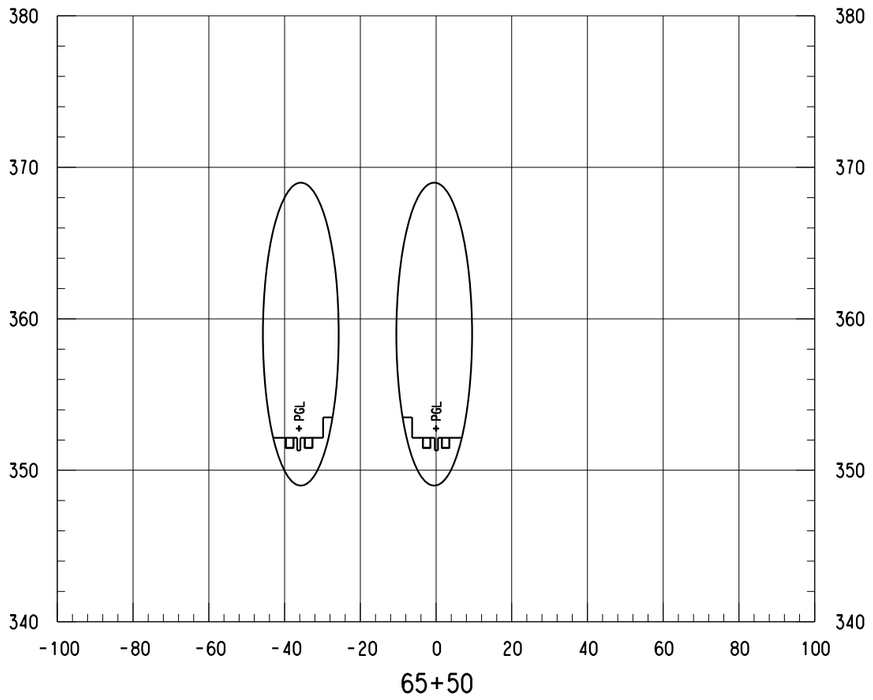
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



65+00



65+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 95 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 65+00.00 TO STA 65+50.00

CONTRACT | DWG No. CC8-0032 | REV

Friday, February 28, 2020 12:57:47 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

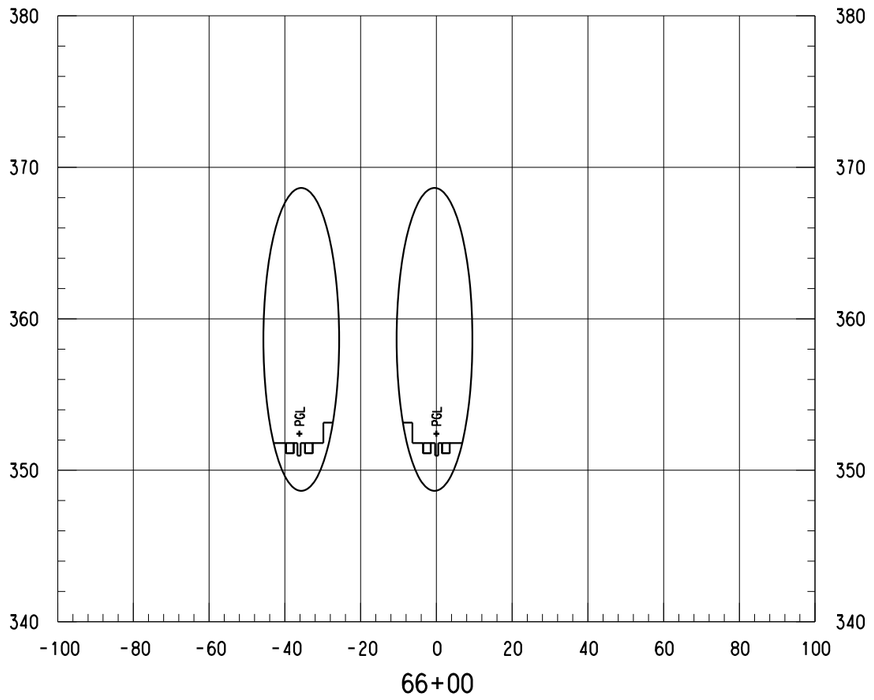
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DWG No. CC8-0033

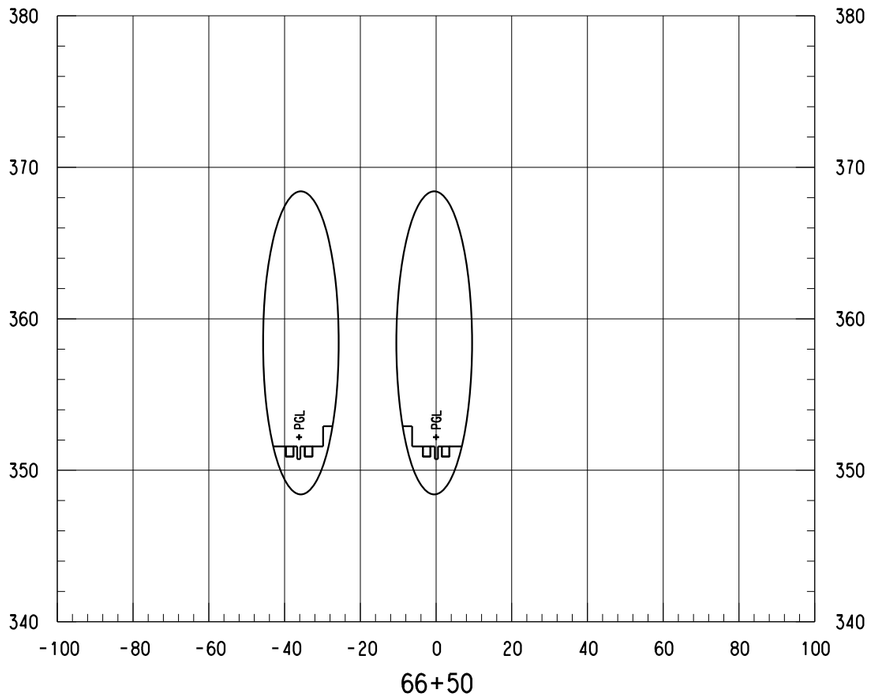
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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66+00



66+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 96 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 66+00.00 TO STA 66+50.00

CONTRACT | DWG No. CC8-0033 | REV

Friday, February 28, 2020 12:57:48 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

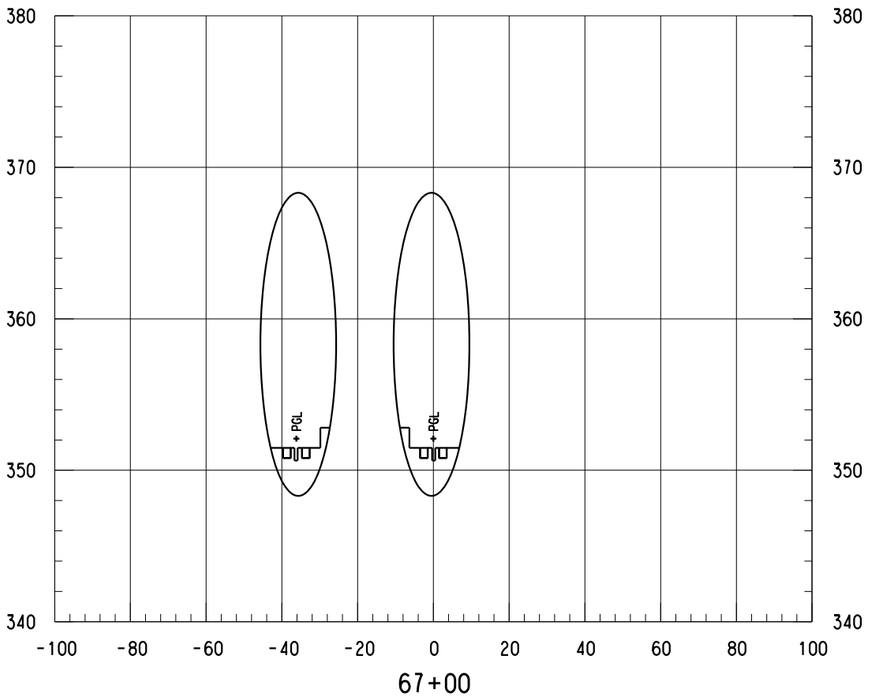
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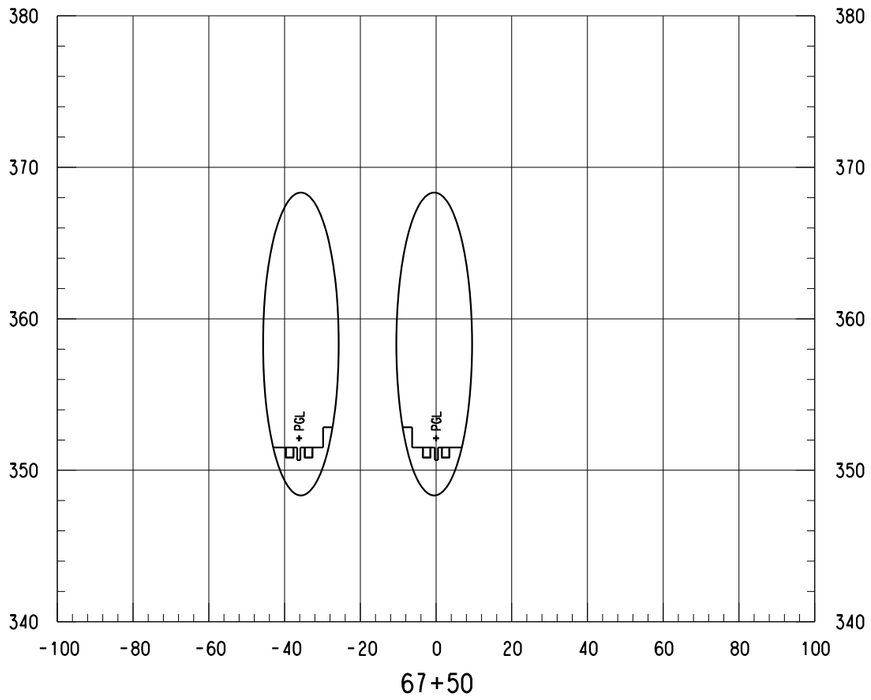
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



67+00



67+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 97 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 67+00.00 TO STA 67+50.00

CONTRACT | DWG No. CC8-0034 | REV

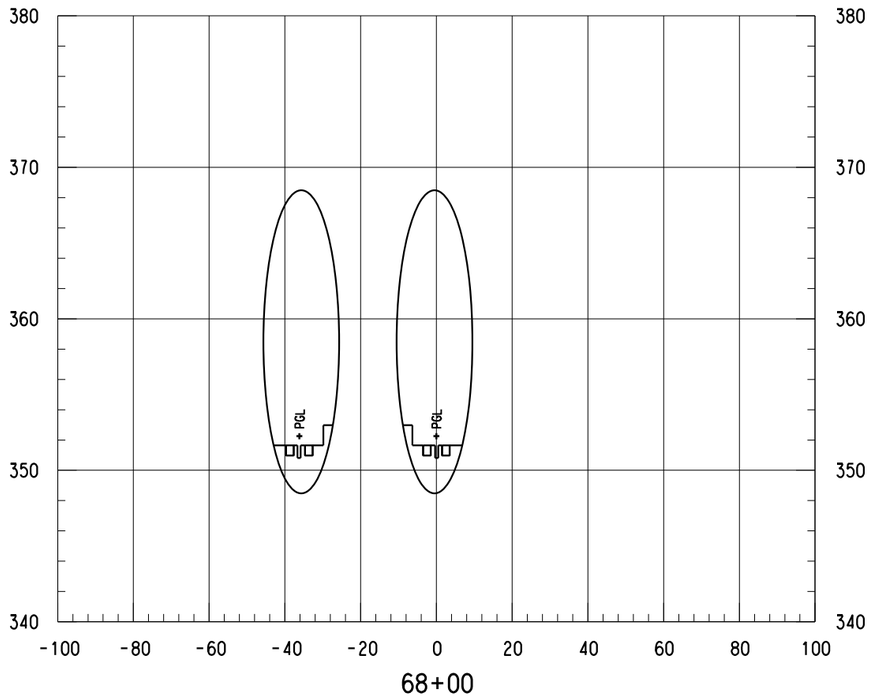
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$$$$DGN$SPECIFICATION$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0035

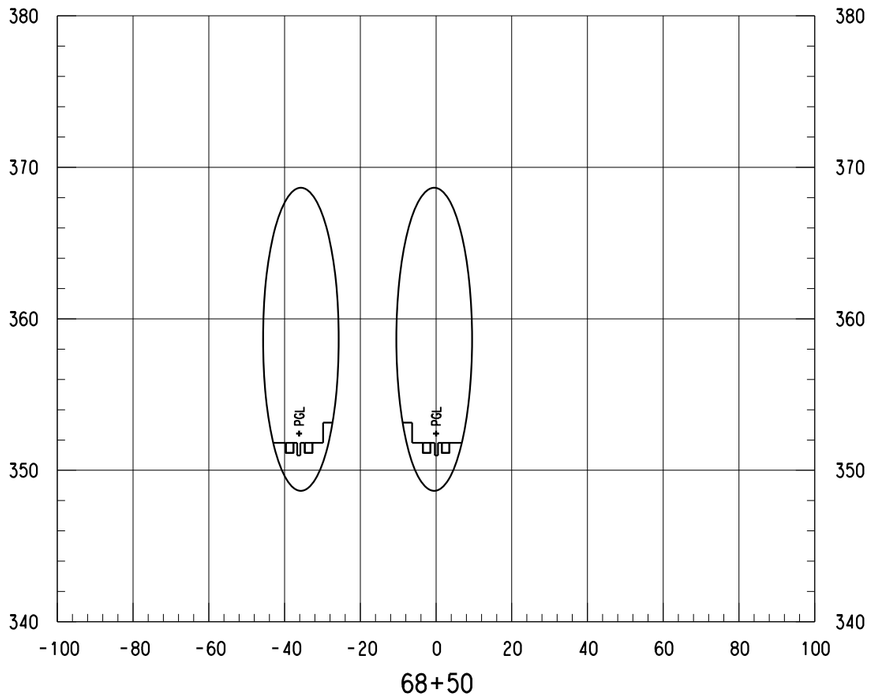
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



68+00



68+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 98 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 68+00.00 TO STA 68+50.00

CONTRACT | DWG No. CC8-0035 | REV

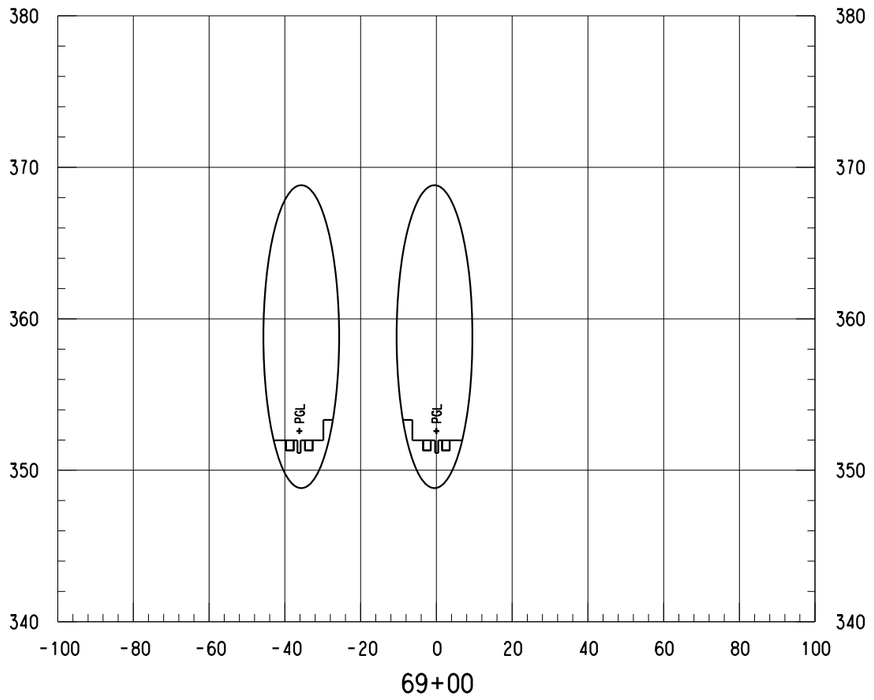
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DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0036

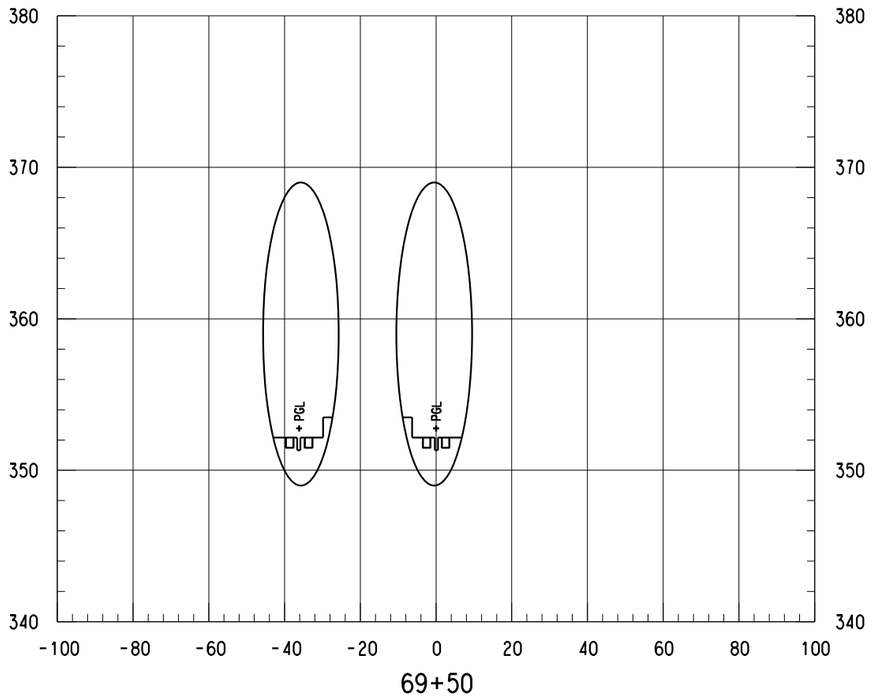
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



69+00



69+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 99 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 69+00.00 TO STA 69+50.00

CONTRACT | DWG No. CC8-0036 | REV

Friday, February 28, 2020 12:57:49 PM
$$$$DGN$$SPECIFICATION$$$$$$$$

DANGLE

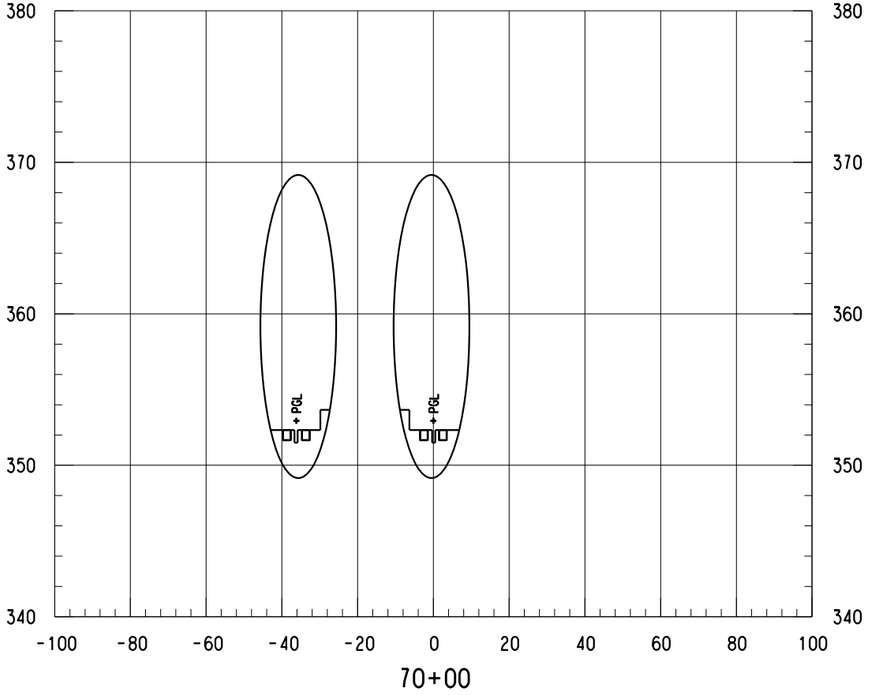
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DWG No. CC8-0037

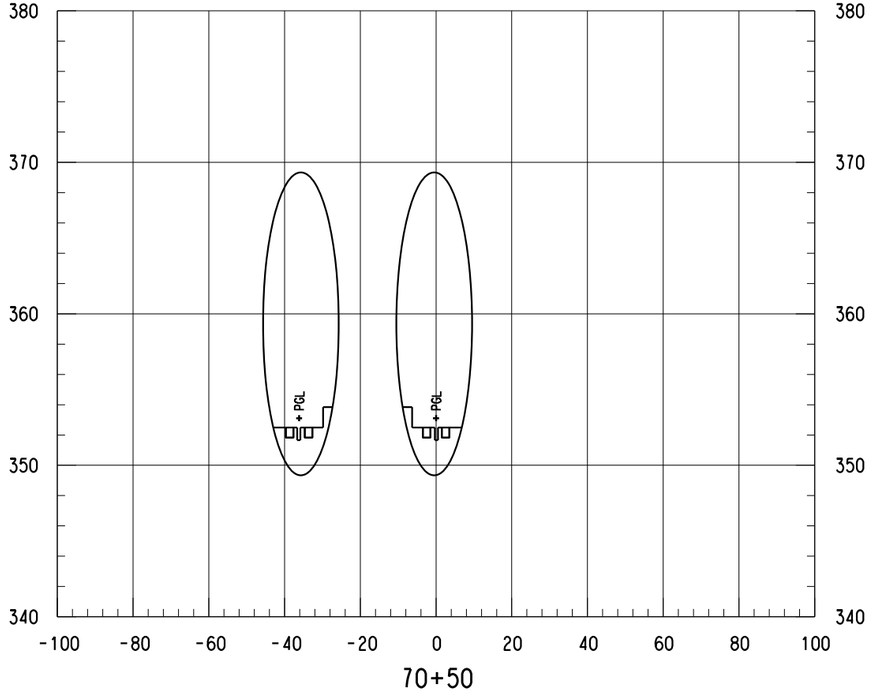
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



70+00



70+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 100 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 70+00.00 TO STA 70+50.00

CONTRACT | DWG No. CC8-0037 | REV

Friday, February 28, 2020 12:57:50 PM
$$$$DGN$SPECIFICATION$$$$$$$$

DANGLE

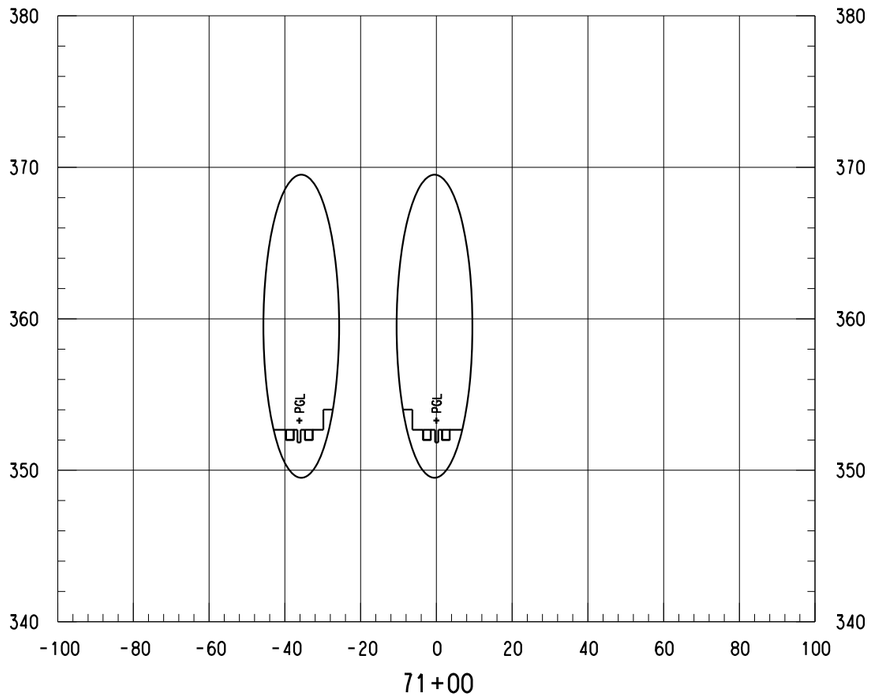
$$$$DGN$SPECIFICATION$$$$$$$$

DWG No. CC8-0038

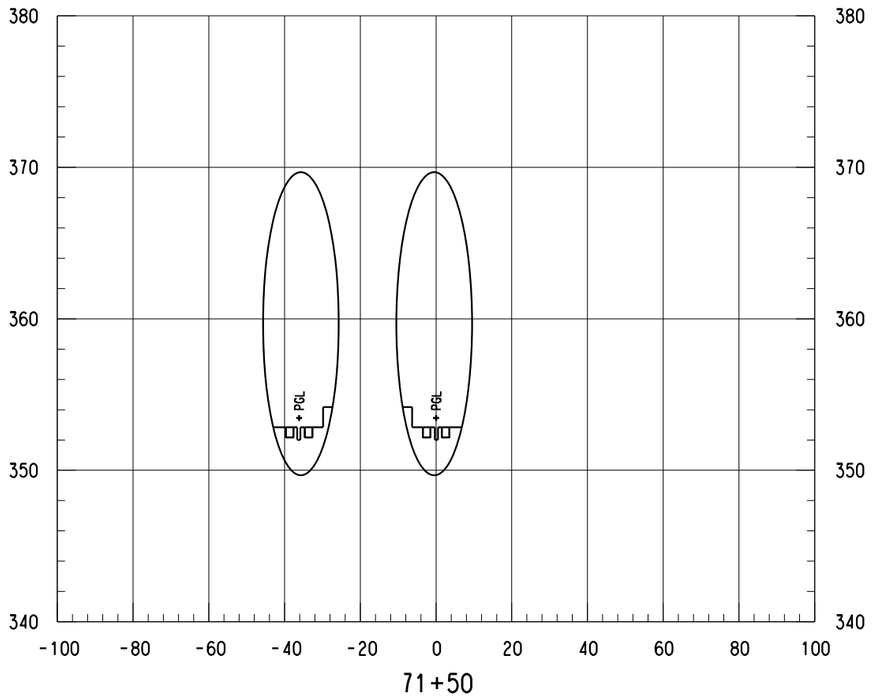
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



71+00



71+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 101 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 71+00.00 TO STA 71+50.00

CONTRACT | DWG No. CC8-0038 | REV

Friday, February 28, 2020 12:57:50 PM
$$$$DGN$$SPECIFICATION$$$$$$$$

DANGLE

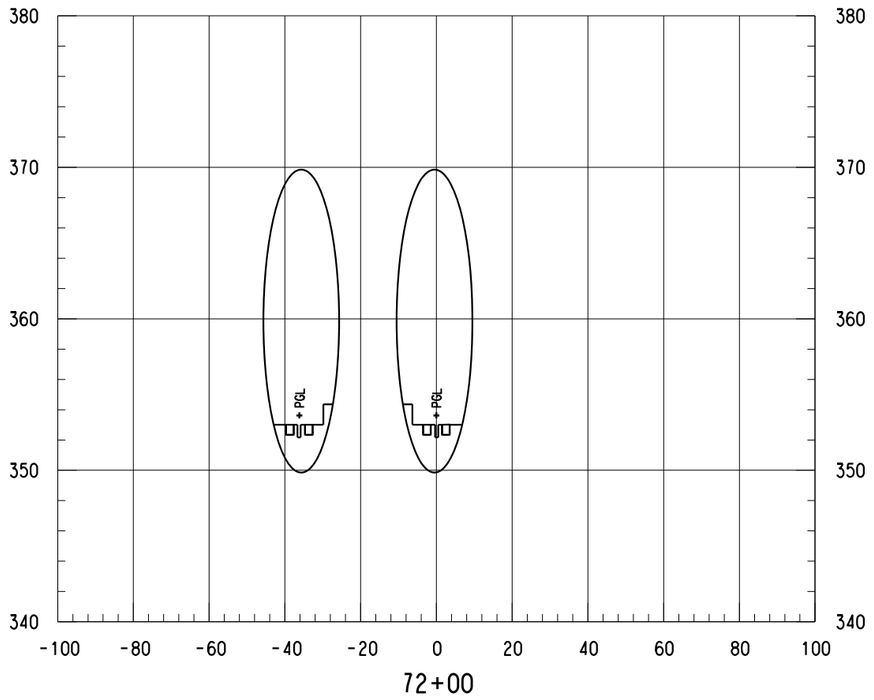
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DWG No. CC8-0039

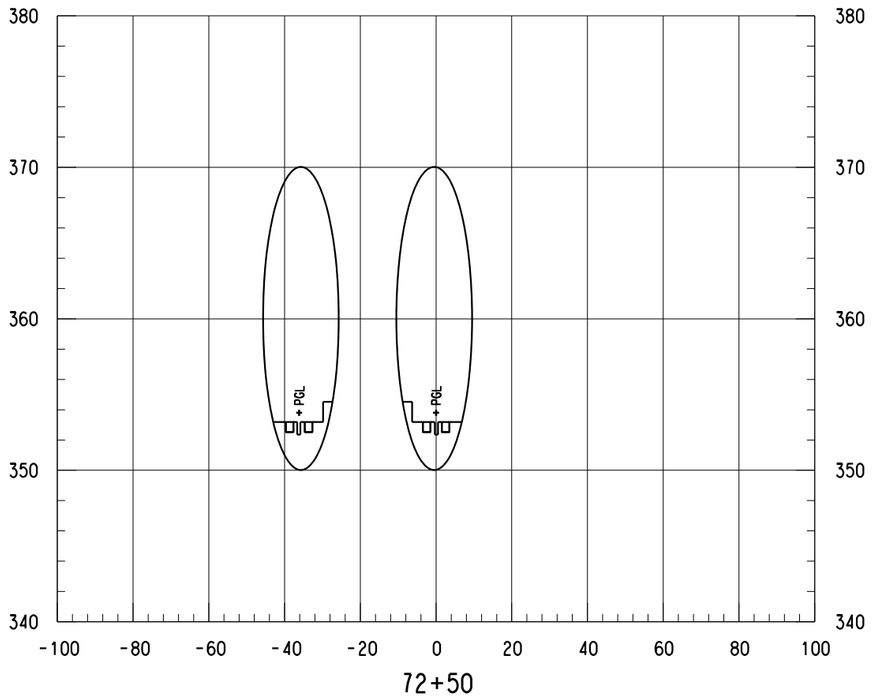
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



72+00



72+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 102 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 72+00.00 TO STA 72+50.00

CONTRACT | DWG No. CC8-0039 | REV

Friday, February 28, 2020 12:57:51 PM
$$$$DGN$$SPECIFICATION$$$$$$$$

DANGLE

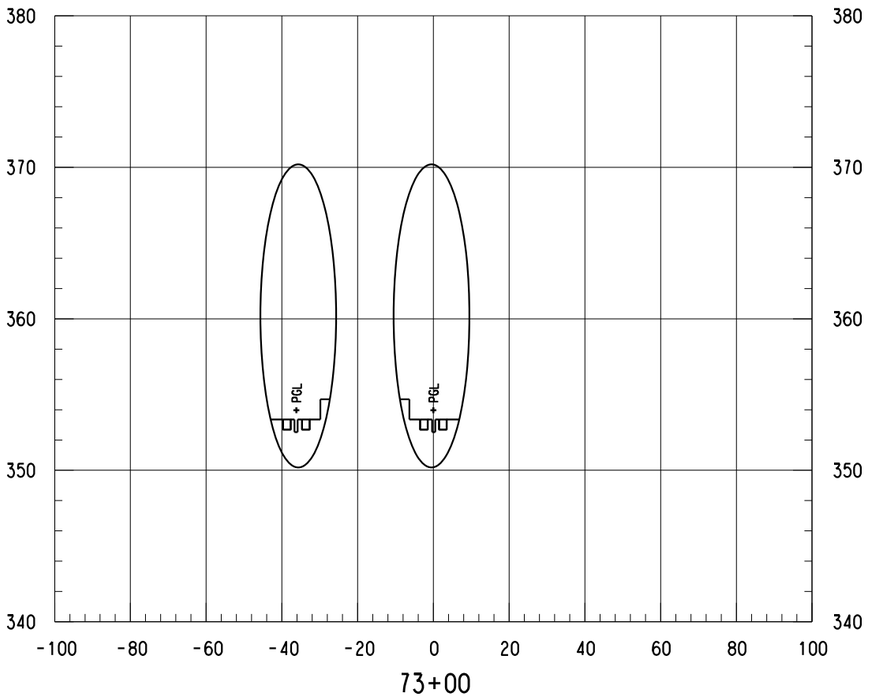
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DWG No. CC8-0040

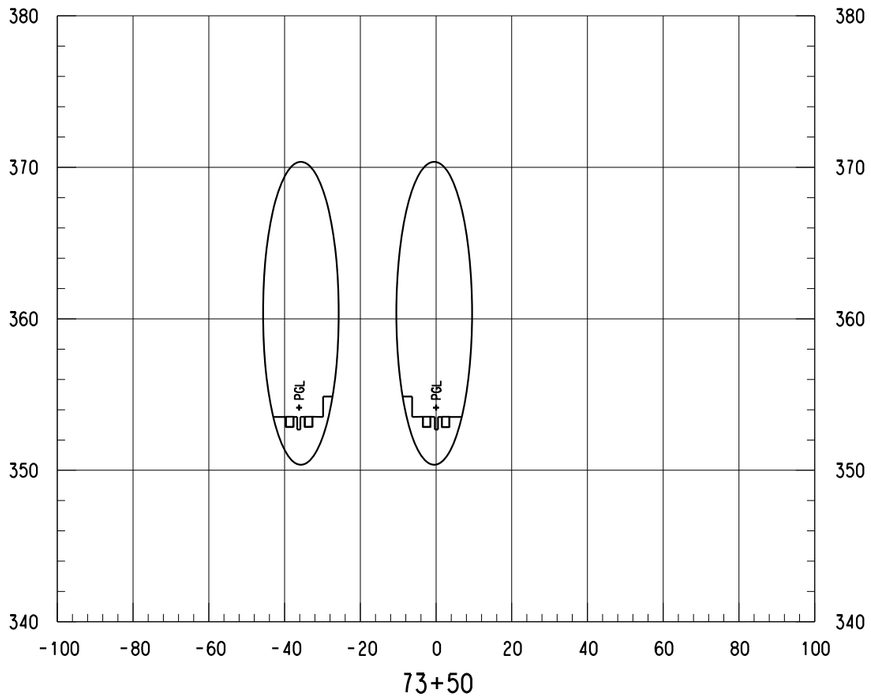
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



73+00



73+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 103 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 73+00.00 TO STA 73+50.00

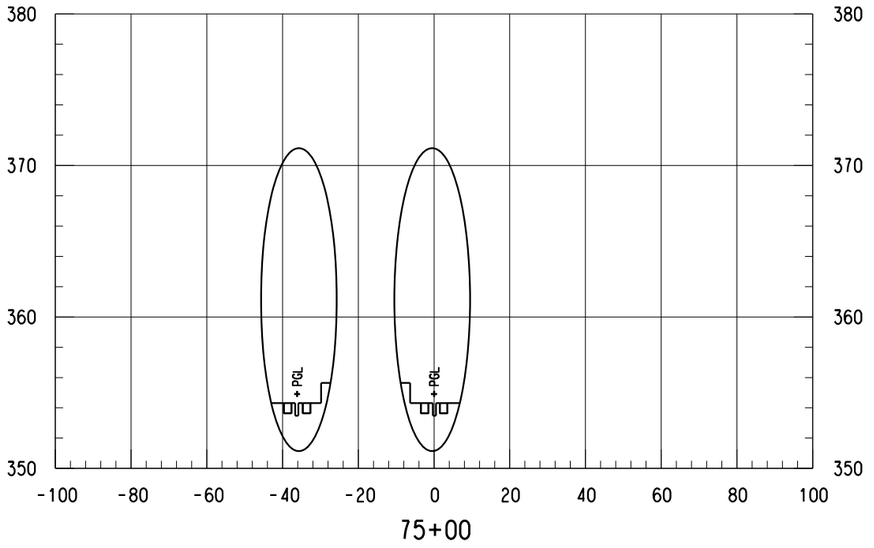
CONTRACT | DWG No. CC8-0040 | REV

Friday, February 28, 2020 12:57:51 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

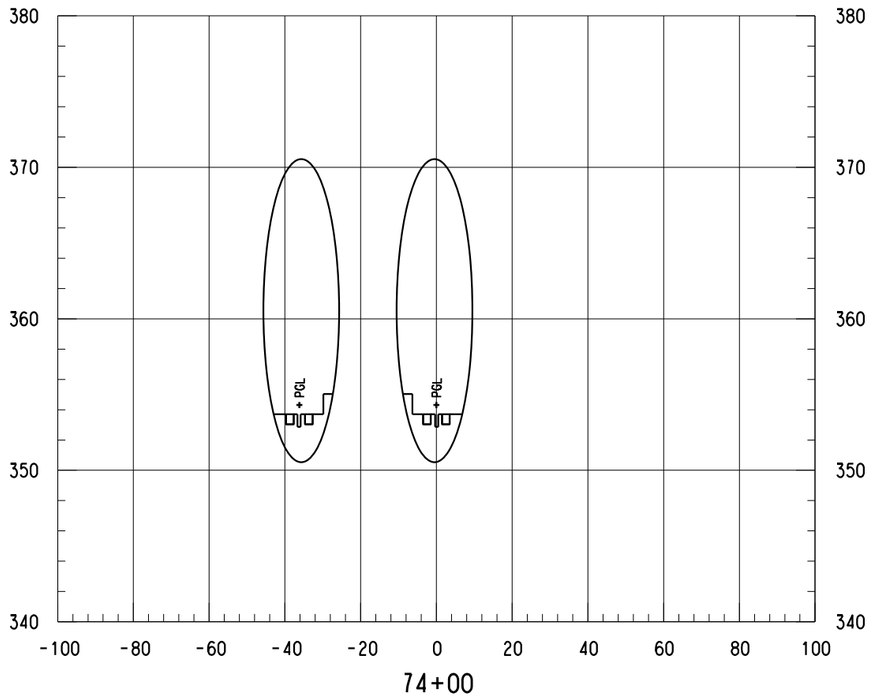
DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$

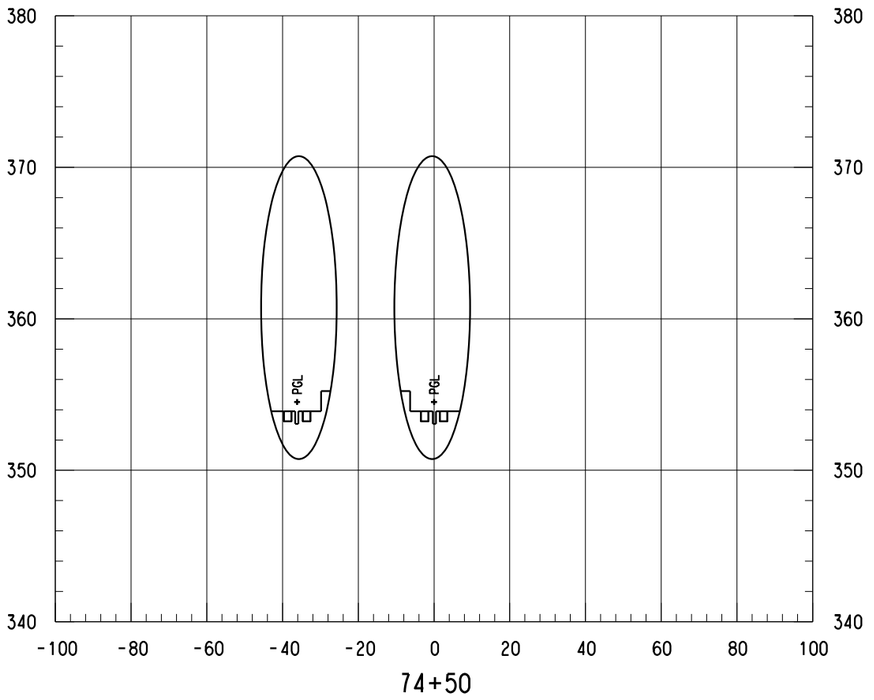
DWG No. CC8-0041



75+00



74+00



74+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 104 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 74+00.00 TO STA 75+00.00

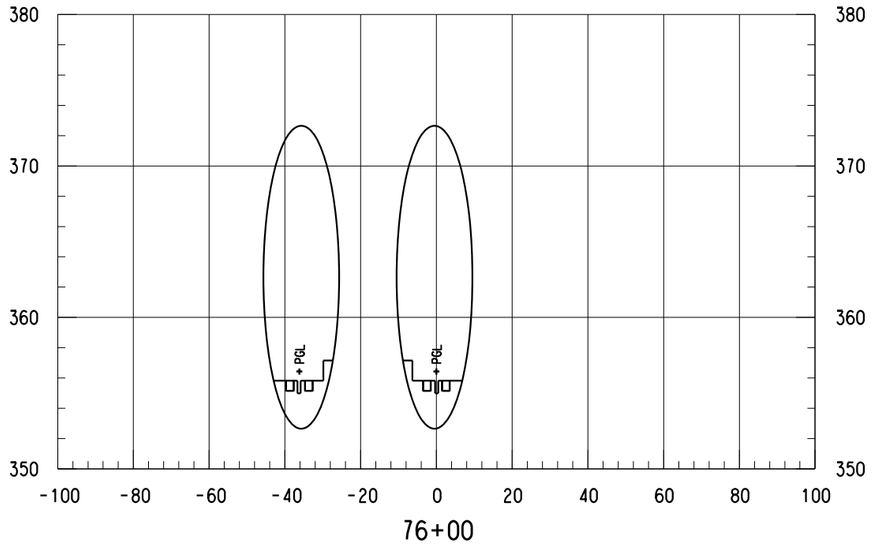
CONTRACT | DWG No. CC8-0041 | REV

Friday, February 28, 2020 12:57:51 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

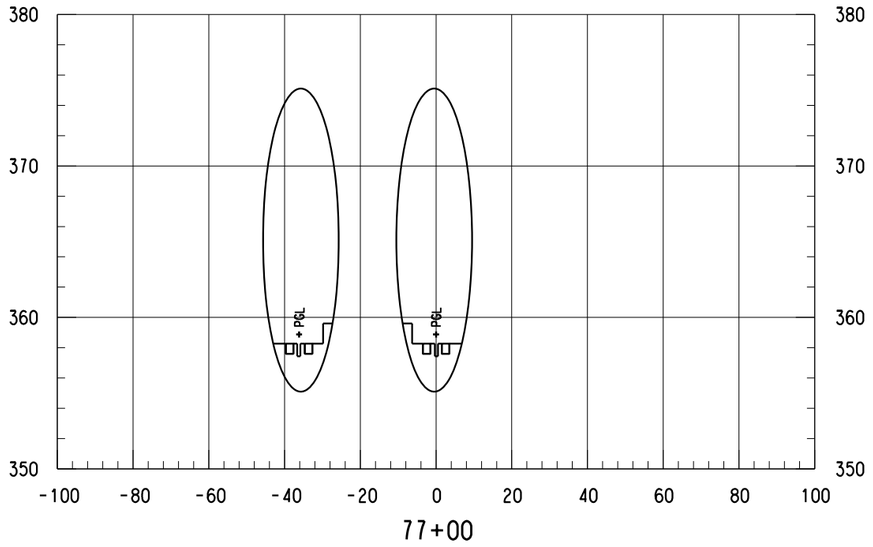
DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC8-0042



76+00

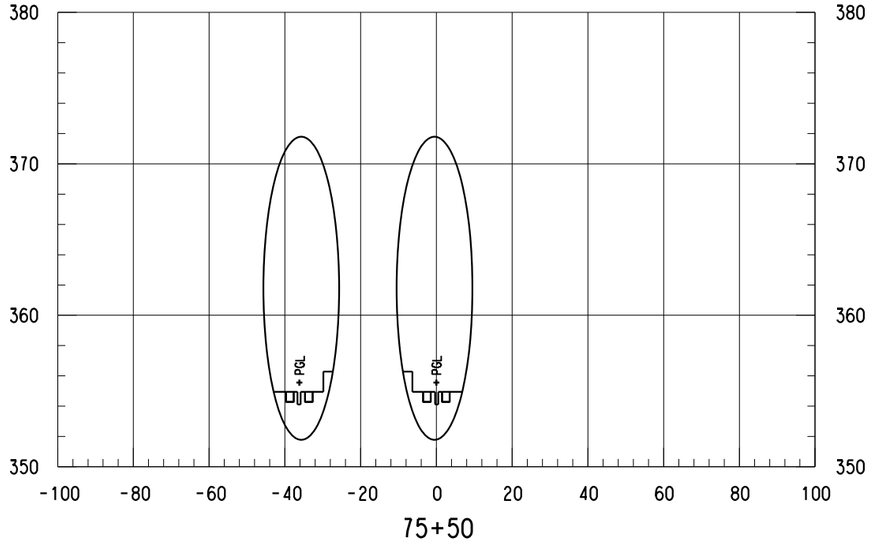


77+00

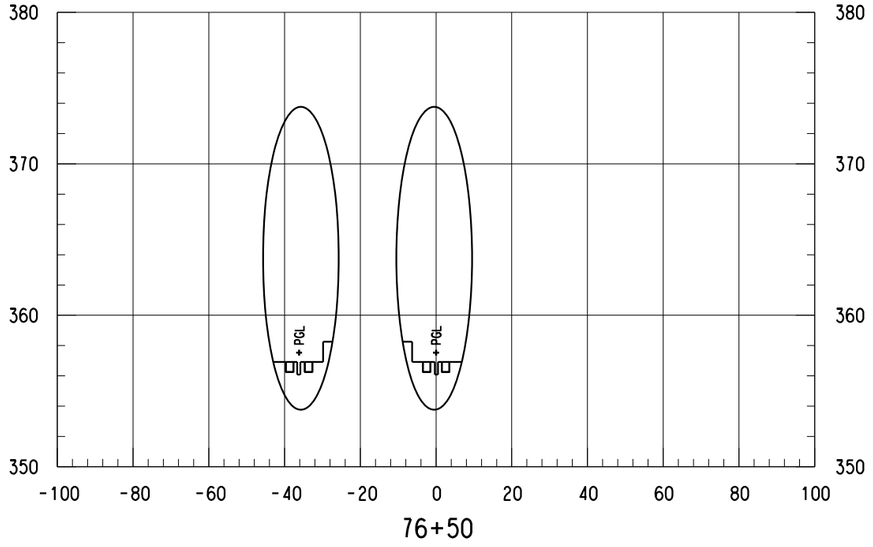
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



75+50



76+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 105 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

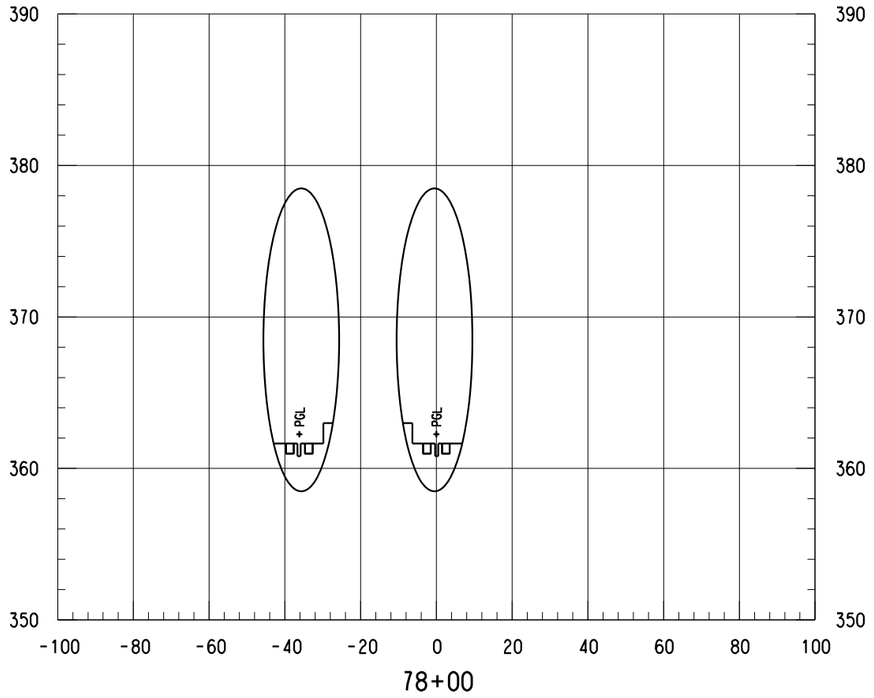
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 75+50.00 TO STA 77+00.00

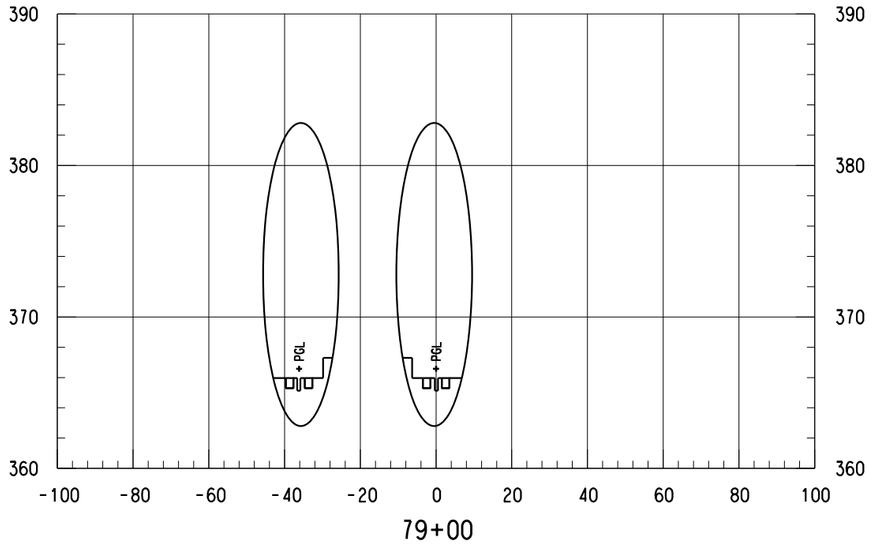
CONTRACT	DWG No.	REV
	CC8-0042	

Friday, February 28, 2020 12:51:52 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$$SPECIFICATION$$$$$$$$$$

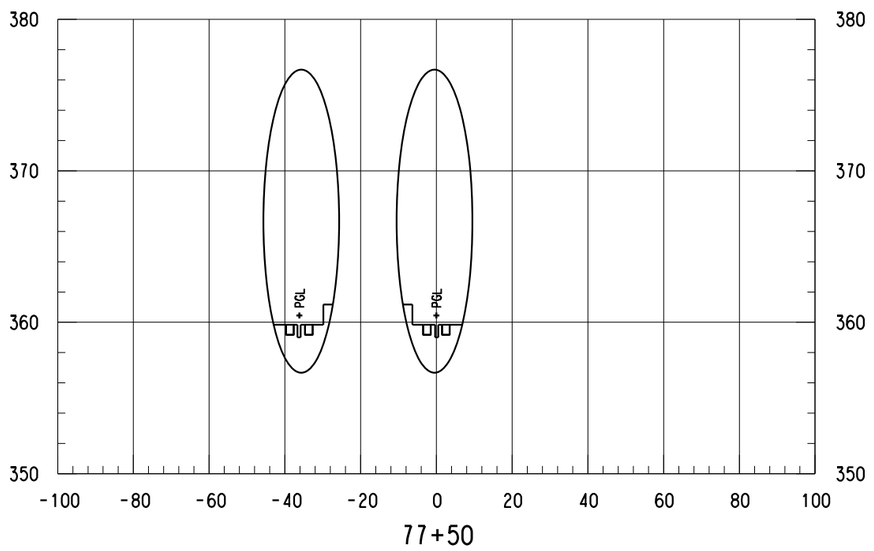
DWG No. CC8-0043



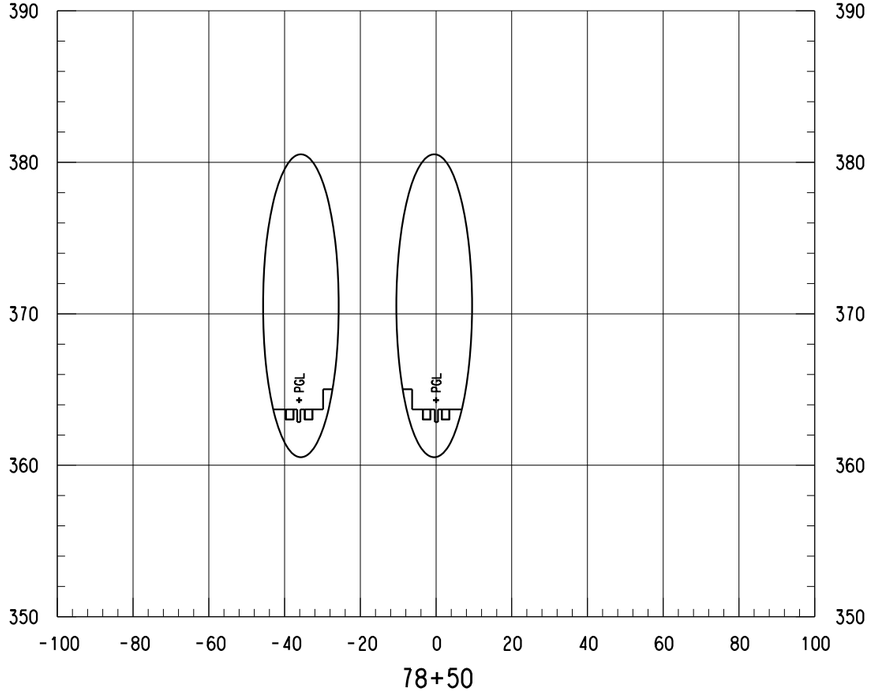
78+00



79+00



77+50



78+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 106 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

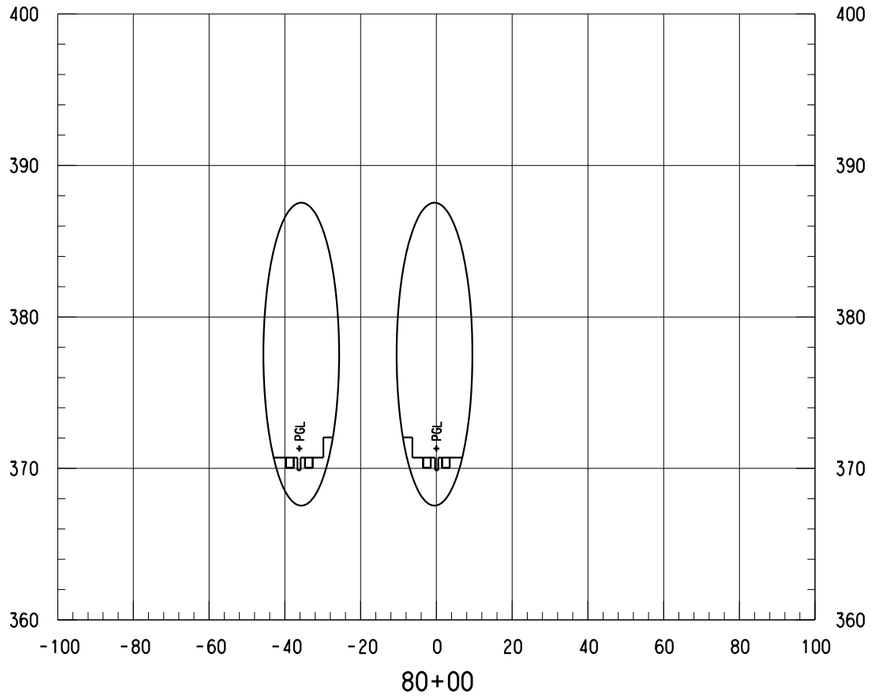
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 77+50.00 TO STA 79+00.00

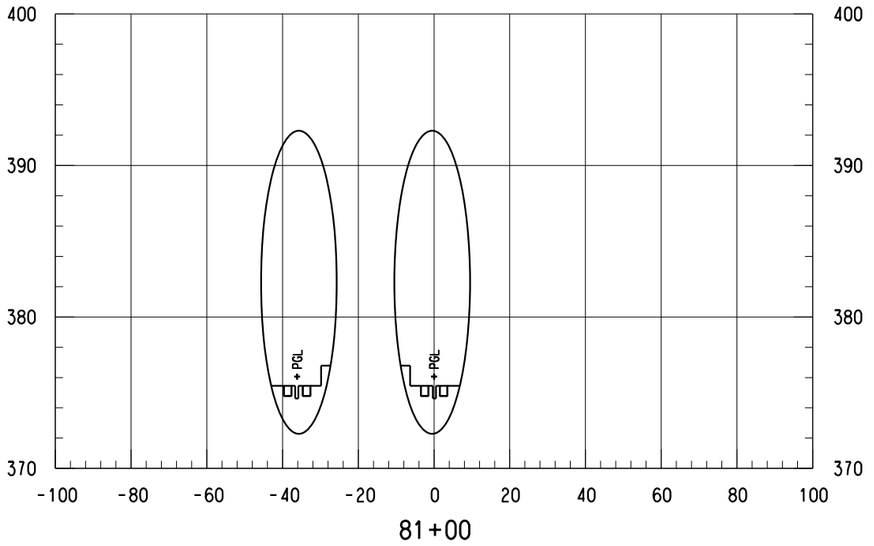
CONTRACT	DWG No.	REV
	CC8-0043	

Friday, February 28, 2020 12:51:52 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$$

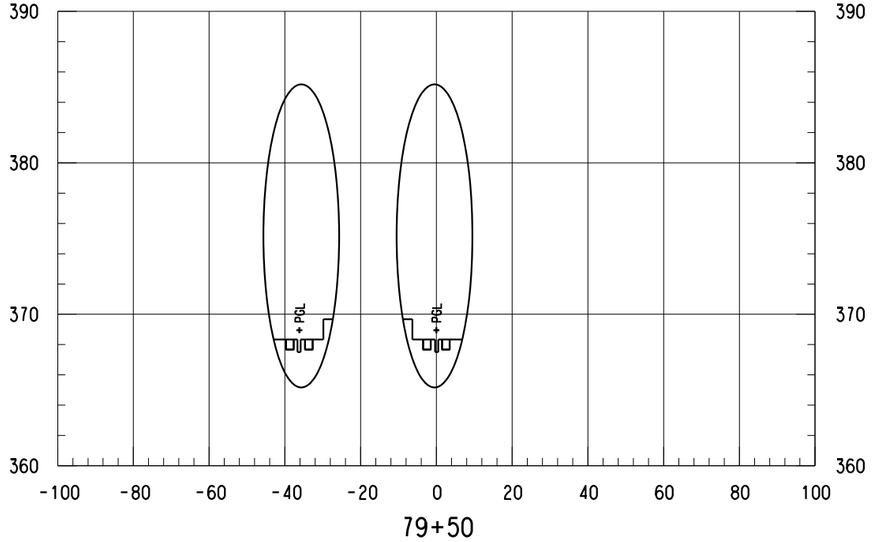
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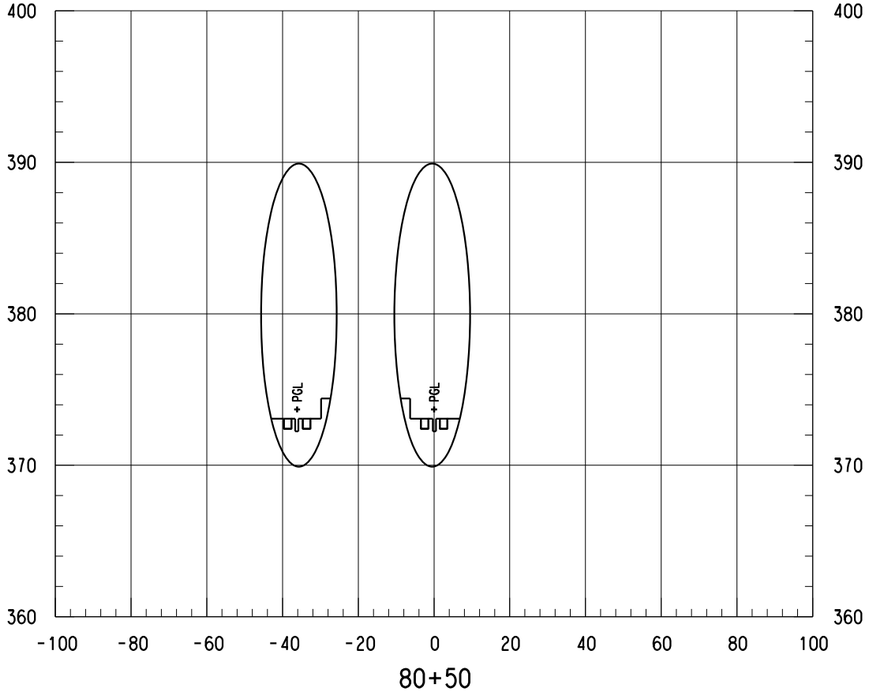
80+00



81+00



79+50



80+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 107 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

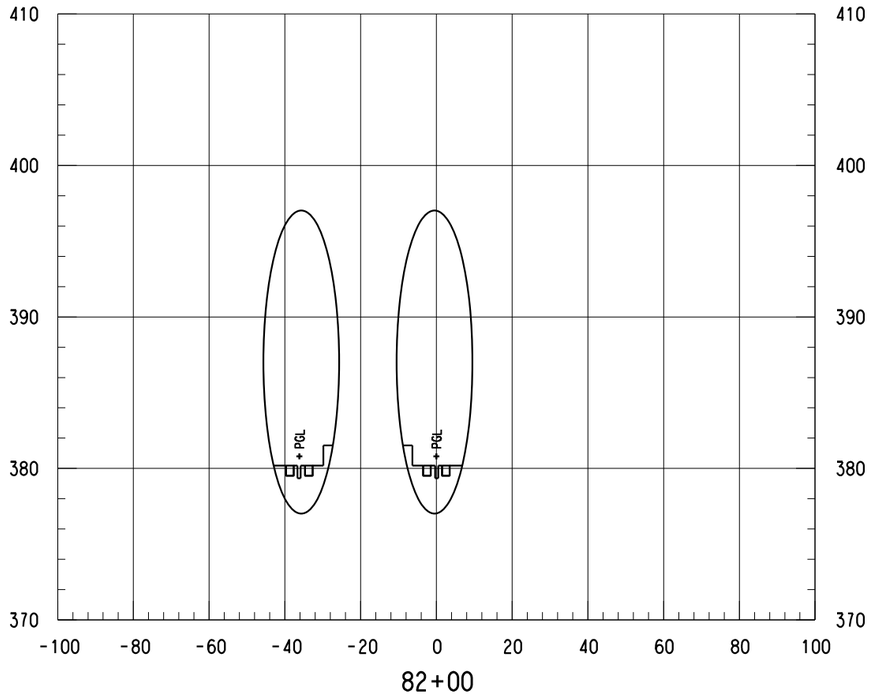
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 79+50.00 TO STA 81+00.00

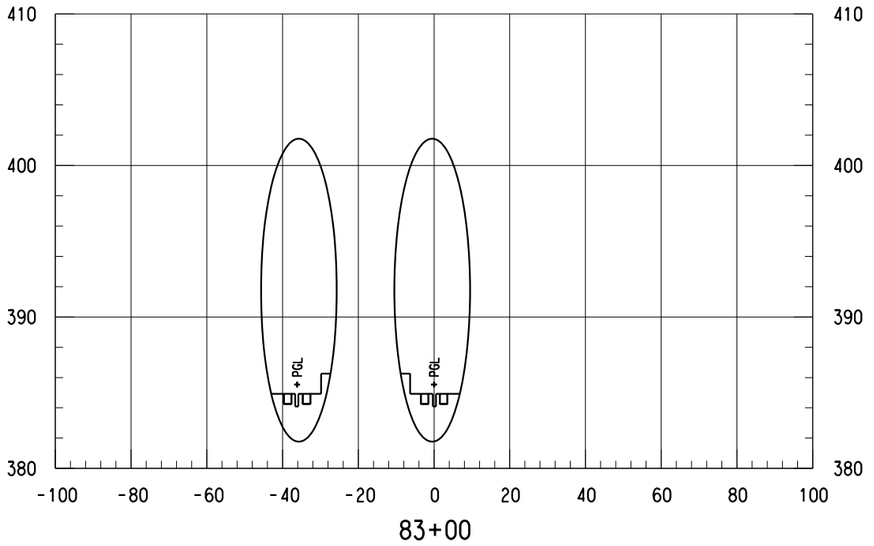
CONTRACT | DWG No. CC8-0044 | REV

Friday, February 28, 2020 12:51:53 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$$

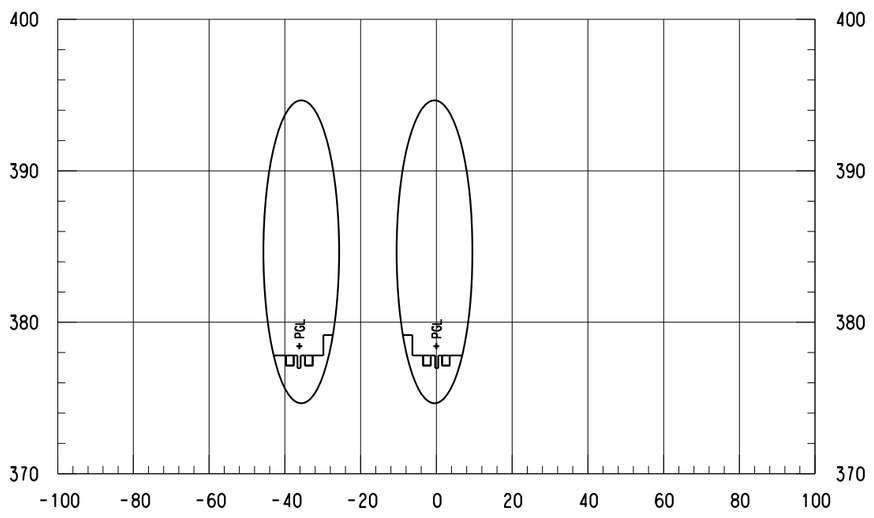
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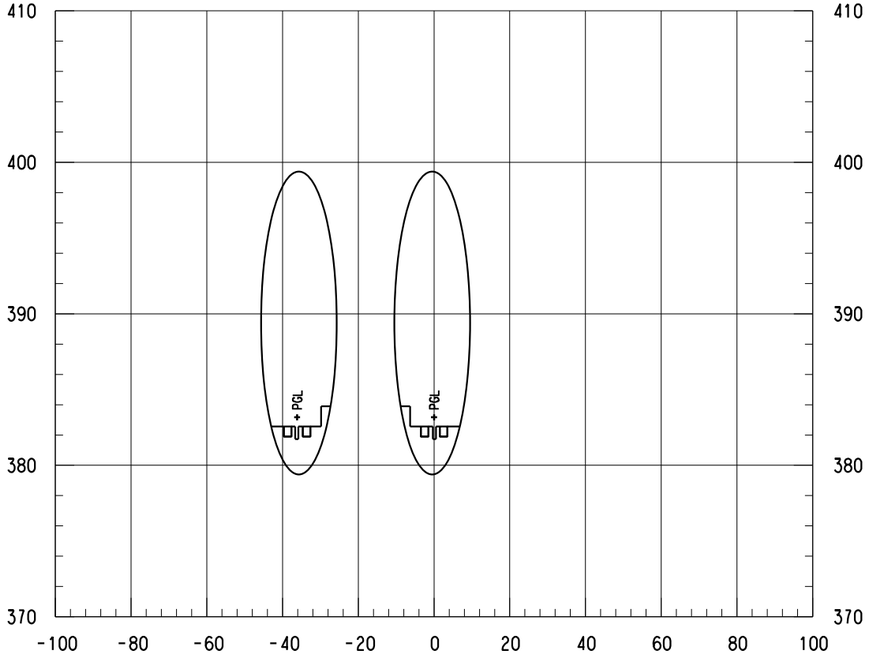
82+00



83+00



81+50



82+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 108 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

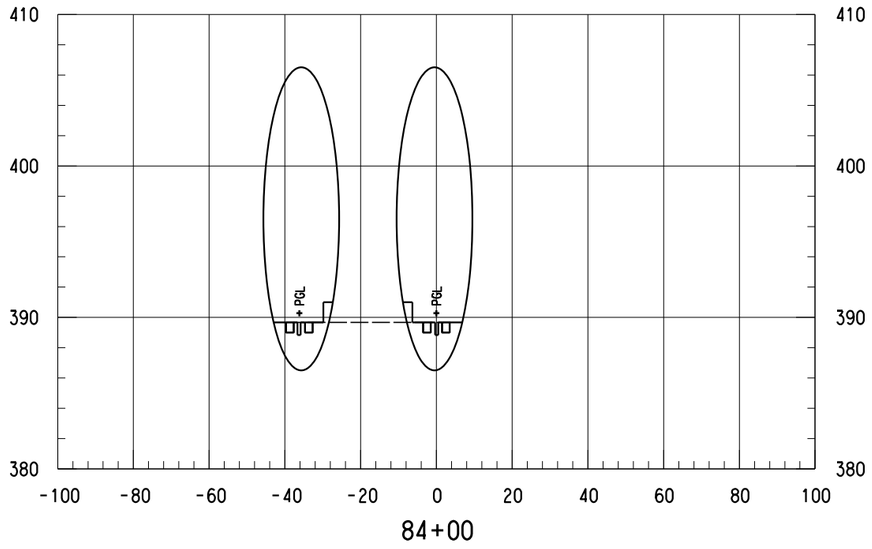
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 81+50.00 TO STA 83+00.00

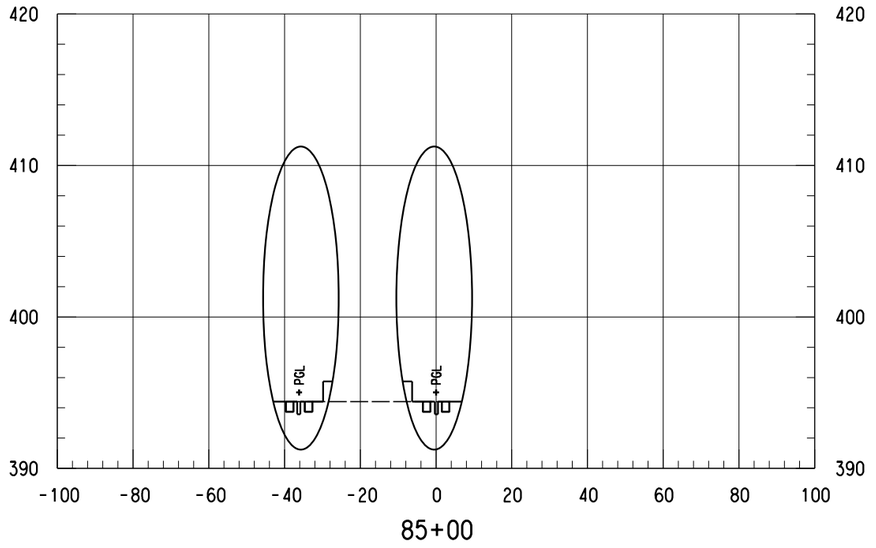
CONTRACT	DWG No.	REV
	CC8-0045	

Friday, February 28, 2020 12:51:53 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$$SPECIFICATION$$$$$$$$$$

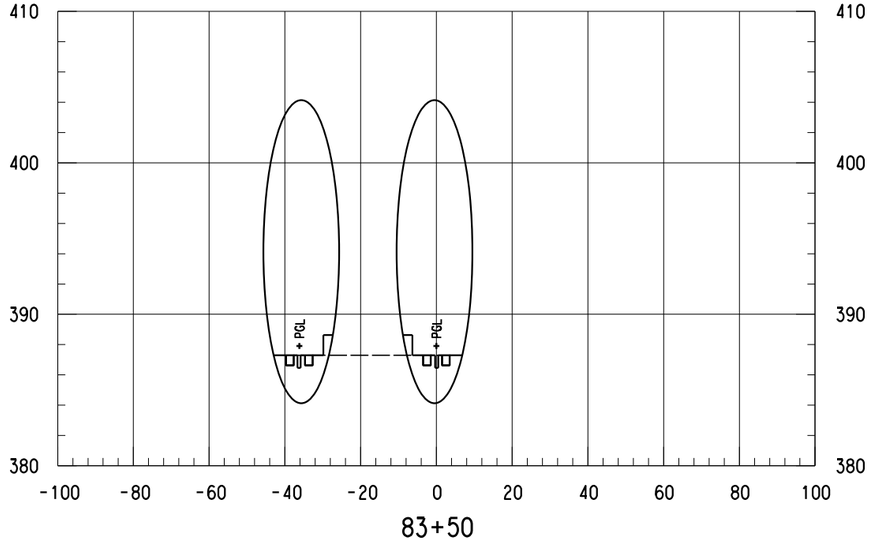
DWG No. CC8-0046



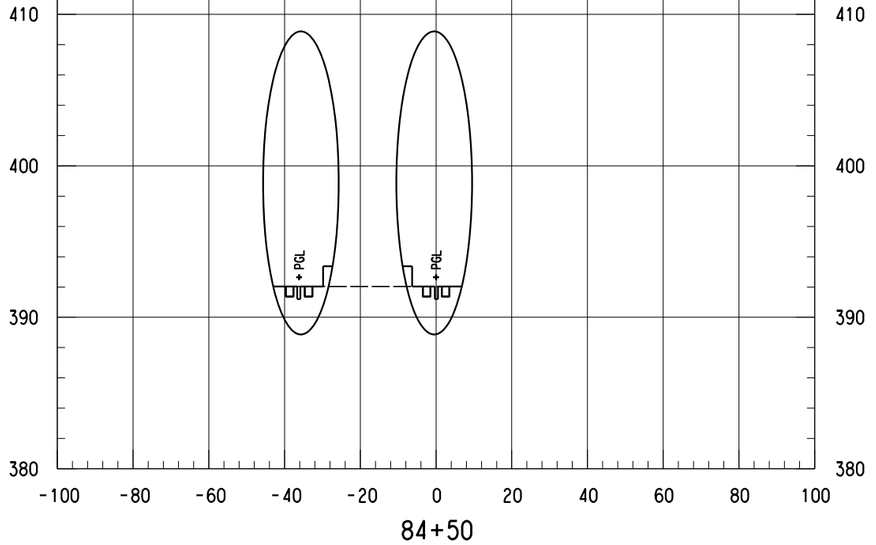
84+00



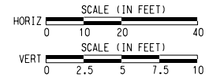
85+00



83+50



84+50



NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 109 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 83+50.00 TO STA 85+00.00

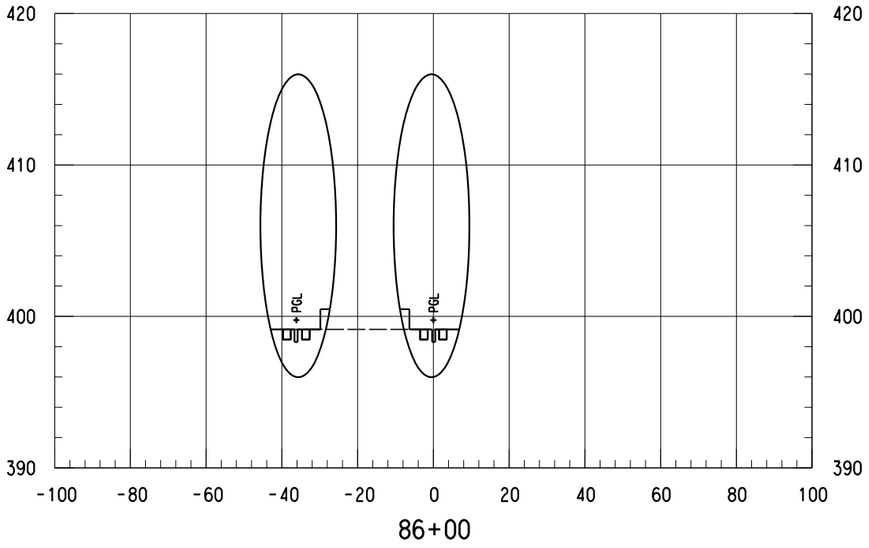
CONTRACT	DWG No.	REV
	CC8-0046	

Friday, February 28, 2020 12:51:54 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

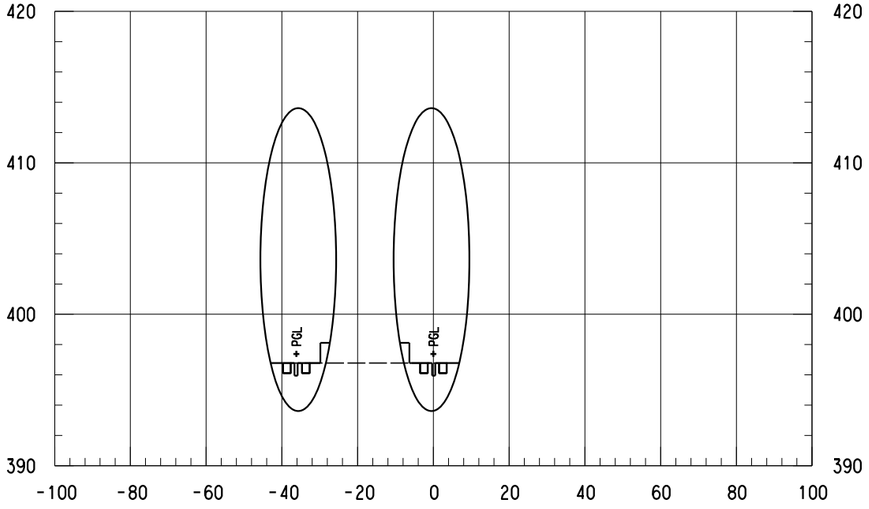
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$$$$DGN$SPECIFICATION$$$$$$$$$

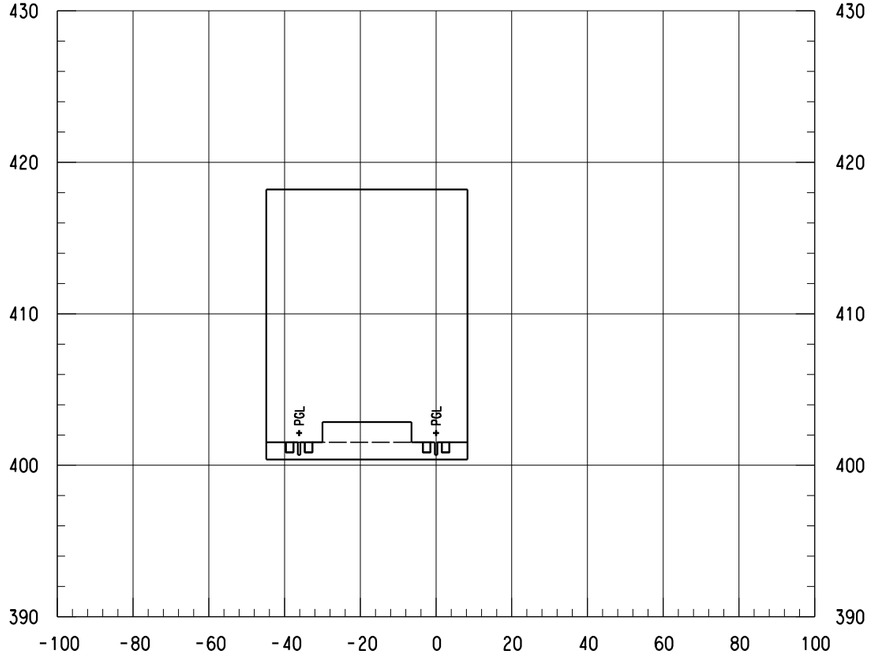
DWG No. CC8-0047



86+00



85+50



86+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 110 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

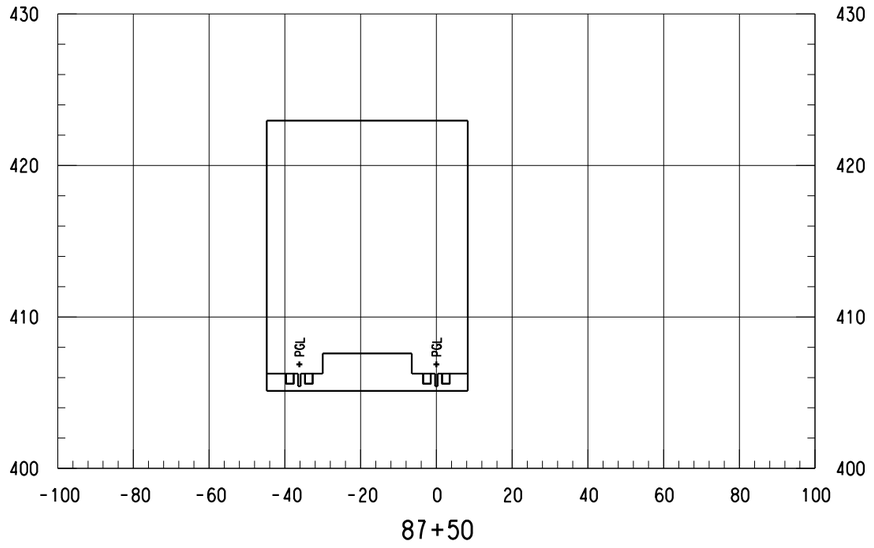
CBD-2
GUIDEWAY CROSS SECTIONS
STA 85+50.00 TO STA 86+50.00

CONTRACT | DWG No. CC8-0047 | REV

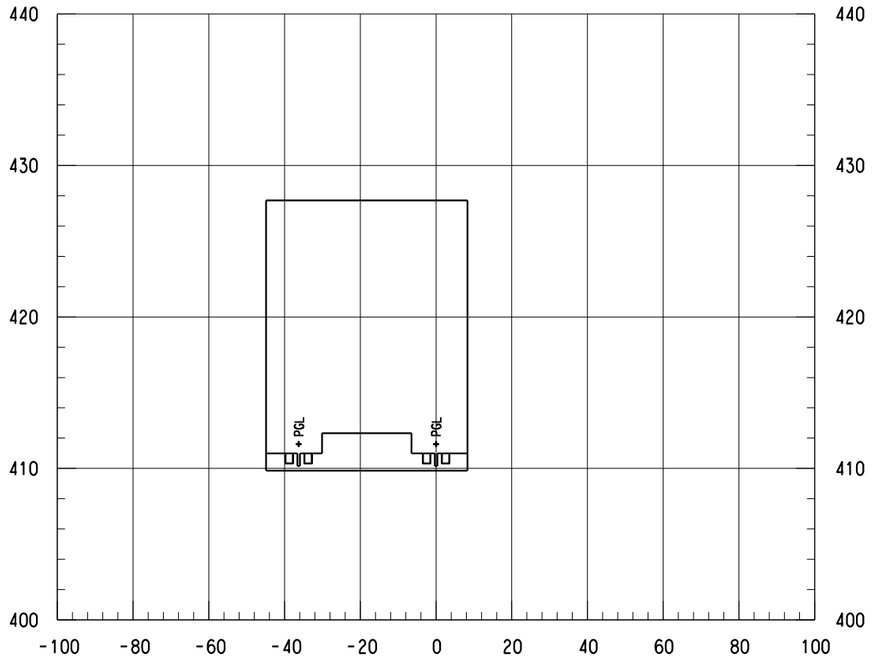
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$$$$DGN$SPECIFICATION$$$$$$$$$

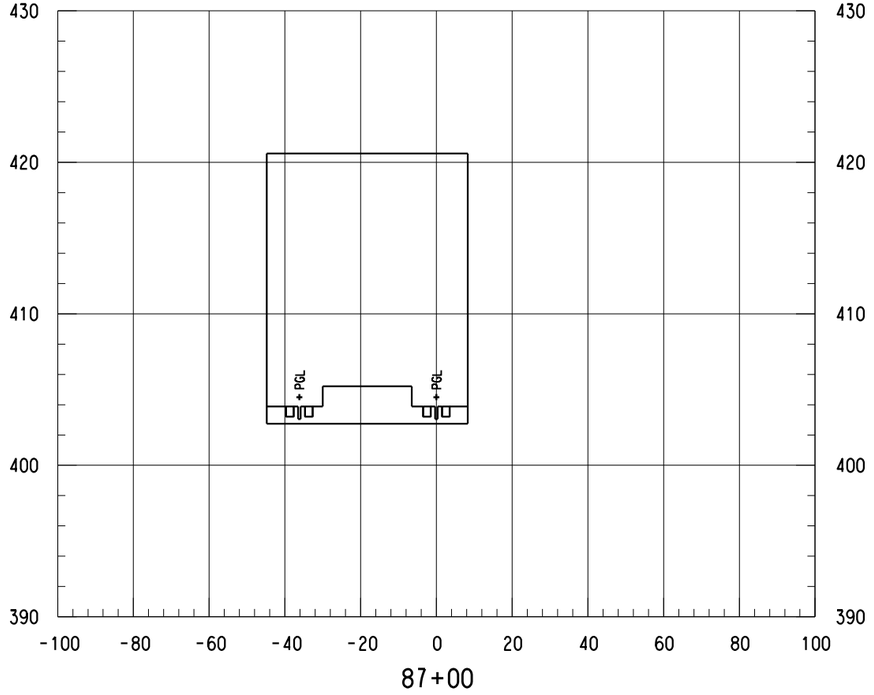
DWG No. CC8-0048



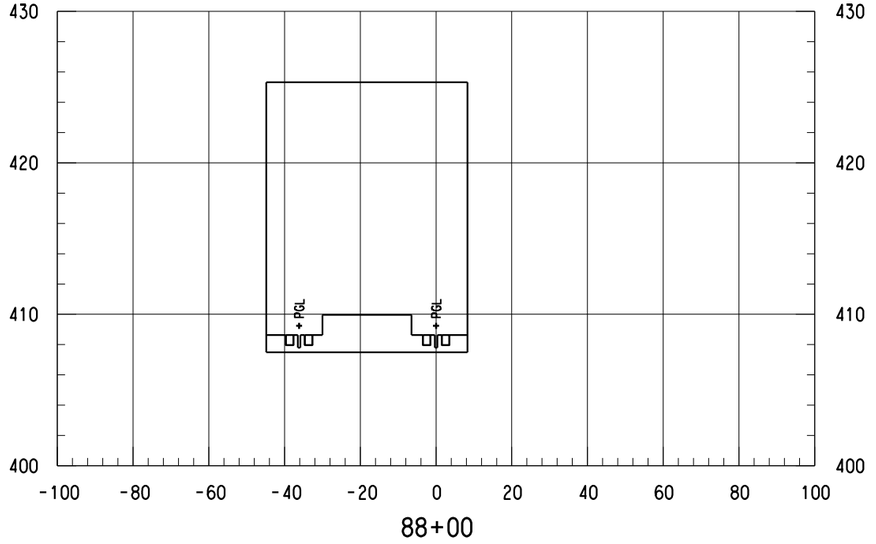
87+50



88+50



87+00



88+00

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 111 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 87+00.00 TO STA 88+50.00

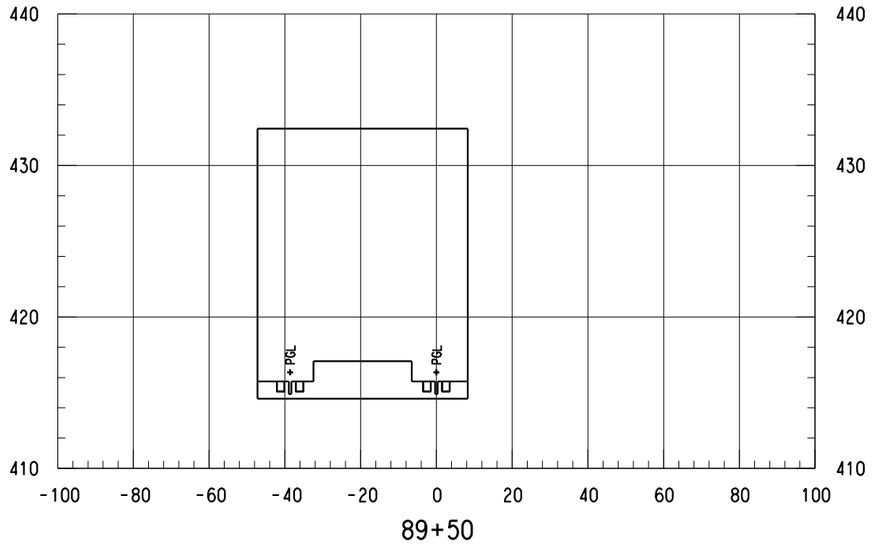
CONTRACT	DWG No.	REV
	CC8-0048	

Friday, February 28, 2020 12:57:55 PM
$$$$DGN$$SPECIFICATION$$$$$$$$

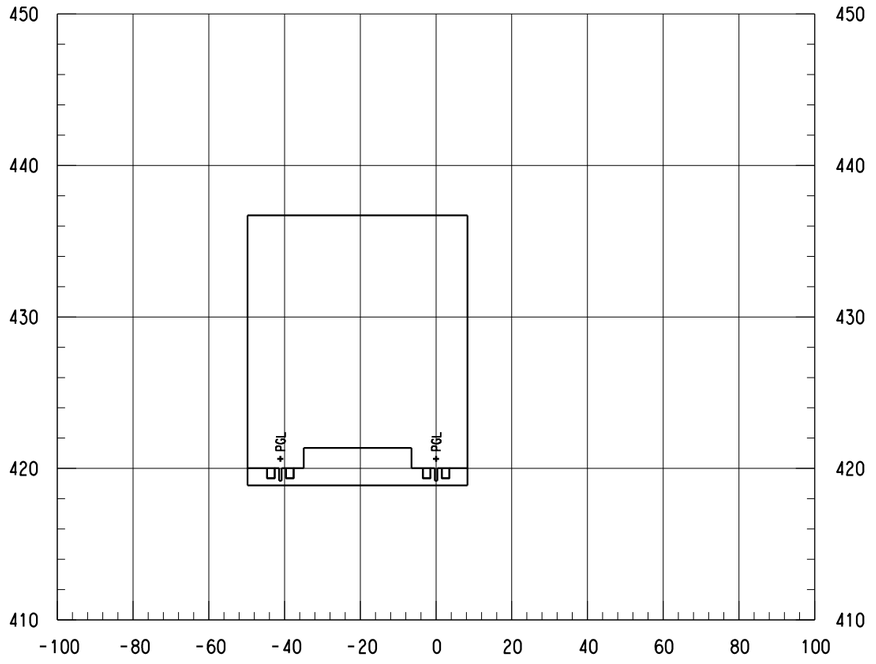
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$$$$DGN$$SPECIFICATION$$$$$$$$

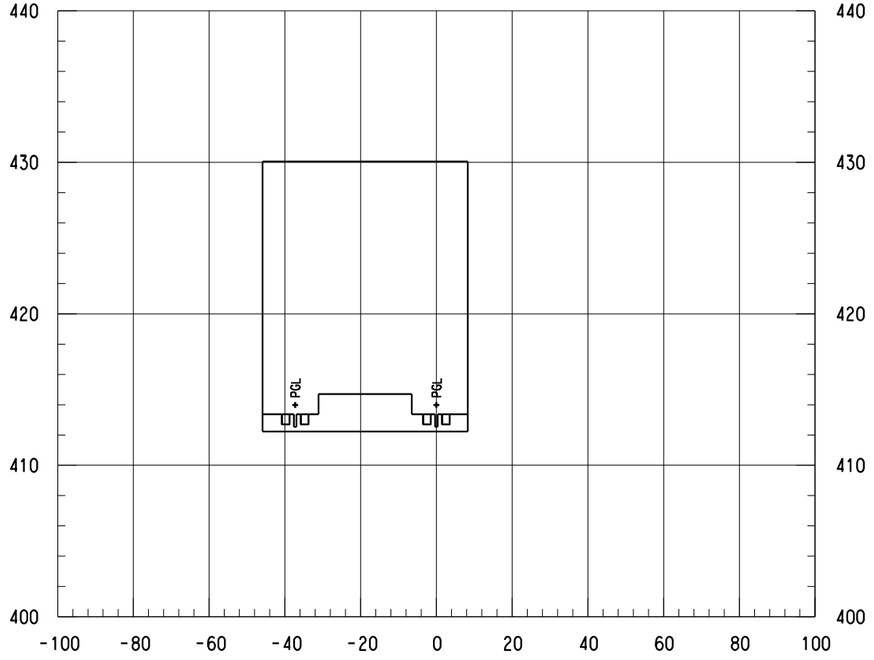
DWG No. CC8-0049



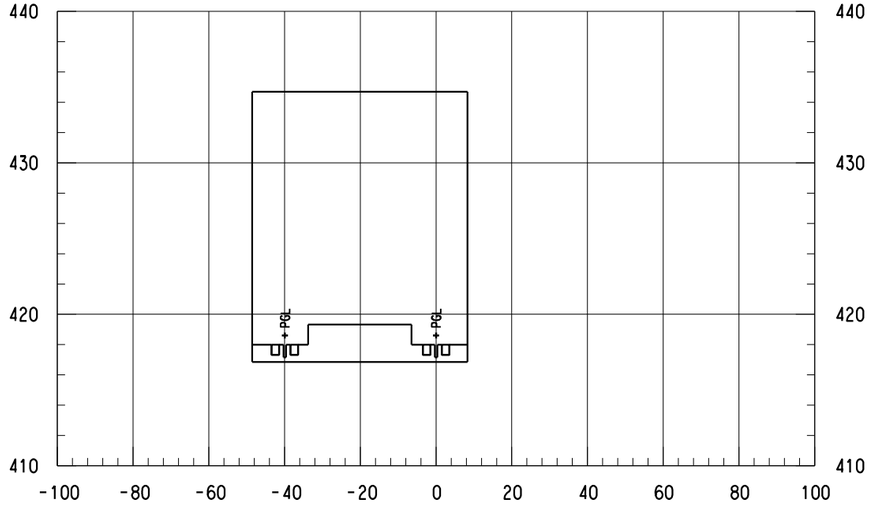
89+50



90+50



89+00



90+00

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 112 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 89+00.00 TO STA 90+50.00

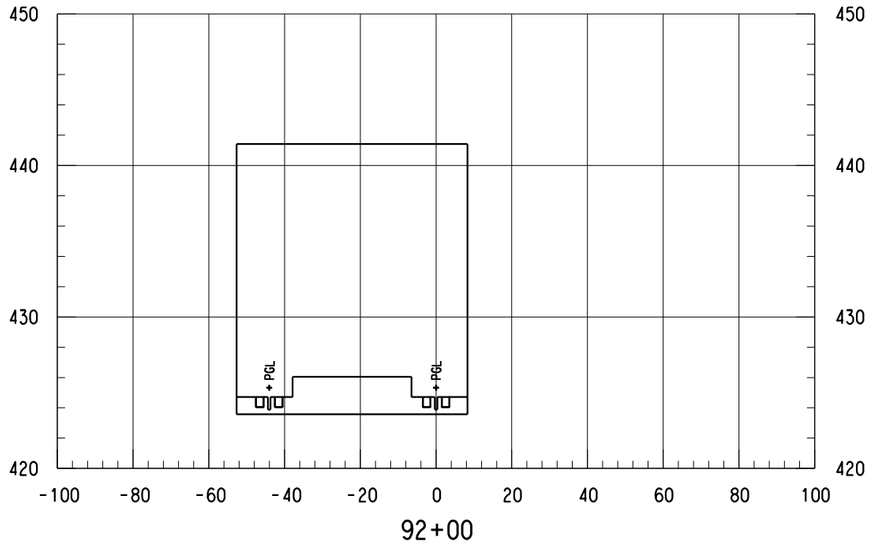
CONTRACT	DWG No.	REV
	CC8-0049	

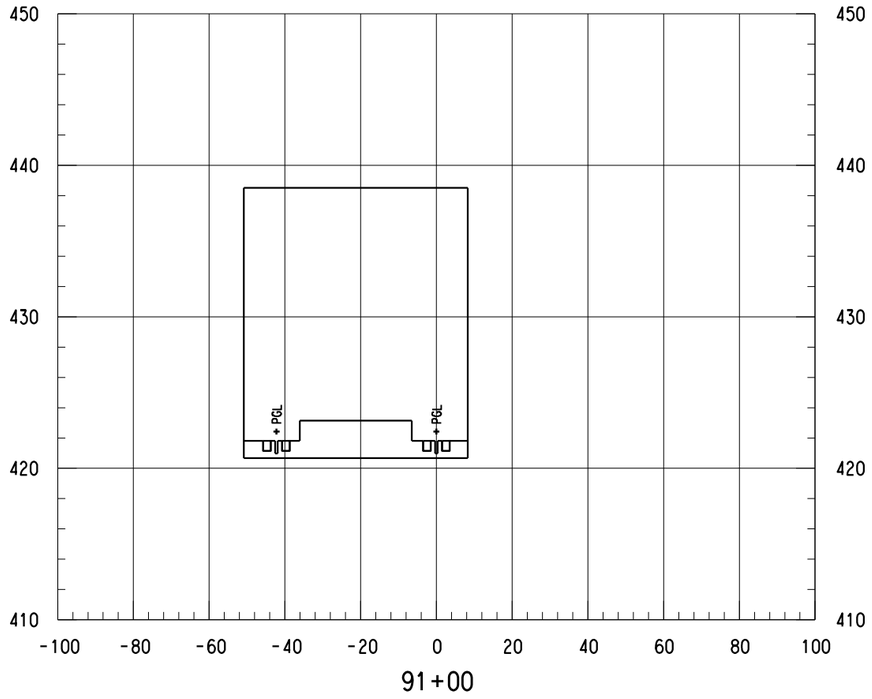
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$$$$DGN$SPECIFICATION$$$$$$$$

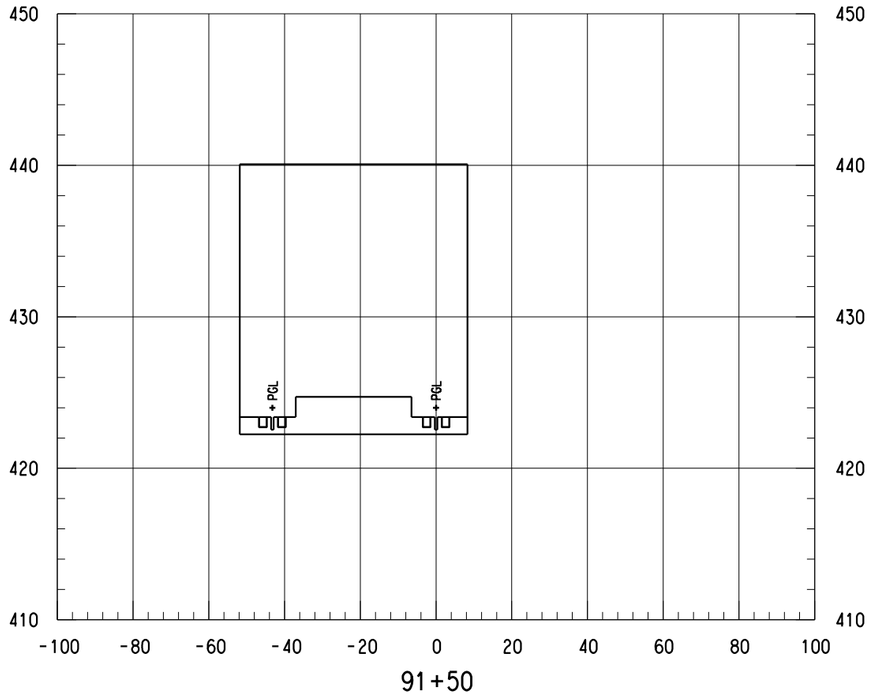
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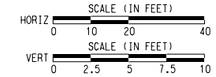
$$$$DGN$SPECIFICATION$$$$$$$$

DWG No. CC8-0050









NOTES:

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 113 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 91+00.00 TO STA 92+00.00

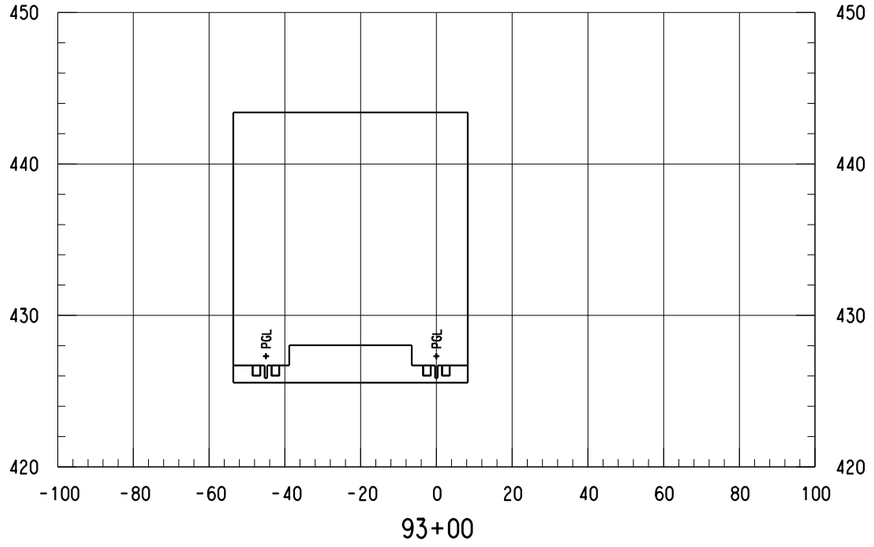
CONTRACT	DWG No.	REV
	CC8-0050	

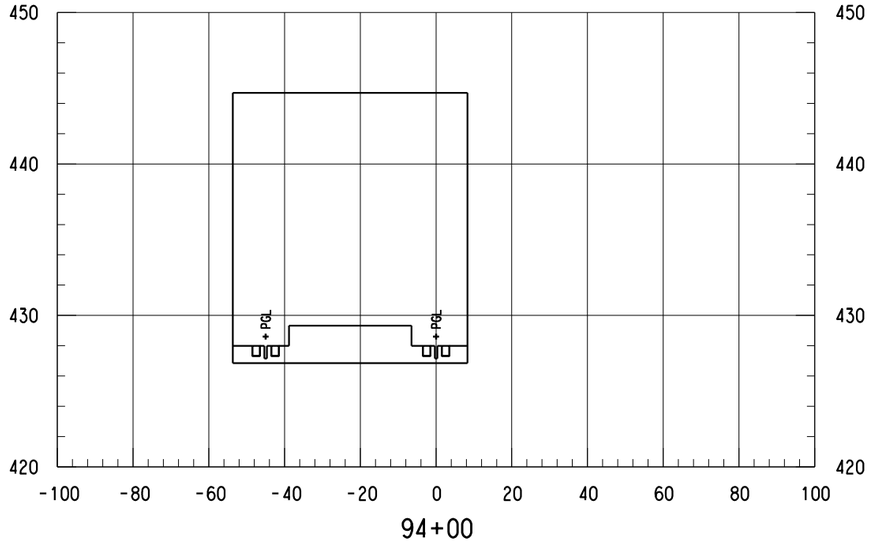
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$$$$DGN$SPECIFICATION$$$$$$$$$

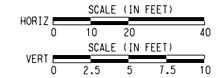
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$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0051

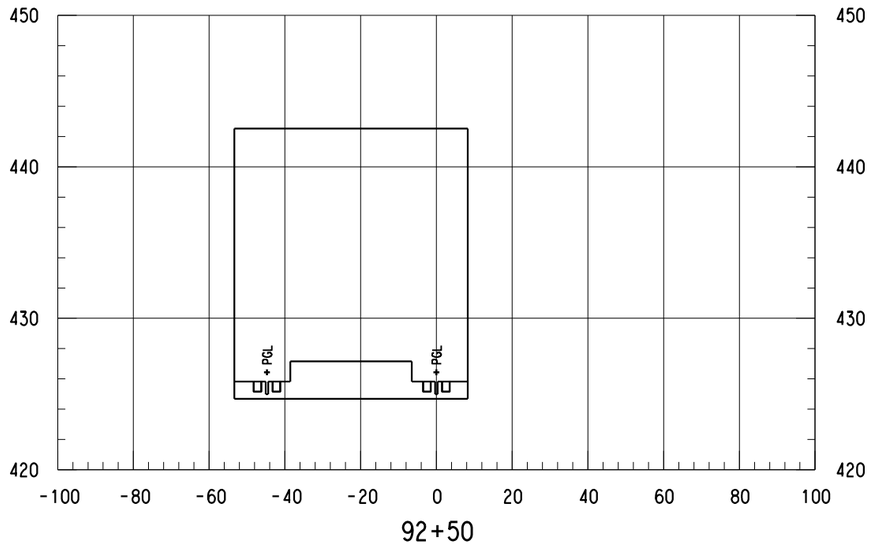


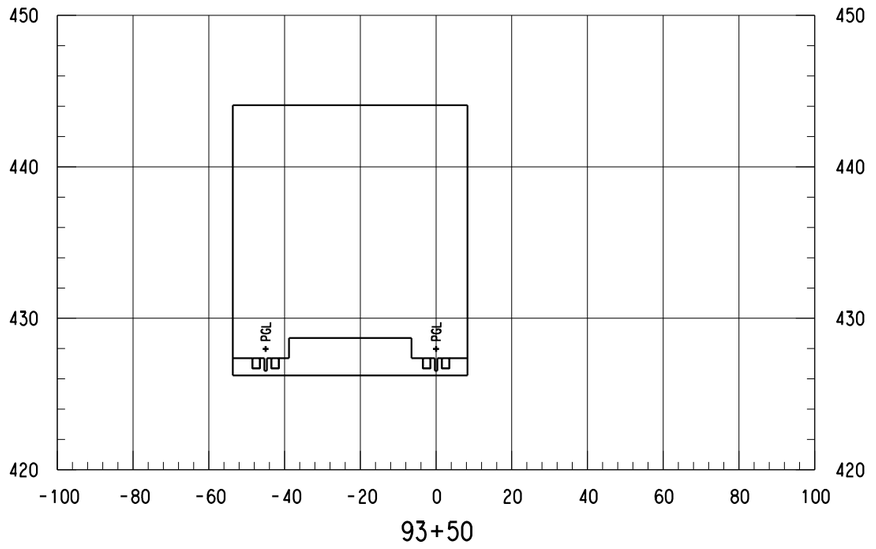




NOTES:

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 114 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

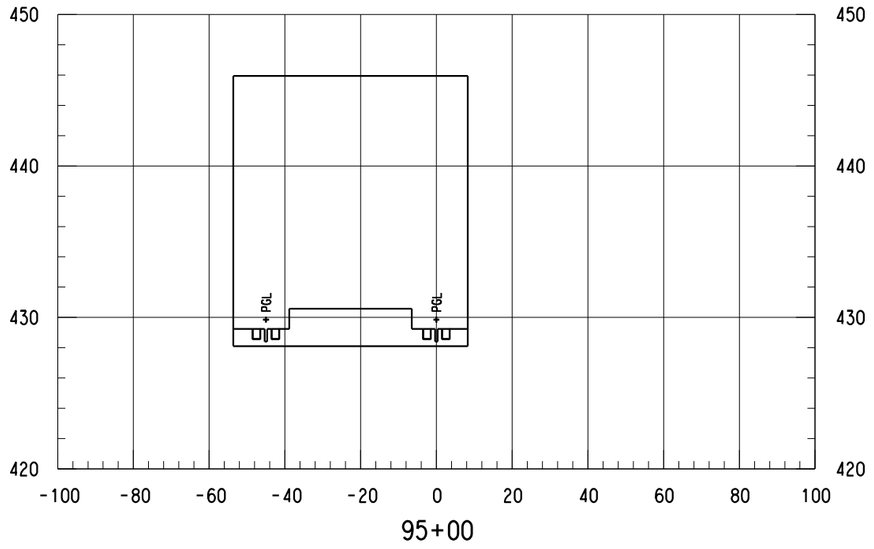
CBD-2
GUIDEWAY CROSS SECTIONS
STA 92+50.00 TO STA 94+00.00

CONTRACT	DWG No.	REV
	CC8-0051	

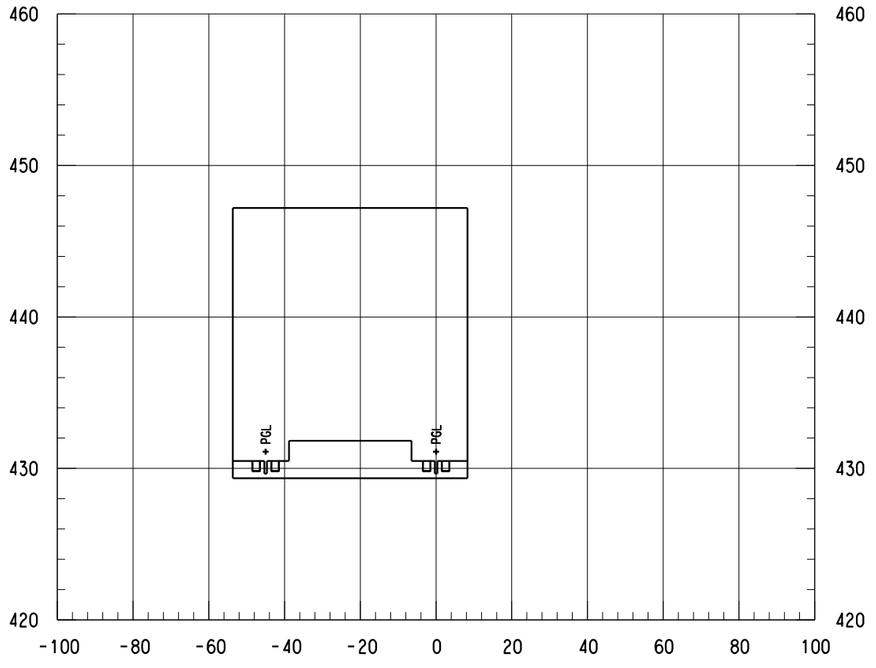
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$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

DWG No. CC8-0052



95+00

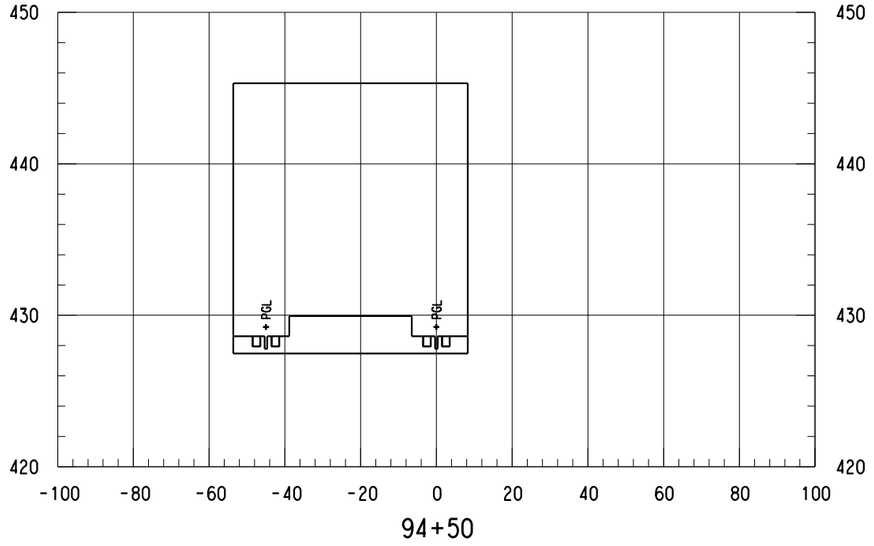


96+00

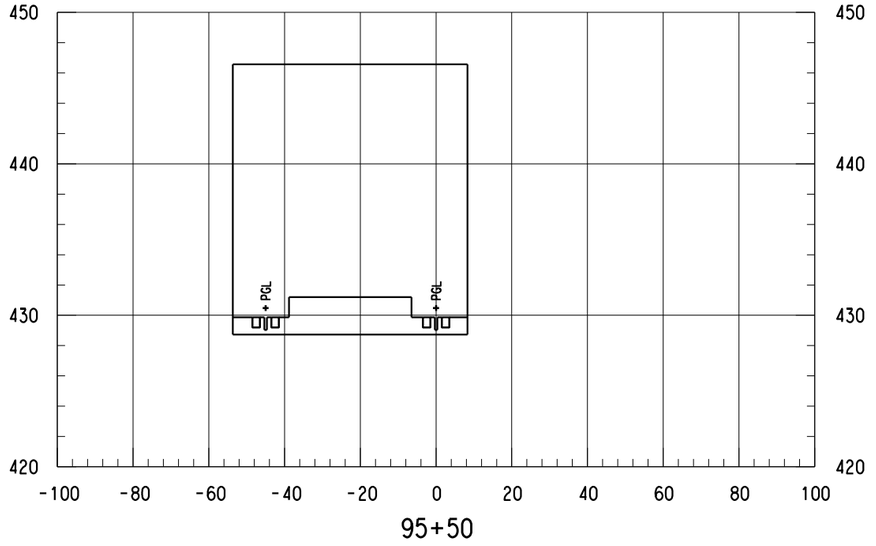
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HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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94+50



95+50

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 115 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 94+50.00 TO STA 96+00.00

CONTRACT | DWG No. CC8-0052 | REV

$$$$DGN$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 12:51:57 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

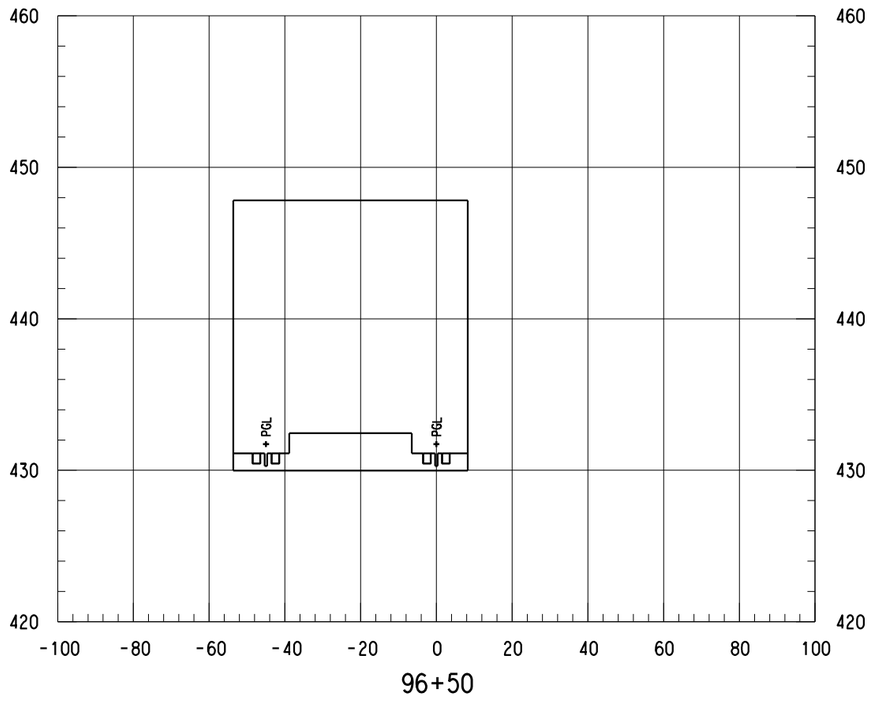
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DWG No. CC8-0053

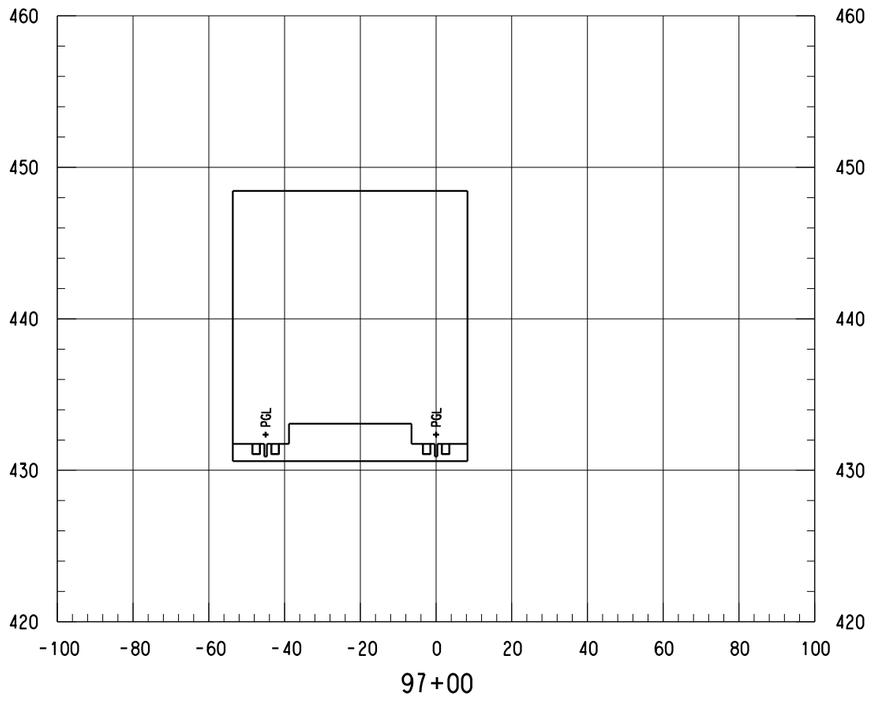
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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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96+50



97+00

NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 116 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP
△								

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 96+50.00 TO STA 97+00.00

CONTRACT	DWG No.	REV
	CC8-0053	

Friday, February 28, 2020 12:57:57 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

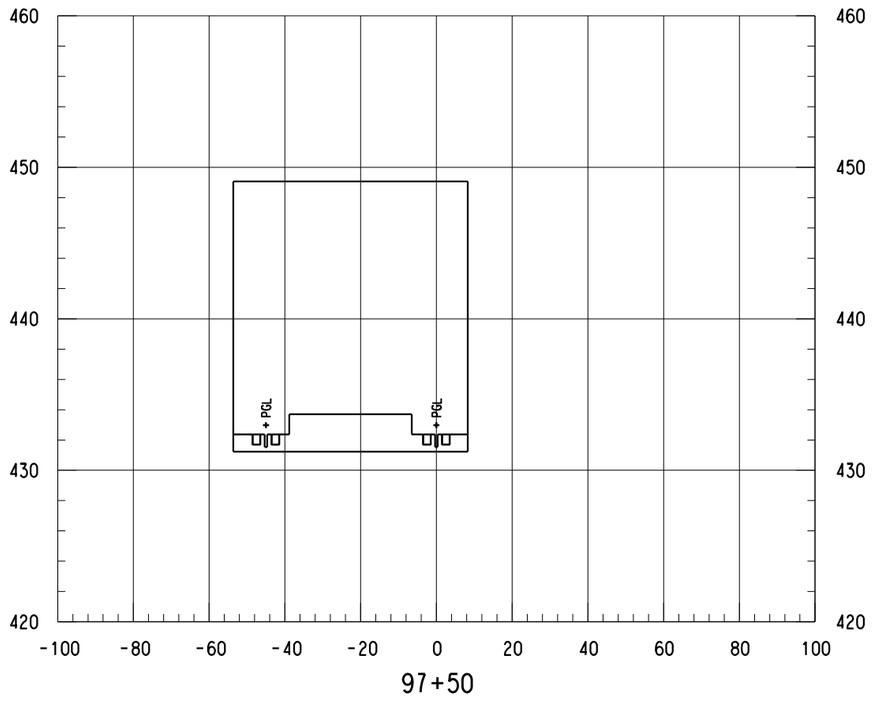
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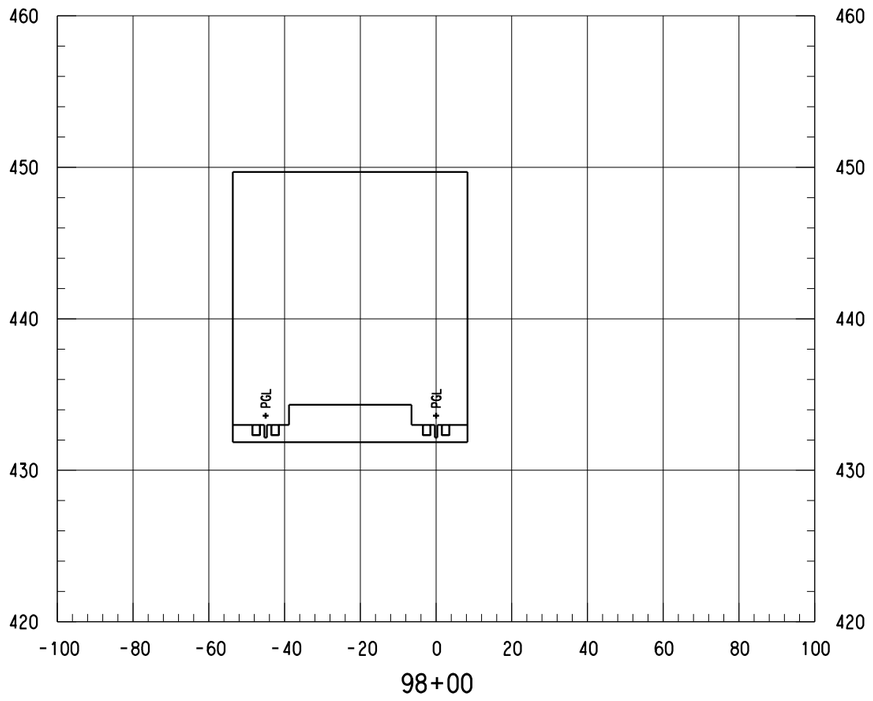
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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97+50



98+00

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CONTRACT SHEET No. 117 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 97+50.00 TO STA 98+00.00

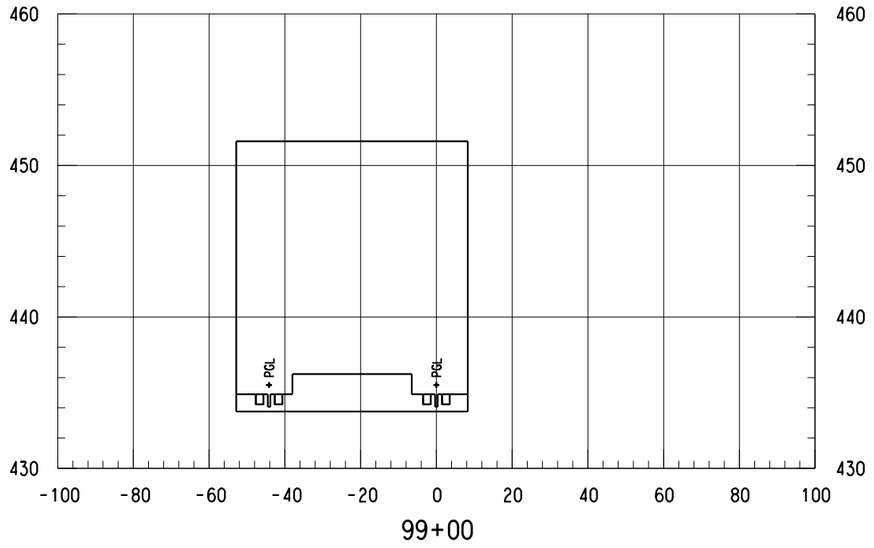
CONTRACT | DWG No. CC8-0054 | REV

Friday, February 28, 2020 12:57:58 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

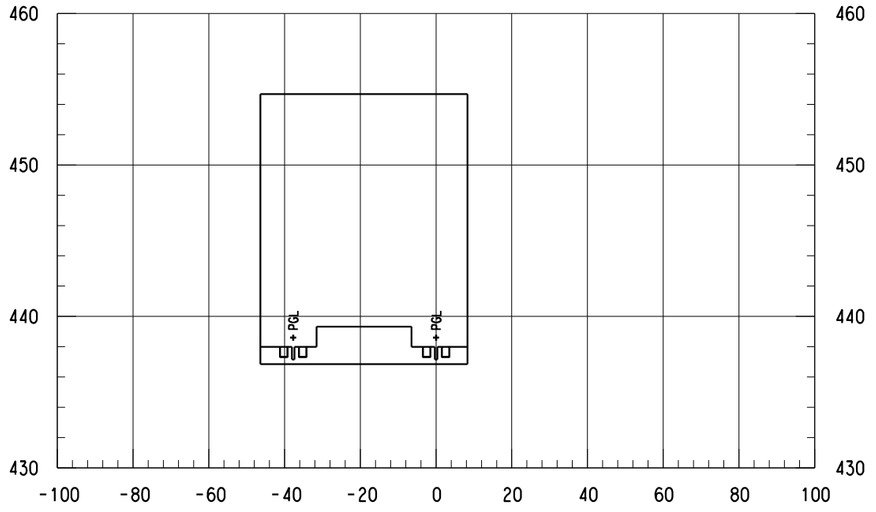
DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$

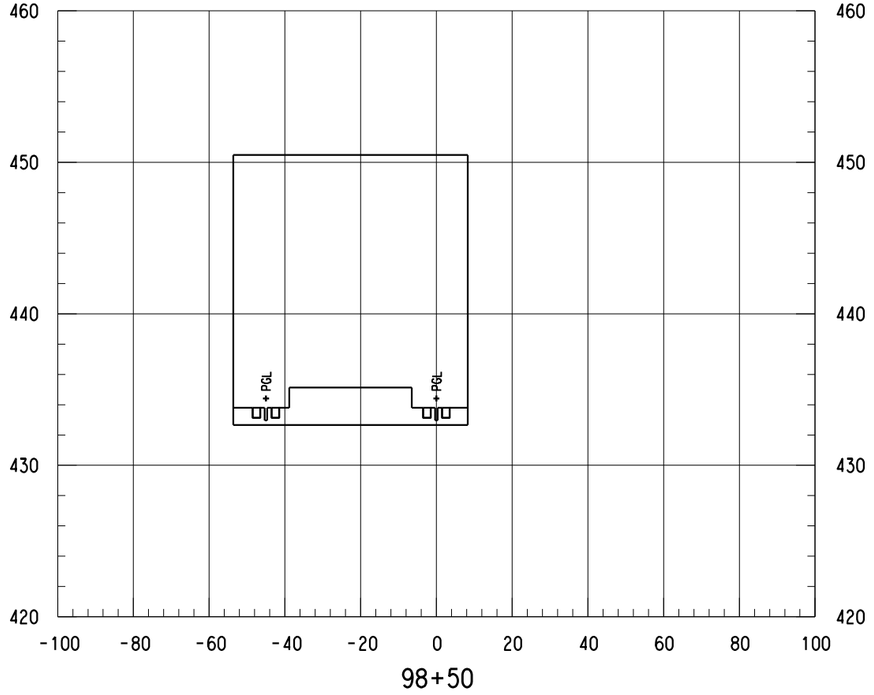
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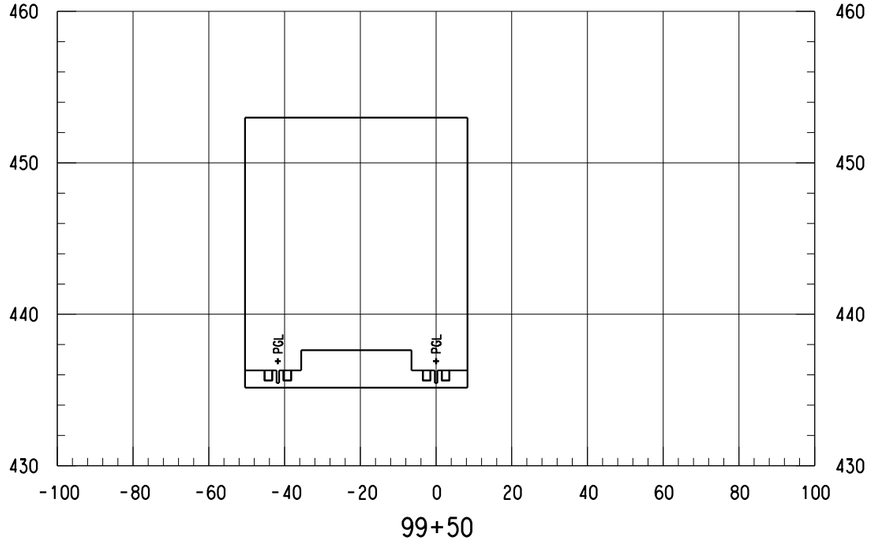
99+00



100+00



98+50



99+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 118 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 98+50.00 TO STA 100+00.00

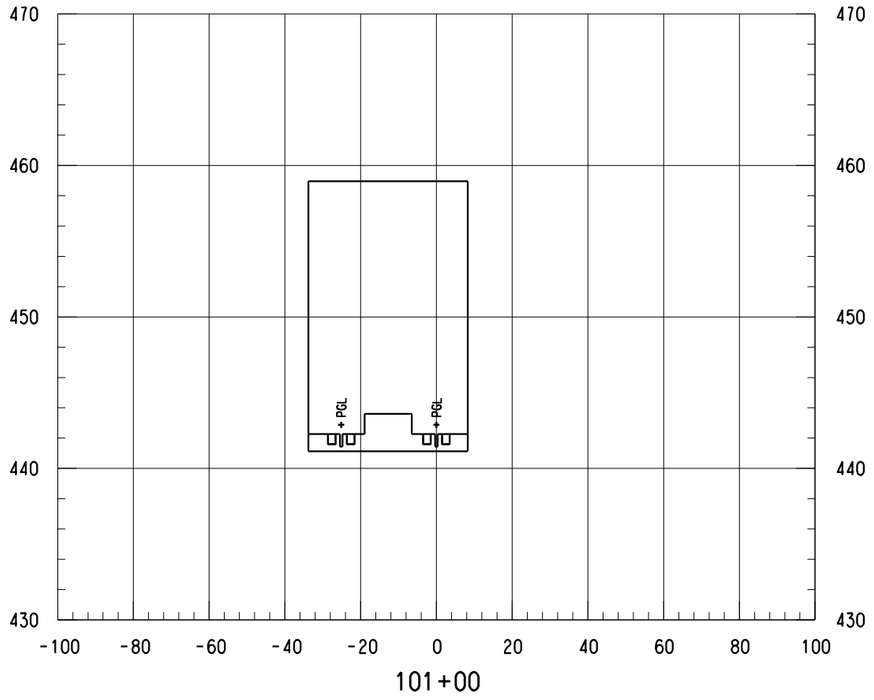
CONTRACT	DWG No.	REV
	CC8-0055	

Friday, February 28, 2020 12:57:59 PM
$$$$DGN$$SPECIFICATION$$$$$$$$

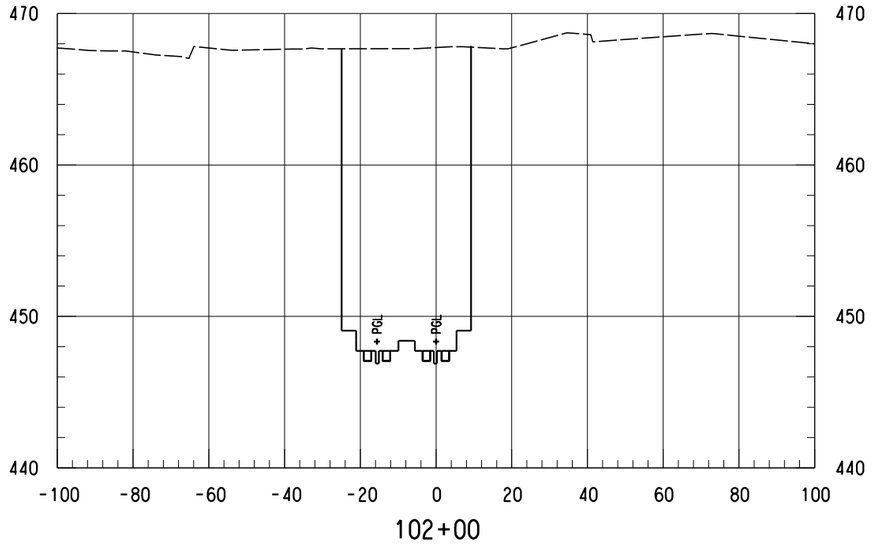
DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$

DWG No. CC8-0056



101+00

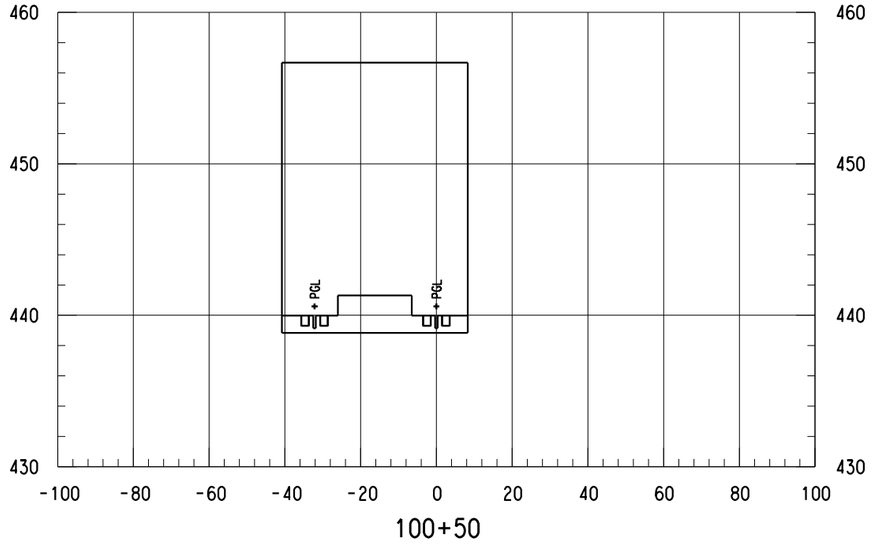


102+00

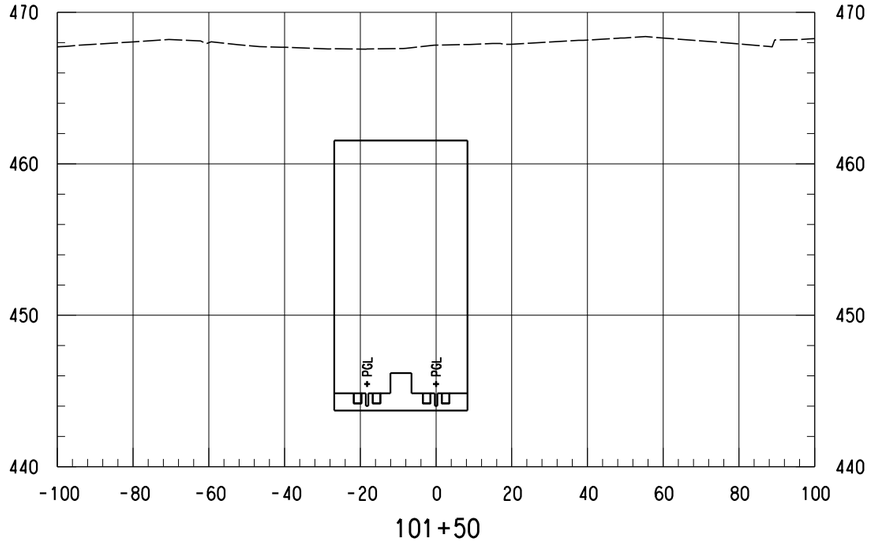
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



100+50



101+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 119 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 100+50.00 TO STA 102+00.00

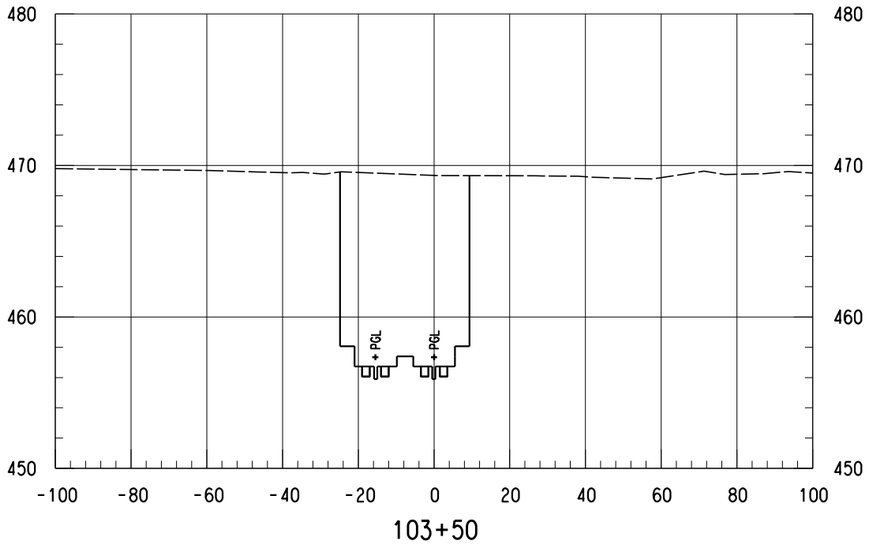
CONTRACT	DWG No.	REV
	CC8-0056	

Friday, February 28, 2020 12:57:59 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

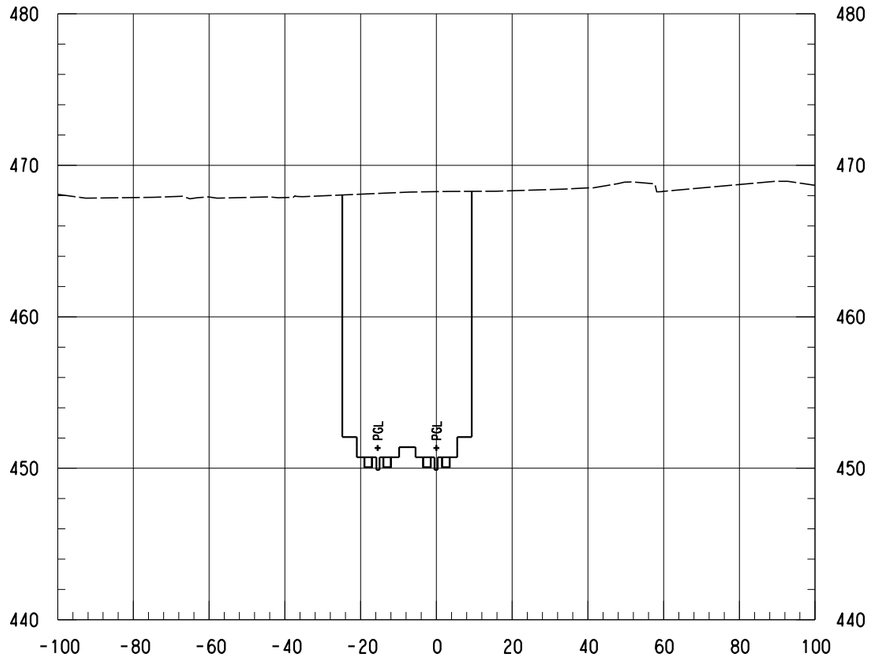
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

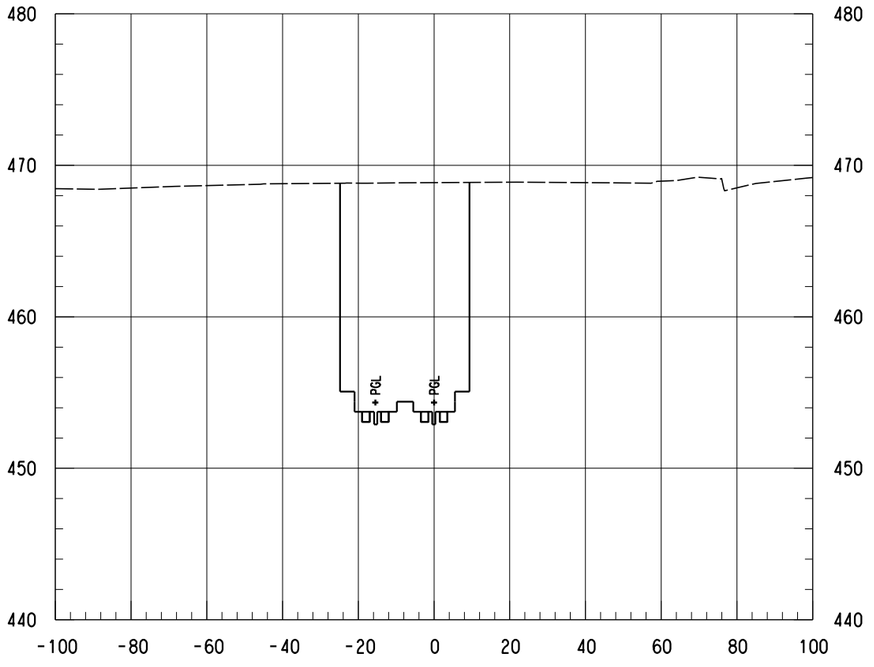
DWG No. CC8-0057



103+50



102+50



103+00

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 120 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 102+50.00 TO STA 103+50.00

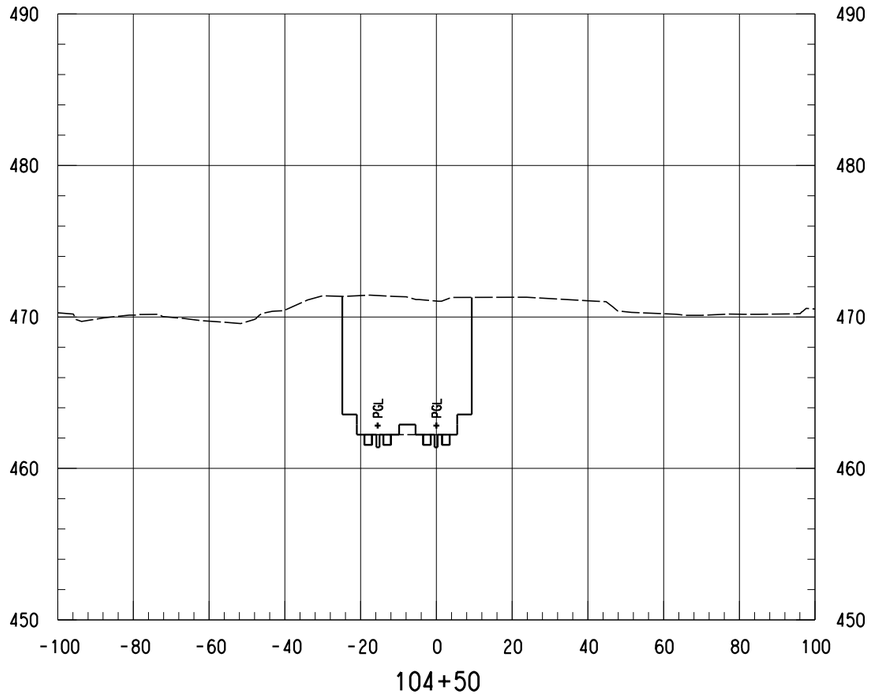
CONTRACT | DWG No. CC8-0057 | REV

Friday, February 28, 2020 12:58:00 PM
$$$$DGN$SPECIFICATION$$$$$$$$

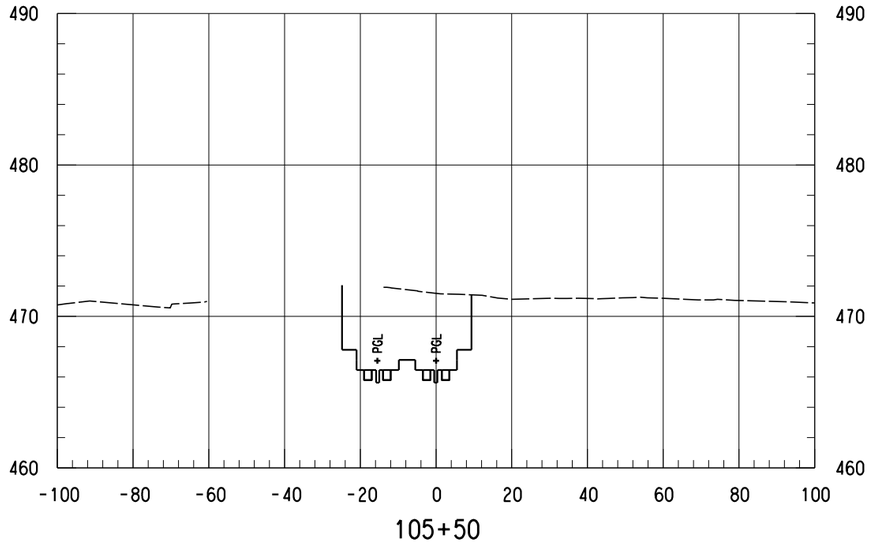
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$

DWG No. CC8-0058



104+50

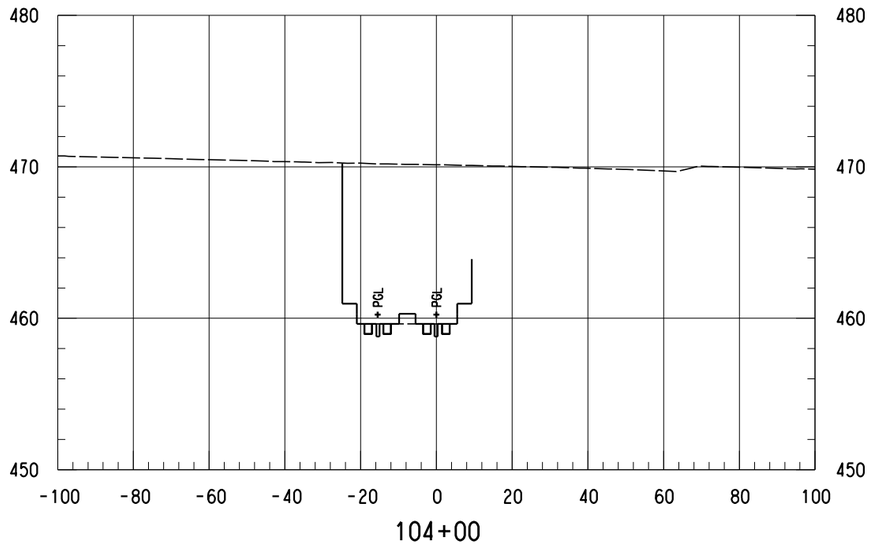


105+50

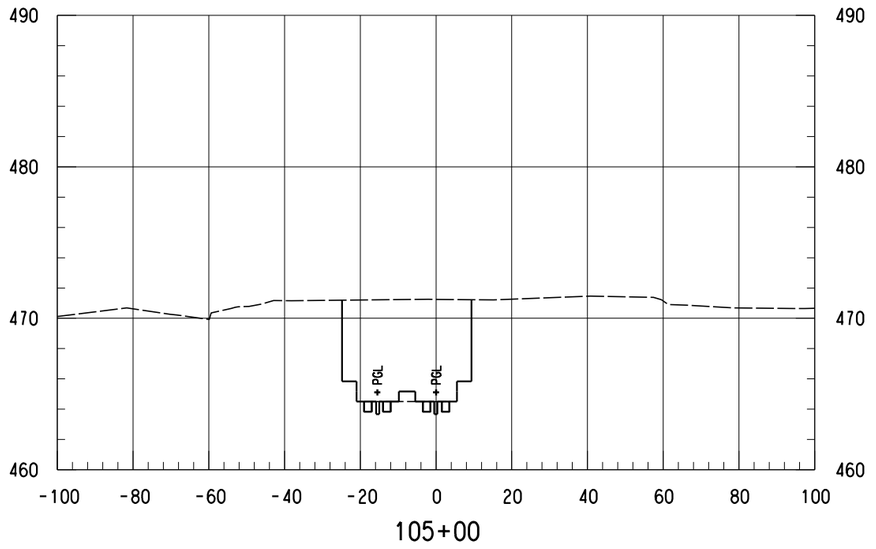
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



104+00



105+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 121 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

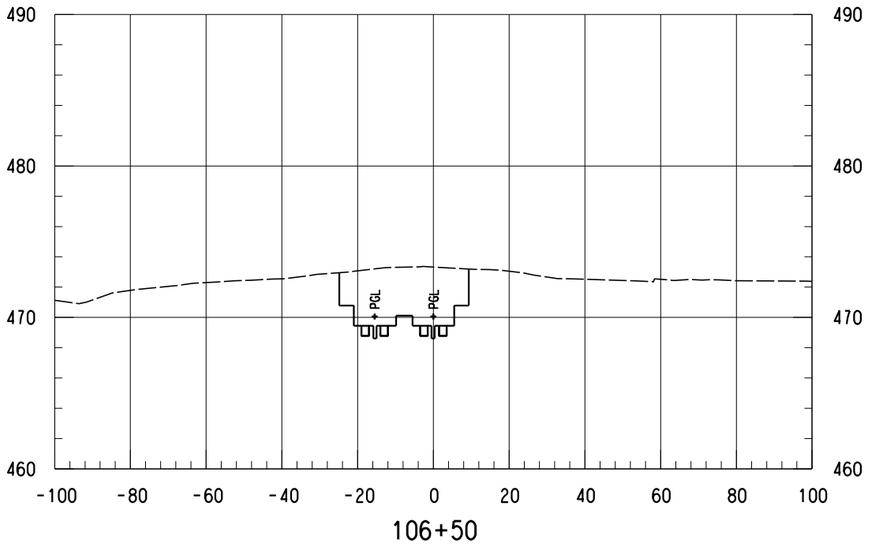
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

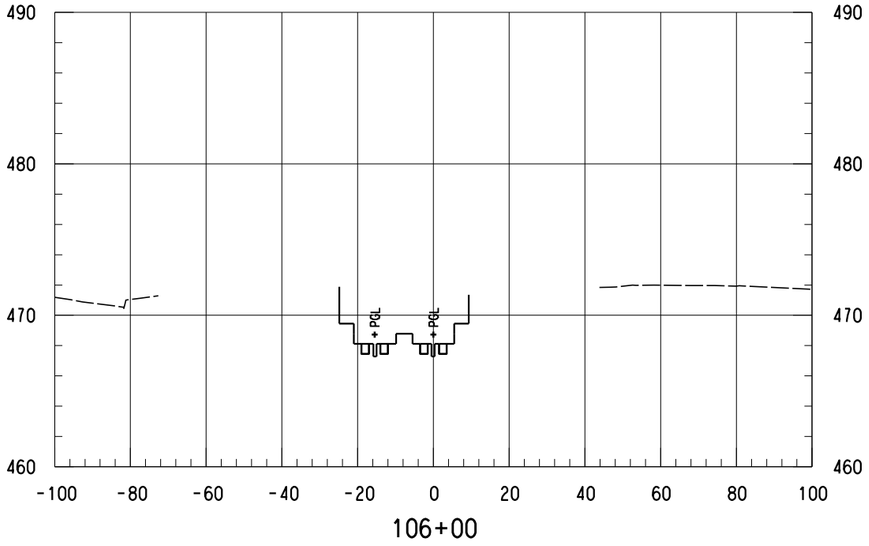
CBD-2
GUIDEWAY CROSS SECTIONS
STA 104+00.00 TO STA 105+50.00

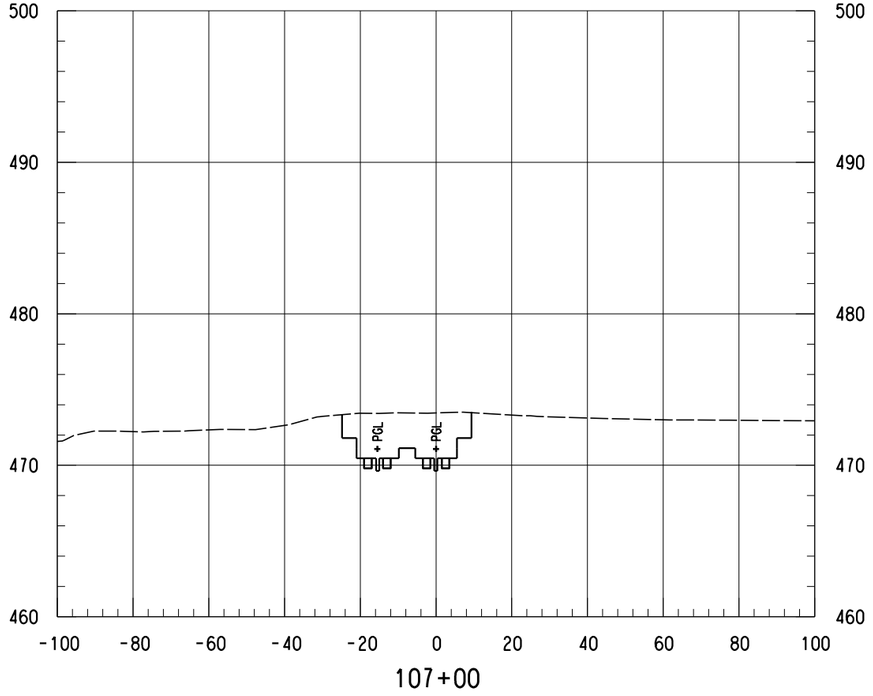
CONTRACT	DWG No.	REV
	CC8-0058	

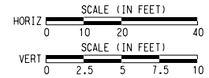
Friday, February 28, 2020 12:58:01 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0059









NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 122 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 106+00.00 TO STA 107+00.00

CONTRACT	DWG No.	REV
	CC8-0059	

Friday, February 28, 2020 12:58:02 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

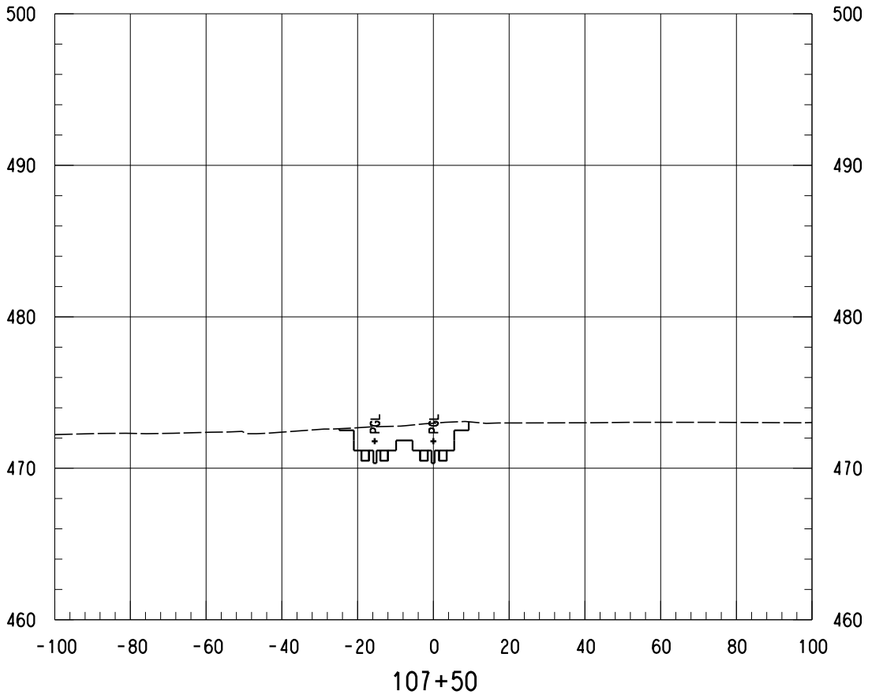
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0060

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 123 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 107+50.00

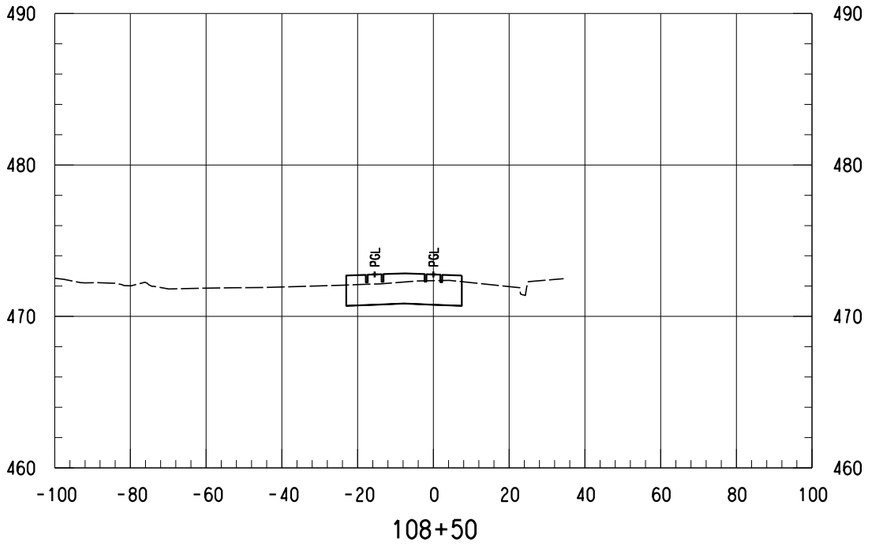
CONTRACT | DWG No. CC8-0060 | REV

Friday, February 28, 2020 12:58:02 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

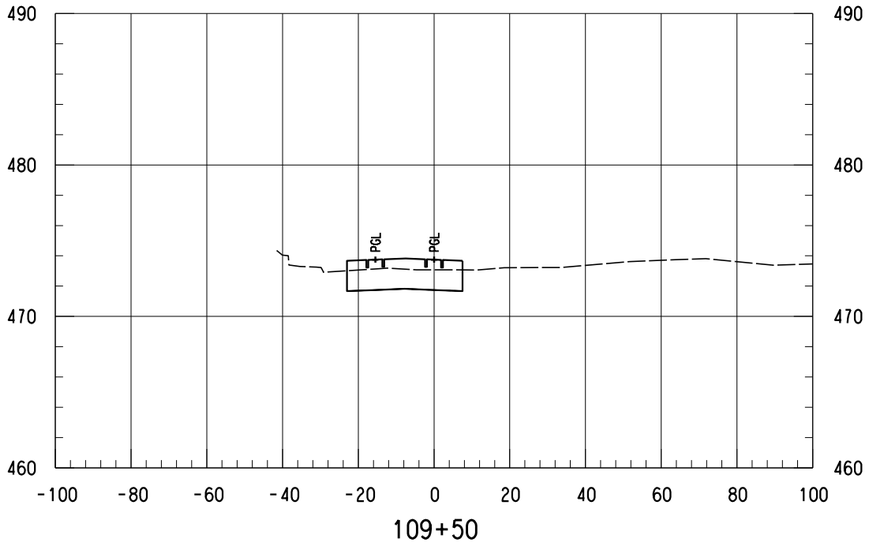
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$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC8-0061



108+50

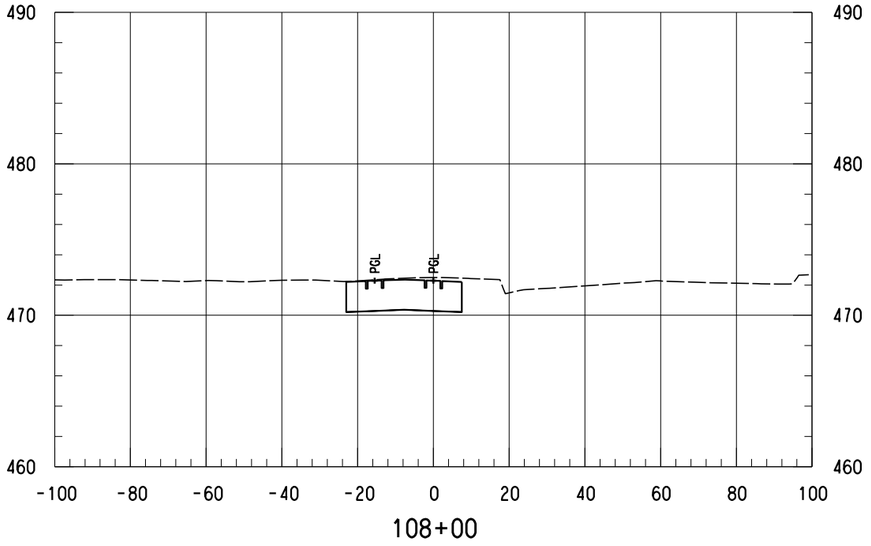


109+50

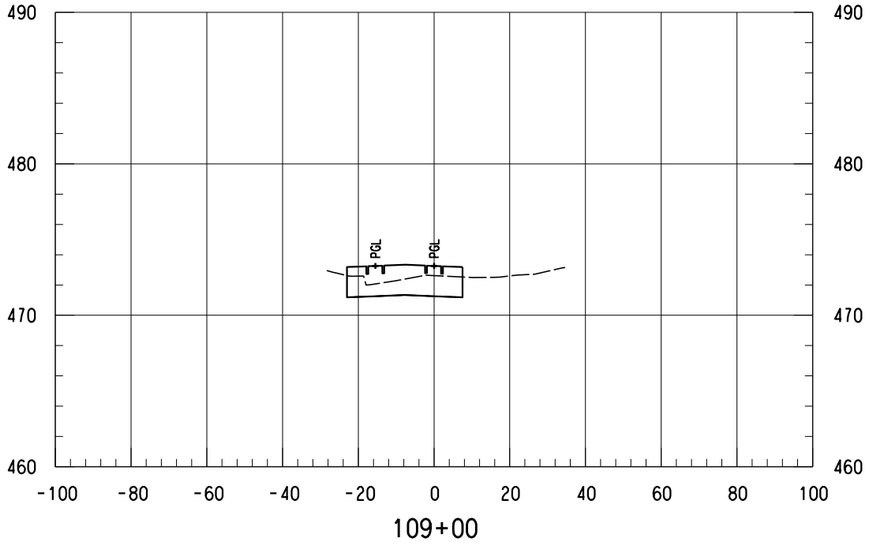
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



108+00



109+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 124 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

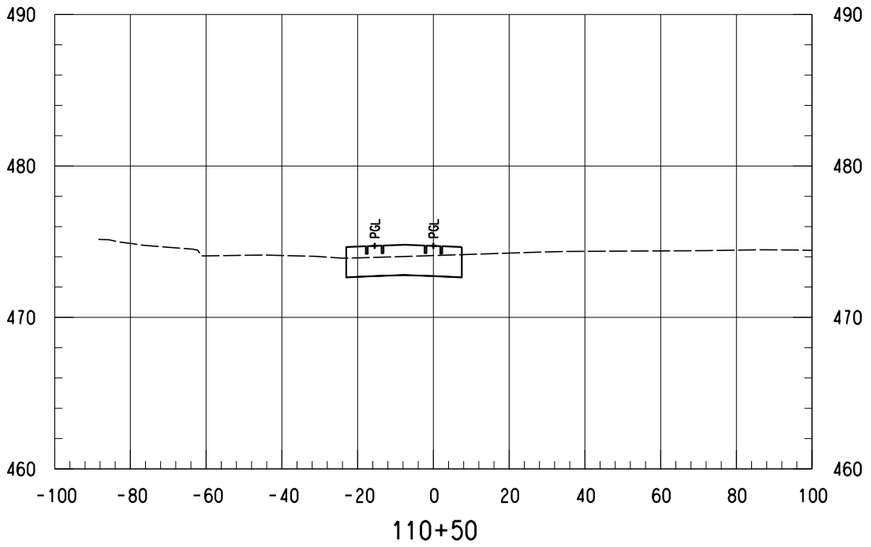
CONTRACT	DWG No.	REV
	CC8-0061	

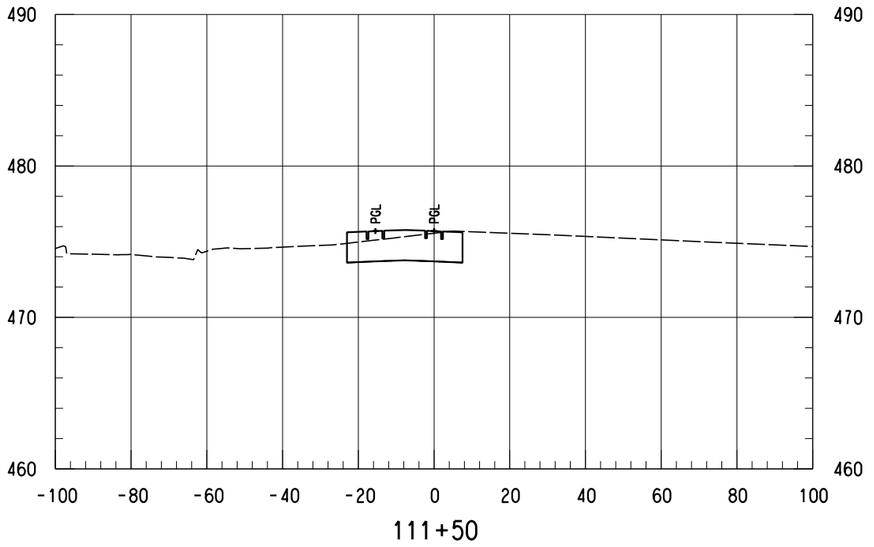
Friday, February 28, 2020 12:58:03 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$

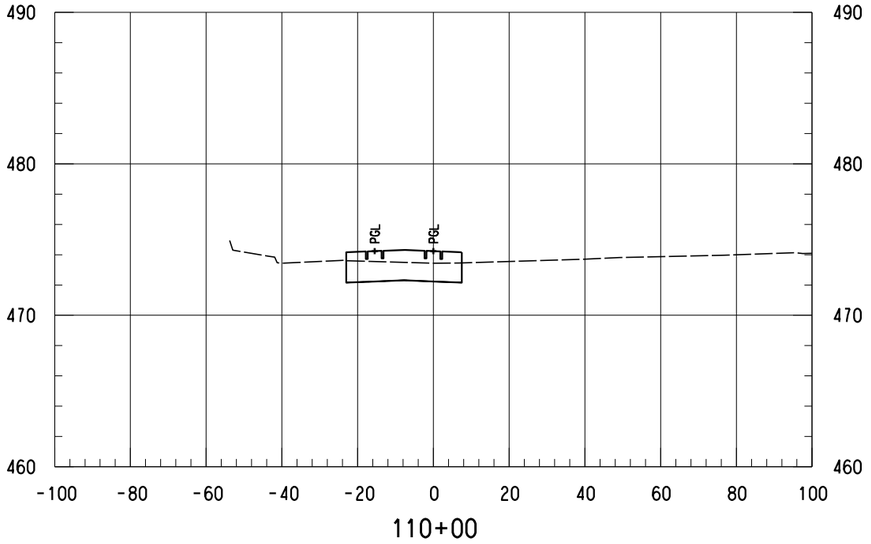
DANGLE

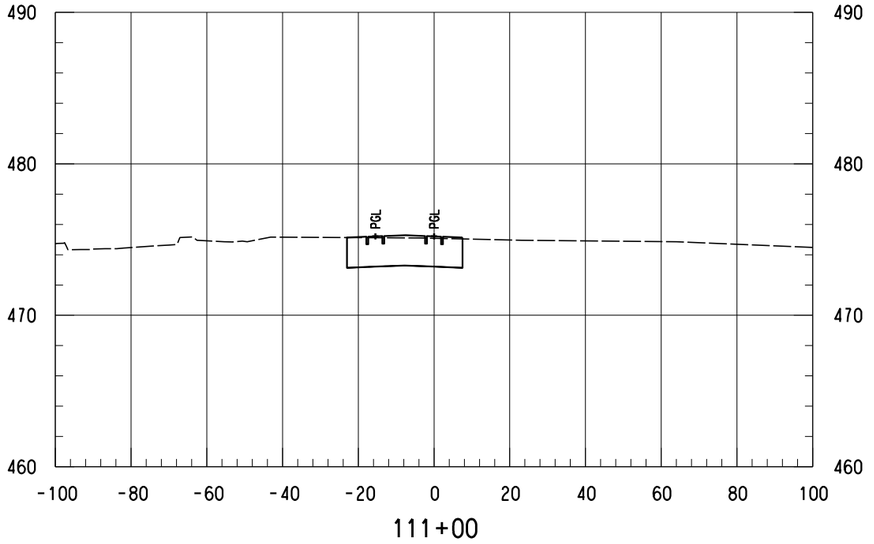
$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0062









SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 125 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

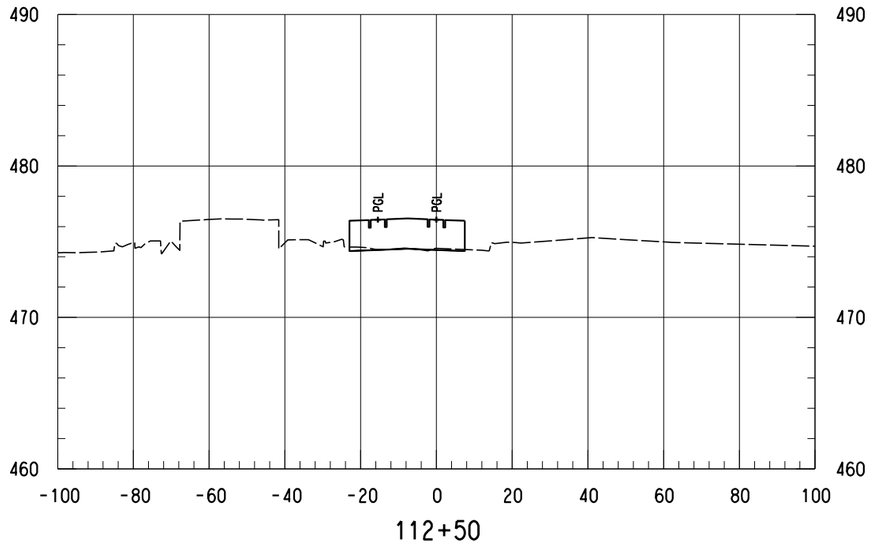
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

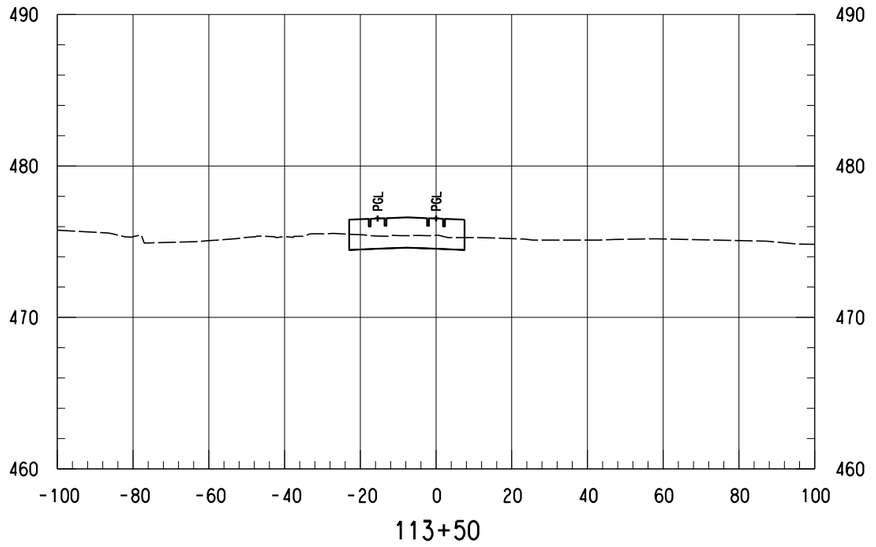
CBD-2
GUIDEWAY CROSS SECTIONS
STA 110+00.00 TO STA 111+50.00

CONTRACT	DWG No.	REV
	CC8-0062	

Friday, February 28, 2020 12:58:04 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$
DANGLE
$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0063

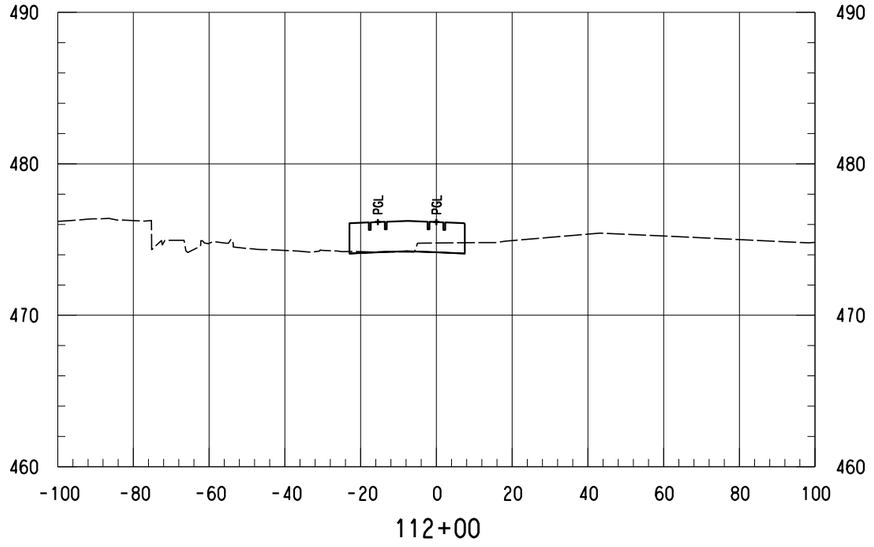


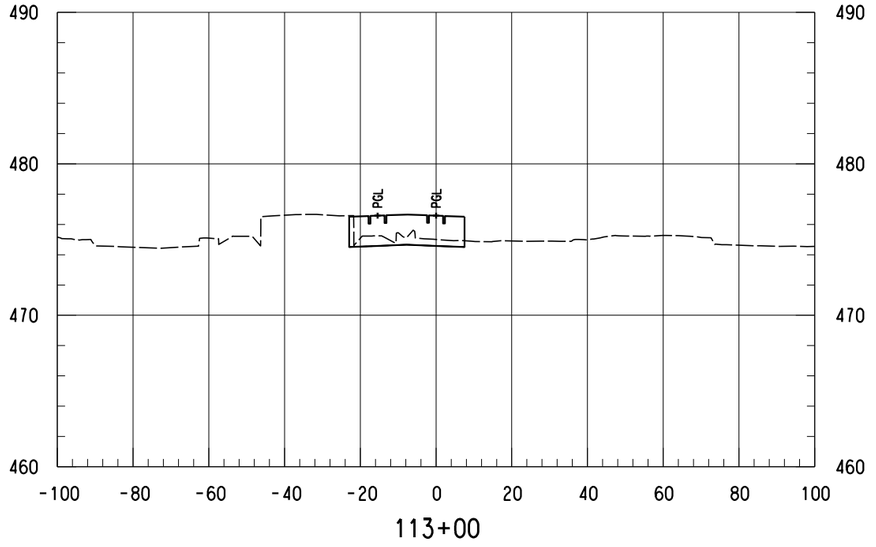


SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.





NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 126 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 112+00.00 TO STA 113+50.00

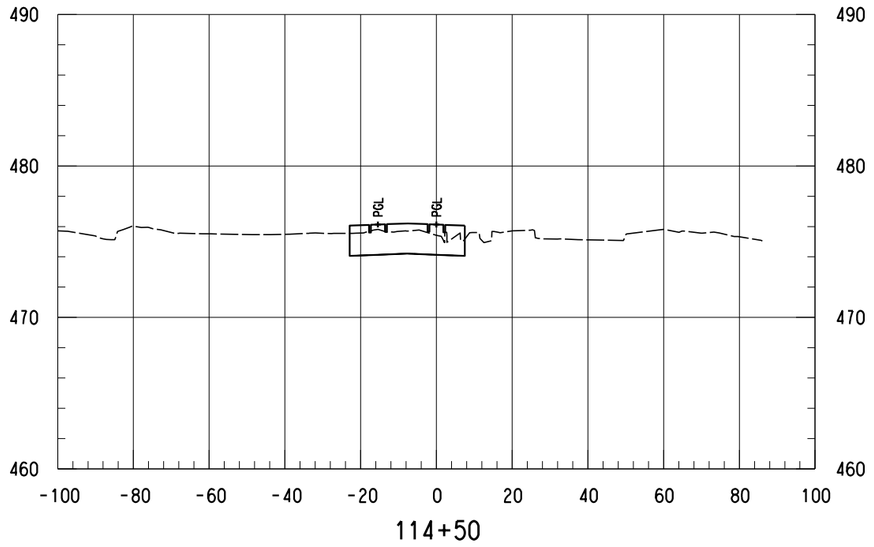
CONTRACT	DWG No.	REV
	CC8-0063	

Friday, February 28, 2020 12:58:04 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

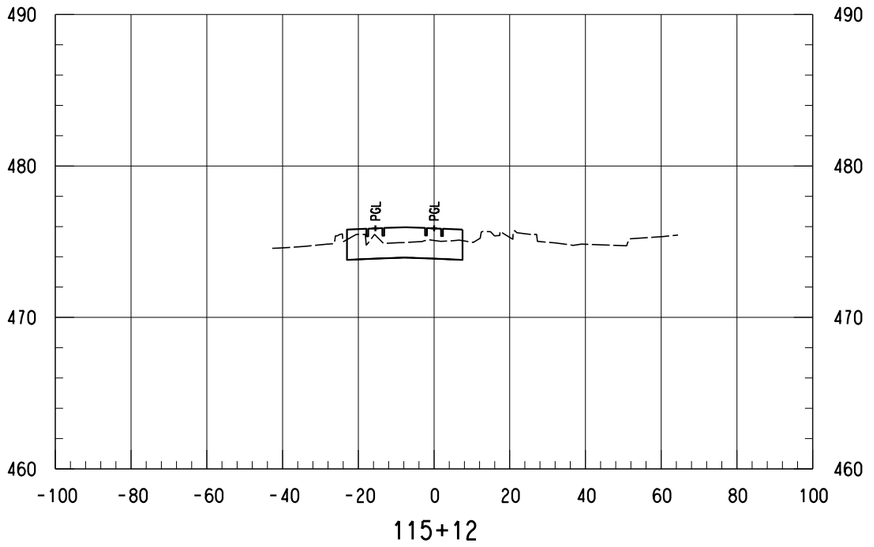
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0064



114+50

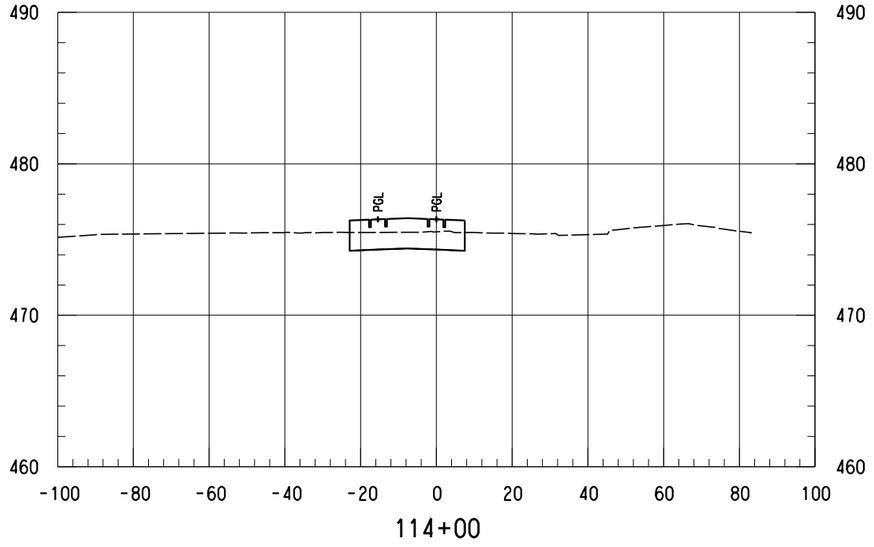


115+12

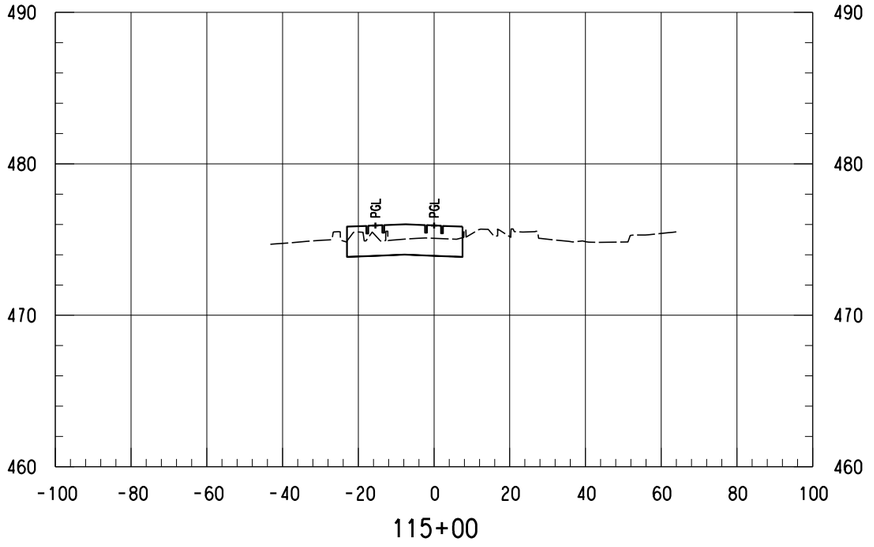
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



114+00



115+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 127 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 114+00.00 TO STA 115+12.00

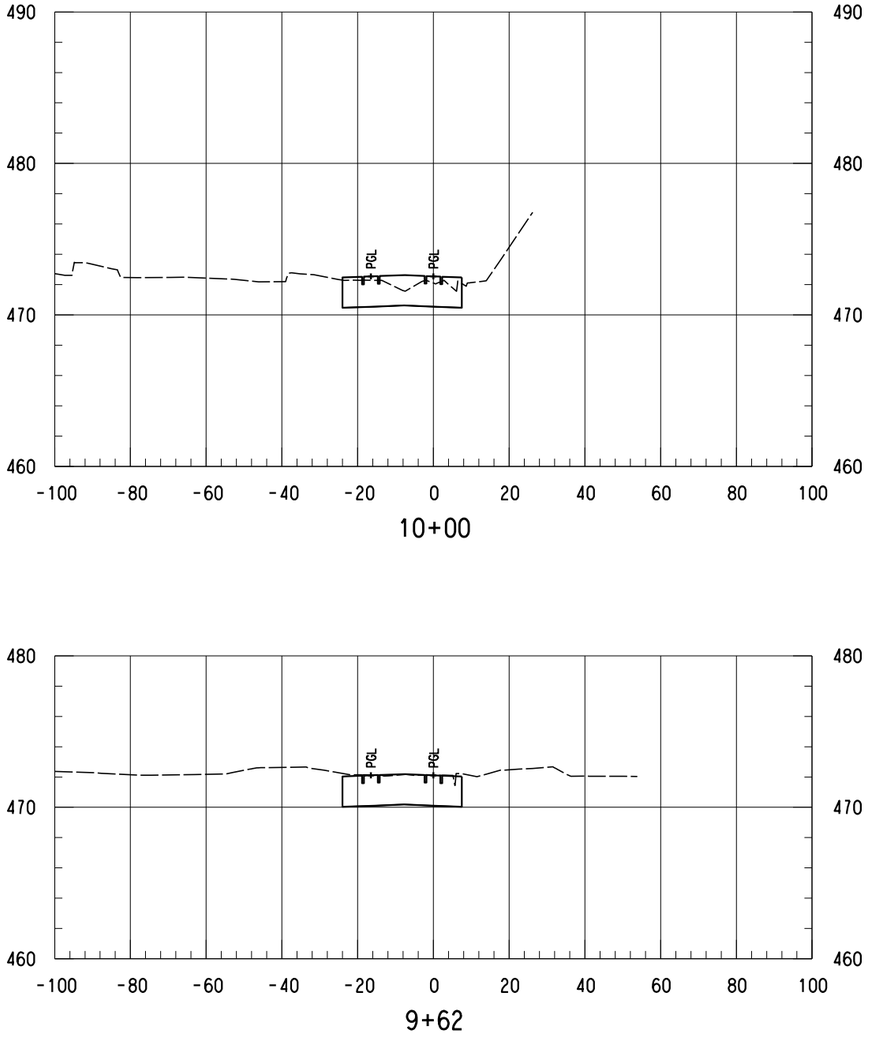
CONTRACT	DWG No.	REV
	CC8-0064	

$$$$DGN$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 12:58:05 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

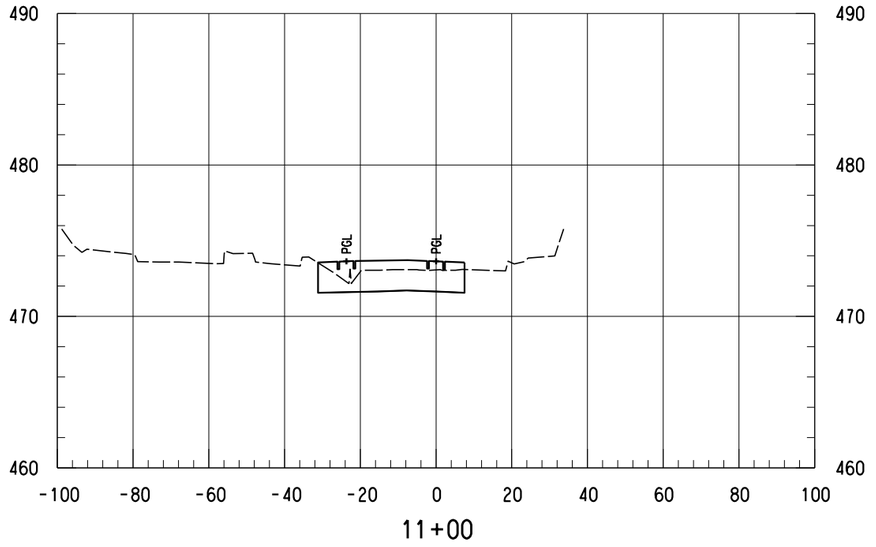
DANGLE

DWG No. CC8-0065

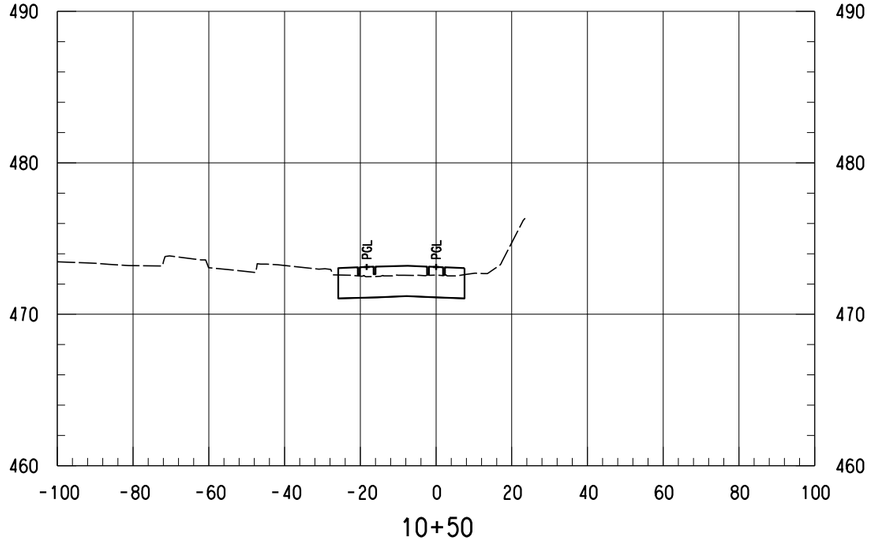


10+00

9+62



11+00



10+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 128 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 9+62.00 TO STA 11+00.00

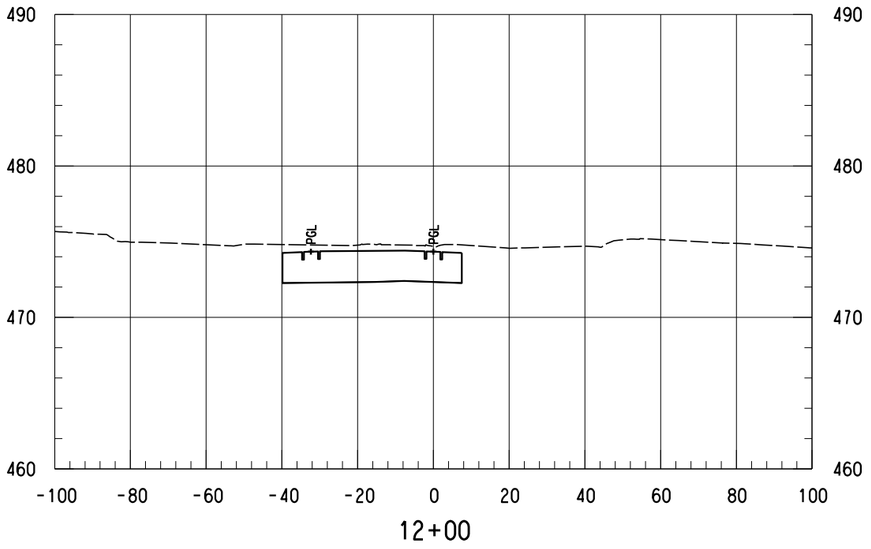
CONTRACT	DWG No.	REV
	CC8-0065	

DANGLE

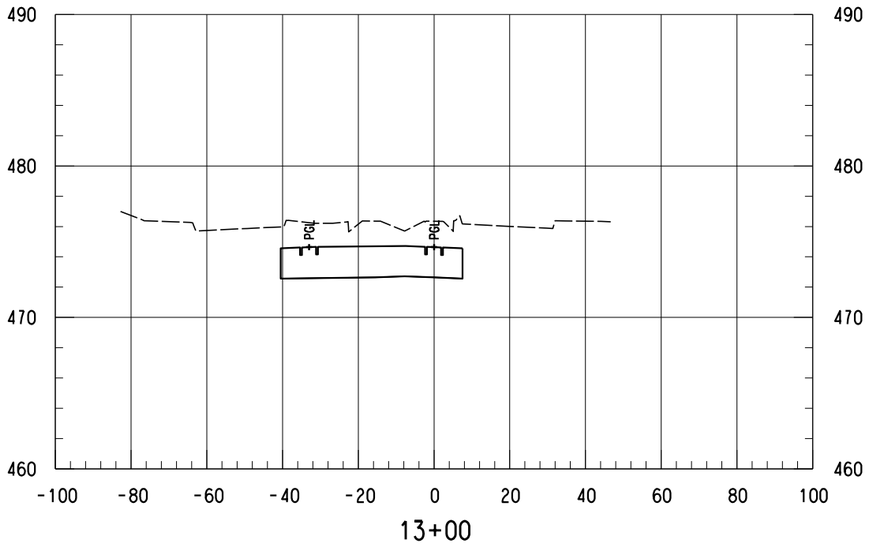
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$$$$DGN$SPECIFICATION$$$$$$$$$

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0066



12+00

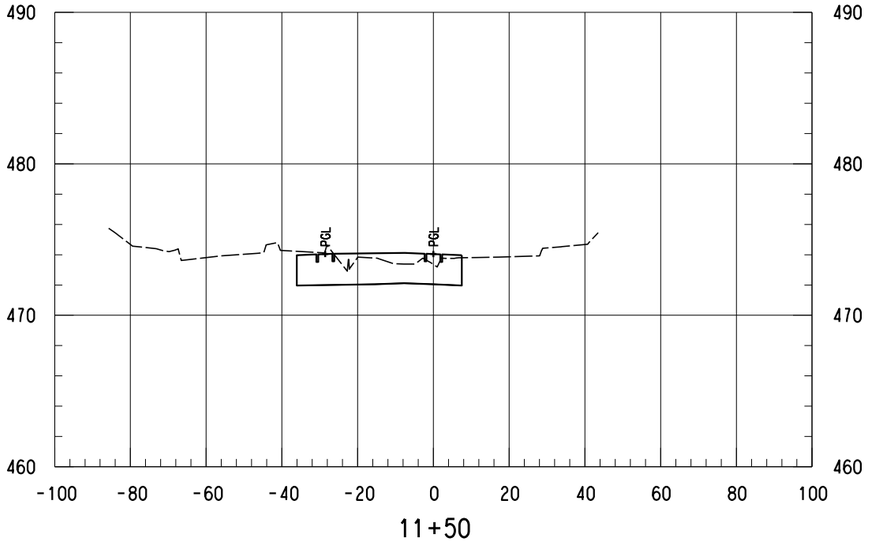


13+00

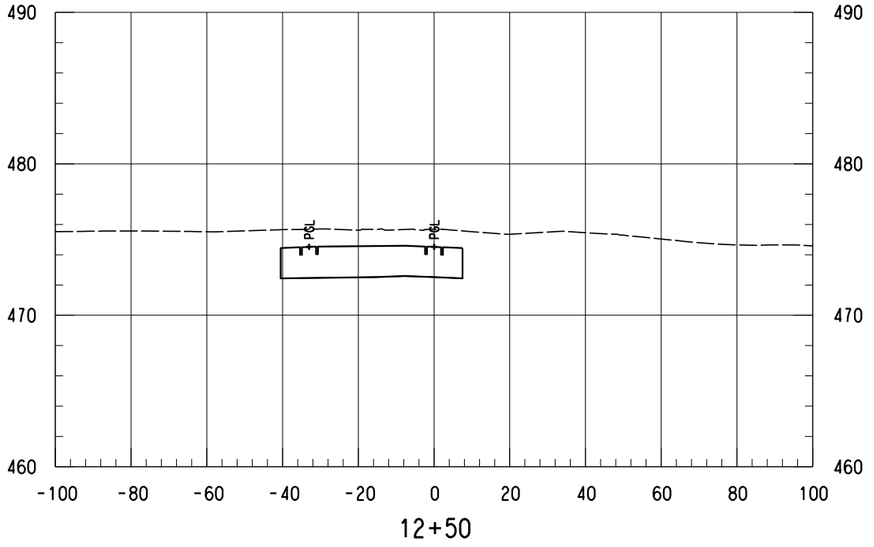
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



11+50



12+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 129 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF: AMANDA C. STAHLNECKER, P.E. NO. 124571 ON 03/06/2020 HDR ENGINEERING, INC. TBPE FIRM NO. F-754 IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 11+50.00 TO STA 13+00.00

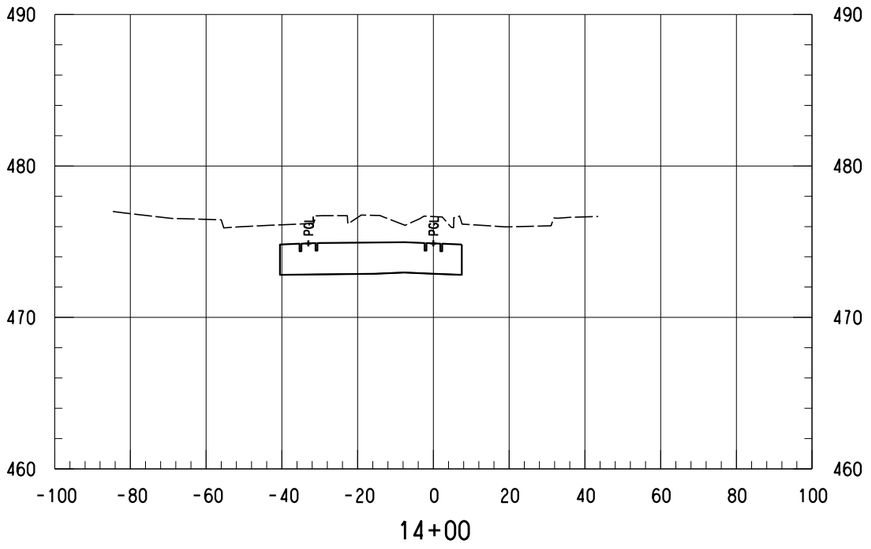
CONTRACT	DWG No.	REV
	CC8-0066	

Friday, February 28, 2020 12:58:06 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$

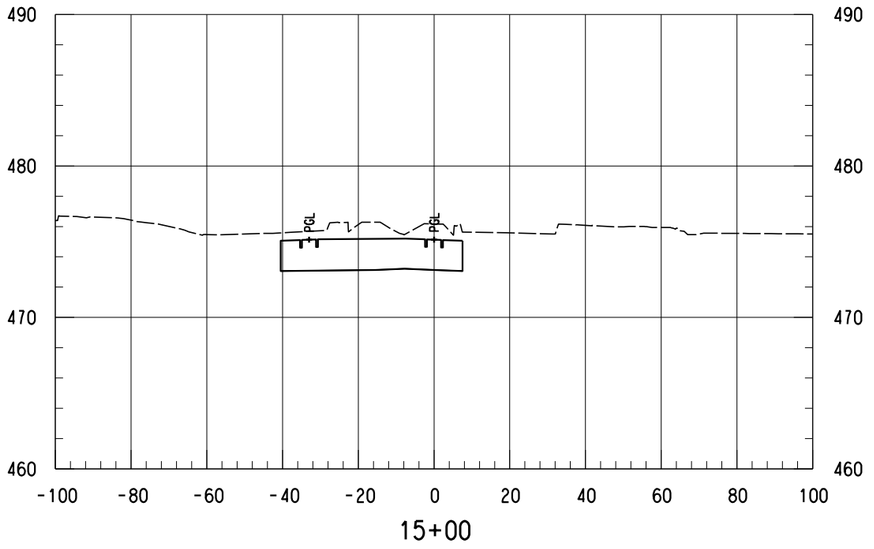
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0067



14+00

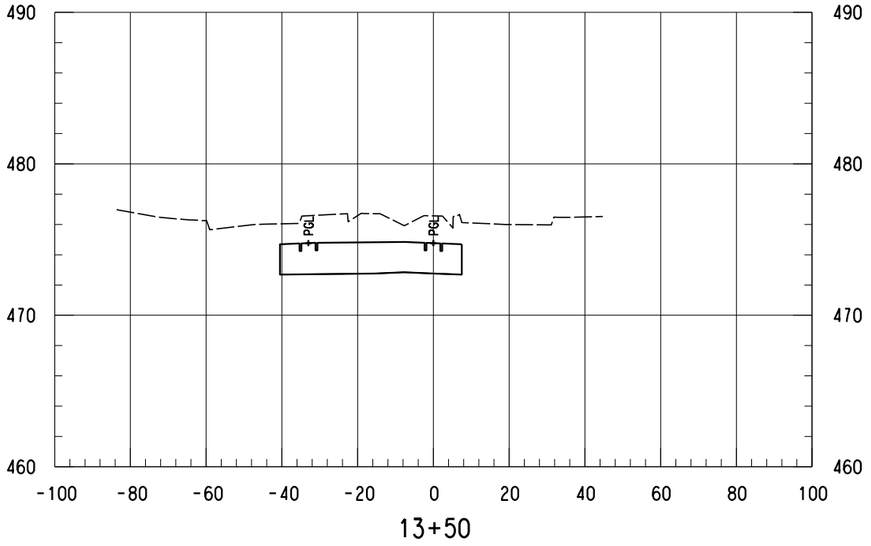


15+00

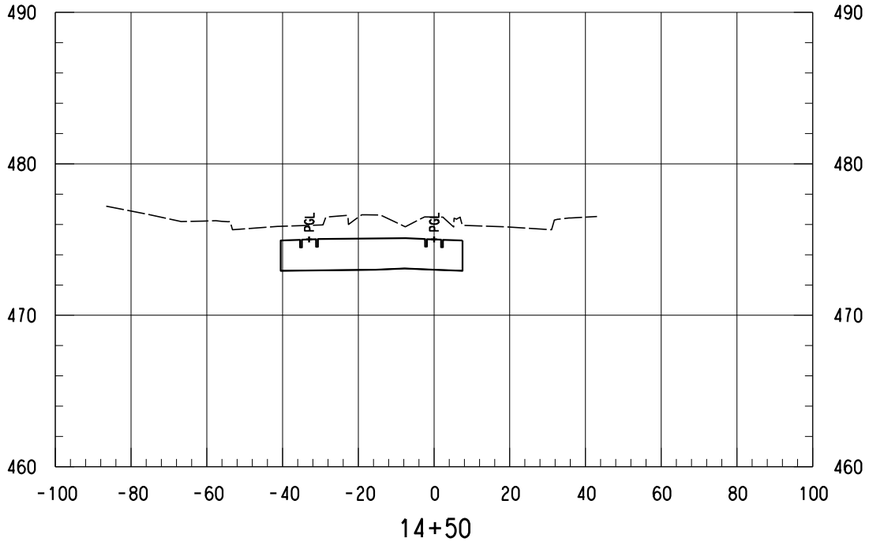
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



13+50



14+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 130 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 13+50.00 TO STA 15+00.00

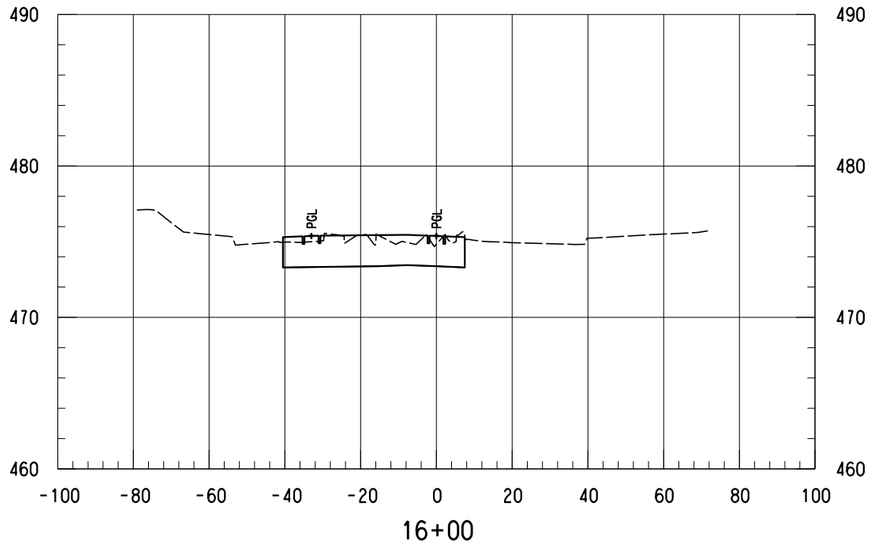
CONTRACT	DWG No.	REV
	CC8-0067	

Friday, February 28, 2020 12:58:07 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

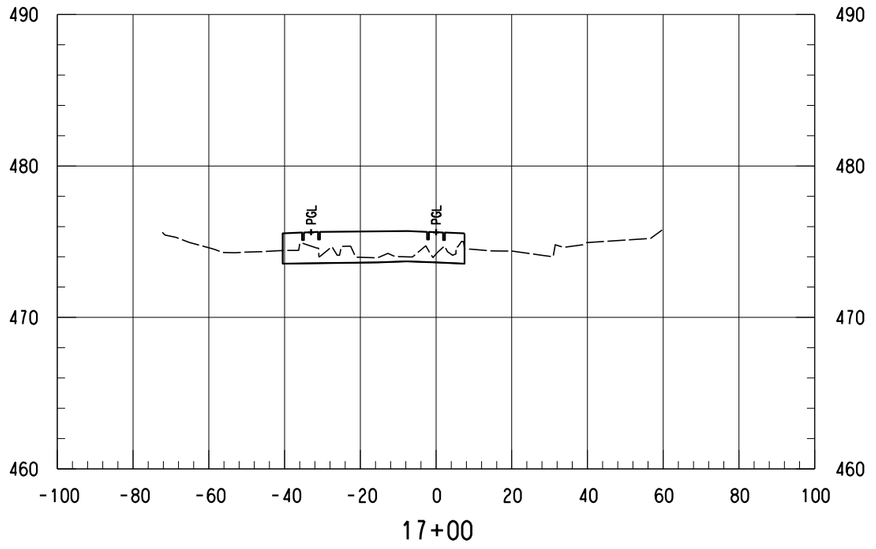
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

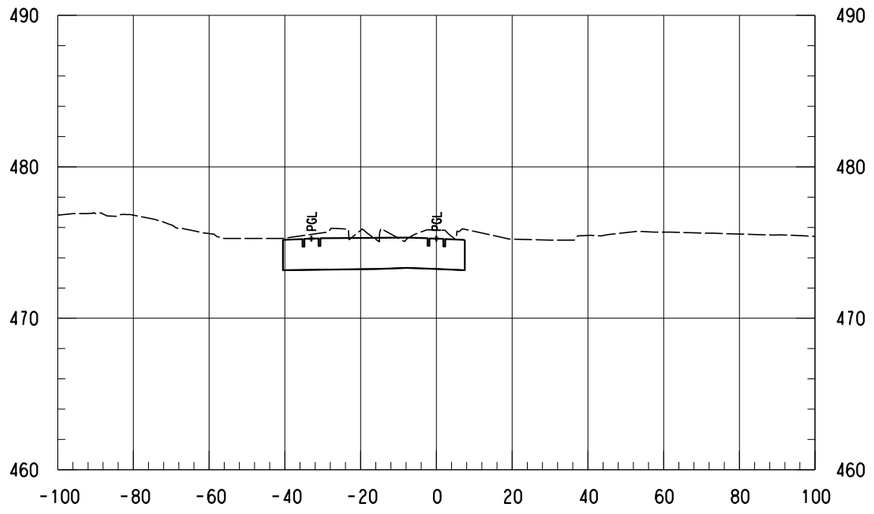
DWG No. CC8-0068



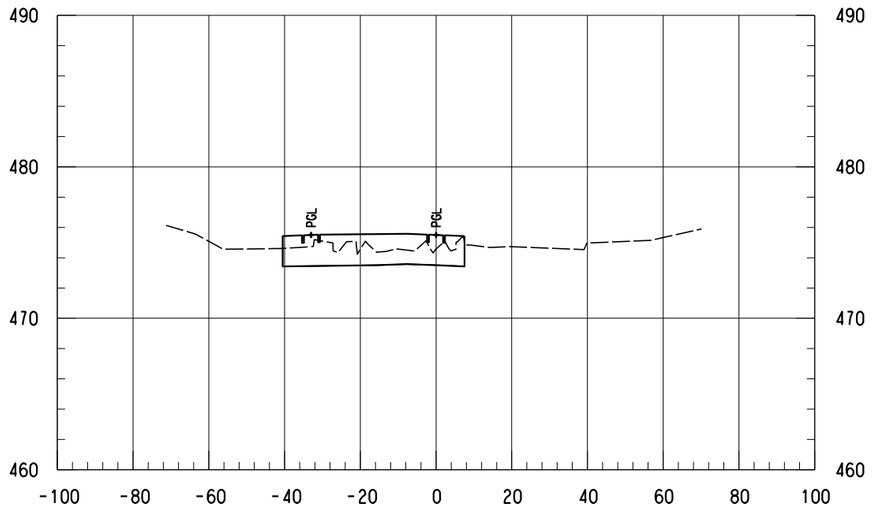
16+00



17+00



15+50



16+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 131 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 15+50.00 TO STA 17+00.00

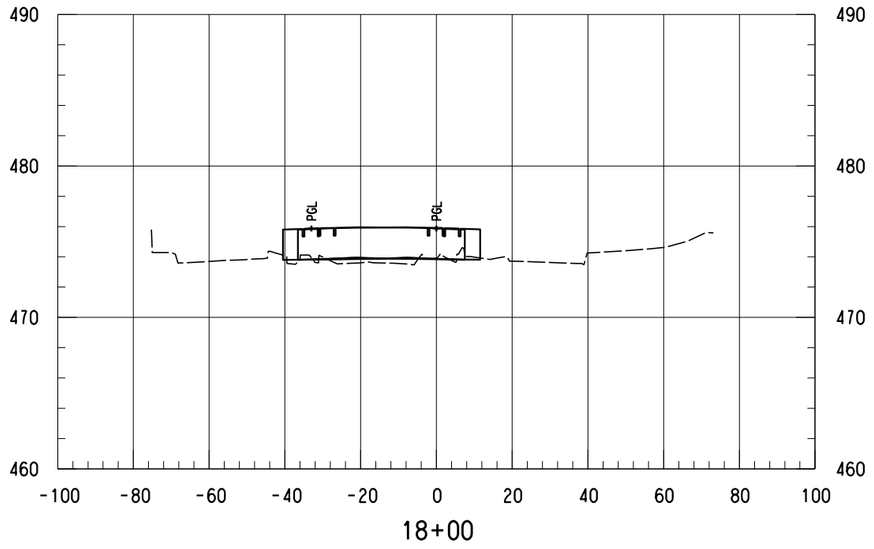
CONTRACT	DWG No.	REV
	CC8-0068	

Friday, February 28, 2020 12:58:08 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$

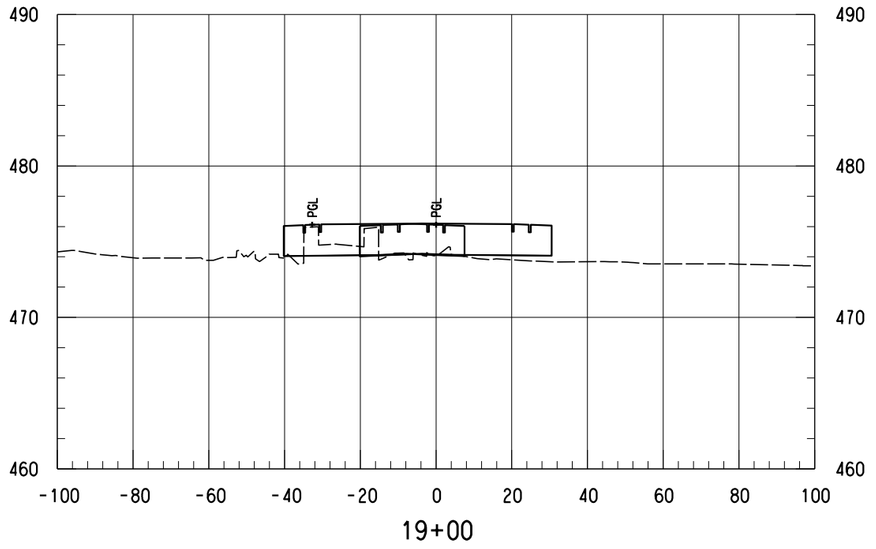
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$$

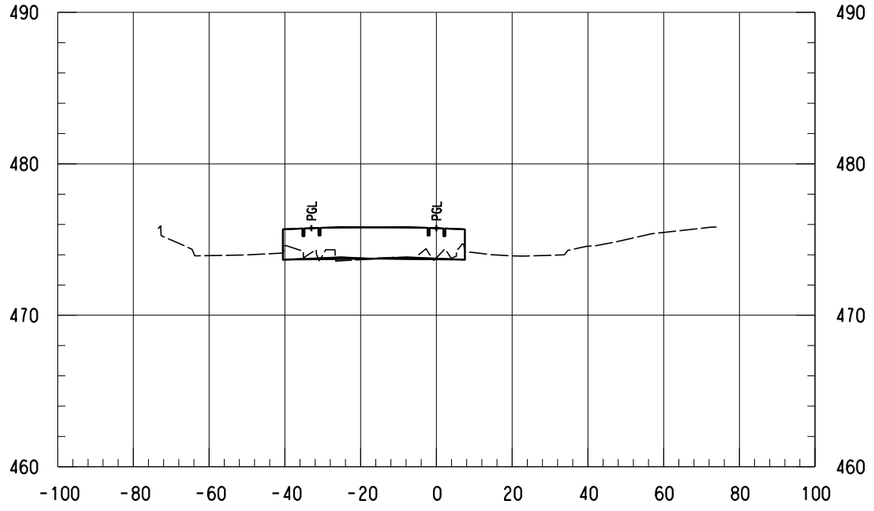
DWG No. CC8-0069



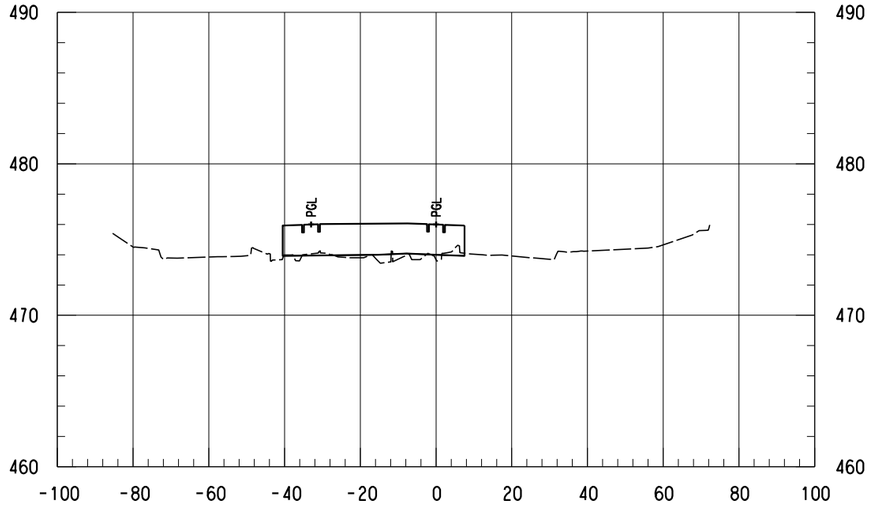
18+00



19+00



17+50



18+50

SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 132 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 17+50.00 TO STA 19+00.00

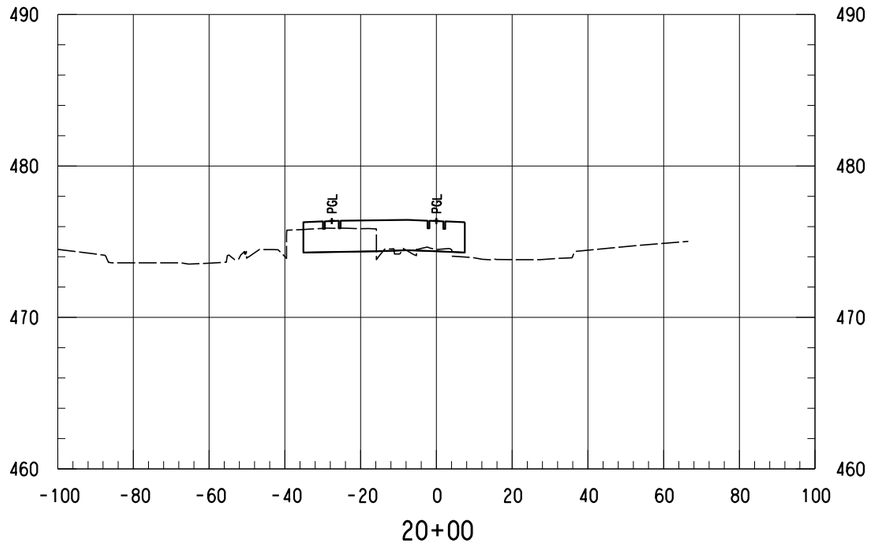
CONTRACT	DWG No.	REV
	CC8-0069	

DANGLE

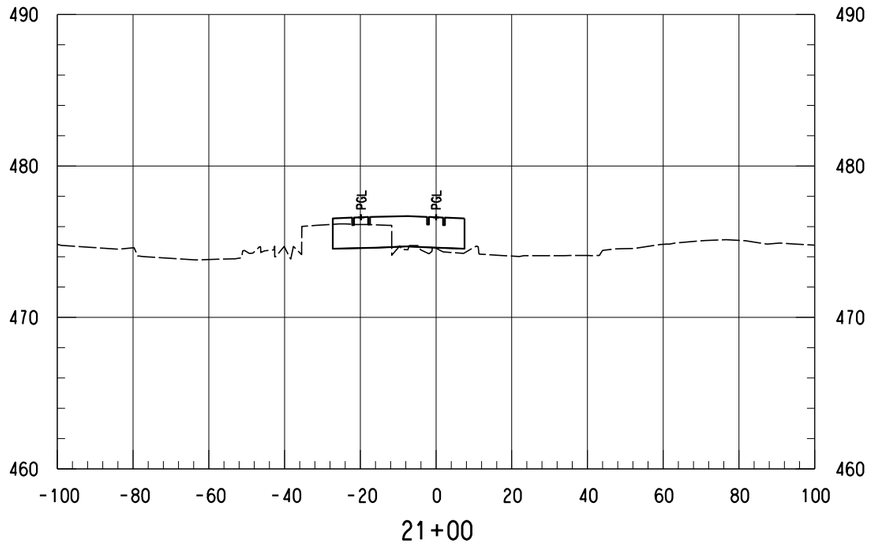
Friday, February 28, 2020 12:58:09 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC8-0070



20+00

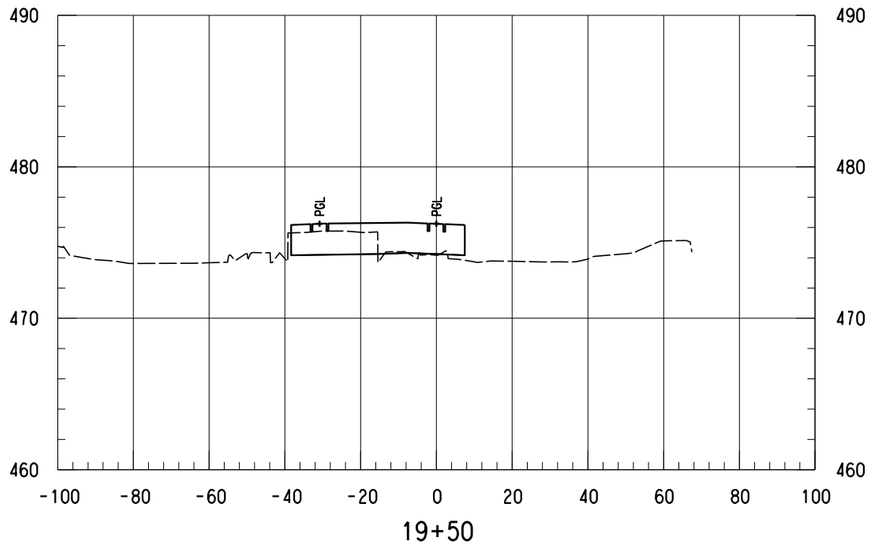


21+00

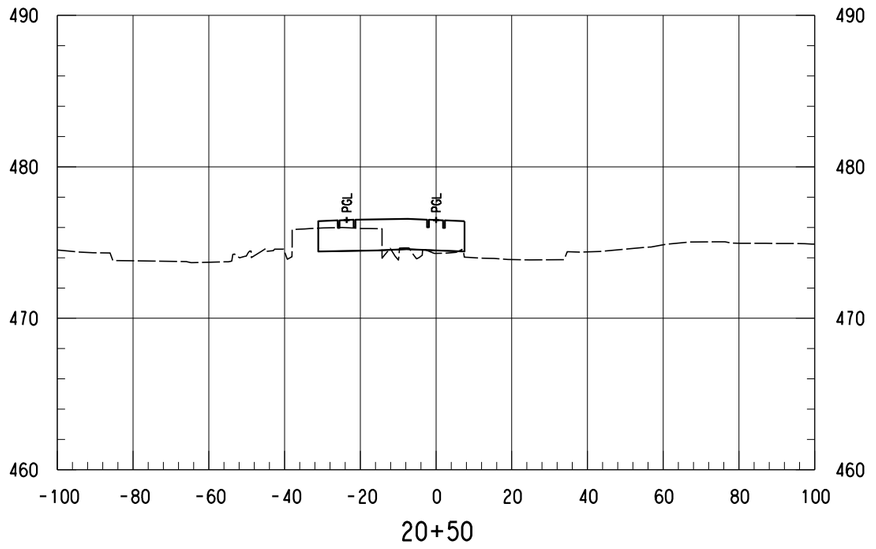
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



19+50



20+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 133 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

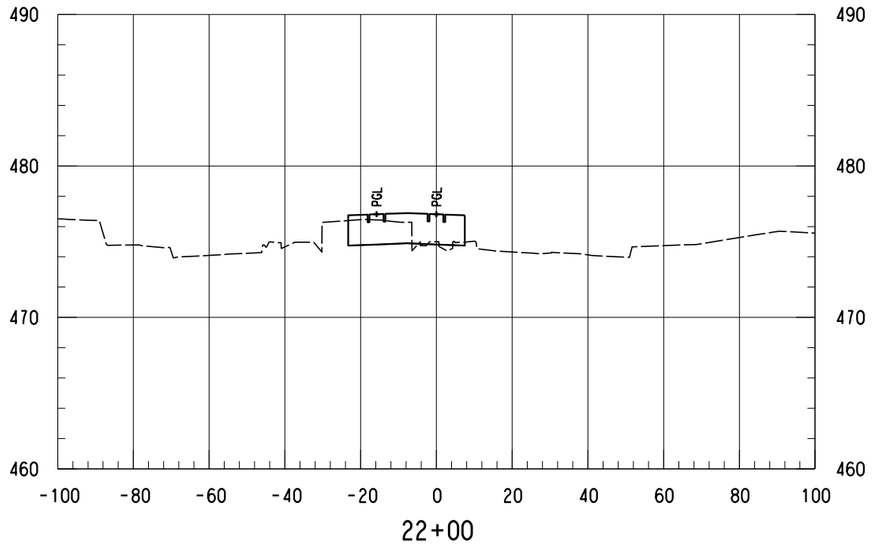
SE-1
GUIDEWAY CROSS SECTIONS
STA 19+50.00 TO STA 21+00.00

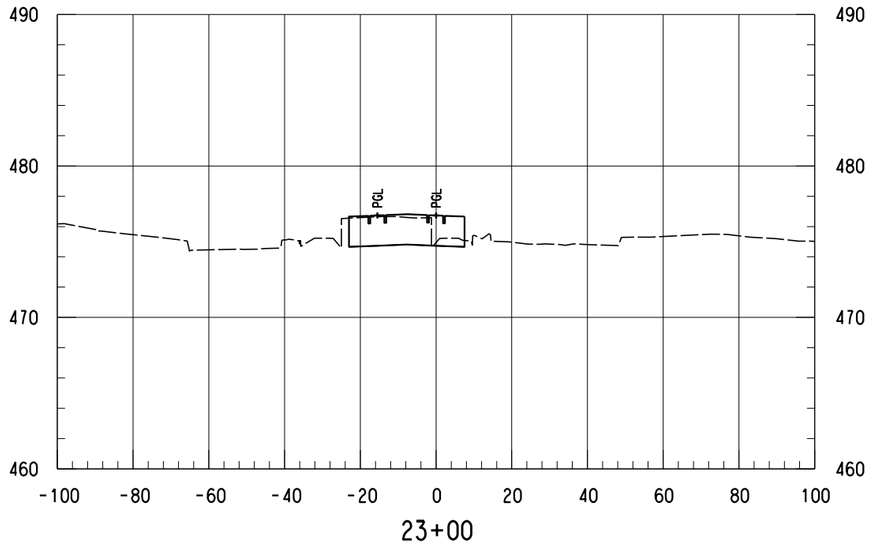
CONTRACT	DWG No.	REV
	CC8-0070	

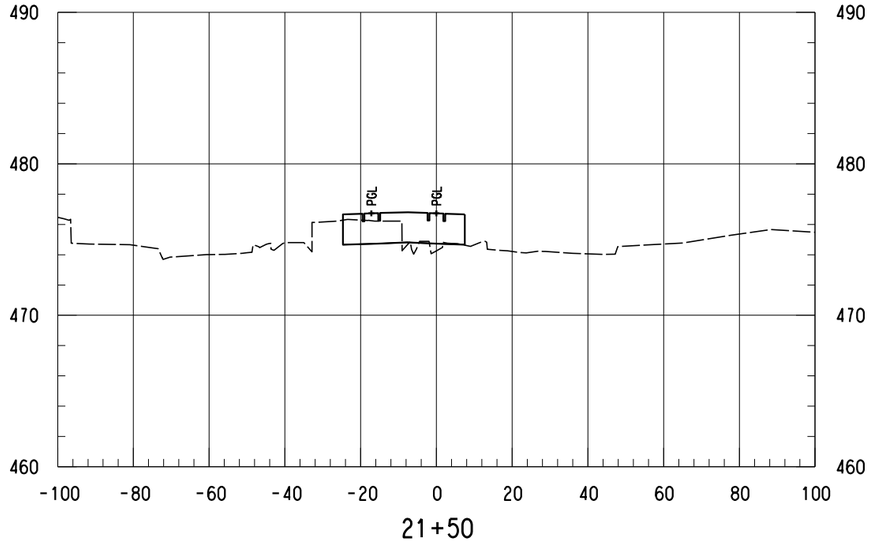
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$$$$DGN$SPECIFICATION$$$$$$$$$$

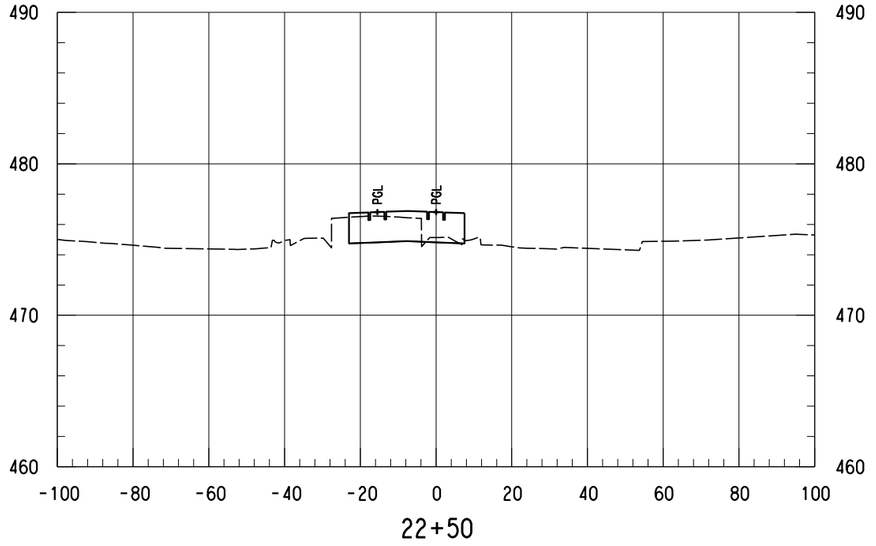
DANGLE

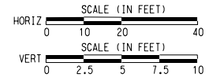
DWG No. CC8-0071











NOTES:

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NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 134 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 21+50.00 TO STA 23+00.00

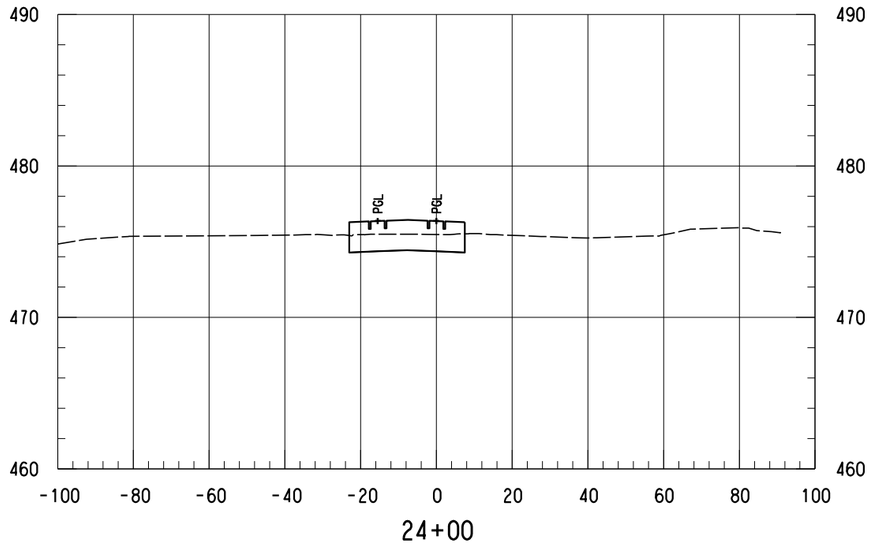
CONTRACT	DWG No.	REV
	CC8-0071	

Friday, February 28, 2020 12:58:12 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$

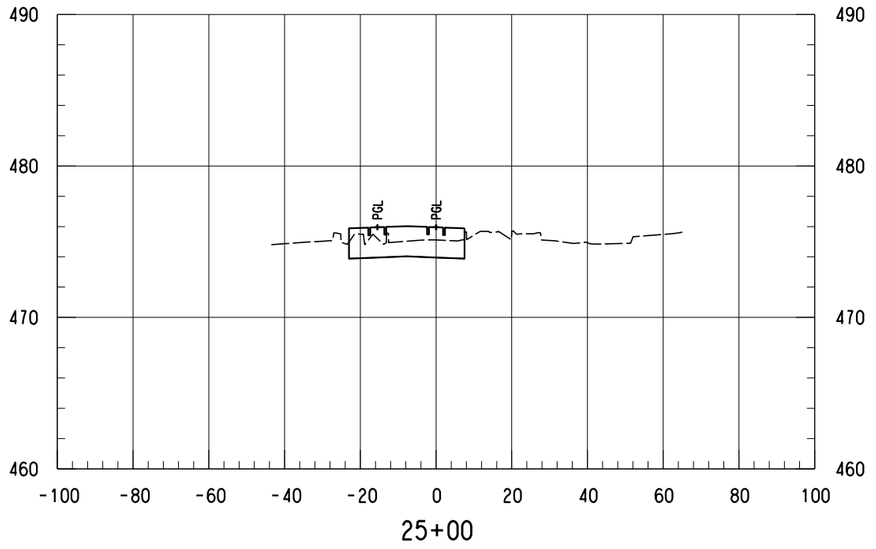
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0072



24+00

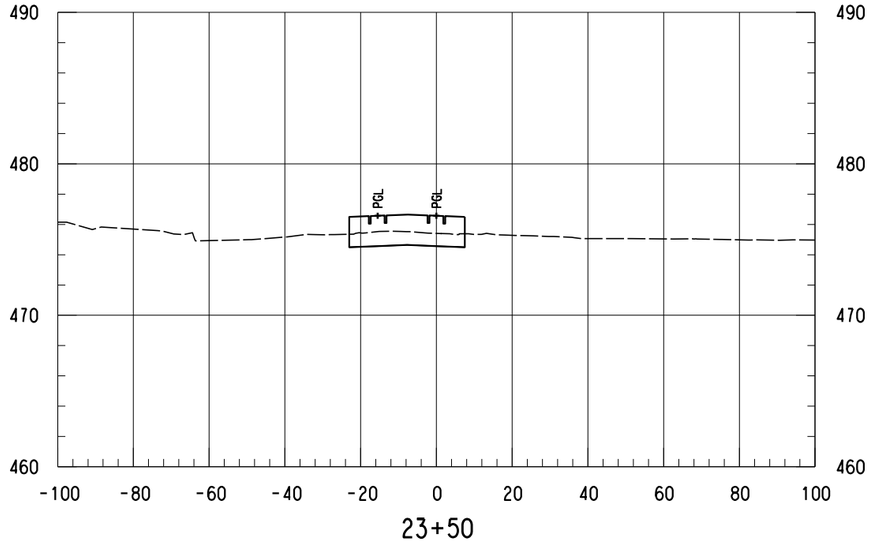


25+00

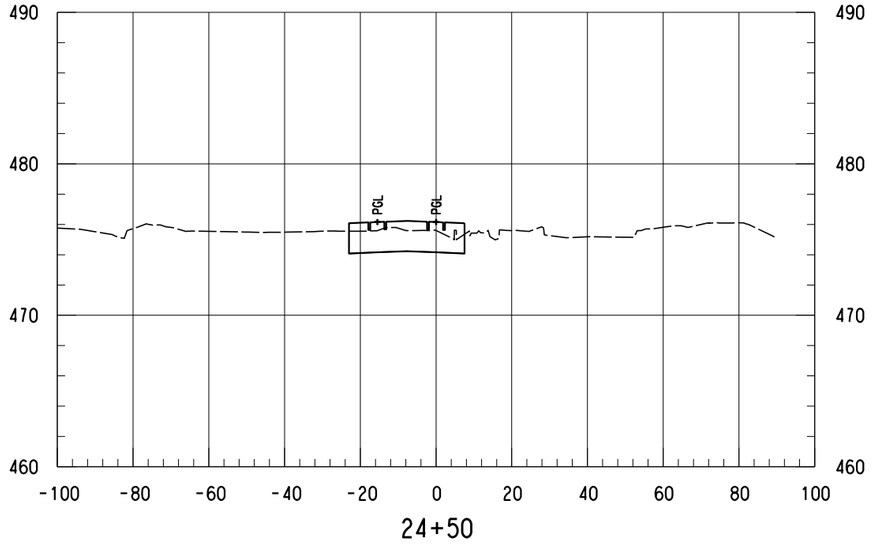
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



23+50



24+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 135 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 23+50.00 TO STA 25+00.00

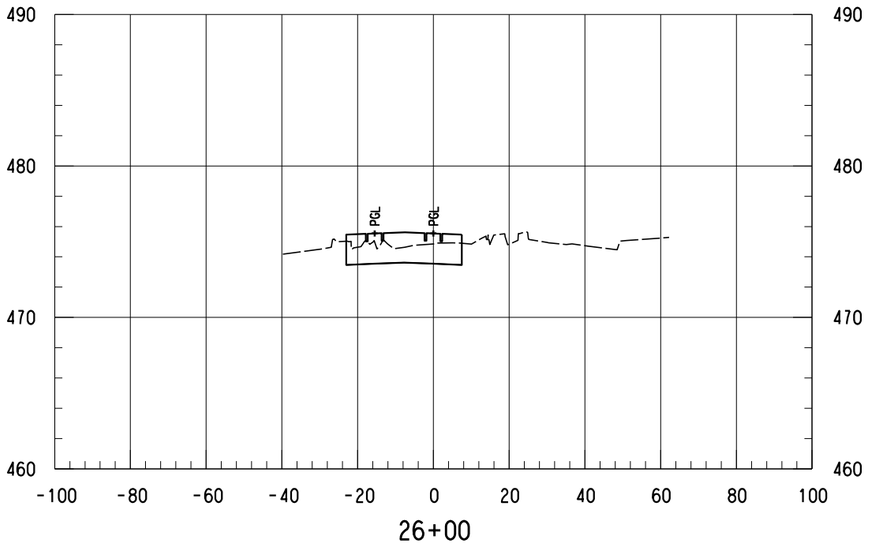
CONTRACT	DWG No.	REV
	CC8-0072	

Friday, February 28, 2020 12:58:13 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

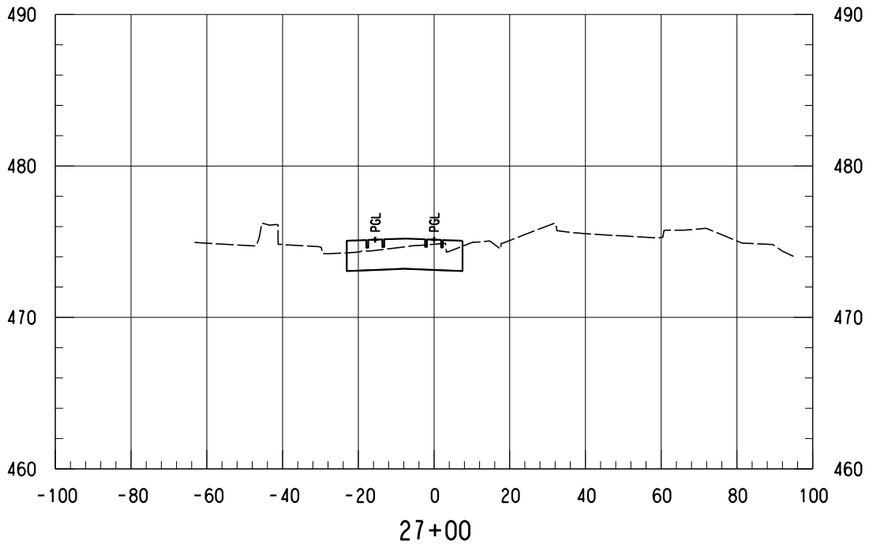
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0073



26+00

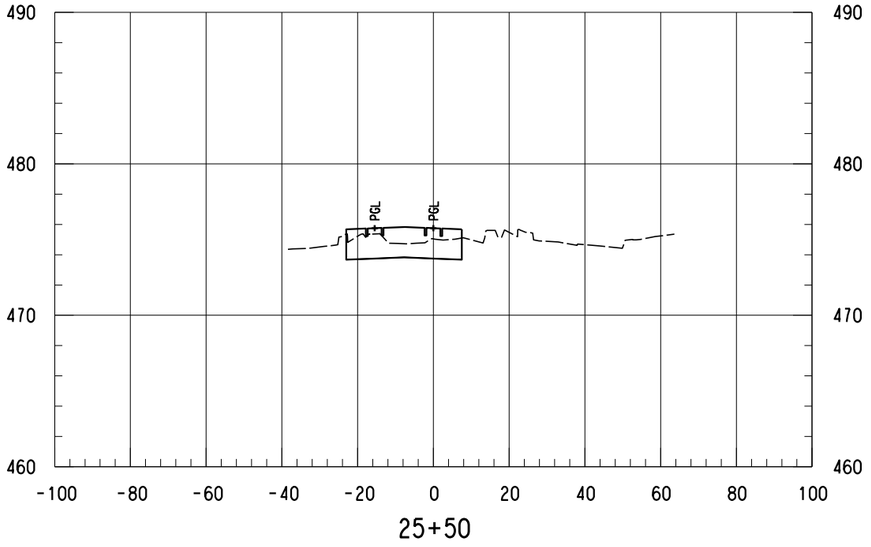


27+00

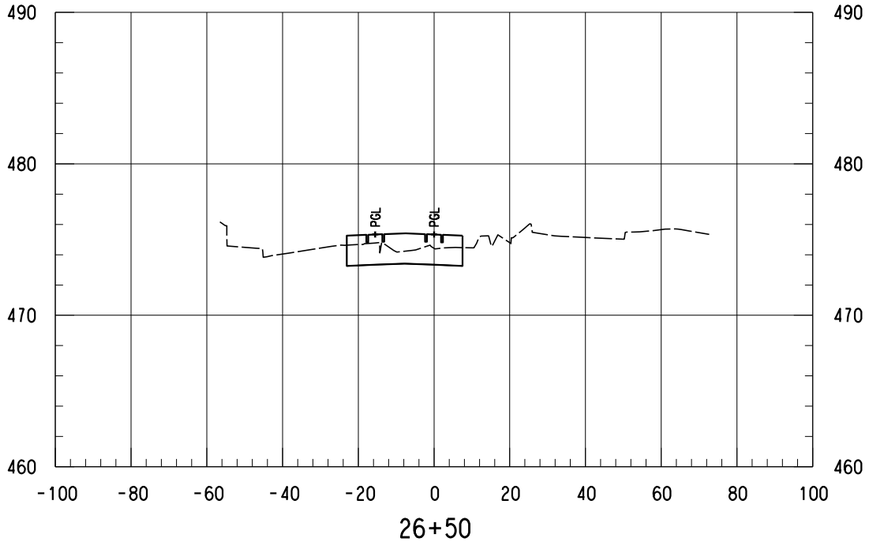
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



25+50



26+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 136 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF: AMANDA C. STAHLNECKER, P.E. NO. 124571 ON 03/06/2020 HDR ENGINEERING, INC. TBPE FIRM NO. F-754 IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 25+50.00 TO STA 27+00.00

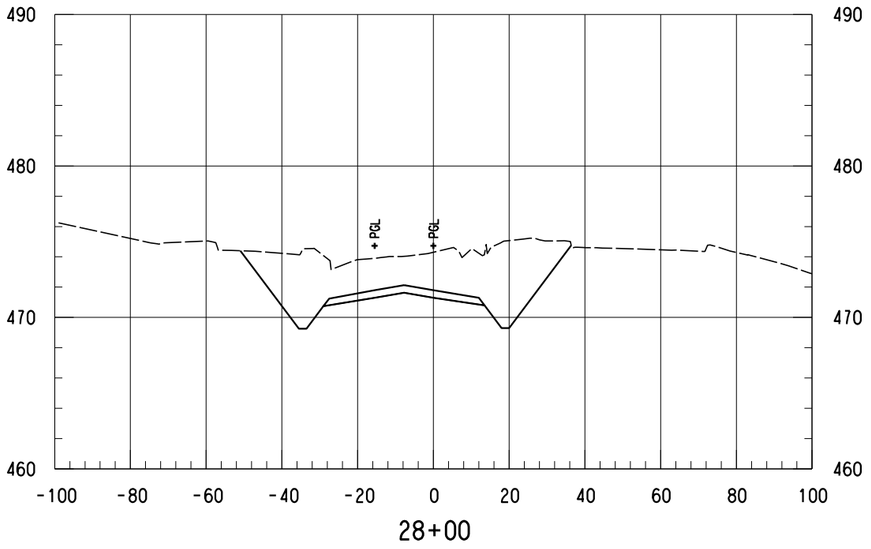
CONTRACT	DWG No.	REV
	CC8-0073	

Friday, February 28, 2020 12:58:14 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

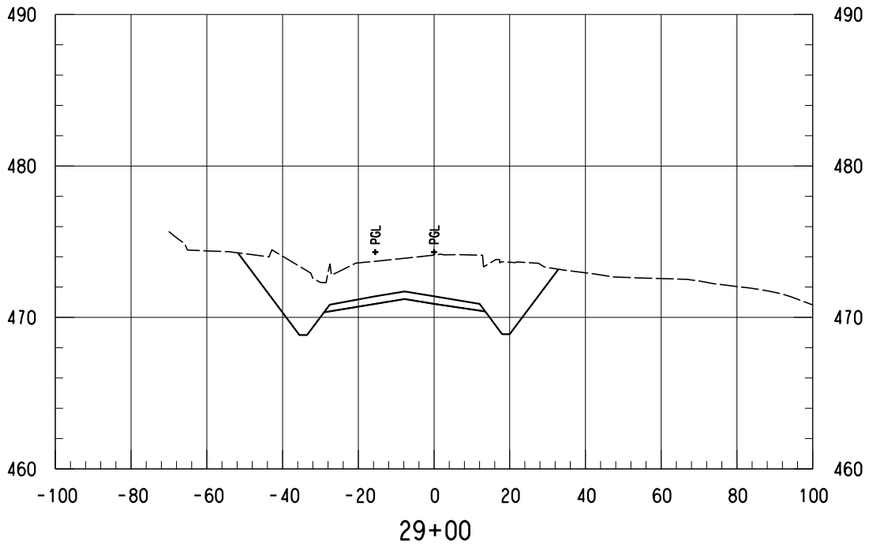
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0074



28+00

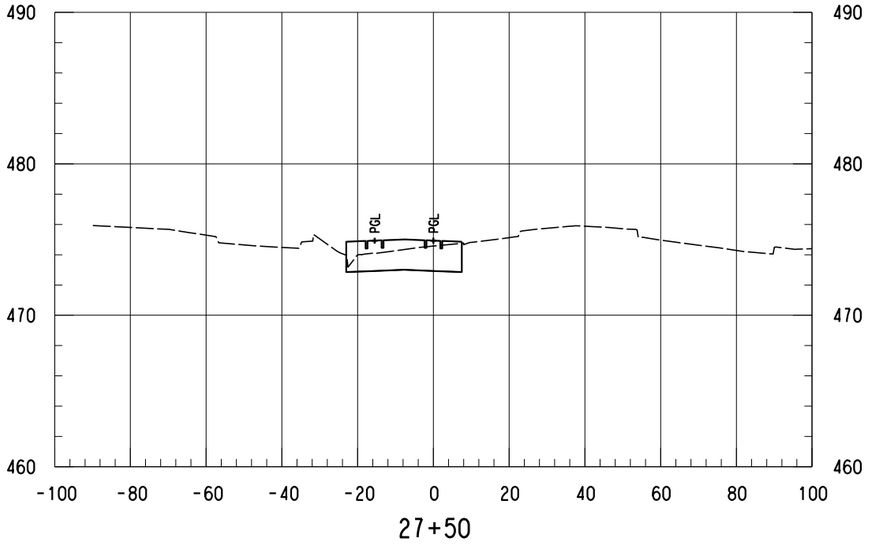


29+00

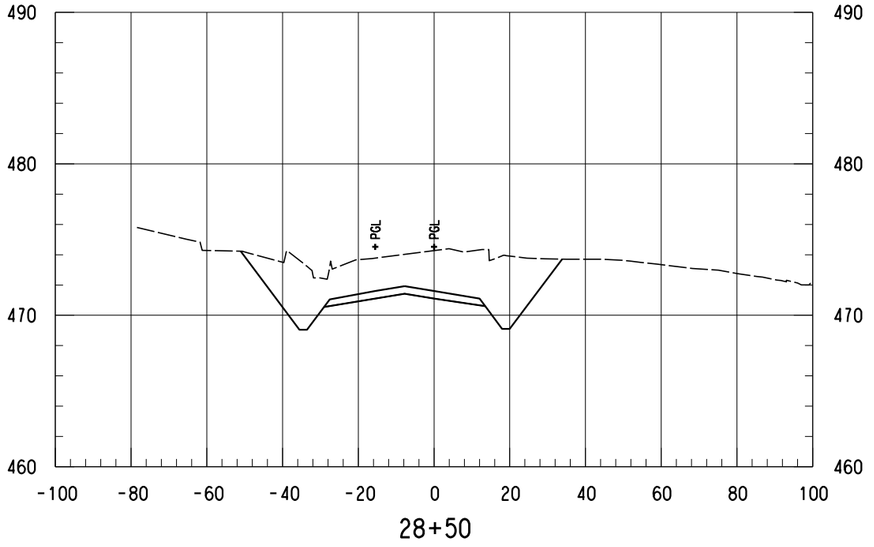
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



27+50



28+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 137 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

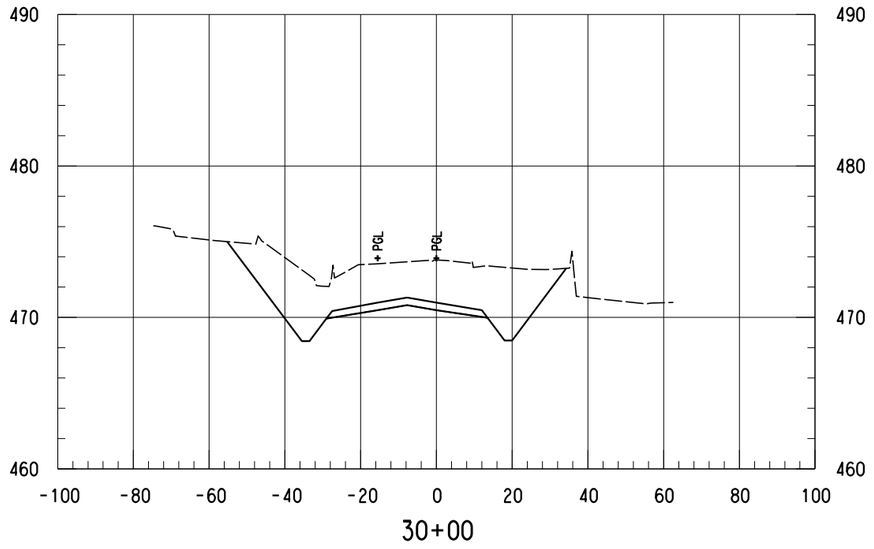
SE-1
GUIDEWAY CROSS SECTIONS
STA 27+50.00 TO STA 29+00.00

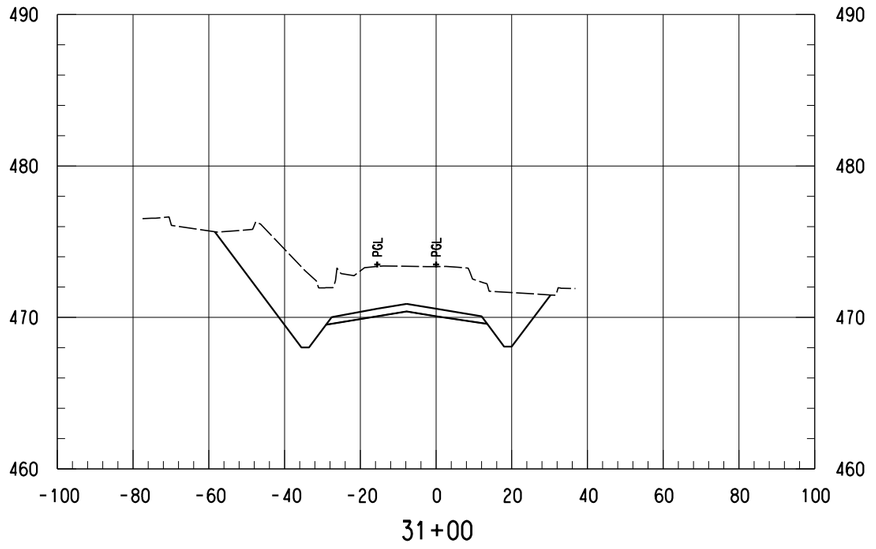
CONTRACT	DWG No.	REV
	CC8-0074	

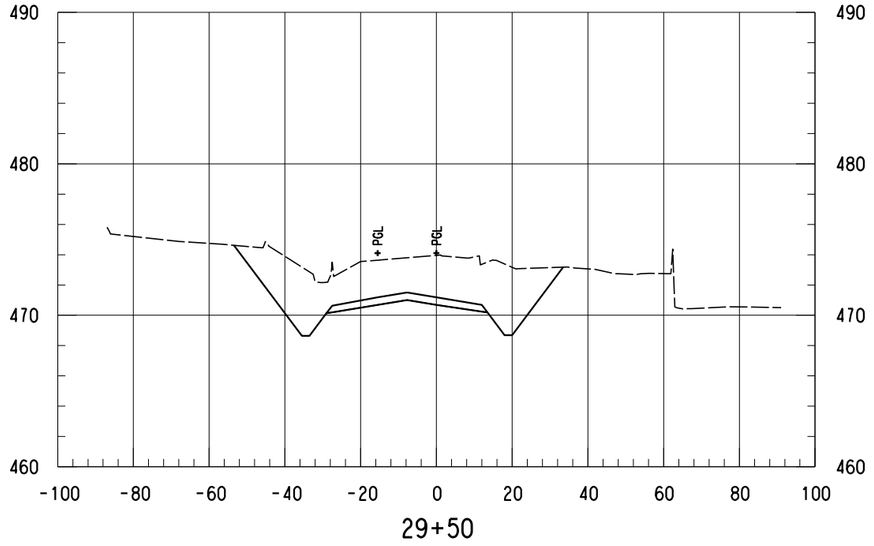
DANGLE

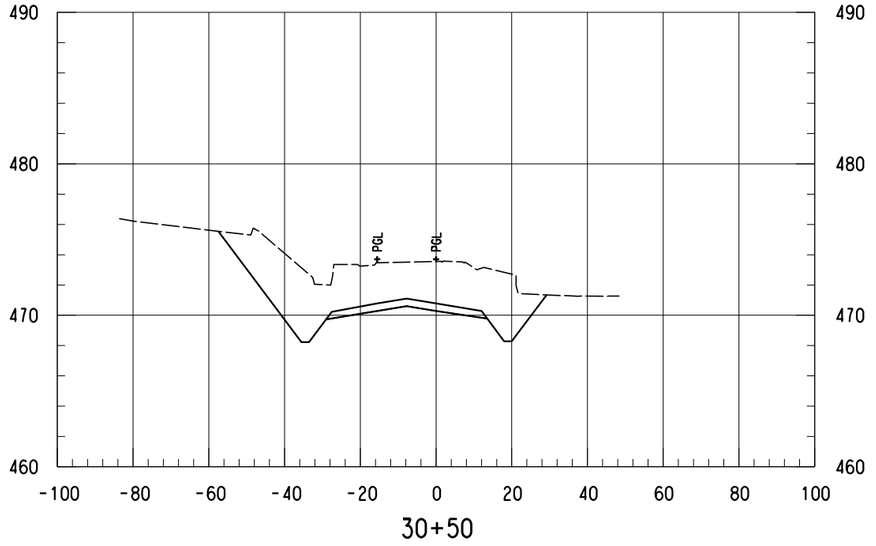
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$$$$DGN$SPECIFICATION$$$$$$$$$

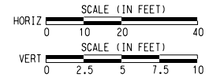
DWG No. CC8-0075











NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 138 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 29+50.00 TO STA 31+00.00

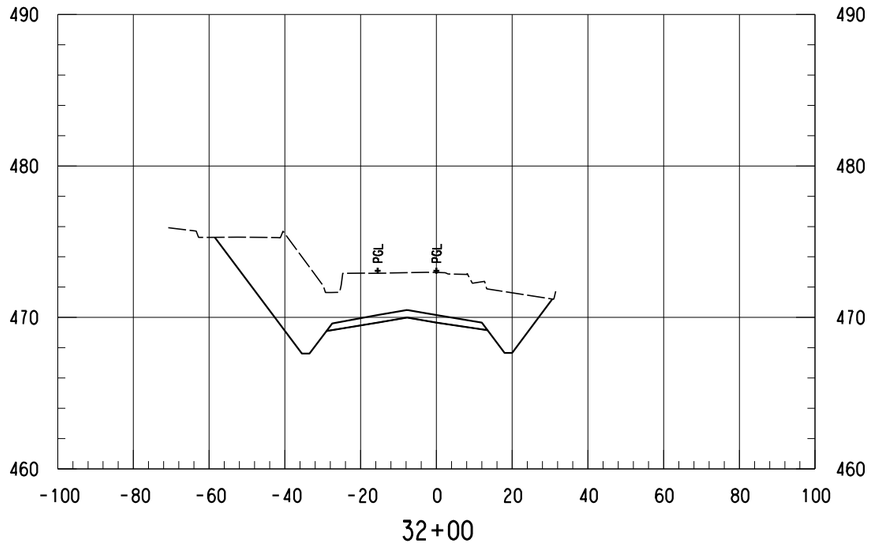
CONTRACT	DWG No.	REV
	CC8-0075	

$$$$DGN$$SPECIFICATION$$$$$$$$$

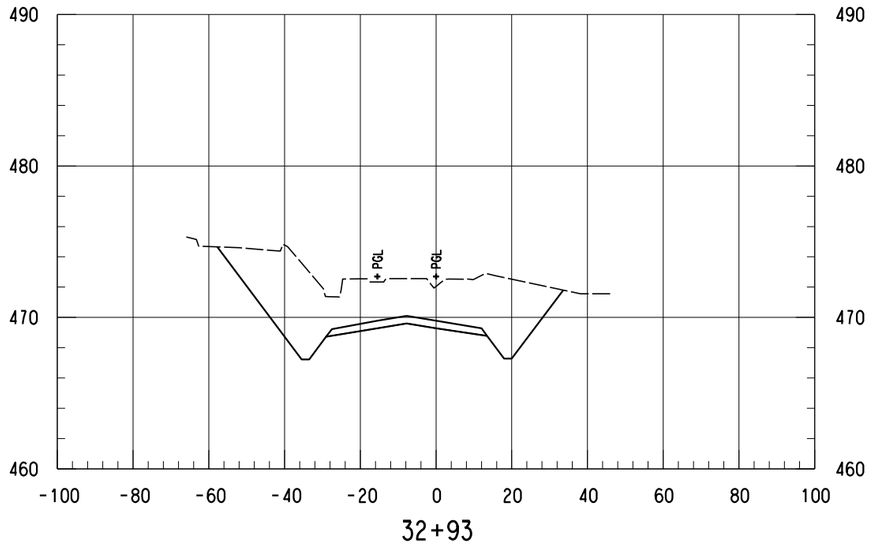
Friday, February 28, 2020 12:58:15 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

DWG No. CC8-0076



32+00

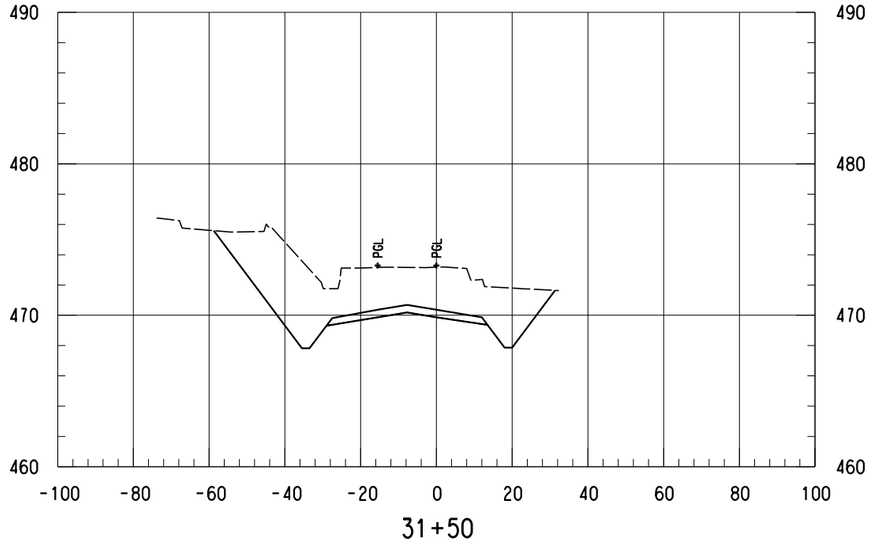


32+93

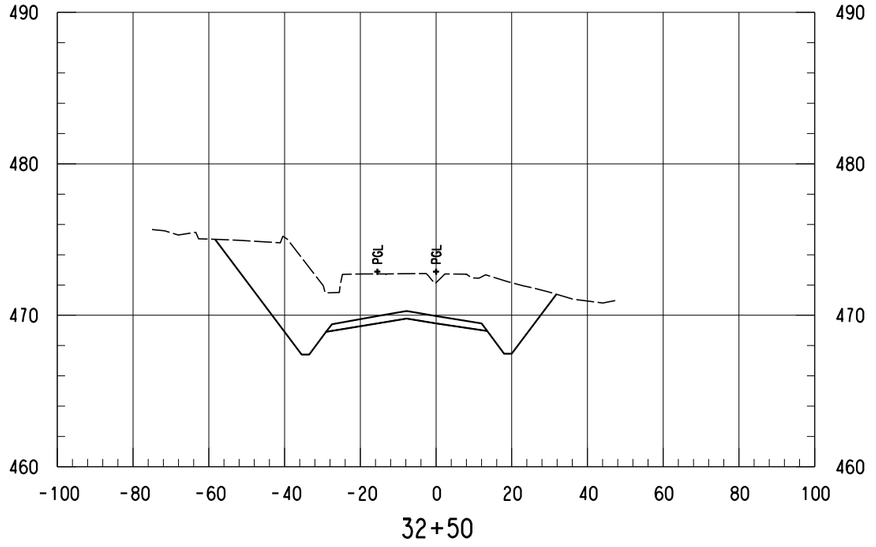
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



31+50



32+50

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 139 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1
GUIDEWAY CROSS SECTIONS
STA 31+50.00 TO STA 32+93.00

CONTRACT	DWG No.	REV
	CC8-0076	

Friday, February 28, 2020 12:58:16 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

DANGLE

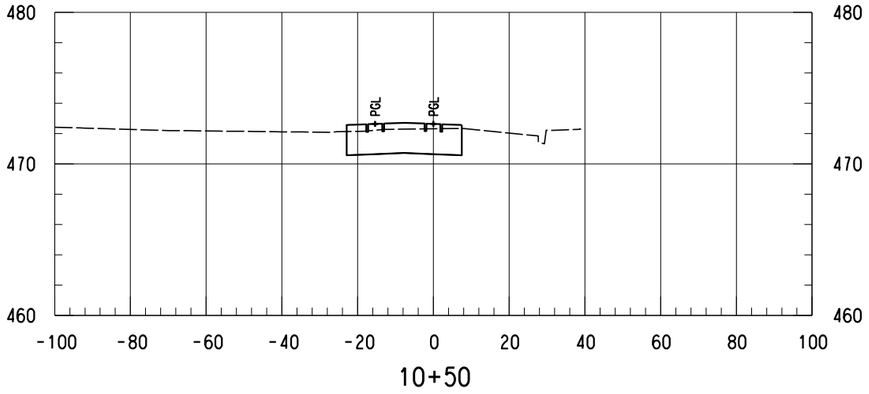
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0077

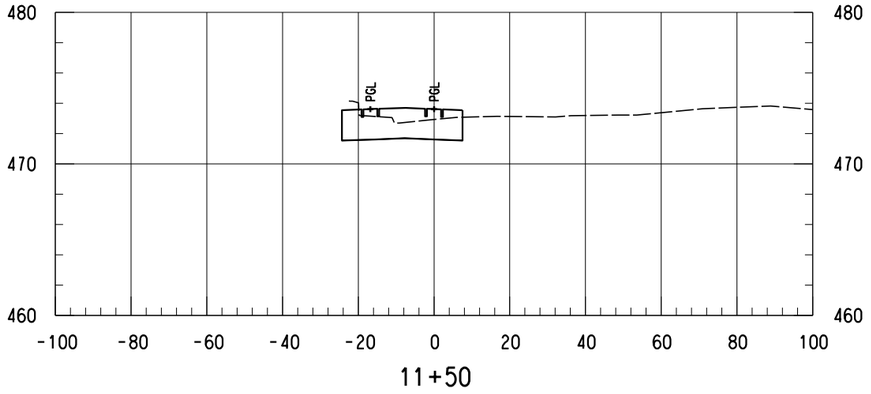
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HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

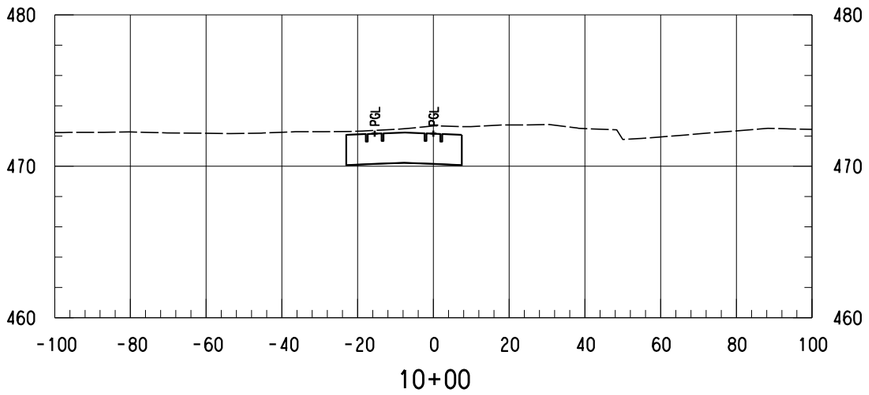
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



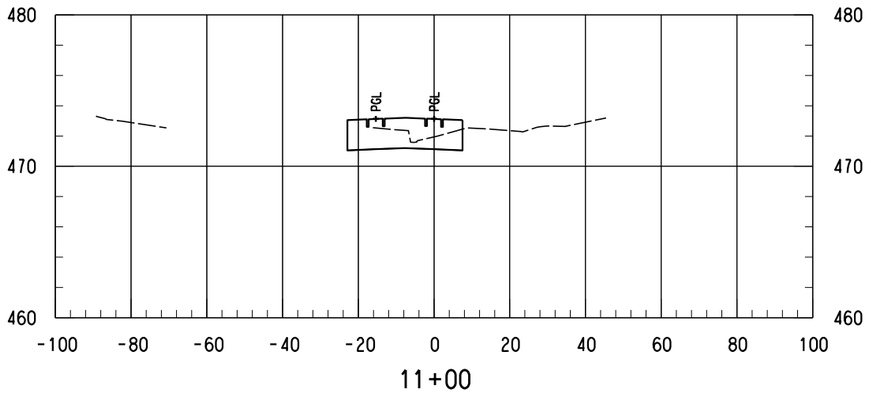
10+50



11+50



10+00



11+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 140 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

WYE
GUIDEWAY CROSS SECTIONS
STA 10+00.00 TO STA 11+50.00

CONTRACT	DWG No.	REV
	CC8-0077	

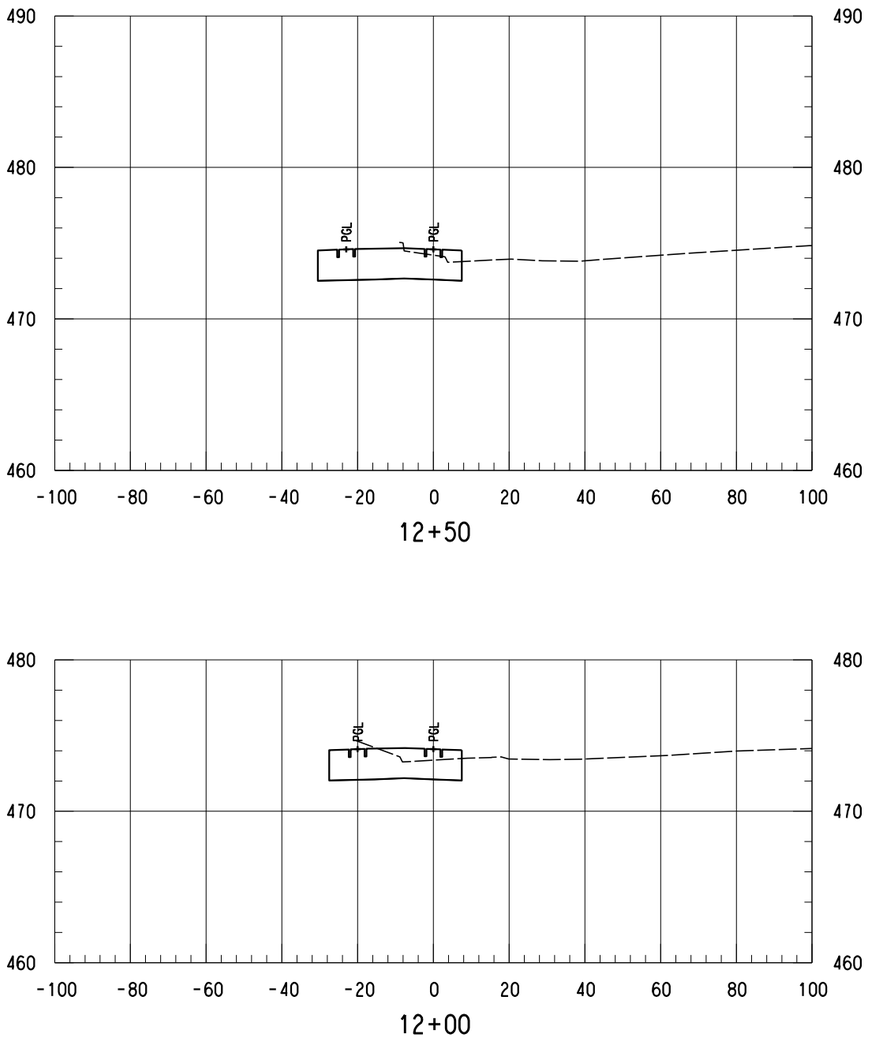
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$$$$DGN$$SPECIFICATION$$$$$$$$$

DANGLE

$$$$DGN$$SPECIFICATION$$$$$$$$$

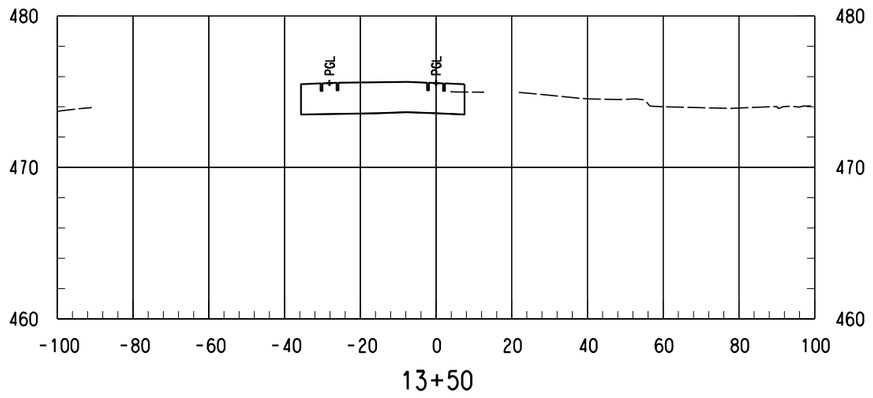
DWG No. CC8-0078

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SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

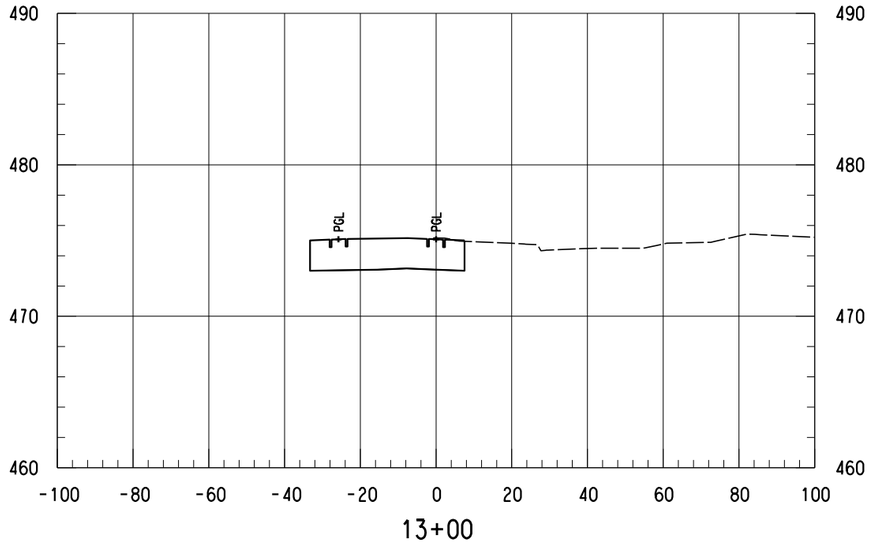


12+50

12+00



13+50



13+00

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 141 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
HDR ENGINEERING, INC.
TBPE FIRM NO. F-754
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

WYE
GUIDEWAY CROSS SECTIONS
STA 12+00.00 TO STA 13+50.00

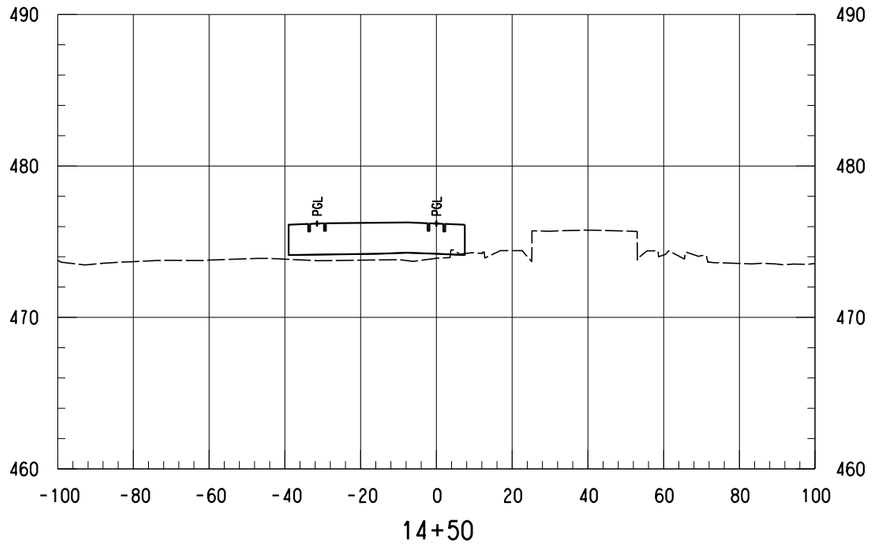
CONTRACT	DWG No.	REV
	CC8-0078	

Friday, February 28, 2020 12:58:17 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

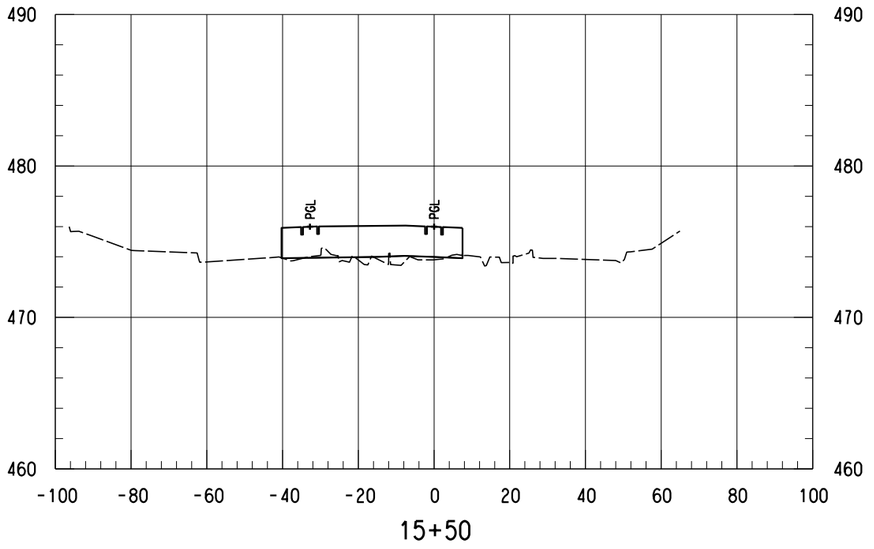
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC8-0079



14+50

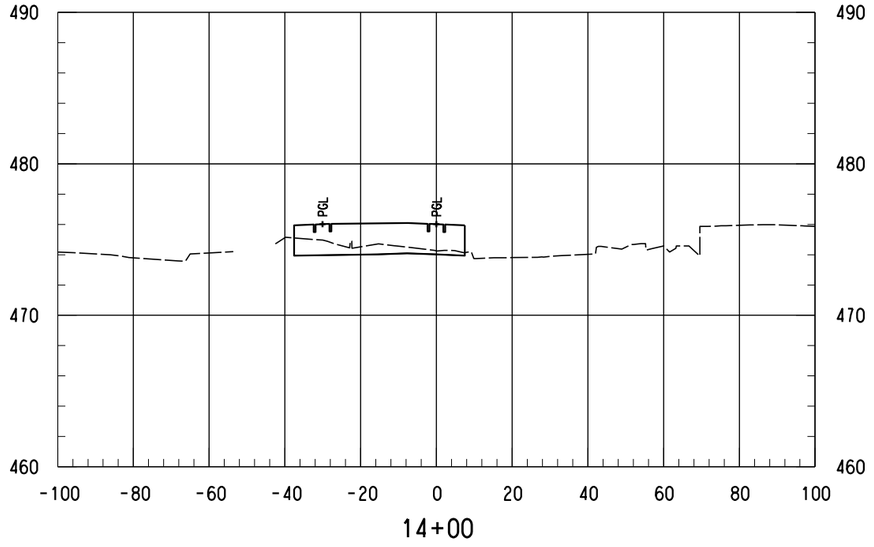


15+50

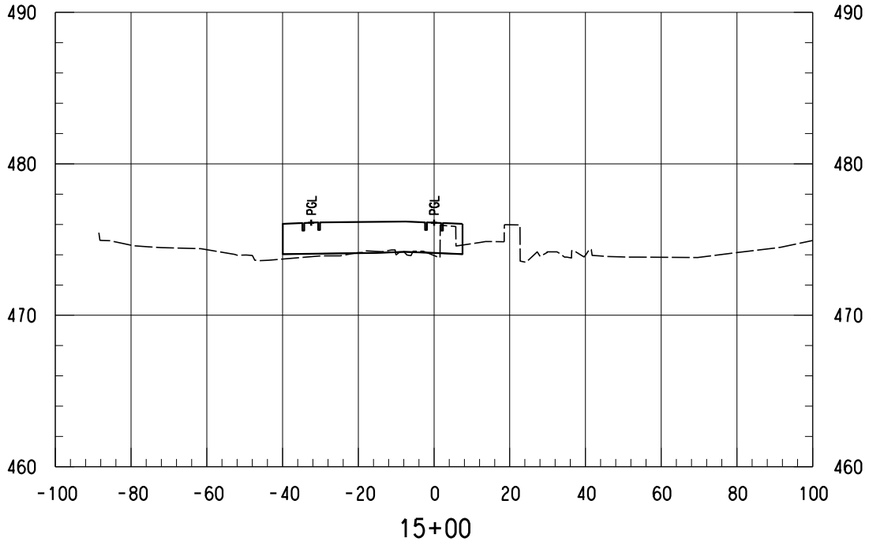
SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.



14+00



15+00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 142 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

WYE
GUIDEWAY CROSS SECTIONS
STA 14+00.00 TO STA 15+50.00

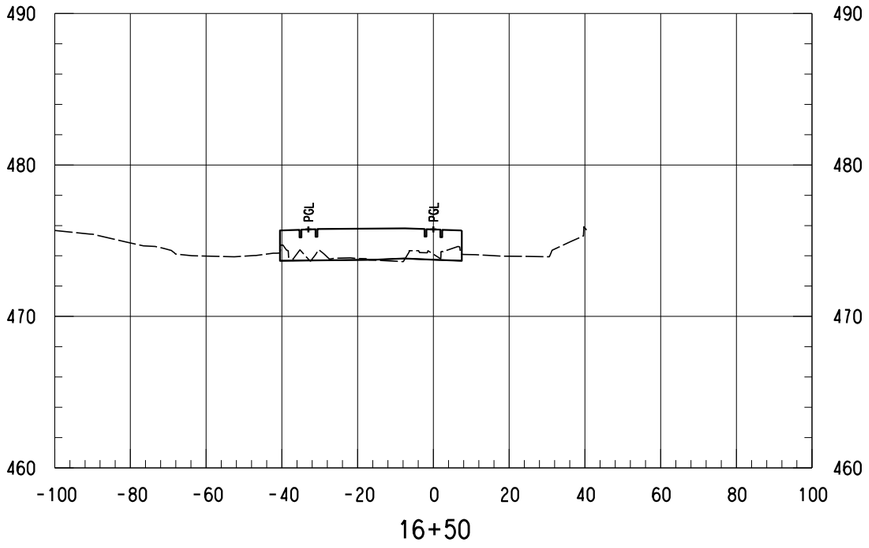
CONTRACT | DWG No. CC8-0079 | REV

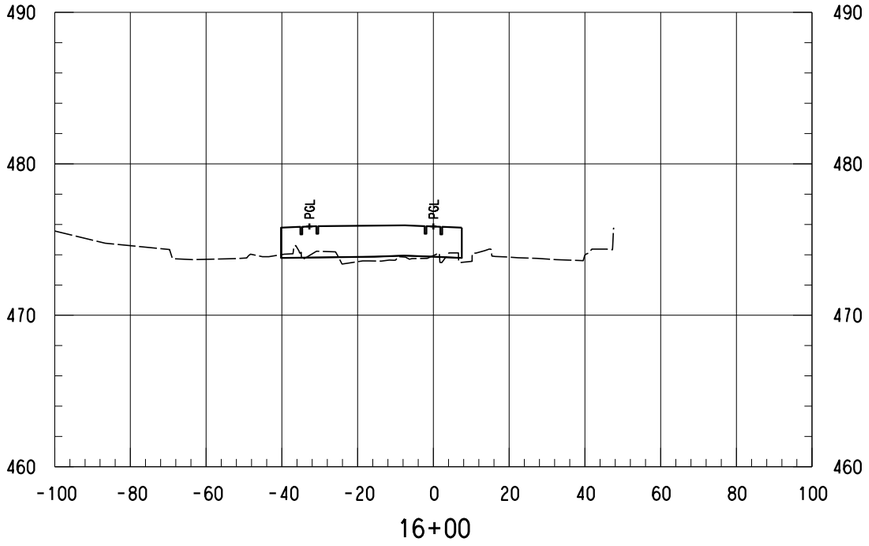
Friday, February 28, 2020 12:58:18 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$

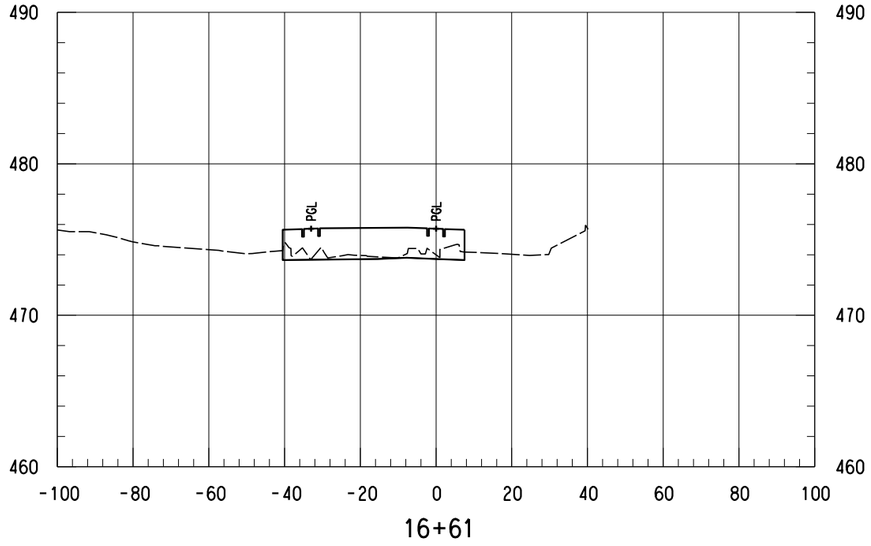
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC8-0080







SCALE (IN FEET)
HORIZ 0 10 20 40
SCALE (IN FEET)
VERT 0 2.5 5 7.5 10

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 143 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
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DART PROJECT

SCALE	AS NOTED
DRAWN	L. GUBLO
DESIGNED	L. GUBLO
CHECKED	D. BROWN
IN CHARGE	A. STAHLNECKER
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

WYE
GUIDEWAY CROSS SECTIONS
STA 16+00.00 TO STA 16+61.00

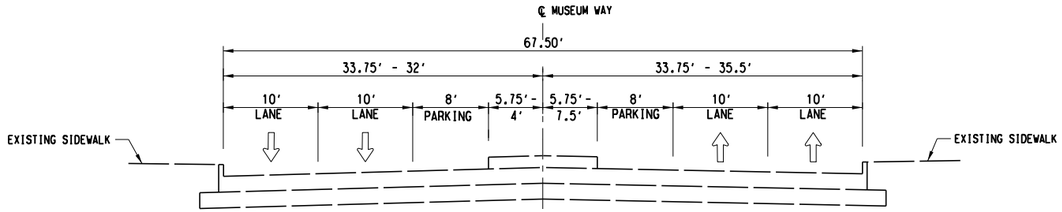
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	CC8-0080	

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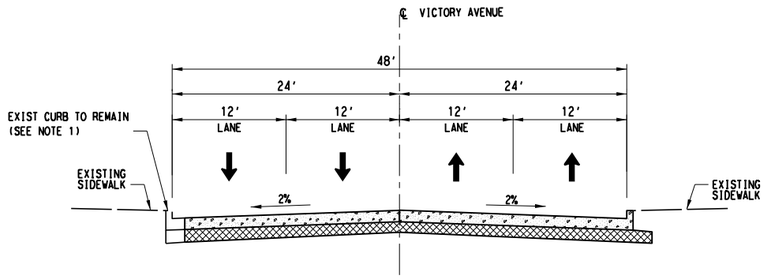
DANGLE

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. CC6-0015

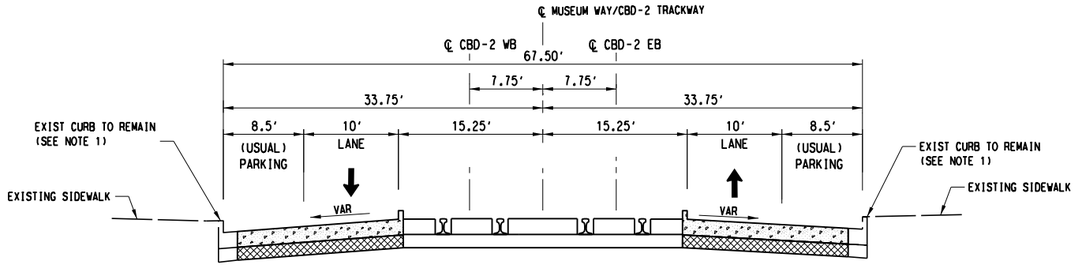


EXISTING MUSEUM WAY

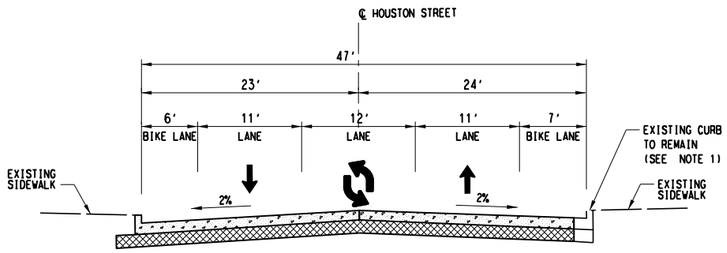


PROPOSED VICTORY AVENUE

NOTE 1:
DUE TO VARYING TRACK SPACING WITHIN CURVED DOUBLE TRACK ALIGNMENTS, THE EXISTING CURBS ALONG THE CURVED TRACK ALIGNMENT MAY NEED TO BE REPLACED. FINAL CIVIL DESIGNER WILL COORDINATE WITH FINAL TRACK DESIGNER TO ELIMINATE OR MINIMIZE THE LIMITS OF IMPACT BEYOND THE EXISTING BACK OF CURB.



PROPOSED MUSEUM WAY



PROPOSED HOUSTON STREET

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 144 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
JENN-HWAN MA, P.E. NO. 83964
ON 03/06/2020
CIVIL ASSOCIATES, INC.
TBPE FIRM NO. F-6981
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

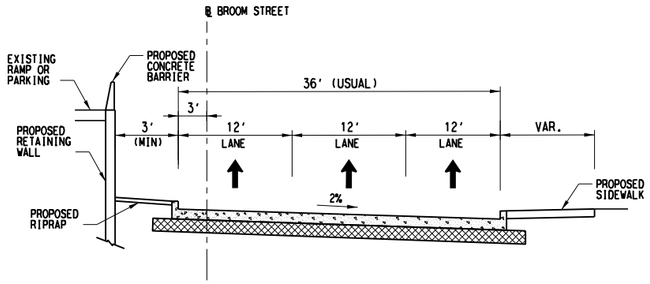
DART PROJECT

SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

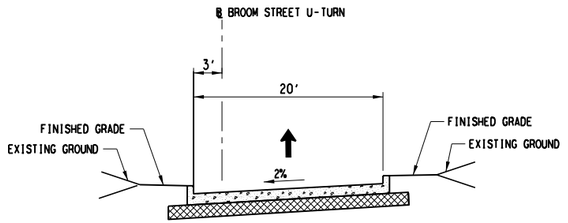
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 1 OF 11

CONTRACT	DWG No.	REV
	CC6-0015	

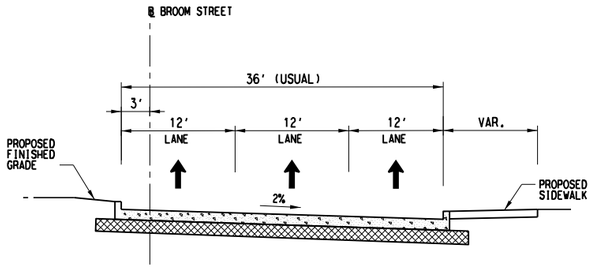
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dfarran



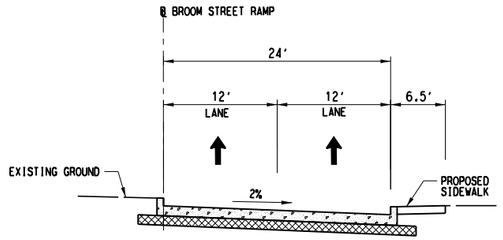
PROPOSED BROOM STREET
SHOWING SECTION W/ WALL



PROPOSED BROOM STREET U-TURN



PROPOSED BROOM STREET
SHOWING SECTION W/O WALL



BROOM STREET RAMP

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 145 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF: JENN-HWAN MA, P.E. NO. 83964 ON 03/06/2020 CIVIL ASSOCIATES, INC. TBPE FIRM NO. F-6981 IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

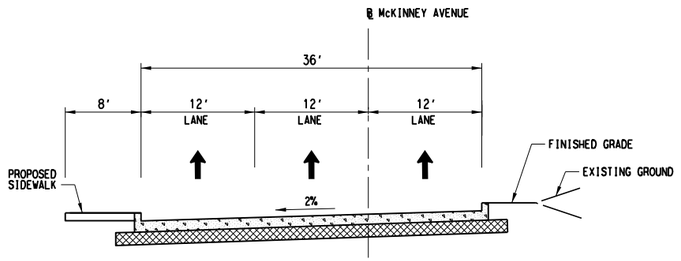
SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 2 OF 11

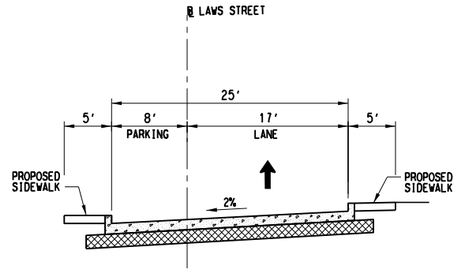
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dforron

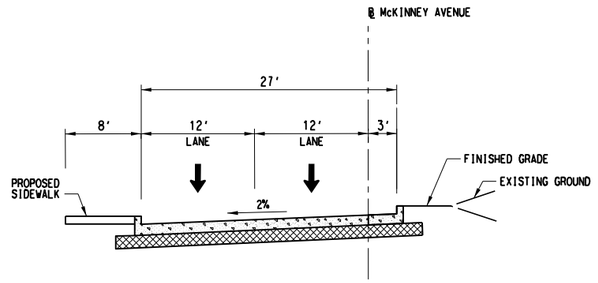
DWG No. CC6-0017



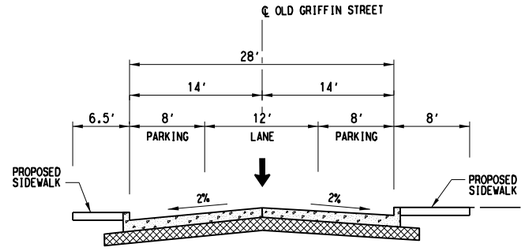
PROPOSED McKINNEY AVENUE



PROPOSED LAWS STREET



PROPOSED McKINNEY AVENUE



PROPOSED OLD GRIFFIN STREET

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 146 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF: JENN-HWAN MA, P.E. NO. 83964 ON 03/06/2020 CIVIL ASSOCIATES, INC. TBPE FIRM NO. F-6981 IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

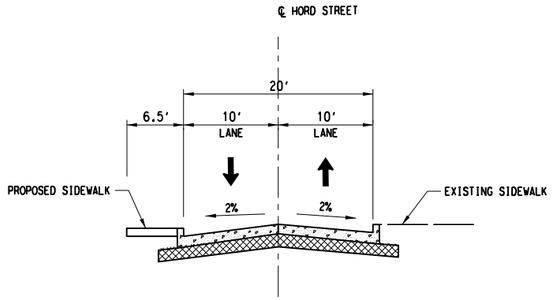
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 3 OF 11

CONTRACT	DWG No.	REV
	CC6-0017	

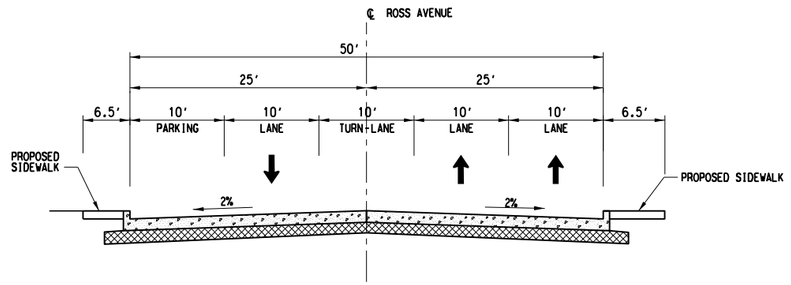
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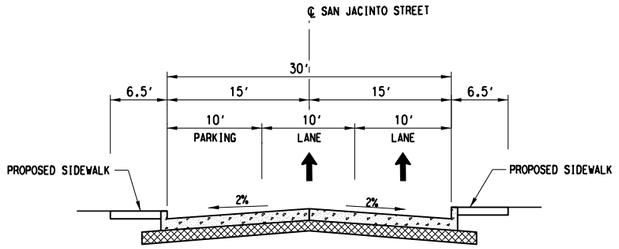
dfarran



PROPOSED HORD STREET



PROPOSED ROSS AVENUE



PROPOSED SAN JACINTO STREET

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 147 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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CIVIL ASSOCIATES, INC. CAI
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

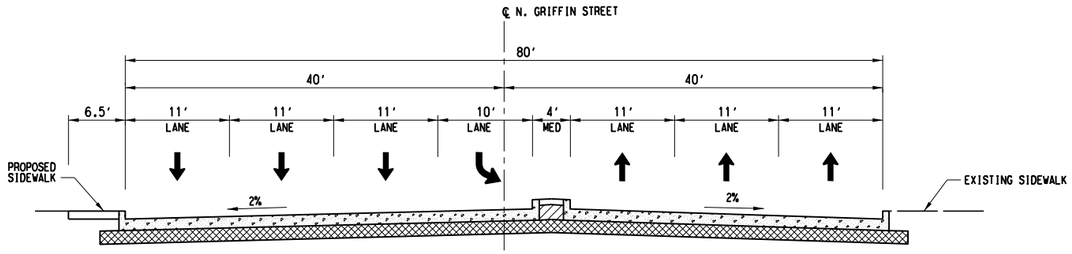
DART PROJECT

SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

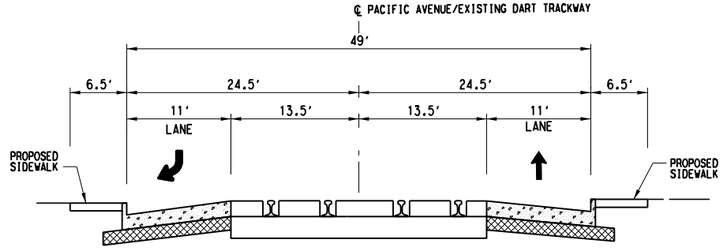
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 4 OF 11

CONTRACT | DWG No. CC6-0018 | REV

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dforron

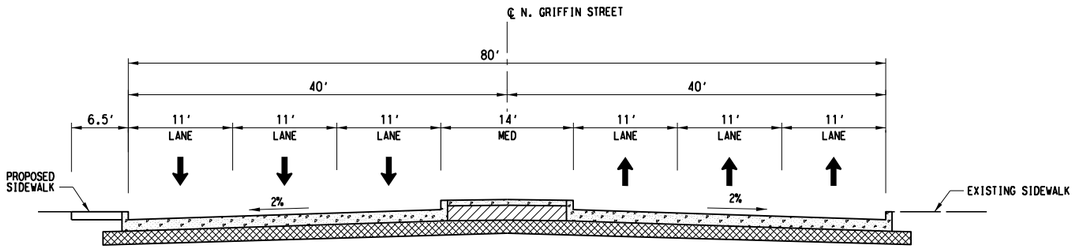


PROPOSED N. GRIFFIN STREET

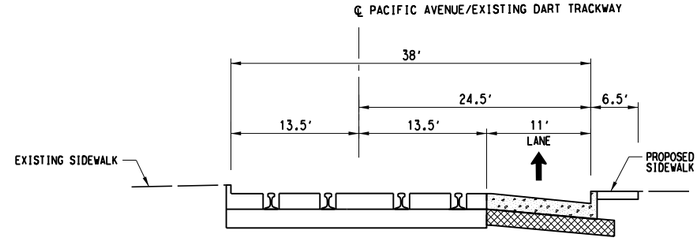


PROPOSED PACIFIC AVENUE/EXISTING DART TRACKWAY

EAST OF N. GRIFFIN STREET



PROPOSED N. GRIFFIN STREET



PROPOSED PACIFIC AVENUE/EXISTING DART TRACKWAY

WEST OF N. GRIFFIN STREET

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 148 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

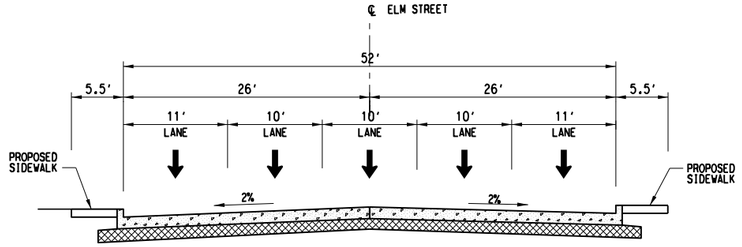
DART PROJECT

SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

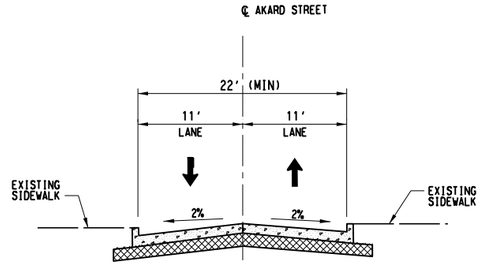
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 5 OF 11

CONTRACT | DWG No. CC6-0019 | REV

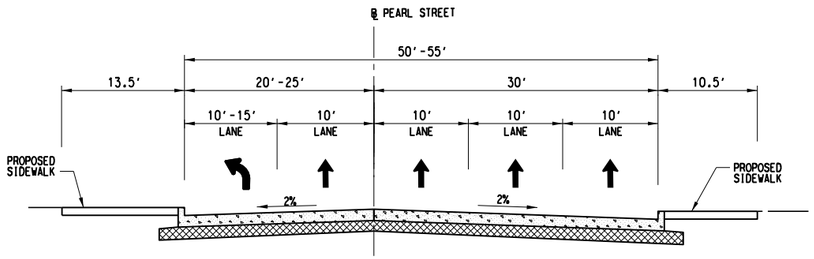
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dforran



PROPOSED ELM STREET



PROPOSED AKARD STREET



PROPOSED PEARL STREET

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 149 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
JENN-HWAN MA, P.E. NO. 83964
ON 03/06/2020
CIVIL ASSOCIATES, INC.
TBPE FIRM NO. F-6981
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

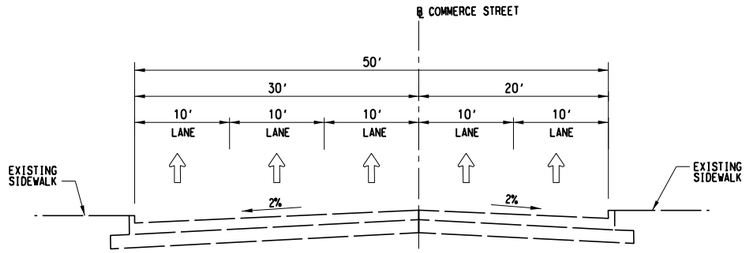
DART PROJECT

SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

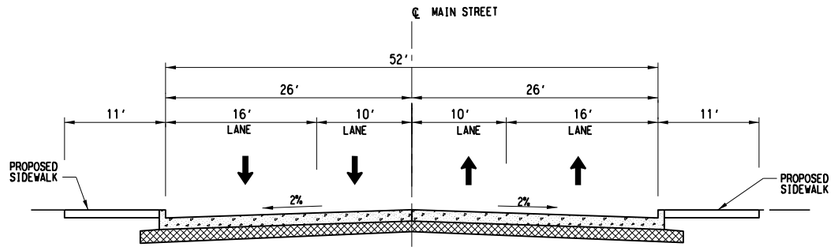
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 6 OF 11

CONTRACT	DWG No.	REV
	CC6-0020	

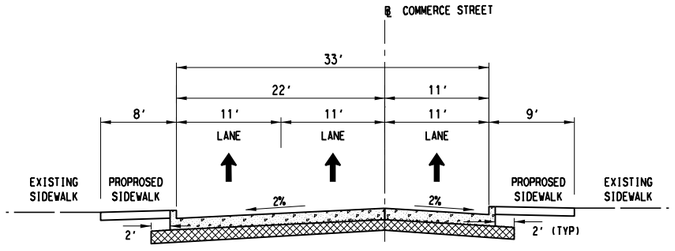
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dfarran



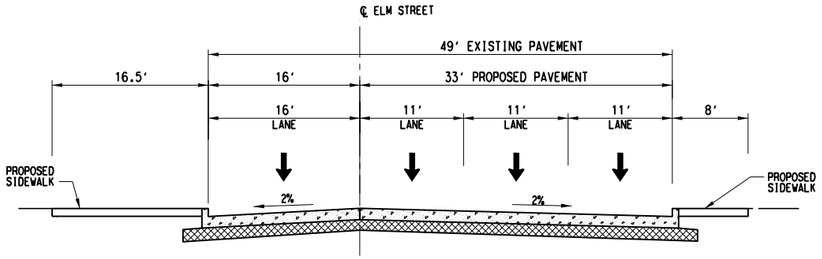
EXISTING COMMERCE STREET



PROPOSED MAIN STREET



PROPOSED COMMERCE STREET



PROPOSED ELM STREET

AT CESAR CHAVEZ BLVD.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 150 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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CIVIL ASSOCIATES, INC.
CAI
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

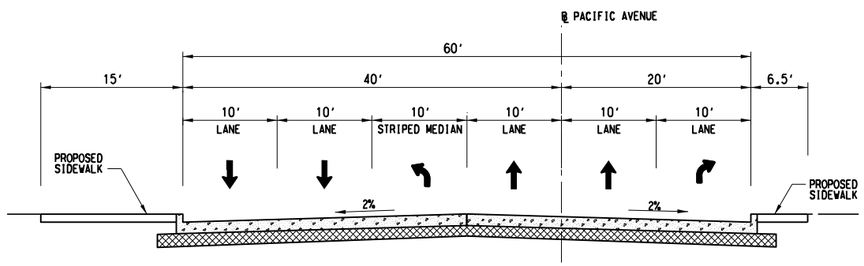
SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 7 OF 11

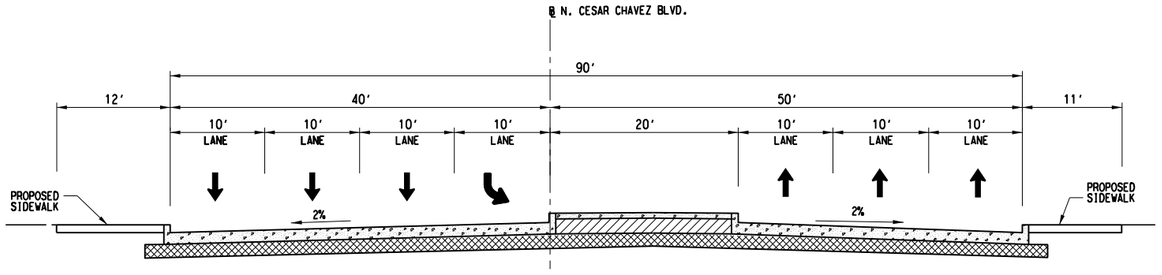
CONTRACT | DWG No. CC6-0021 | REV

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dforron

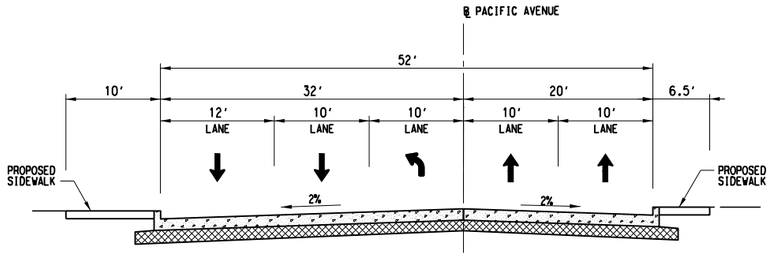
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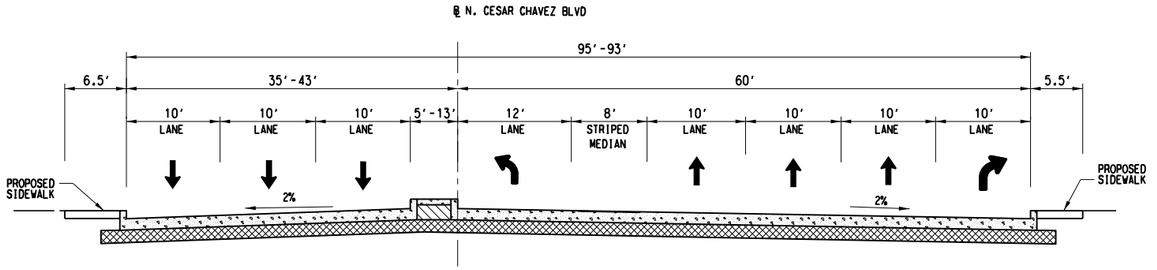
PROPOSED PACIFIC AVENUE
EAST OF N. CESAR CHAVEZ BLVD.



PROPOSED N. CESAR CHAVEZ BLVD.
SOUTH OF PACIFIC AVENUE



PROPOSED PACIFIC AVENUE
WEST OF N. CESAR CHAVEZ BLVD.



PROPOSED N. CESAR CHAVEZ BLVD.
NORTH OF PACIFIC AVENUE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 151 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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JENN-HWAN MA, P.E. NO. 83964
ON 03/06/2020
CIVIL ASSOCIATES, INC.
TBPE FIRM NO. F-6981
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

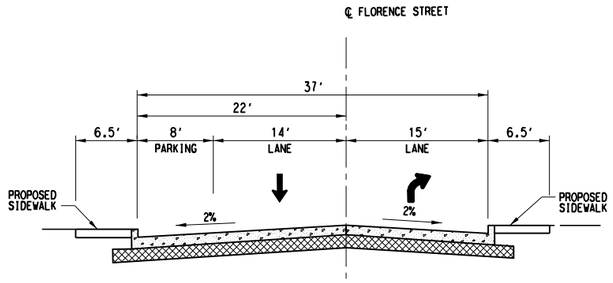
SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 8 OF 11

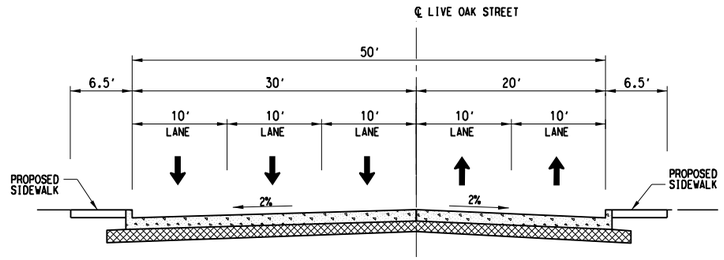
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	CC6-0022	

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dfarran

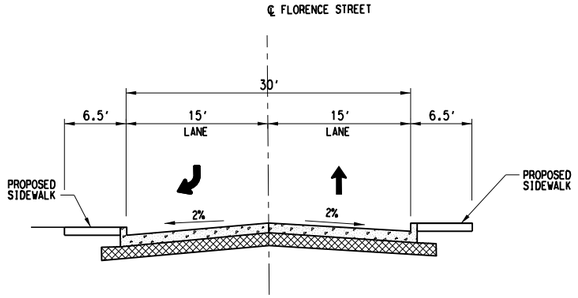
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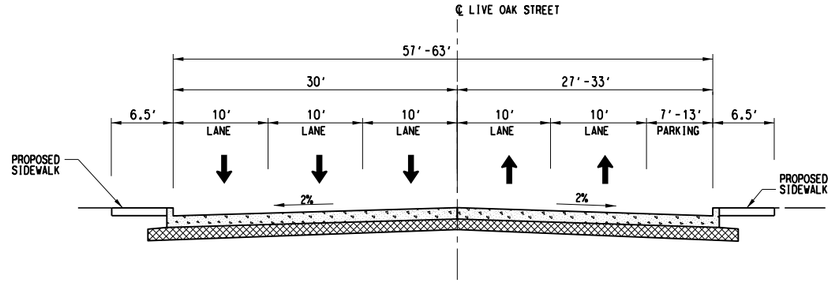
PROPOSED FLORENCE STREET
SHOWING SECTION W/ PARKING LANE



PROPOSED LIVE OAK STREET



PROPOSED FLORENCE STREET



PROPOSED LIVE OAK STREET
SHOWING SECTION W/ PARKING LANE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 152 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

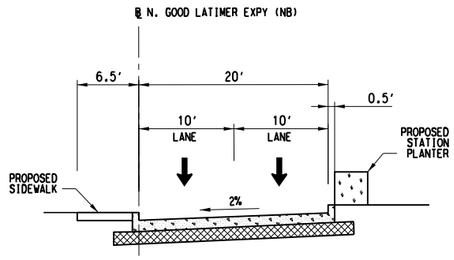
DART PROJECT

SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

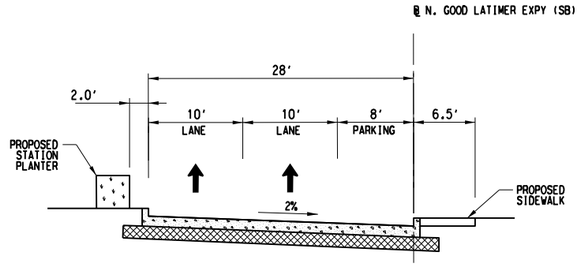
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 9 OF 11

CONTRACT	DWG No.	REV
	CC6-0023	

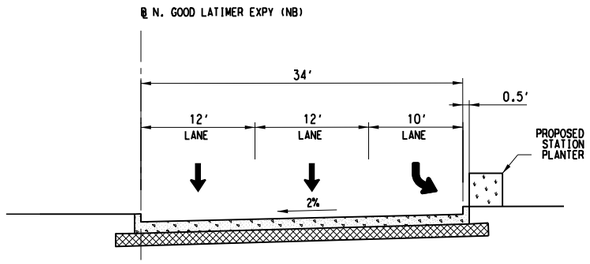
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dfarran



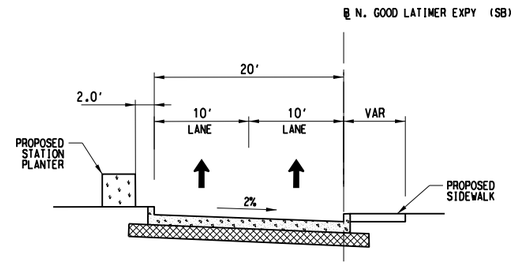
PROPOSED N. GOOD LATIMER EXPY (NB)
SHOWING SECTION W/O LEFT TURN LANE



PROPOSED N. GOOD LATIMER EXPY (SB)
SHOWING SECTION W/ PARKING LANE



PROPOSED N. GOOD LATIMER EXPY (NB)
SHOWING SECTION W/ LEFT TURN LANE



PROPOSED N. GOOD LATIMER EXPY (SB)
SHOWING SECTION W/O PARKING LANE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 153 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

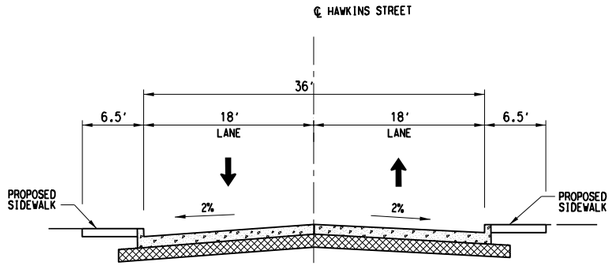
SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

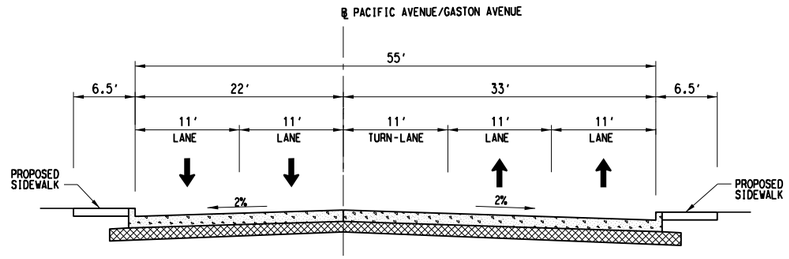
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 10 OF 11

CONTRACT | DWG No. CC6-0024 | REV

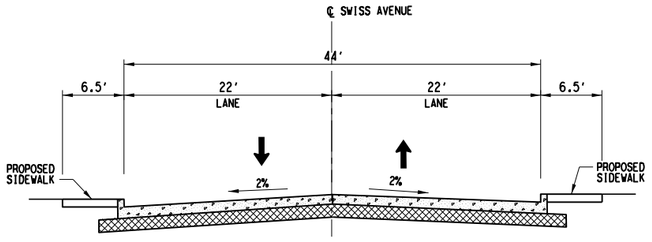
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dforron



PROPOSED HAWKINS STREET



PROPOSED PACIFIC AVENUE/GASTON AVENUE



PROPOSED SWISS AVENUE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 154 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

SCALE	NONE
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN MA
IN CHARGE	JENN MA
DATE	03/06/2020

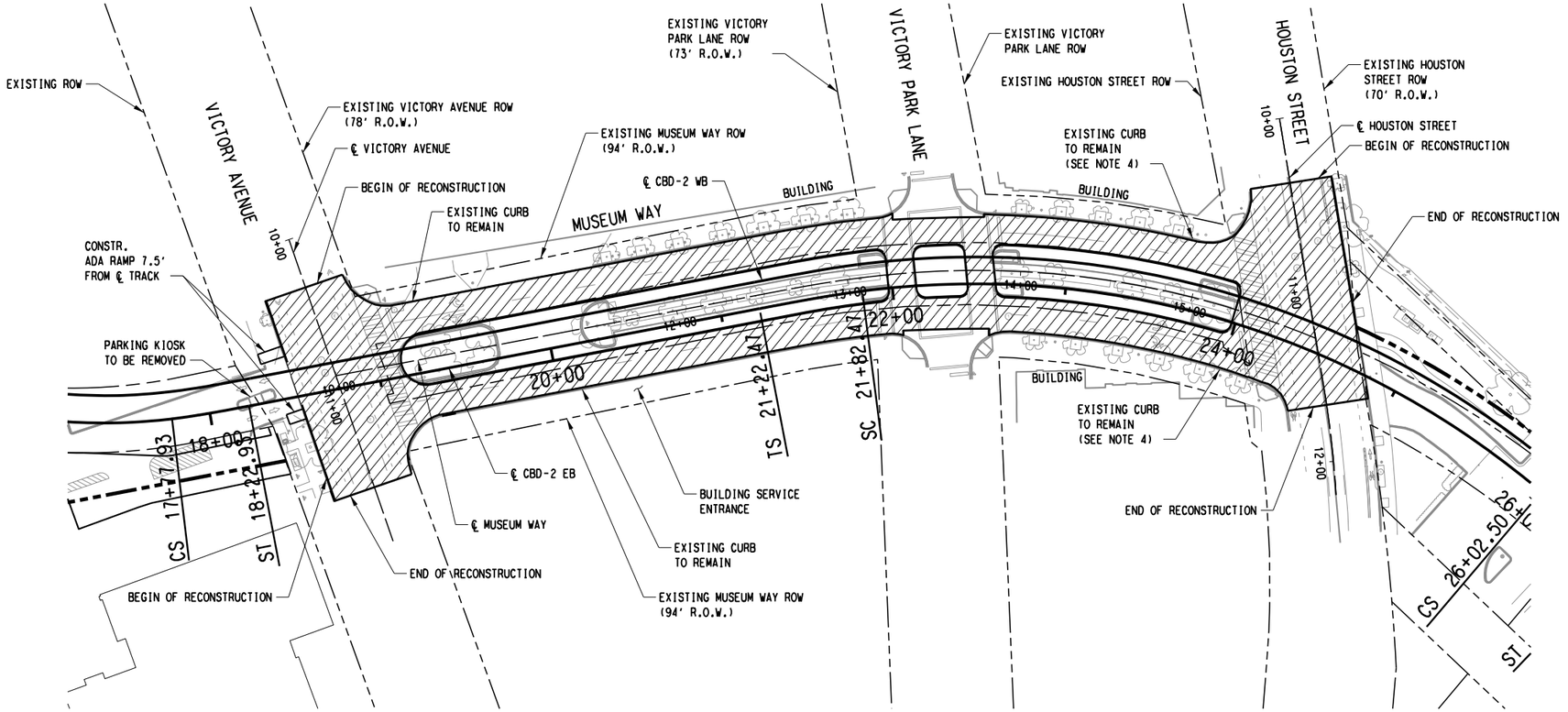
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 11 OF 11

CONTRACT | DWG No. CC6-0025 | REV

pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planning_CS_V1/6.0_CAD_BIM/6.2_Work_In_Progress/TO_39_D2_Subway_Proj_Dev/6.2.2_Contract_Files/DGN/CVL-ST/TYPICAL SECTIONS SHEET 11 OF 11

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dforran

DWG No. CC6-0026



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. CC6-0015 FOR PROPOSED TYPICAL SECTIONS:
   MUSEUM WAY
   VICTORY AVENUE
   HOUSTON STREET
2. VICTORY AVENUE AND HOUSTON STREET INTERSECTIONS WITH MUSEUM WAY TO BE SIGNALIZED.
3. SIGNAGE TO BE ADDED AT VICTORY PARK LANE TO ADDRESS REVISION IN TRAFFIC MOVEMENTS.
4. DUE TO VARYING TRACK SPACING WITHIN CURVED DOUBLE TRACK ALIGNMENTS, THE EXISTING CURBS ALONG THE CURVED TRACK ALIGNMENT MAY NEED TO BE REPLACED. FINAL CIVIL DESIGNER WILL COORDINATE WITH FINAL TRACK DESIGNER TO ELIMINATE OR MINIMIZE THE LIMITS OF IMPACT BEYOND THE EXISTING BACK OF CURB.

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 155 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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CIVIL ASSOCIATES, INC.
CAI
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

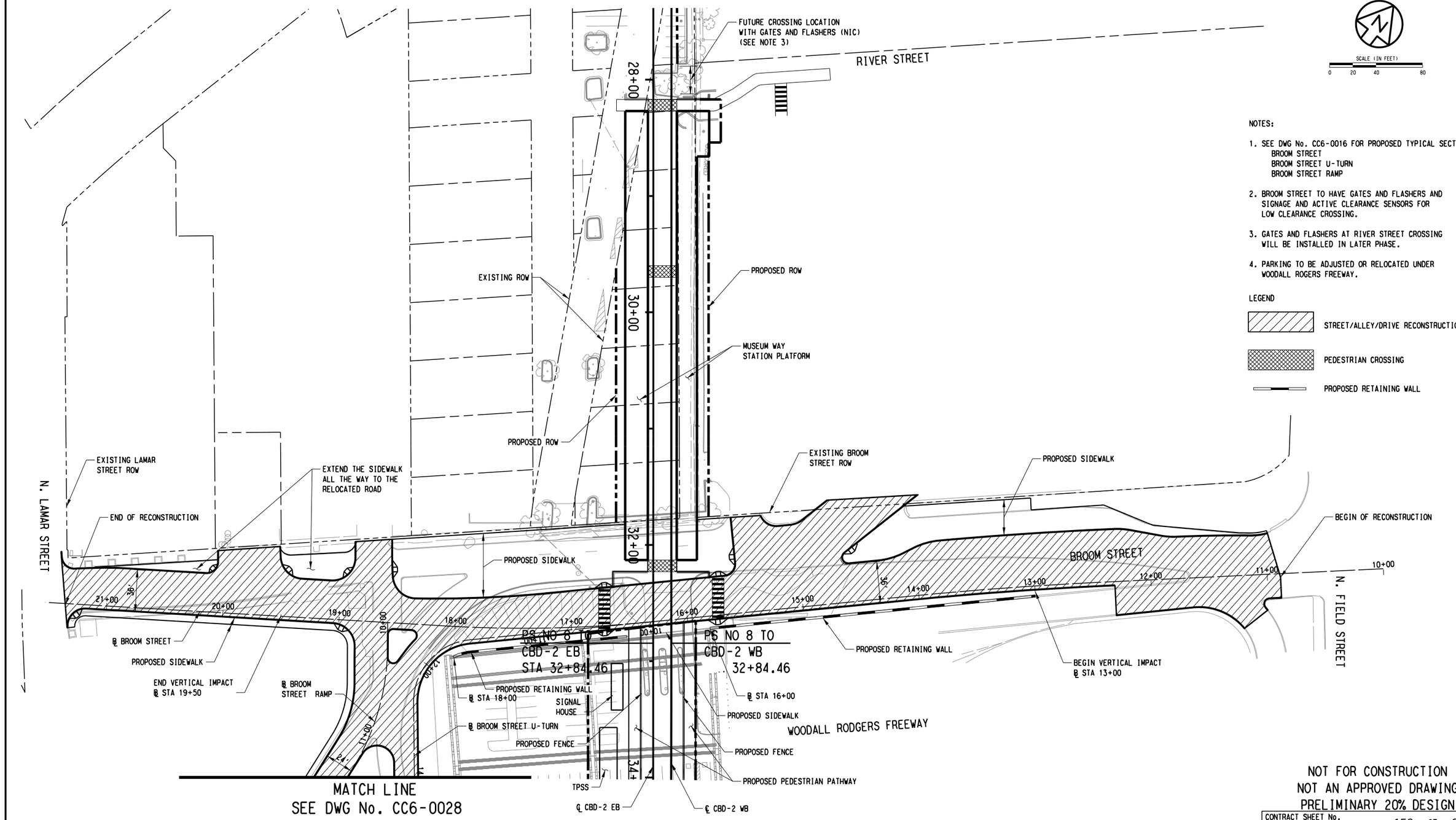
SCALE	1"=40'
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
MUSEUM WAY, VICTORY AVENUE
VICTORY PARK LANE, HOUSTON STREET

CONTRACT	DWG No.	REV
	CC6-0026	

28-FEB-2020 15:24
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dfarran
Default

DWG No. CC6-0027



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. CC6-0016 FOR PROPOSED TYPICAL SECTIONS:
   BROOM STREET
   BROOM STREET U-TURN
   BROOM STREET RAMP
2. BROOM STREET TO HAVE GATES AND FLASHERS AND SIGNAGE AND ACTIVE CLEARANCE SENSORS FOR LOW CLEARANCE CROSSING.
3. GATES AND FLASHERS AT RIVER STREET CROSSING WILL BE INSTALLED IN LATER PHASE.
4. PARKING TO BE ADJUSTED OR RELOCATED UNDER WOODALL ROGERS FREEWAY.

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

PEDESTRIAN CROSSING

PROPOSED RETAINING WALL

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 156 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

SCALE	1"=40'
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

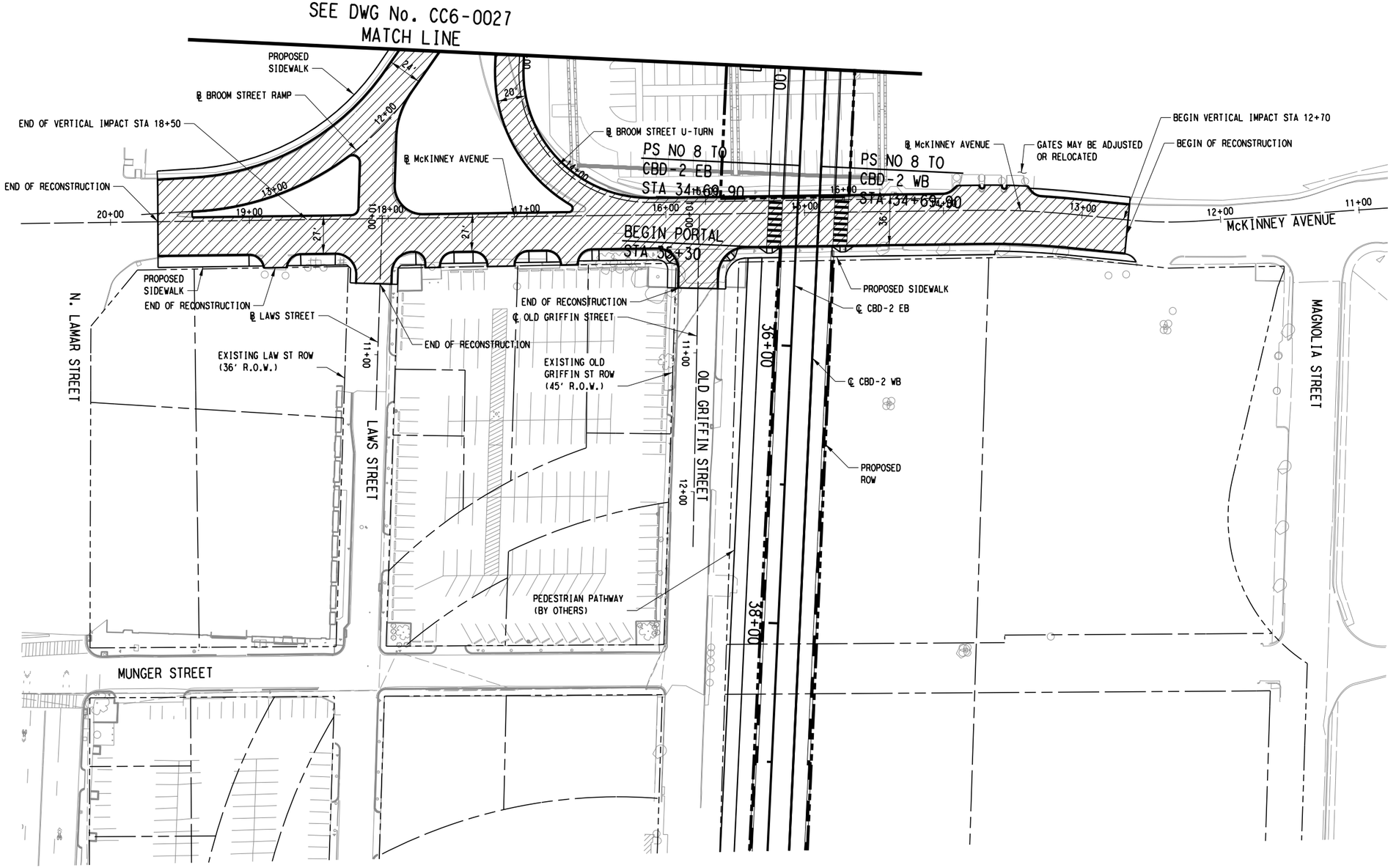
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STREET MODIFICATION PLAN
SOUTHBOUND FRONTAGE ROAD
(BROOM STREET)

CONTRACT	DWG No.	REV
	CC6-0027	

28-FEB-2020 15:24
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dfarran
Default

DWG No. CC6-0028



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. CC6-0017 FOR PROPOSED TYPICAL SECTIONS:
   McKINNEY AVENUE
   OLD GRIFFIN STREET
   LAWS STREET
2. McKINNEY AVENUE TO HAVE GATES AND FLASHERS AND SIGNAGE AND ACTIVE CLEARANCE SENSORS FOR LOW CLEARANCE CROSSING
3. PARKING UNDER WOODALL ROGERS FREEWAY TO BE ADJUSTED OR RELOCATED

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 157 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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CIVIL ASSOCIATES, INC.
CAI
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

SCALE	1"=40'
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

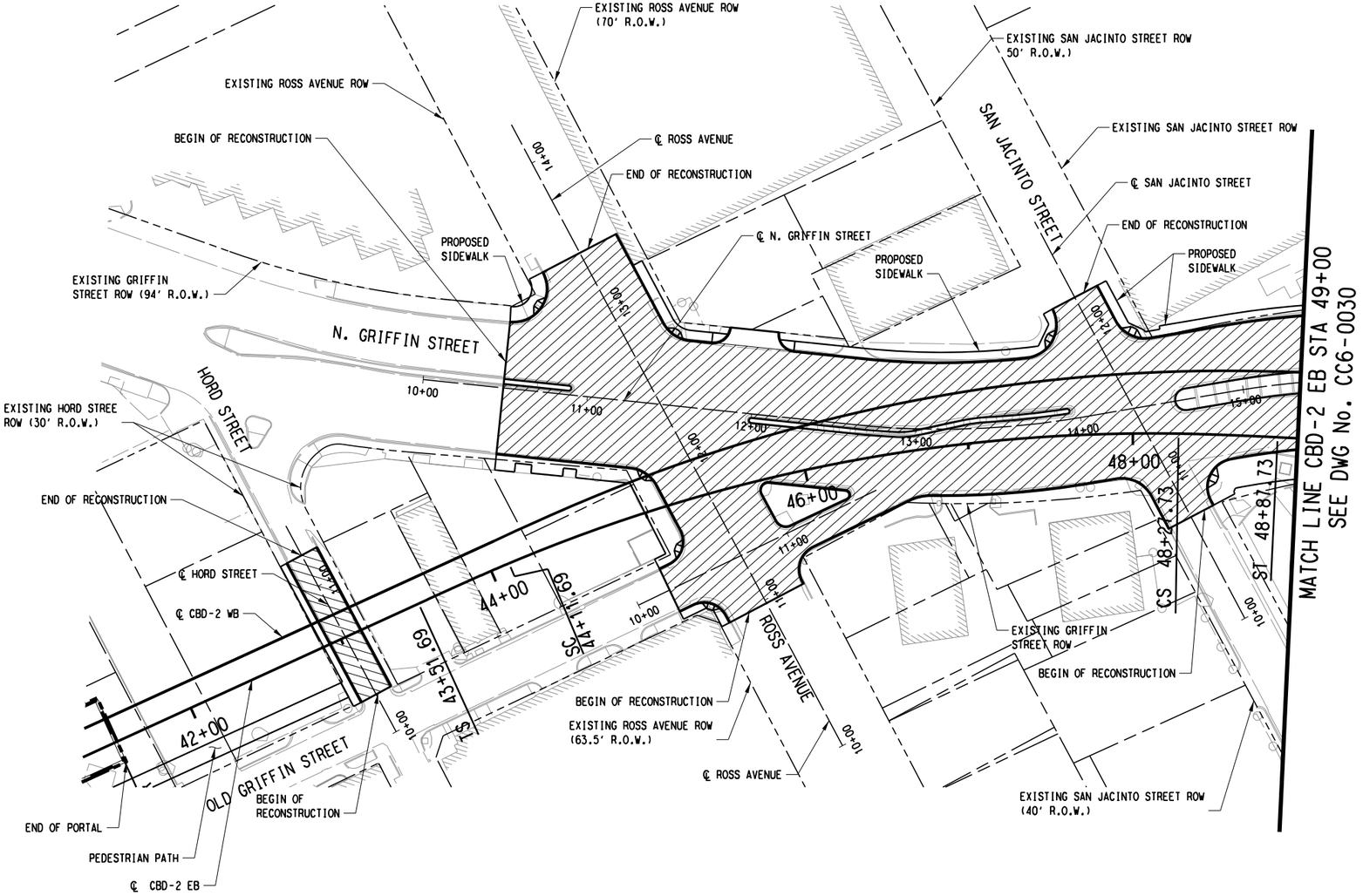
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
NORTHBOUND FRONTAGE ROAD
(McKINNEY AVENUE)
OLD GRIFFIN STREET, LAWS STREET

CONTRACT | DWG No. CC6-0028 | REV

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28-FEB-2020 15:24
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dforron
Default

DWG No. CC6-0029



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. CC6-0018 FOR PROPOSED TYPICAL SECTIONS:
   HORD STREET
   ROSS AVENUE
   SAN JACINTO STREET
2. SEE DWG No. CC6-0019 FOR PROPOSED TYPICAL SECTIONS:
   N. GRIFFIN STREET

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 158 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

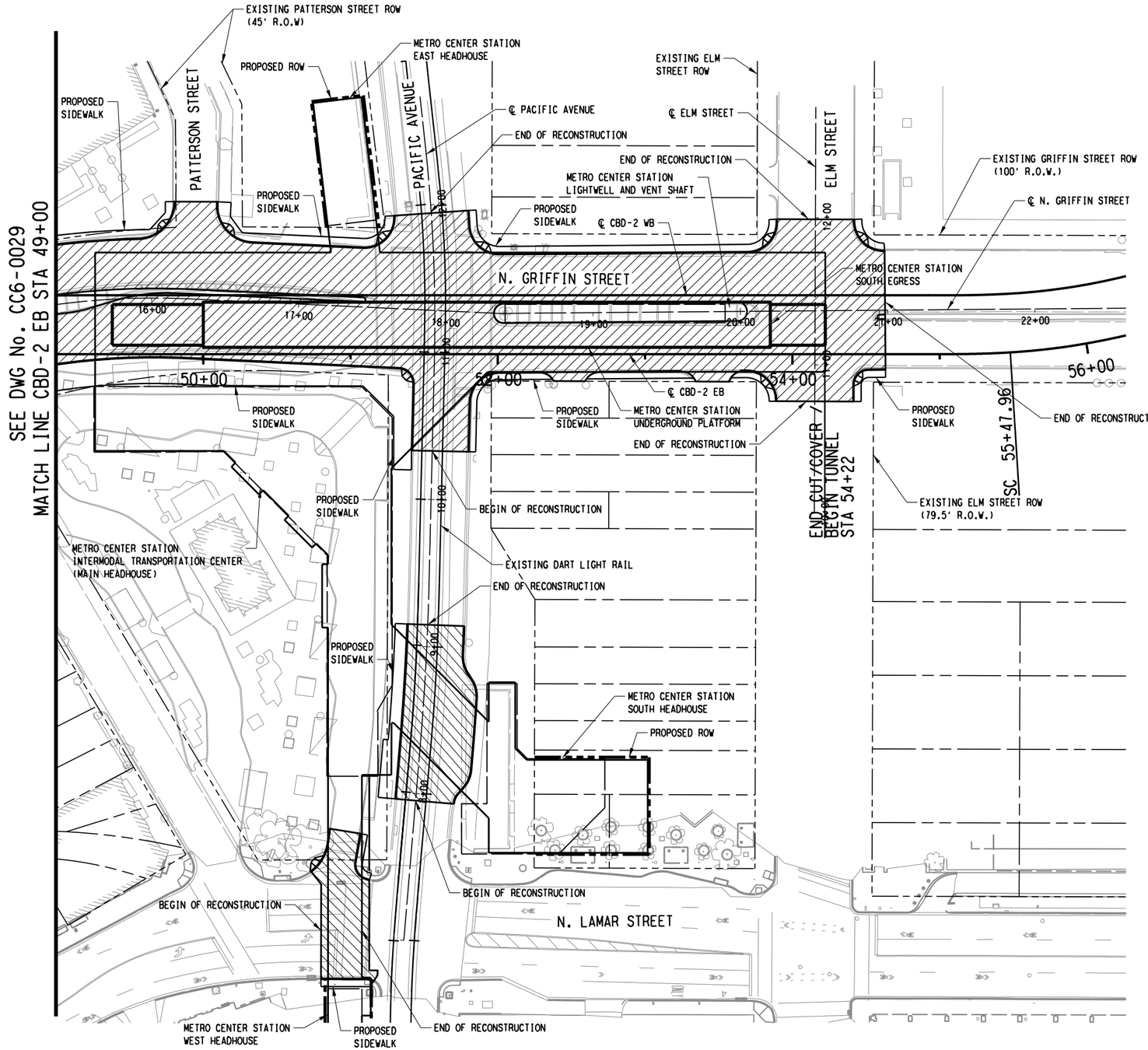
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DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
N. GRIFFIN STREET, HORD STREET, ROSS AVENUE, SAN JACINTO STREET
SHEET 1 OF 2

CONTRACT	DWG No.	REV
	CC6-0029	

28-FEB-2020 15:24
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dfaran
Default

DWG No. CC6-0030



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. CC6-0019 FOR PROPOSED TYPICAL SECTIONS:
   GRIFFIN STREET
   PACIFIC AVENUE
2. SEE DWG No. CC6-0020 FOR PROPOSED TYPICAL SECTIONS:
   ELM STREET

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 159 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

SCALE	1"=40'
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

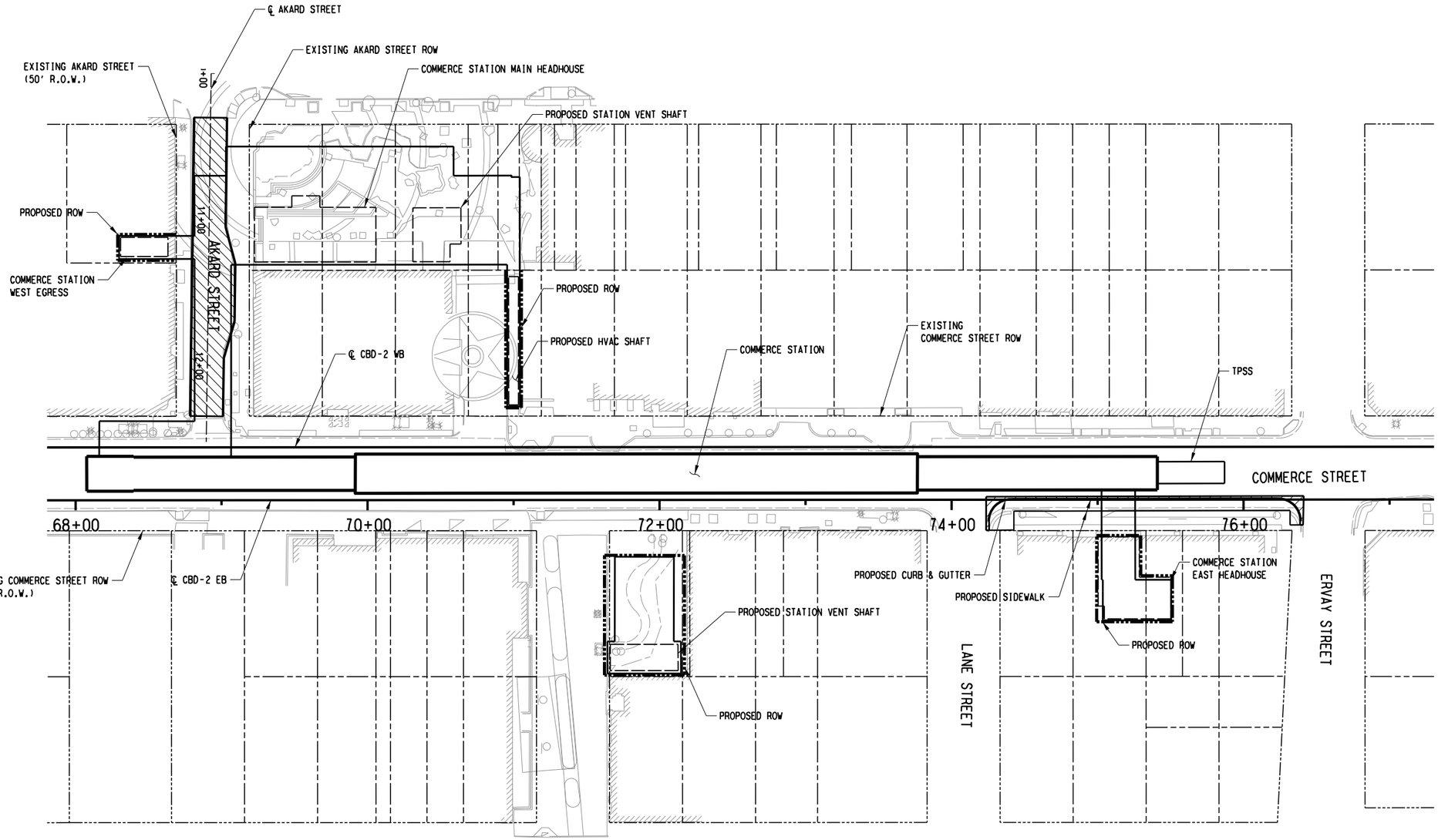
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
N. GRIFFIN STREET
PACIFIC AVENUE, ELM STREET
SHEET 2 OF 2

CONTRACT	DWG No.	REV
	CC6-0030	

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dfarran

DWG No. CC6-0031



SCALE (IN FEET)
0 20 40 80

NOTE:

1. SEE DWG No. CC6-0020 FOR PROPOSED TYPICAL SECTIONS: AKARD STREET
2. SIGNS & PAVEMENT MARKING ARE REQUIRED AT COMMERCE STREET PRIOR TO APPROACH LANE STREET TO REDUCE TRAVEL LANES

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 160 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

SCALE	1"=40'
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

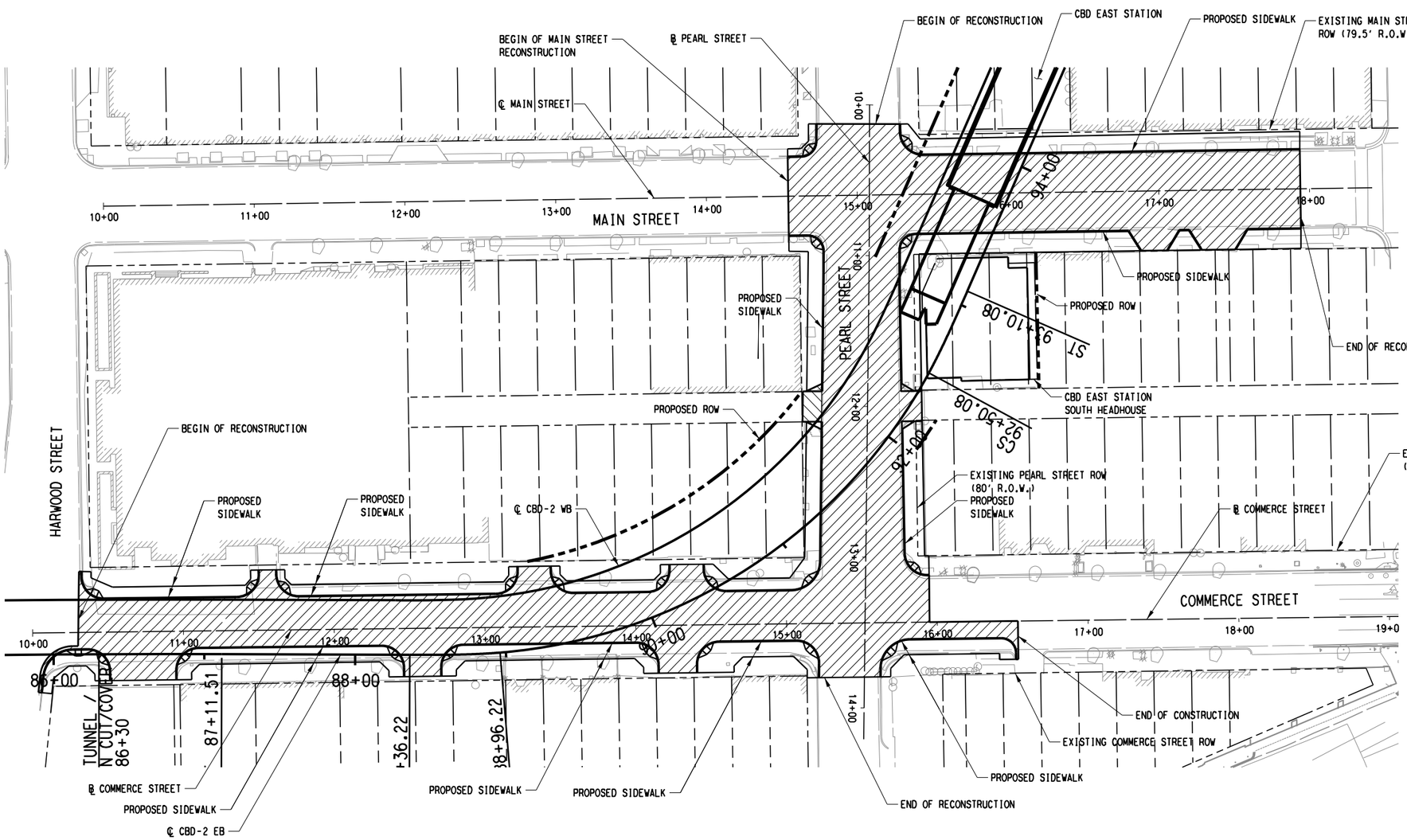
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STREET MODIFICATION PLAN
AKARD STREET

CONTRACT | DWG No. CC6-0031 | REV

Friday, February 28, 2020 03:24:40 PM
$$$$DGN$SPECIFICATION$$$$$$$$
dforron
$$$$DGN$SPECIFICATION$$$$$$$$

DWG No. CC6-0032



NOTES:

1. SEE DWG No. CC6-00020 FOR PROPOSED TYPICAL SECTIONS:
   PEARL STREET
2. SEE DWG No. CC6-0021 FOR PROPOSED TYPICAL SECTIONS:
   COMMERCE STREET
   MAIN STREET
3. SIGNS & PAVEMENT MARKING ARE REQUIRED AT COMMERCE STREET PRIOR TO APPROACH HARDWOOD STREET TO REDUCE TRAVEL LANES

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 161 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

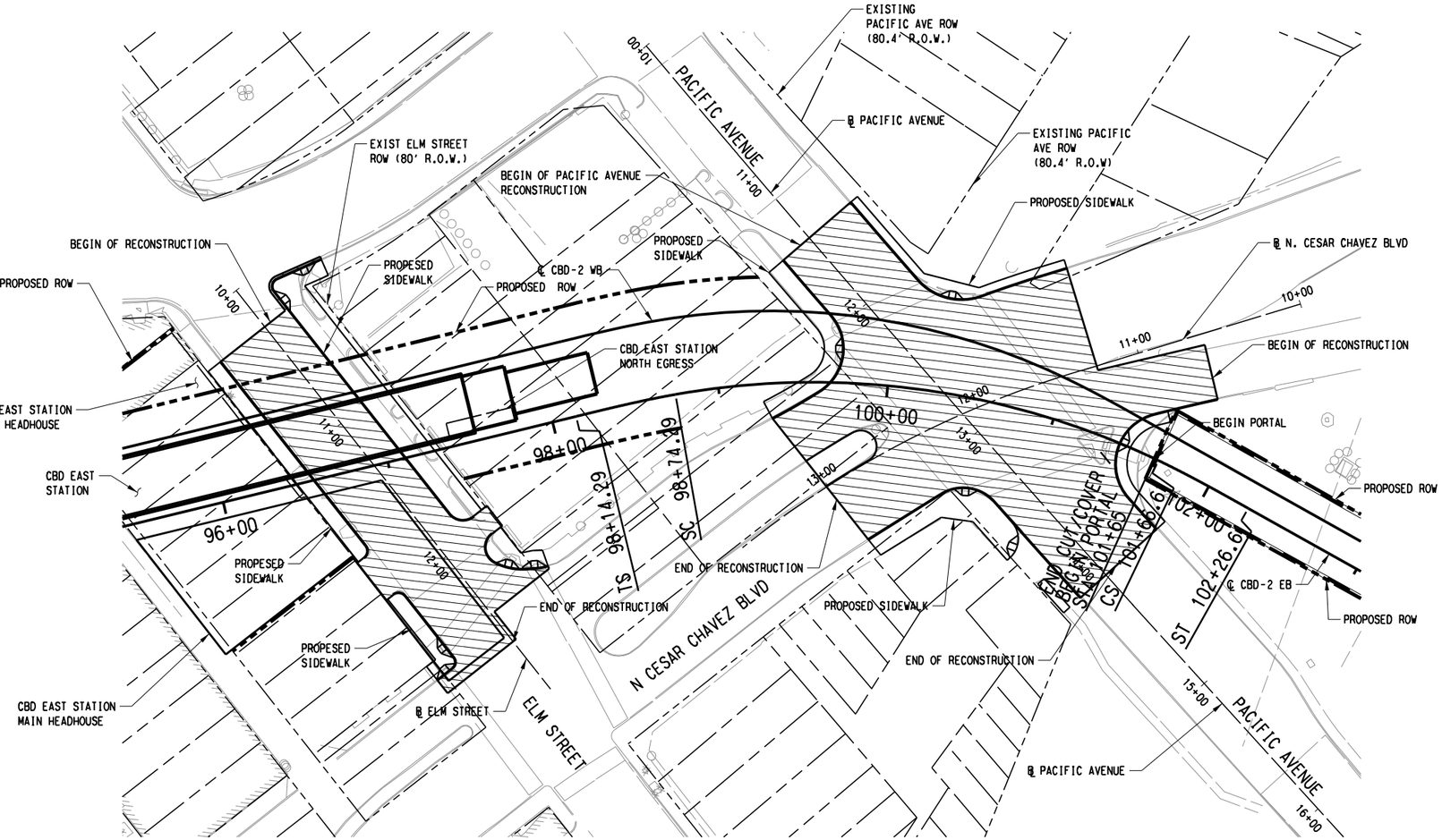
SCALE	1"=40'
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
COMMERCE STREET, PEARL STREET, MAIN STREET

CONTRACT	DWG No.	REV
	CC6-0032	

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dfarran

DWG No. CC6-0033



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. CC6-0021 FOR PROPOSED TYPICAL SECTIONS:
   ELM STREET
2. SEE DWG No. CC6-0022 FOR PROPOSED TYPICAL SECTIONS:
   PACIFIC AVENUE
   N. CESAR CHAVEZ BLVD

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 162 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

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DESIGNED	TANH CHAU
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IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

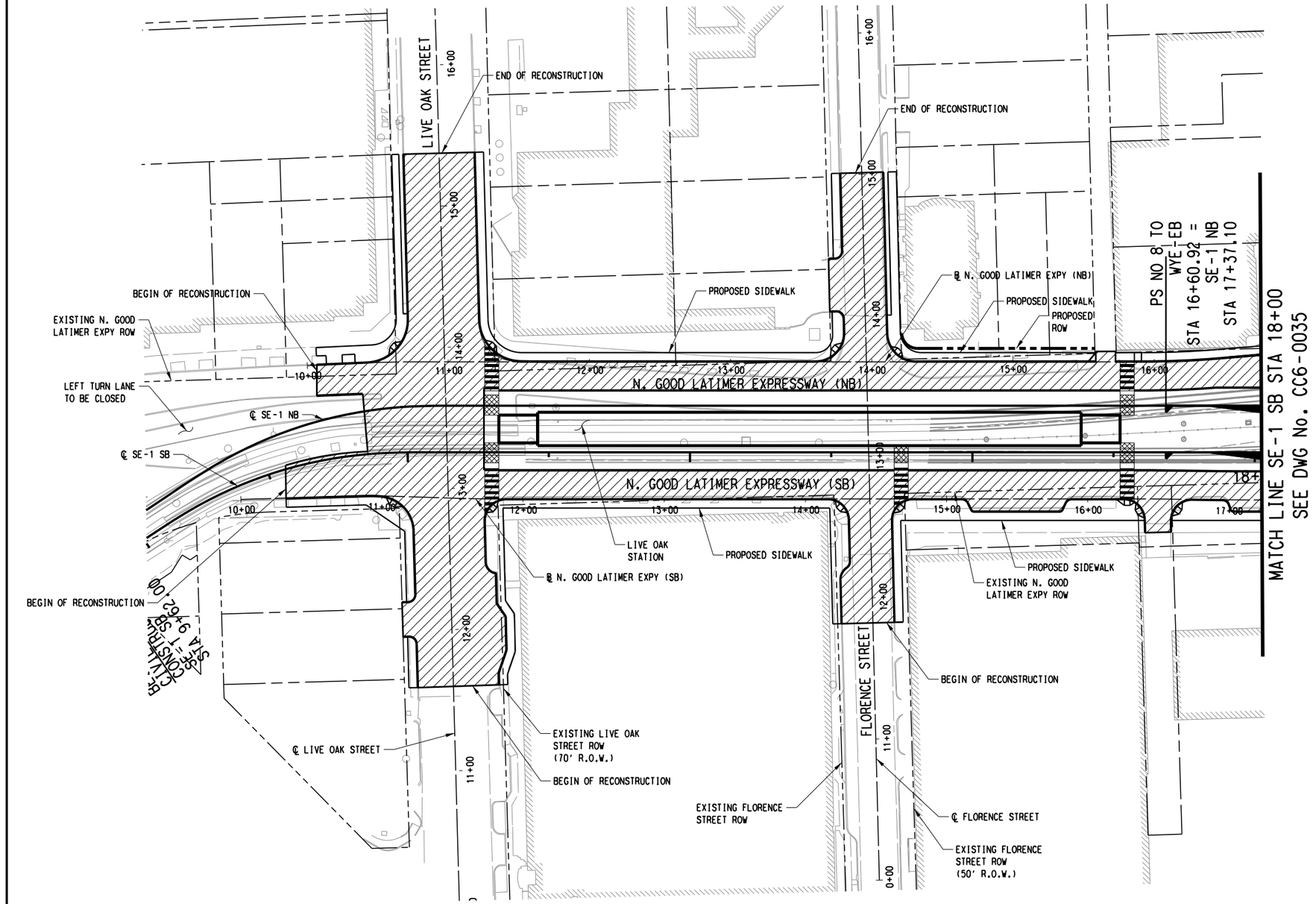
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
ELM STREET, PACIFIC AVENUE
N. CESAR CHAVEZ BLVD

CONTRACT	DWG No.	REV
	CC6-0033	

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dfarran

DWG No. CC6-0034



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. CC6-0023 FOR PROPOSED TYPICAL SECTIONS:
   LIVE OAK STREET
   FLORENCE STREET
2. SEE DWG No. CC6-0024 FOR PROPOSED TYPICAL SECTIONS:
   GOOD LATIMER EXPRESSWAY

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

PEDESTRIAN CROSSING

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 163 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

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DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

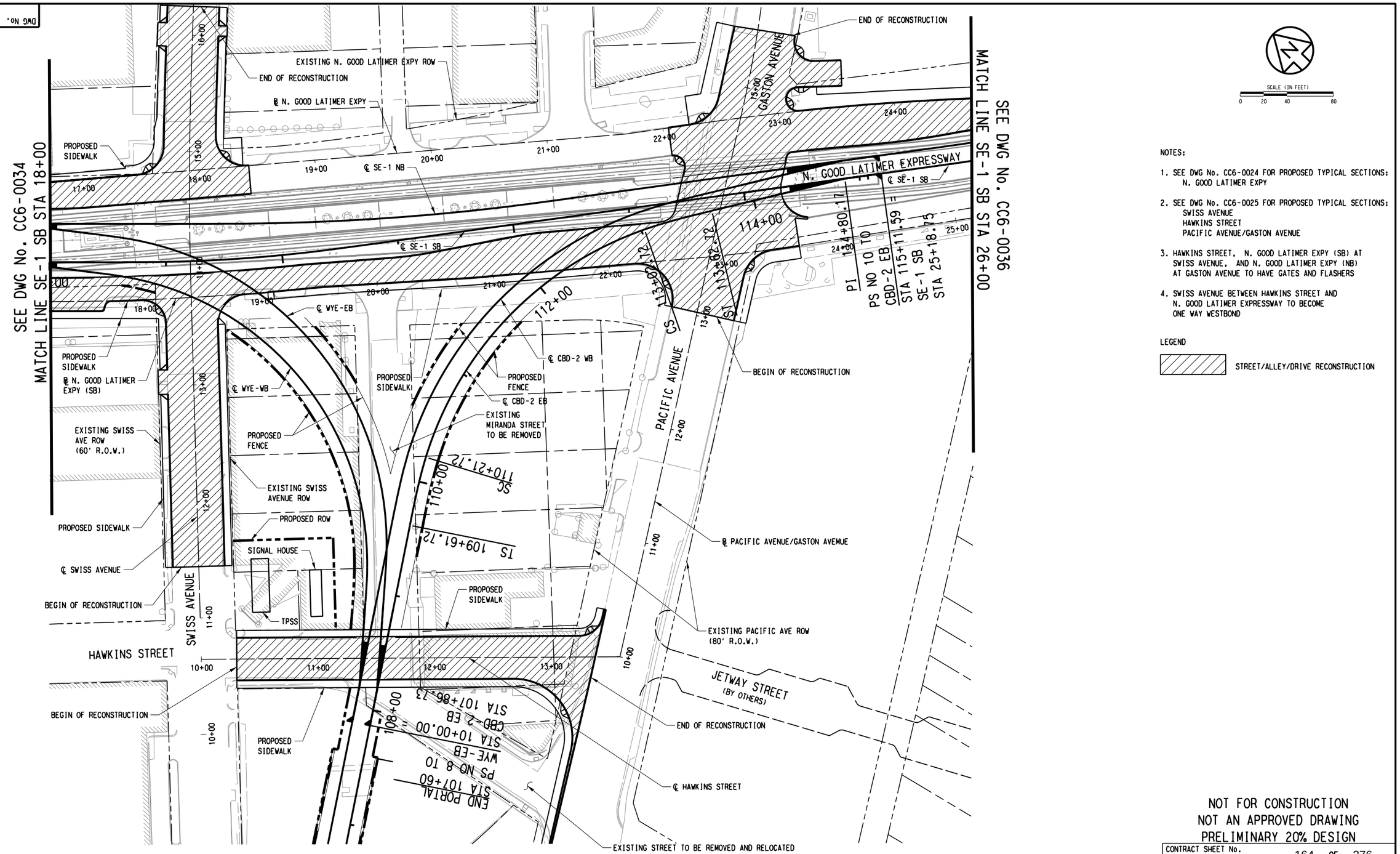
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
N. GOOD LATIMER EXPRESSWAY,
LIVE OAK STREET, FLORENCE STREET
SHEET 1 OF 3

CONTRACT	DWG No.	REV
	CC6-0034	

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dfarran

DWG No. CC6-0035



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. CC6-0024 FOR PROPOSED TYPICAL SECTIONS:
   N. GOOD LATIMER EXPY
2. SEE DWG No. CC6-0025 FOR PROPOSED TYPICAL SECTIONS:
   SWISS AVENUE
   HAWKINS STREET
   PACIFIC AVENUE/GASTON AVENUE
3. HAWKINS STREET, N. GOOD LATIMER EXPY (SB) AT SWISS AVENUE, AND N. GOOD LATIMER EXPY (NB) AT GASTON AVENUE TO HAVE GATES AND FLASHERS
4. SWISS AVENUE BETWEEN HAWKINS STREET AND N. GOOD LATIMER EXPRESSWAY TO BECOME ONE WAY WESTBOND

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 164 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

SCALE	1"=40'
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

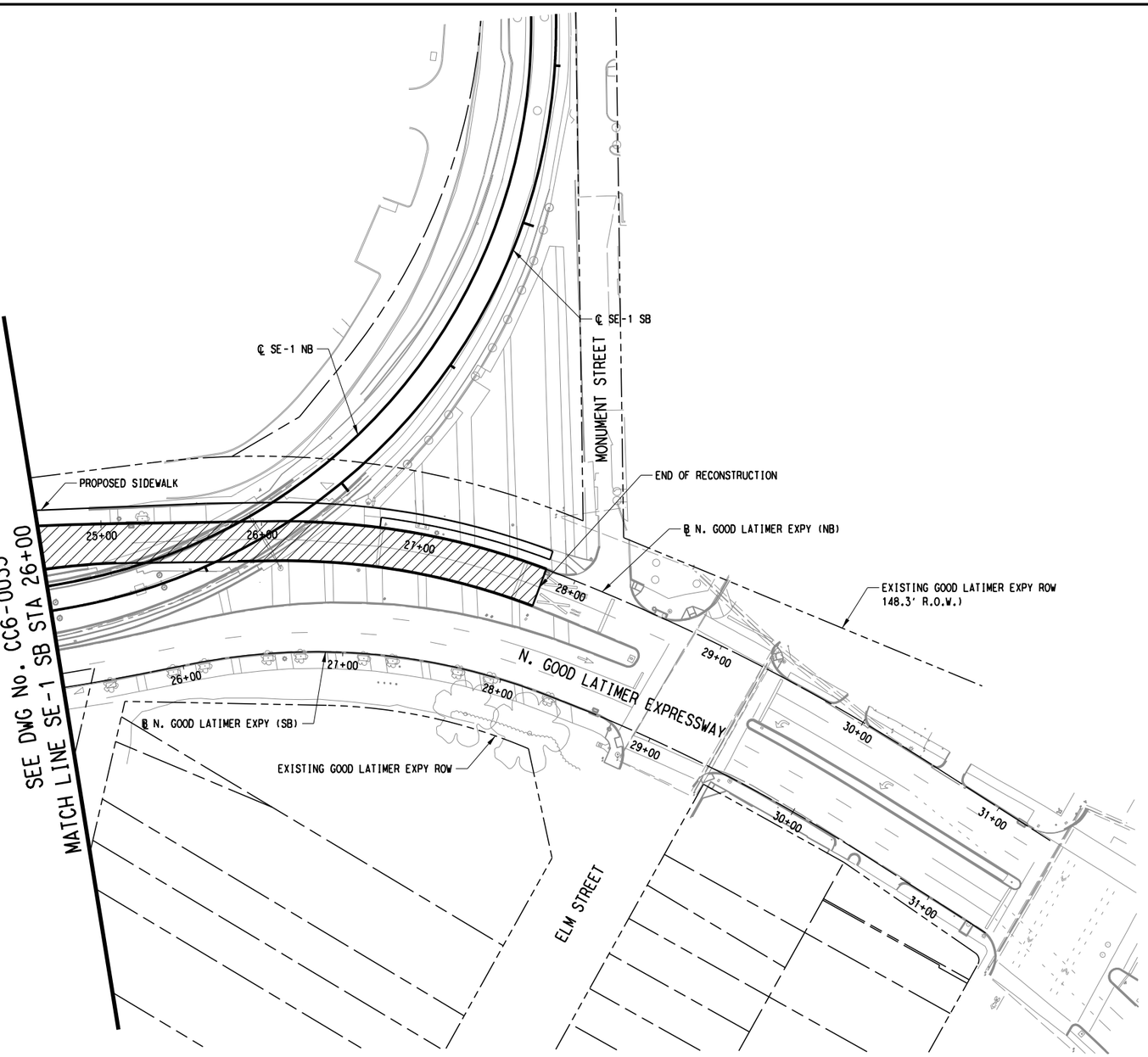
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
N. GOOD LATIMER EXPY, SWISS AVENUE, GASTON AVENUE, HAWKINS STREET
SHEET 2 OF 3

CONTRACT	DWG No.	REV
	CC6-0035	

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dfarran

DWG No. CC6-0036



SCALE (IN FEET)
0 20 40 80

NOTE:

1. SEE DWG No. CC6-0024 FOR PROPOSED TYPICAL SECTIONS: N. GOOD LATIMER EXPY

LEGEND

STREET/ALLEY/DRIVE RECONSTRUCTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 165 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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CIVIL ASSOCIATES, INC.
CAI
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

DART PROJECT

SCALE	1"=40'
DRAWN	DIANA FARRAN
DESIGNED	TANH CHAU
CHECKED	JENN-HWAN MA
IN CHARGE	JENN-HWAN MA
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STREET MODIFICATION PLAN
N. GOOD LATIMER EXPY
SHEET 3 OF 3

CONTRACT	DWG No.	REV
	CC6-0036	

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dfarran

28-FEB-2020 18:19
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DWG No. GC3-0001

STRUCTURAL GENERAL NOTES

1. GENERAL
   A. THESE NOTES COVER ALL TUNNEL WORKS FOR BORED, CUT-AND-COVER AND SEQUENTIAL EXCAVATION METHOD (SEM) TUNNELS, PORTAL STRUCTURES, UNDERGROUND STATIONS AND RELATED WORKS, INCLUDING TEMPORARY SUPPORTS AS SHOWN ON THESE DRAWINGS.
   B. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
   C. THE CONTROL LINE OF THE PROJECT ALIGNMENT IS THE EASTBOUND CBD-2 TRACK CORRESPONDING TO INCREASING STATIONING.
   D. THE PROFILE GRADE LINE (PGL) IS THE LOW RAIL OF THE EASTBOUND CBD-2 TRACK.
   E. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND THE TUNNEL MONITORING, ARCHITECTURAL, ELECTRICAL, MECHANICAL, PLUMBING, AND CIVIL DRAWINGS.
   F. DIMENSIONS ARE NOT TO BE SCALED OFF DRAWINGS.
   G. SCALES NOTED ON THE DRAWINGS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS.
   H. ALL REINFORCING STEEL DIMENSIONS SHOWN ON THE DRAWINGS ARE TO THE CENTERLINE OF BAR, UNLESS NOTED OTHERWISE.
   I. CONTRACTOR SHALL SUBMIT ALL REQUIRED SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION OR DELIVERY OF MATERIALS TO THE SITE.
   J. COORDINATION WITH TxDOT IS REQUIRED IN THE AREA OF WOODALL RODGERS EXPRESSWAY AND IH-345.
   K. COORDINATION WITH TxDOT IS REQUIRED FOR TEMPORARY SHORING AND OTHER STRUCTURAL CONSIDERATIONS DURING EAST PORTAL CONSTRUCTION UNDER IH-345.

2. CODES AND REFERENCES:
   A. "DALLAS AREA RAPID TRANSIT LIGHT RAIL PROJECT DESIGN CRITERIA MANUAL," JANUARY 31, 2003.
   B. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS: 8TH EDITION, 2017"
   C. AMERICAN CONCRETE INSTITUTE, ACI 318-19 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
   D. "ACI MANUAL OF CONCRETE PRACTICE" OF THE AMERICAN CONCRETE INSTITUTE (2017).
   E. ACI 544.4R GUIDE TO DESIGN WITH FIBER REINFORCED CONCRETE.
   F. ACI COLLECTION OF CODES, SPECIFICATIONS AND PRACTICES (2017 OR LATEST RELEASE).
   G. "STRUCTURAL WELDING CODE - STEEL" OF THE AMERICAN WELDING SOCIETY (AWS D1.1/D1.1M:2018).
   H. "2017 ANNUAL BOOK OF ASTM STANDARDS" OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS, (ASTM).
   I. GEOTECHNICAL DESIGN MEMORANDUM (GDM)
   J. GEOTECHNICAL BASELINE REPORT (GBR) (IF AVAILABLE)

3. DESIGN LOADS
   A. DEAD LOADS:
      a. MATERIALS: ACTUAL UNIT WEIGHT
      b. SOIL (BUOYANCY CHECK) = 110 PCF
      c. SOIL (OTHER) = 130 PCF MIN
      d. CONCRETE = 150 PCF
      e. HYDROSTATIC PRESSURE: GROUNDWATER TABLE SHOWN IN GEOTECHNICAL PROFILE.
      f. LATERAL EARTH PRESSURE: REFER TO GEOTECHNICAL DESIGN MEMORANDUM.
   B. LIVE LOADS:
      a. RAPID TRANSIT VEHICLE PER DART DESIGN CRITERIA MANUAL
      b. SAFETY WALK 85 PSF
      c. AIR PRESSURE ON UNDERGROUND FROM RUNNING TRAIN 70 PSF.
      d. SEISMIC LOADS: REFER TO DART DESIGN CRITERIA MANUAL, SECTION 10.3.

4. DESIGN STRENGTH:
   A. CAST-IN-PLACE CONCRETE.
      a. FOR UNDERGROUND STRUCTURES f'c=5000 PSI.
      b. FOR TUNNEL FINAL LINING f'c=5000 PSI.
   B. SHOTCRETE f'c=5000 PSI.
      a. SHOTCRETE - STEEL FIBER REINFORCED f'c=5000 PSI.
      b. SMOOTHING LAYER f'c=5000 PSI.
   C. SLURRY WALL f'c=4500 PSI.
   D. PRECAST CONCRETE - TUNNEL LINING
      a. TWO-PASS f'c=6000 PSI.
   E. REINFORCING STEEL:
      a. ASTM A615 GRADE 60 fs= 24,000 PSI.
      b. PRECAST TUNNEL LINING: ASTM A706 GRADE 60 fs=24,000 PSI.
   F. WELDED WIRE FABRIC: ASTM A1064.
   G. STRUCTURAL STEEL:
      a. PLATES AND BARS: ASTM A36 AND A501 Fy = 36,000 PSI.
      b. STRUCTURAL SHAPES: ASTM A572 GRADE 50 Fy= 50,000 PSI.
      c. SHIELD PRECAST SEGMENT LINER: ASTM A572 GRADE 60 Fy=60,000 PSI.
   H. STRUCTURAL STEEL TUBING: ASTM A1085 GRADE A Fy=46,000 PSI.
   WHERE:
   f'c IS 28-DAY COMPRESSIVE STRENGTH.
   Fy IS YIELD STRENGTH.
   fs IS ALLOWABLE TENSILE STRENGTH.

5. STRUCTURAL DESIGN BASIS:
   A. THE STRUCTURES ARE DESIGNED TO RESIST DESIGN LOADS ONLY AS COMPLETED STRUCTURES, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ANY PROPOSED APPLICATION OF CONSTRUCTION LOADS WHICH EXCEED THE DESIGN LOADS, OR ANY LOADS APPLIED TO THE PARTIALLY COMPLETED STRUCTURES WILL REQUIRE ANALYSIS.
   B. INSTALL BACKFILL AGAINST OPPOSITE SIDES OF THE UNDERGROUND STRUCTURES SIMULTANEOUSLY. DO NOT INSTALL BACKFILL THAT WILL CAUSE AN UNBALANCED LATERAL LOAD TO THESE STRUCTURES.
   C. WHERE A SPECIFIC MODEL AND MANUFACTURER OF AN ITEM ARE NAMED ON THE DRAWINGS AND IN THE SPECIFICATIONS, THE MODEL AND MANUFACTURER NAMED ARE THE BASIS OF DESIGN. ITEMS BY OTHER MANUFACTURERS OF EQUAL DESIGN MAY BE SUBMITTED FOR CONSIDERATION AS APPROVED EQUAL.
   D. ALL PERMANENT UNDERGROUND STRUCTURES ARE DESIGNED IN ACCORDANCE WITH ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
   E. FURTHER DEVELOPMENT OF FACILITY AND RAIL SYSTEMS, MEP, FIRE-LIFE SAFETY AND VENTILATION DESIGN WILL RESULT IN CHANGES TO THE LAYOUTS AND DIMENSIONS SHOWN ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS IN FUTURE ADVANCED DESIGN STAGES.

6. SHOTCRETE AND CAST-IN-PLACE CONCRETE:
   A. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH ACI SP-66 "DETAILING MANUAL".
   B. MINIMUM CONCRETE COVER FOR ALL PERMANENT LINING REINFORCING STEEL SHALL BE 2 INCHES AND IN ACCORDANCE WITH ACI 318-19 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
   C. THE MINIMUM LAP SPLICE AND EMBEDMENT LENGTHS SHALL BE ACCORDING TO ACI 318.
   D. REINFORCEMENT DETAILING, BAR SUPPORT, SPACERS, AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT".
   E. NON-STRUCTURAL REINFORCING STEEL REQUIREMENTS. BAR SUPPORT, SPACERS AND ACCESSORIES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE NOT SHOWN ON THE DRAWINGS. STRUCTURAL REINFORCING STEEL WILL BE SHOWN ON FINAL DESIGN DRAWINGS.
   F. REINFORCEMENT SPLICE BY MECHANICAL CONNECTORS, OTHER THAN CADWELD, SHALL NOT BE PERMITTED. NO INCREASE IN THE CONTRACT PRICE WILL BE ALLOWED FOR USE OF MECHANICAL CONNECTORS. MANUFACTURER'S DATA ON MECHANICAL CONNECTORS SHALL BE SUBMITTED FOR REVIEW.
   G. COORDINATE AND VERIFY ALL CONCRETE WORK WITH ALL OTHER TRADES TO ENSURE PROPER PROVISIONS FOR INSERTS, CONDUITS, PULL BOXES, SLEEVES. DRAINS. PIPING MANHOLES AND ARCHITECTURAL REQUIREMENTS BEFORE PLACEMENT OF CONCRETE.
   H. ALL MINED STRUCTURES SHALL BE CONSIDERED DRY STRUCTURAL CONDITION WITH CLOSED TYPE OF WATERPROOFING SYSTEM.
   I. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL OPENINGS AND ALL ITEMS PERTAINING TO THE DIFFERENT TRADES SHOWN ON THE RESPECTIVE DRAWINGS.
   J. CHAMFER ALL EXPOSED CONCRETE EDGES ¾", UNLESS OTHERWISE NOTED.

DEVELOPMENT AND LAP SPLICE LENGTHS FOR f'c = 5000 PSI & Fy=60,000 PSI

REINFORCEMENT			TENSION				COMPRESSION	
BAR SIZE	BAR AREA (SQ IN)	BAR DIA (IN)	DEVELOPMENT LENGTH (INCHES)		SPLICE LENGTH (INCHES)		DEVELOPMENT LENGTH (INCHES)	SPLICE LENGTH (INCHES)
			TOP BARS	OTHER BARS	TOP BARS	OTHER BARS		
4	0.20	0.500	23	17	29	23	9	15
5	0.31	0.625	28	22	36	28	11	19
6	0.44	0.750	34	26	44	34	14	23
7	0.60	0.875	49	38	63	49	16	26
8	0.79	1.000	56	43	72	56	18	30
9	1.00	1.128	63	48	81	63	19	34
10	1.27	1.270	71	54	92	71	22	38
11	1.56	1.41	78	60	102	78	24	42

7. CONSTRUCTION AND CONTRACTION JOINTS:
   A. ALL CONSTRUCTION AND CONTRACTION JOINTS SHALL BE IN A TRUE VERTICAL PLANE EXCEPT IN TUNNELS AND CUT-AND-COVER BOXES, WHERE THE JOINTS SHALL BE PERPENDICULAR TO THE RAIL GRADE.
   B. UNLESS NOTED OTHERWISE, ROUGHEN OR KEY ALL CONSTRUCTION AND CONTRACTION JOINTS AS SHOWN ON DRAWINGS. ORIENTATION OF THE CONSTRUCTION AND CONTRACTION JOINT KEYS IS TO BE DETERMINED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION.
   C. ALL CONSTRUCTION JOINTS IN EXTERIOR WALLS AND SLABS SHALL BE BONDED JOINTS.
   D. ADDITIONAL CONSTRUCTION JOINTS NOT INDICATED ON THE DRAWINGS MAY BE ADDED ONLY WITH APPROVAL OF THE DESIGN BUILD ENGINEER. REINFORCEMENT MUST BE CONTINUOUS ACROSS THE JOINTS.
   E. ALL CONTRACTION JOINTS SHALL HAVE A BOND BREAKER APPLIED.
   F. IN OPEN-CUT AND CUT-AND-COVER STRUCTURES, PROVIDE PVC AND BENTONITE COMPOSITE WATERSTOPS IN ALL EXTERIOR WALLS AND SLABS AT ALL CONSTRUCTION AND CONTRACTION JOINTS.
   G. ALL CONDUITS IN THE EXTERIOR WALLS AND SLABS SHALL BE ROUTED ON THE DRY SIDE OF THE WATERSTOPS.
   H. THE SPACING BETWEEN TRANSVERSE CONSTRUCTION JOINTS IN THE CONCRETE ARCH LINING SHALL BE AT 30'-0" MAXIMUM MEASURED ALONG THE MINED TUNNEL CENTERLINE. UNLESS OTHERWISE SHOWN ON THE DRAWING. CHANGING THE CONSTRUCTION JOINT LOCATIONS AT ENDS WILL BE PERMITTED ONLY WITH THE WRITTEN ACCEPTANCE OF THE ENGINEER.
   I. TRANSVERSE CONSTRUCTION JOINTS AT DIFFERENT LOCATIONS OR IN ADDITION TO THOSE SHOWN ON THE DRAWINGS WILL BE PERMITTED ONLY WITH THE WRITTEN ACCEPTANCE OF THE ENGINEER.
   J. CONSTRUCTION JOINTS IN CAST-IN-PLACE CONCRETE LININGS TO BE LOCATED AT LOCATIONS OF RADIAL WATER BARRIERS (AS SHOWN ON THE WATERPROOFING DRAWINGS).
   K. CONSTRUCTION JOINTS IN THE CAST-IN-PLACE CONCRETE INVERT IN THE MINED TUNNELS SHALL BE 50'-0" MAXIMUM MEASURED ALONG TUNNEL CENTER LINE.

8. MINED TUNNEL AND CAVERN
   A. FOR TUNNELS, CAVERNS, CROSS PASSAGES AND ADITS MINED BY THE SEQUENTIAL EXCAVATION METHOD (SEM), SEE SPECIFICATION SECTION 31 71 17 "EXCAVATION BY SEQUENTIAL EXCAVATION METHOD (SEM)."
   B. ALL SUPPORT (SHOTCRETE AND REINFORCEMENT) FOR EACH EXCAVATION ROUND SHALL BE COMPLETED AS SHOWN, PRIOR TO COMMENCING NEXT EXCAVATION ROUND.
   C. DIMENSIONS DO NOT INCLUDE ALLOWANCES FOR DEFORMATION OF GROUND AND INITIAL LINING, MINING TOLERANCES AND THICKNESS OF WATERPROOFING SYSTEM.

9. WATERPROOFING DESIGN
   A. FOR WATERPROOFING OF CUT-AND-COVER TUNNELS, STATIONS, ENTRANCE AND VENTILATION STRUCTURES, AND MINED TUNNELS, STATION CAVERNS, ADITS, CROSS PASSAGES, PUMP AND SUMP STRUCTURE, SEE SPECIFICATION SECTION 07 74 77 "WATERPROOFING - RUNNING TUNNELS AND STATIONS."
   B. FOR WATERPROOFING OF U-WALL STRUCTURES AT WEST AND EAST PORTALS, SEE SPECIFICATION SECTION 07 74 75 "WATERPROOFING - PORTAL STRUCTURES."

DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 166 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
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DART PROJECT

SCALE	NTS
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

TUNNEL
STRUCTURAL GENERAL NOTES

CONTRACT | DWG No. GC3-0001 | REV

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pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planning_CS_V1/6.0_CAD_BIM/6.2_Work_In_Progress/TO_3

DWG No. GC3-0002

ABBREVIATIONS

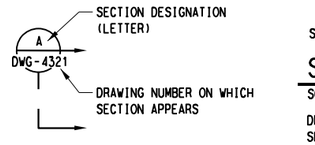
ABT	ABOUT
ADDL	ADDITIONAL
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECTURE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
BAL	BALANCE
BF	BOTH FACES
BH	BORE HOLE
BKF	BACKFILL
BL	BUILDING LINE
BLDG	BUILDING
BLS	BLUE LIGHT STATION
BLVD	BOULEVARD
BM	BENCH MARK
BM	BEAM
B/O	BOTTOM OF
BOC	BOTTOM OF CONCRETE
BOT	BOTTOM
BRG	BEARING
BRS BTW	BLAST RELIEF SHAFT BETWEEN
C/C	CUT & COVER
C TO C	CENTER TO CENTER
CBD	CENTRAL BUSINESS DISTRICT
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION JOINT
CLR	CLEARANCE, CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CS	CURVE-TO-SPIRAL
D	DEEP
DEG OR °	DEGREE
DET	DETAIL
DI	DRAIN INLET
DIA	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM DL	DIMENSION DEAD LOAD
DN	DOWN
DW	DEAD WEIGHT
DWG	DRAWING
E	EAST
EA	EACH, ELEVATION ACTUAL
EB	EAST BOUND
EEN2	EMERGENCY EXIT NORTH 2
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EMP EQ, =	EMERGENCY MANAGEMENT PANEL EQUAL
EOR	ENGINEER OF RECORD
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
ESC	ESCALATOR
ETEL	EMERGENCY TELEPHONE
EVF	EMERGENCY VENTILATION FAN
EW	EACH WAY
EXC	EXCAVATE, EXCAVATION
EXIST	EXISTING
EXP	EXPANSION
EXPY	EXPRESSWAY
FIN GR	FINISHED GRADE
FT	FOOT/FEET
GA	GAGE OR GAUGE
GALV	GALVANIZED
GDM	GEOTECHNICAL DESIGN MEMORANDUM
GEN	GENERAL
GL	GRID LINE
GRD	GROUND
HCR	HYDROCARBON RESISTANT (MEMBRANE)
HDPE	HIGH DENSITY POLYETHYLENE (MEMBRANE)
HH	HANDHOLE
HORIZ	HORIZONTAL
HP	HIGH POINT
HS BOLT	HIGH STRENGTH BOLT
HT	HEIGHT
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH, INCHES
INCL	INCLUSIVE, INCLUDING
INV	INVERT
IR	INSIDE RADIUS
JT	JOINT
K	KIP OR KIPS
KF	KIP FOOT
KLF	KIPS PER LINEAR FOOT
KOP	KNOCK-OUT PANEL
KSF	KIPS PER SQARE FOOT
KSI	KIPS PER SQARE INCH
L	LENGTH OR ANGLE
LB OR LBS	POUND, POUNDS
LH	LEFTHAND
LIN	LINEAR, LINEAL
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONGIT	LONGITUDINAL
LP	LOW POINT
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
LWP	LOWER WORKING POINT
MAINT	MAINTENANCE
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MEP	MECHANICAL/ELECTRICAL/PLUMBING
MEZZ	MEZZANINE
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NF	NEAR FACE
NIC	NOT IN CONTRACT
No., NO.	NUMBER
NOM	NOMINAL
NS	NEARSIDE
NTS	NOT TO SCALE
OPP	OPPOSITE
OPNG	OPENING
PC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PE	PRELIMINARY ENGINEERING
PED	PEDESTRIAN
PERIM	PERIMETER
PGL	PROFILE GRADE LINE
PH	PLASTIC HINGE
PL OR P/L	PROPERTY LINE
PLATF	PLATFORM
PROJ	PROJECTION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R OR RAD	RADIUS
R/W OR ROW	RIGHT-OF-WAY
RC	REINFORCED CONCRETE
RD	ROAD
REF	REFERENCE
REINF	REINFORCING OR REINFORCEMENT
REQ'D	REQUIRED
REV	REVISION, REVISED
RH	RIGHT HAND
RI	RISER, RISERS
RT	RIGHT
S	SOUTH
SAD	SEE ARCHITECTURAL DRAWINGS
SC	SPIRAL-TO-CURVE
SCH OR SCHED	SCHEDULE
SEC	SECOND
SECT	SECTION
SEM	SEQUENTIAL EXCAVATION METHOD
SFR	STEEL FIBER REINFORCED
SHT	SHEET
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SOE	SUPPORT OF EXCAVATION
SPA	SPACE/SPACES
SPEC	SPECIFICATION
SQ	SQUARE
SQ FT OR SF	SQUARE FOOT
SQ IN OR SI	SQUARE INCH
SS	STAINLESS STEEL
ST	SPIRAL-TO-TANGENT, STREET
STA	STATION (ALIGNMENT)
STD	STANDARD
STIFF	STIFFENER
STIR	STIRRUP
STL	STEEL
STRUCT	STRUCTURAL, STRUCTURE
SUP	SUPPORT
SYM	SYMMETRICAL
T/, T/O	TOP OF
T&B	TOP & BOTTOM
T/R	TOP OF RAIL
TAN	TANGENT
TBD	TO BE DETERMINED
TBM	TUNNEL BORING MACHINE
TEMP	TEMPORARY
THK	THICK
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPSS	TRACTION POWER SUB-STATION
TR	TREAD/TREADS
TRK	TRACK
TS	TANGENT-TO-SPIRAL
TW	TREAD WIDTH
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UP	UNDER PLATFORM
UWP	UPPER WORKING POINT
VENT	VENTILATION
VERT	VERTICAL
VPC	VERTICAL POINT OF CURVE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST, WIDE
WB	WEST BOUND
WI	WITH
W/O	WITHOUT
WD	WIDTH
WL	WIND LOAD
WP	WORK POINT
WT	WATER TABLE

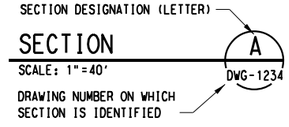
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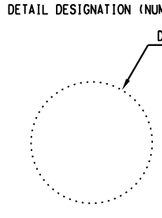
- CONCRETE
- GROUND LINE
- BEDROCK
- OPENING IN SLAB OR WALL
- SHOTCRETE
- STEEL GRATING

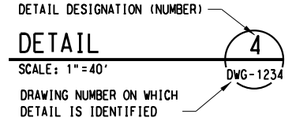
SYMBOLS

&	AND
@	AT
℄	CENTERLINE
⌖	CONTROL POINT
°	DEGREE
Ld	DEVELOPMENT LENGTH
Ø	DIAMETER
=	EQUAL TO
'	FOOT OR FEET
"	INCH OR INCHES
▬	MATCHLINE
()'	MINUTE
%	PERCENTAGE
PL	PLATE
#	REBAR SIZE
()"	SECOND
▬ ▬	WATERPROOFING
⌖	WORK POINT
⊢	HEADED REINFORCEMENT
⊢	HOOKED REINFORCEMENT (STD HOOK OR OTHERWISE)
	GROUNDWATER TABLE
	THEORETICAL TUNNEL EXCAVATION LINE









D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 167 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	NTS
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

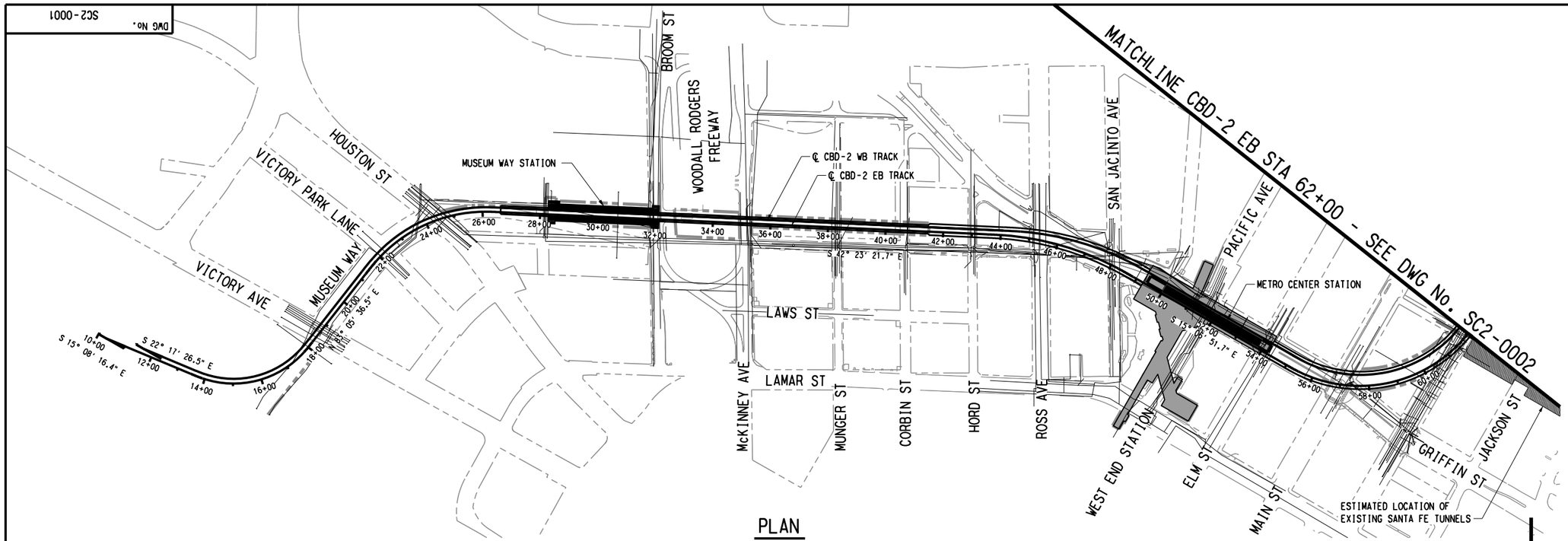
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

TUNNEL
STRUCTURAL SYMBOLS AND ABBREVIATIONS

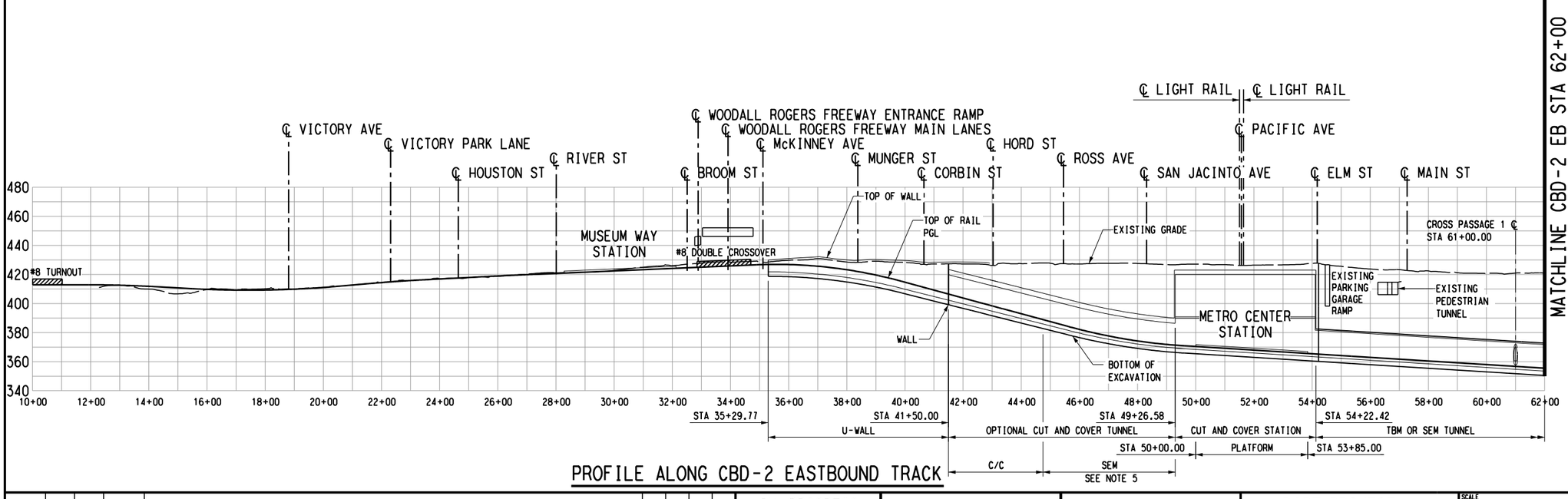
CONTRACT | DWG No. GC3-0002 | REV

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DWG No. SC2-0001



PLAN



PROFILE ALONG CBD-2 EASTBOUND TRACK

SCALE (IN FEET)
HORIZ 0 100' 200' 400'
SCALE (IN FEET)
VERT 0 20' 40' 80'

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0002.
3. FOR TRACK ALIGNMENT DATA, SEE GUIDEWAY PLAN AND PROFILE DRAWINGS.
4. FOR EXISITING UNDERGROUND UTILITIES, SEE EXISTING UTILITY COMPOSITE DRAWINGS.
5. OPTIONAL SEM TUNNEL CONSTRUCTION TO BE INVESTIGATED.

D R A F T
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DART PROJECT

SCALE	AS SHOWN
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

TUNNEL
PLAN AND PROFILE
STA 10+00 TO STA 62+00

CONTRACT	DWG No.	REV
	SC2-0001	

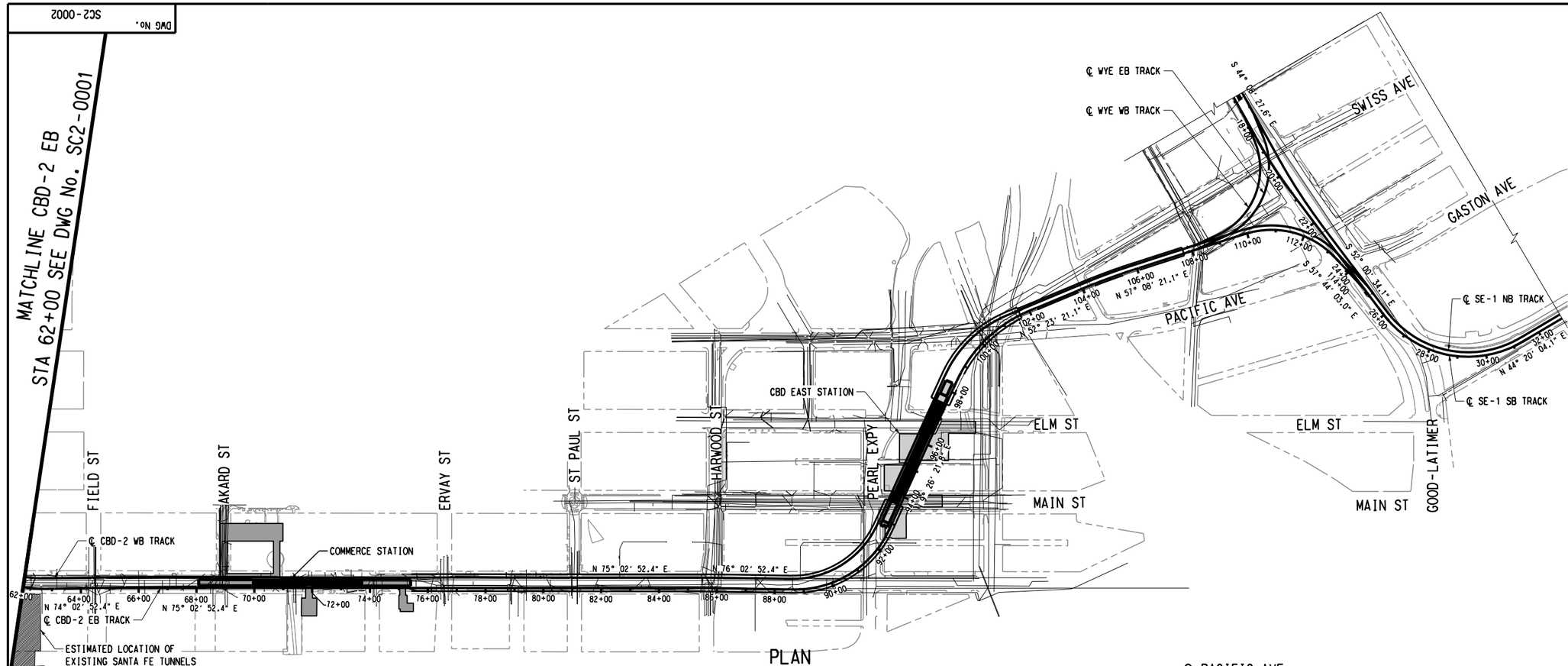
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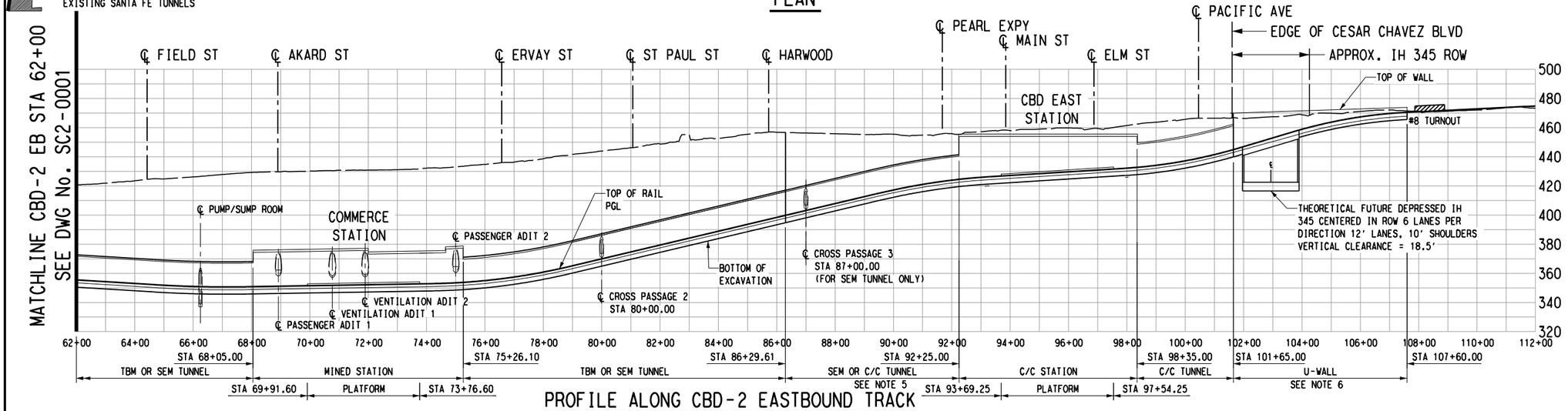
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DWG No. SC2-0002

MATCHLINE CBD-2 EB STA 62+00 SEE DWG No. SC2-0001



PLAN



PROFILE ALONG CBD-2 EASTBOUND TRACK

SCALE (IN FEET)
HORIZ 0 100' 200' 400'
SCALE (IN FEET)
VERT 0 20' 40' 80'

NOTES:

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4. FOR EXISITING UNDERGROUND UTILITIES, SEE EXISTING UTILITY COMPOSITE DRAWINGS.
5. OPTIONAL SEM TUNNEL CONSTRUCTION TO BE INVESTIGATED.
6. U-WALL AT EAST PORTAL TO BE COORDINATED WITH OVERHEAD HIGHWAY BENTS FOUNDATION DURING PE DESIGN.
7. FINAL DESIGNER TO DETERMINE FINAL LOCATION AND SIZE OF PUMP/SUMP ROOMS.

DRAFT
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DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

TUNNEL
PLAN AND PROFILE
STA 62+00 TO STA 112+00

SCALE	AS SHOWN
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

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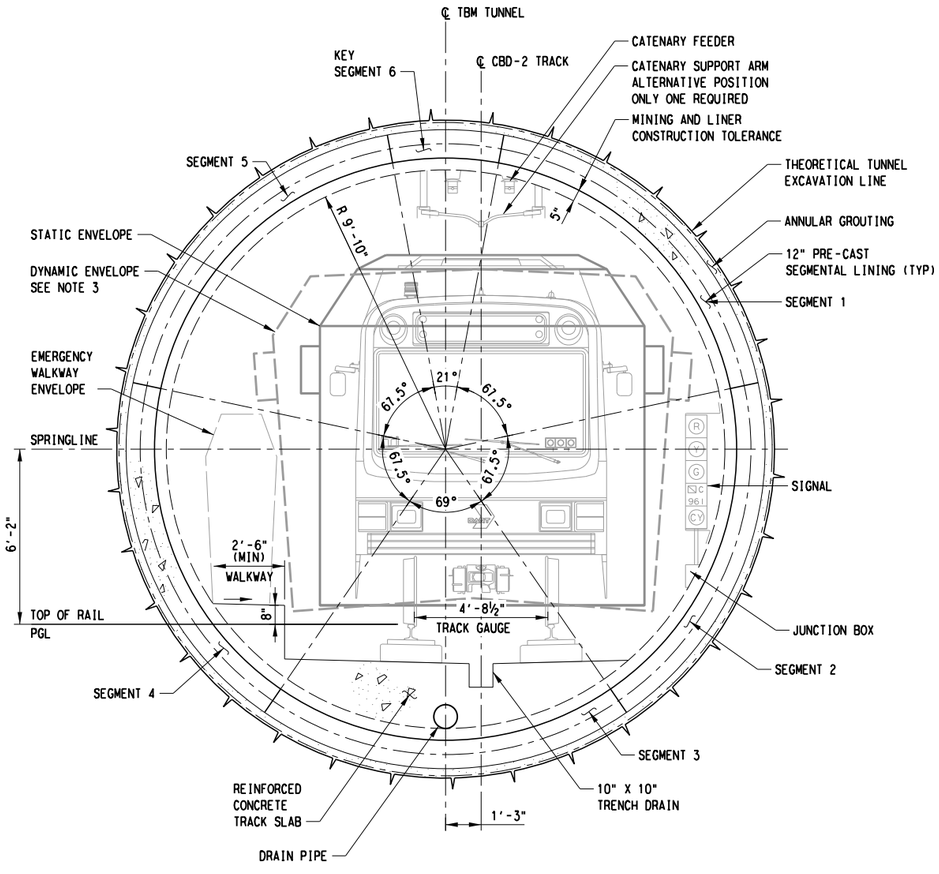
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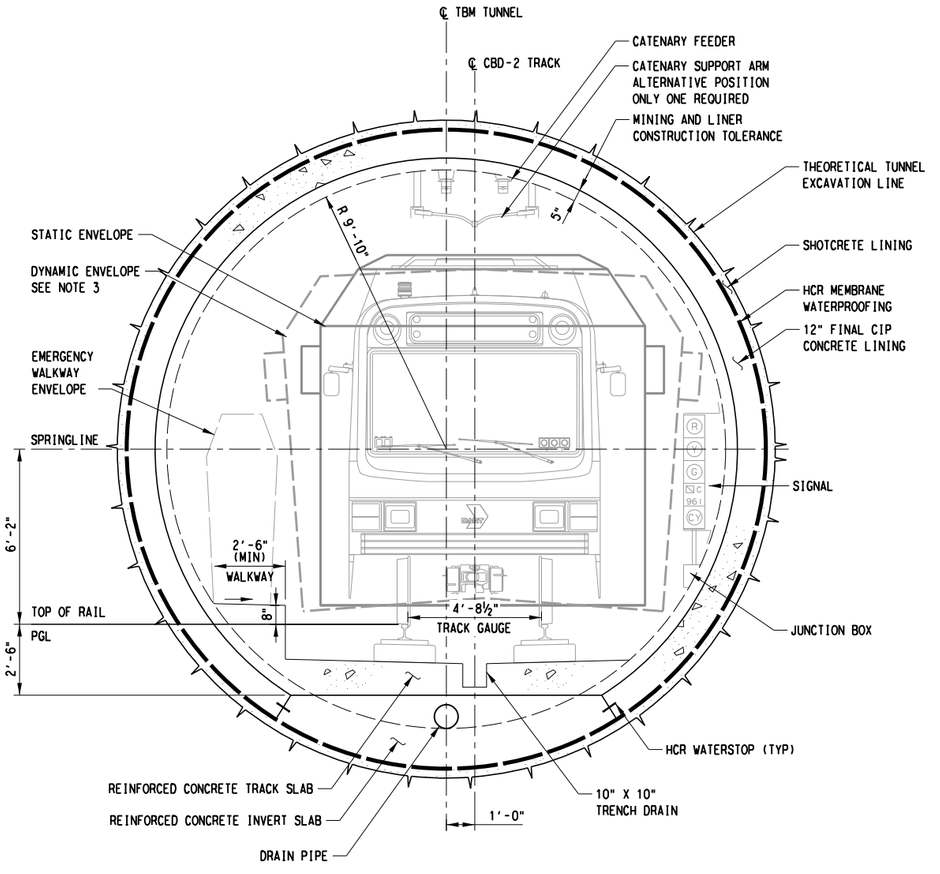
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DWG No. SC8-0001



WESTBOUND
(SECTION LOOKING WEST)



EASTBOUND
(SECTION LOOKING EAST)

SCALE (IN FEET)
0 1 2 4

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. DYNAMIC ENVELOPES SHOWN ARE FOR CURVED TRACK, R=300', WITH SUPERELEVATION: 1.5".
4. MINIMUM CLEARANCE BETWEEN TOP OF RAIL AND BOTTOM OF CATENARY CABLE SHALL BE 14-FEET.
5. SIGNALS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE INCOMPLETE AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.

TBM RUNNING TUNNEL WITH PRECAST SEGMENTAL LINER
TYPICAL SECTION - OPTION 1 WESTBOUND TUNNEL AS SHOWN
SCALE: ⅜" - 1'-0" EASTBOUND TUNNEL OPP HAND

TBM RUNNING TUNNEL WITH CAST-IN-PLACE CONCRETE LINER
TYPICAL SECTION - OPTION 2 EASTBOUND TUNNEL AS SHOWN
SCALE: ⅜" - 1'-0" WESTBOUND TUNNEL OPP HAND

D R A F T
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DART PROJECT

SCALE	⅜"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

TBM RUNNING TUNNEL - SINGLE BORE
TYPICAL SECTION
OPTIONS 1 & 2

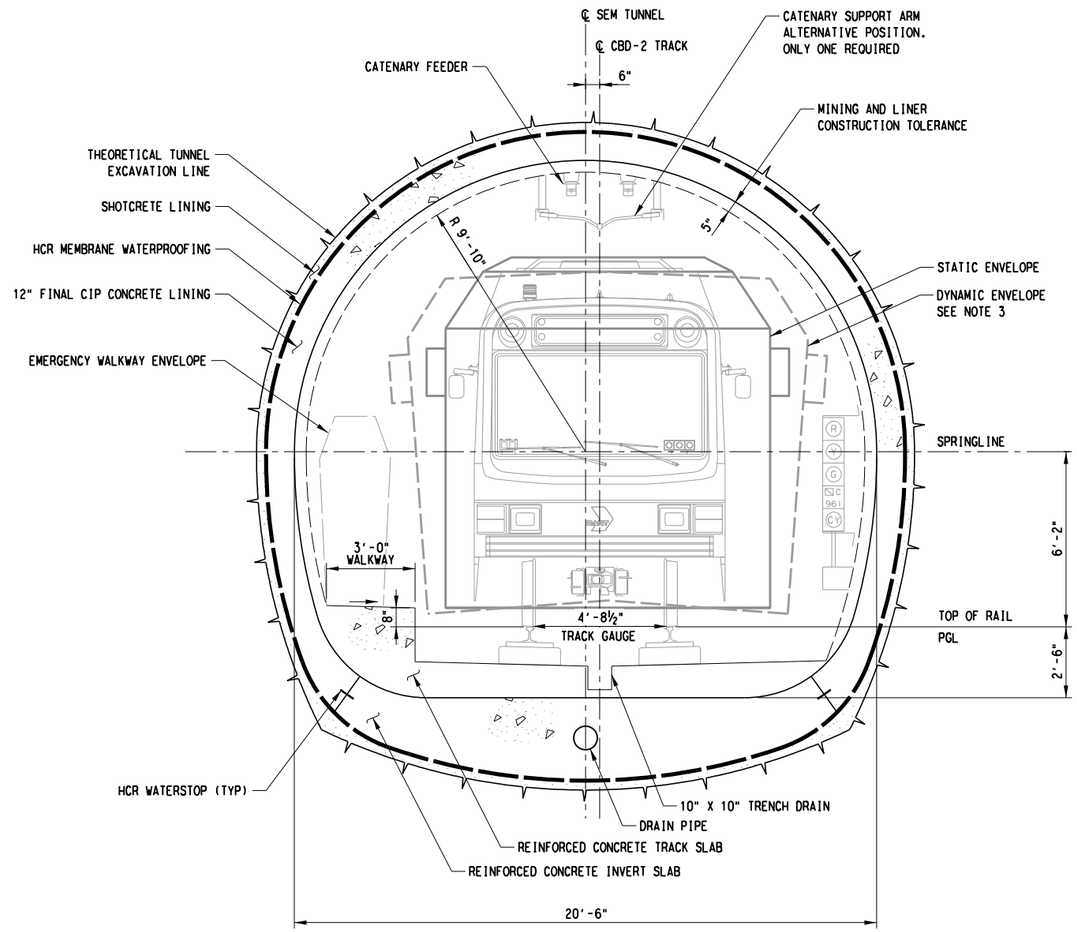
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	SC8-0001	

bwhiteside
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DWG No. SC8-0002



SCALE (IN FEET)
0 1 2 4

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. DYNAMIC ENVELOPE SHOWN IS FOR CURVED TRACK, R=300', WITH SUPERELEVATION: 1.5".
4. MINIMUM CLEARANCE BETWEEN TOP OF RAIL AND BOTTOM OF CATENARY CABLE SHALL BE 14-FEET.
5. SIGNALS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE INCOMPLETE AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.

EASTBOUND
(SECTION LOOKING EAST)

SEM RUNNING TUNNEL TYPICAL SECTION - OPTION 3
SCALE: ⅜" - 1'-0"

EASTBOUND TUNNEL AS SHOWN
WESTBOUND TUNNEL OPP HAND

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 171 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE FIRM NO. F-420
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HNTB
HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅜"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SEM RUNNING TUNNEL - DETAILS
TYPICAL SECTION
OPTION 3

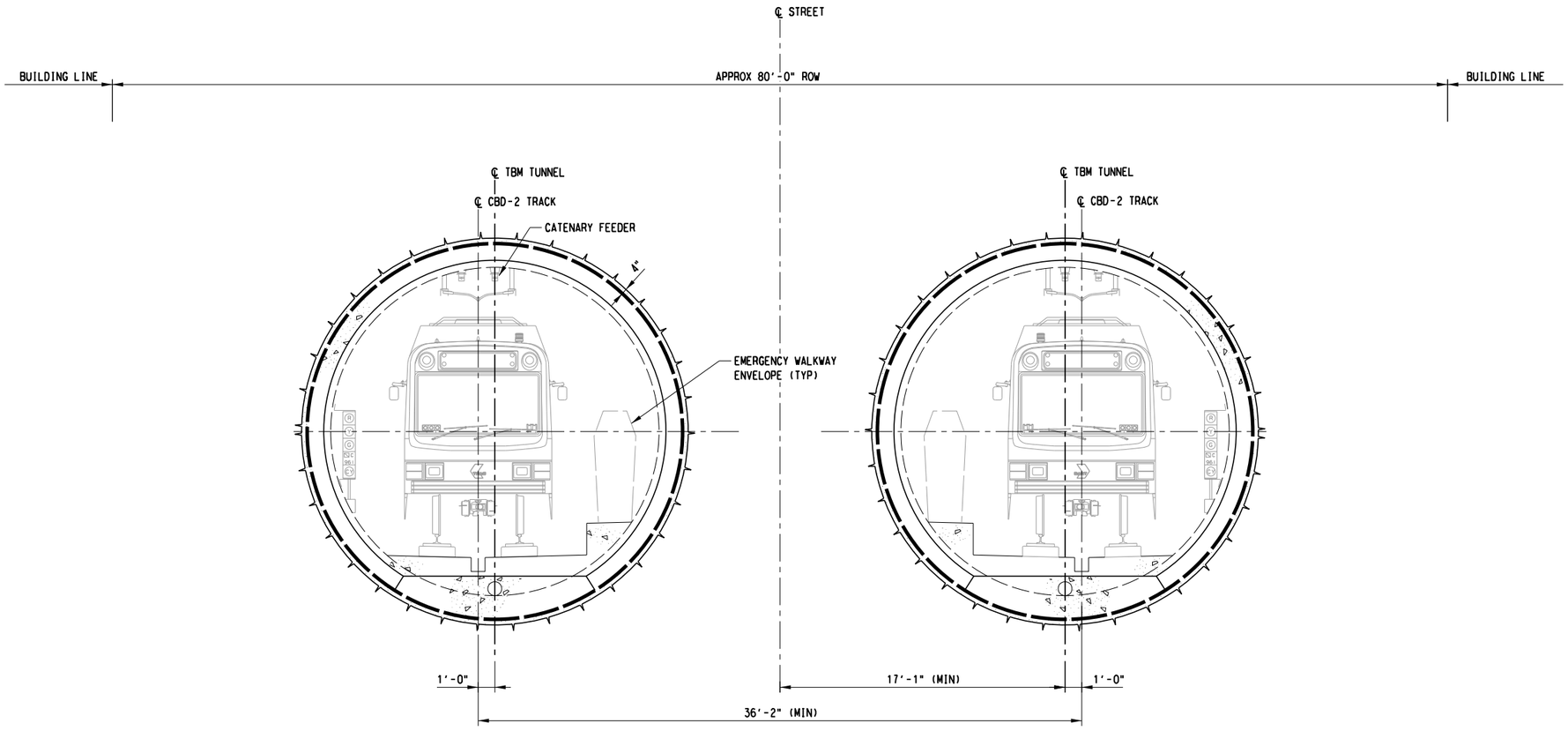
CONTRACT | DWG No. SC8-0002 | REV

bwhiteside
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pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planni

DWG No. SC8-0003



SCALE (IN FEET)
0 2 4 8

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SIGNALS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THIS CROSS-SECTION ARE INCOMPLETE AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.
4. TUNNEL ROW AND ADEQUACY OF PILLAR BETWEEN THE TUNNEL BORES TO BE FURTHER INVESTIGATED.
5. TYPICAL SECTION SHOWN FOR TBM TUNNEL WITH CIP CONCRETE LINER. TBM TUNNEL WITH PRECAST SEGMENTAL LINER, SIMILAR.

TWIN BORE RUNNING TUNNEL TYPICAL SECTION

SCALE: ¼" - 1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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CONTRACT SHEET No. 172 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB Corporation
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DART PROJECT

SCALE	¼"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

TBM RUNNING TUNNEL - TWIN BORE
TYPICAL SECTION

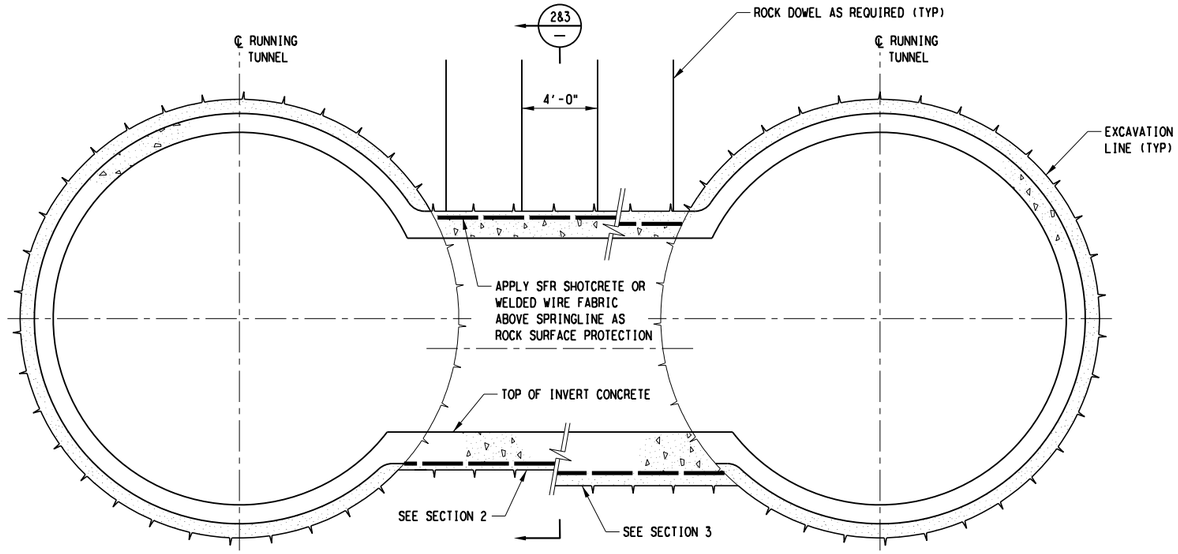
CONTRACT	DWG No.	REV
	SC8-0003	

bwhiteside
Default

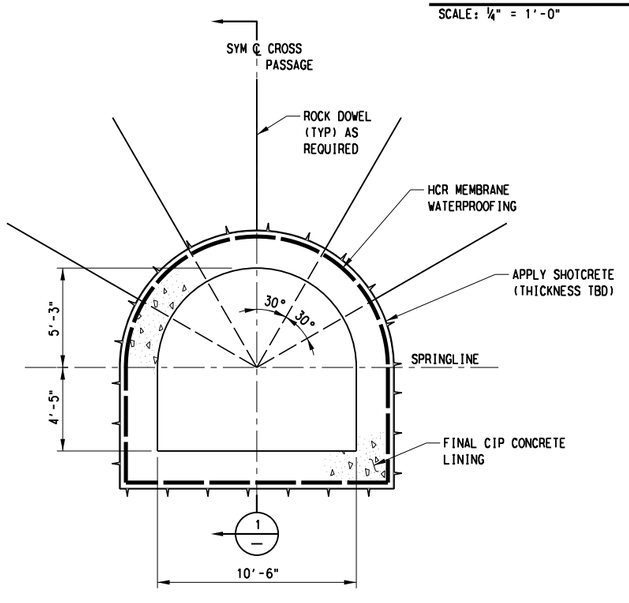
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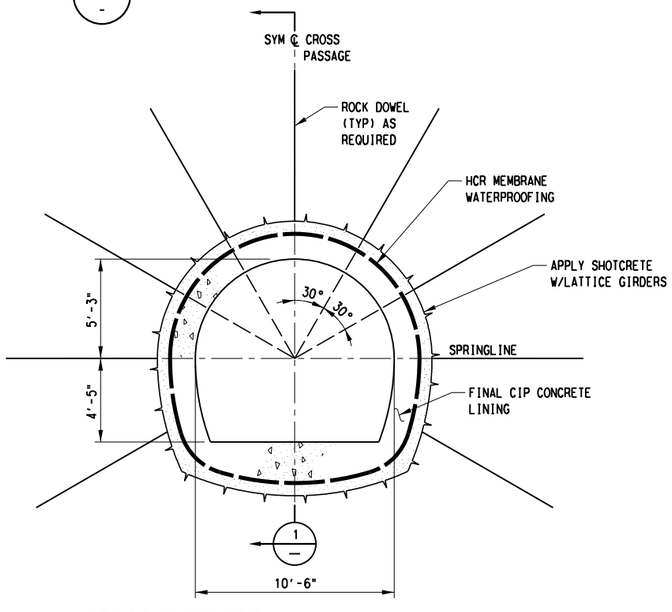
DWG No. SC8-0004



CROSS PASSAGE WITH GROUND SUPPORT - SECTION 1
SCALE: ¼" = 1'-0"



CROSS PASSAGE IN ROCK CLASS I - SECTION 2
SCALE: ¼" = 1'-0"



CROSS PASSAGE IN ROCK CLASS II - SECTION 3
SCALE: ¼" = 1'-0"

SCALE (IN FEET)
0 2 4 8

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. ALL INITIAL AND FINAL SUPPORTS SHOWN IN THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION ONLY, AND ARE TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.
4. FOR ROCK CLASS DEFINITIONS, SEE GEOTECHNICAL DESIGN MEMORANDUM 3 (GDM 3).

DRAFT
CONCEPTUAL DESIGN PENDING
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CONTRACT SHEET No. 173 OF 276

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IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

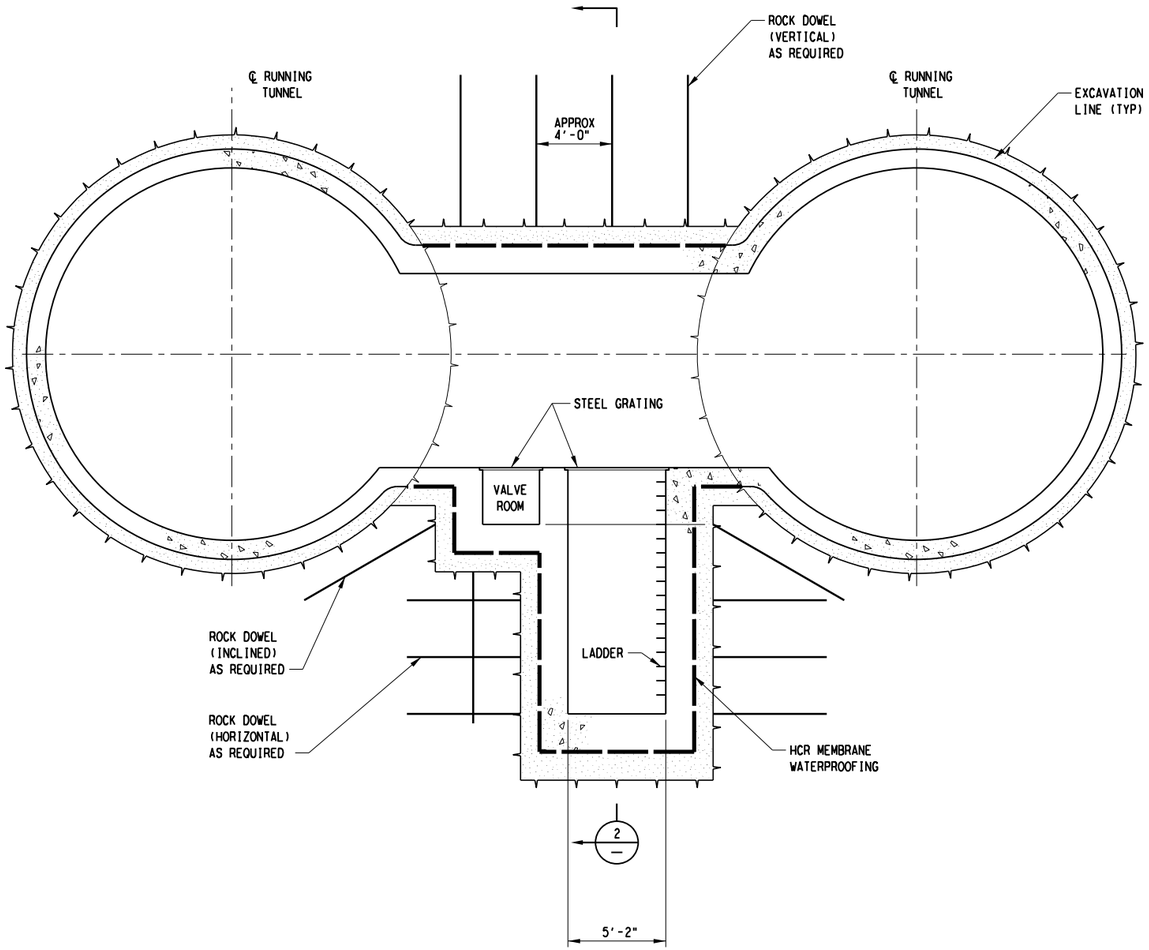
CROSS PASSAGE
FOR TBM RUNNING TUNNELS
INITIAL AND FINAL SUPPORTS

CONTRACT	DWG No.	REV
	SC8-0004	

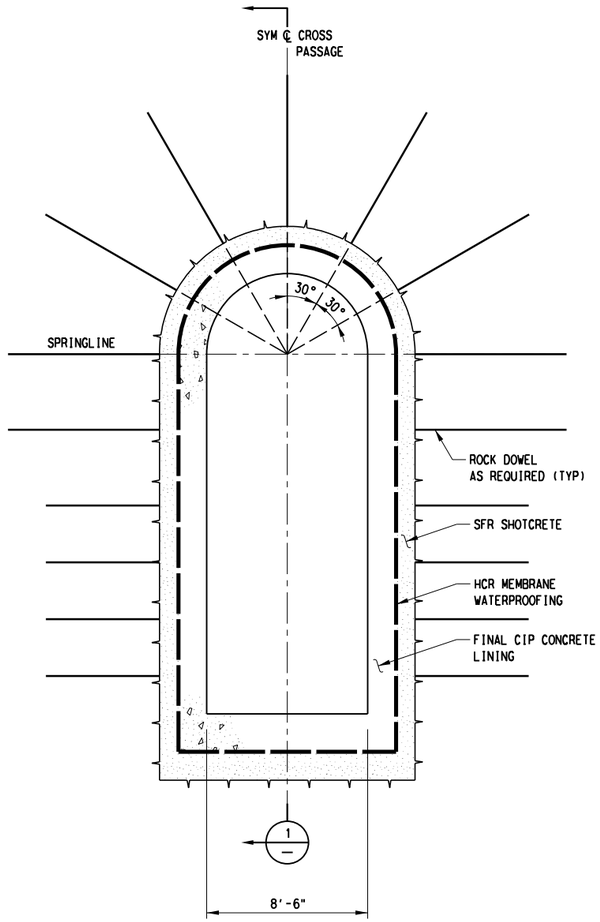
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PUMP/SUMP ROOM WITH
GROUND SUPPORT - SECTION 1
SCALE: ¼" = 1'-0"



PUMP/SUMP ROOM WITH
GROUND SUPPORT - SECTION 2
SCALE: ¼" = 1'-0"

SCALE (IN FEET)
0 2 4 8

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUMP DIMENSION TO BE DETERMINED BASED ON TUNNEL DRAINAGE ANALYSIS.
4. ALL INITIAL AND FINAL SUPPORTS SHOWN IN THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION ONLY, AND ARE TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.

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CONTRACT SHEET No. 174 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	¼"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

PUMP/SUMP ROOM
INITIAL AND FINAL SUPPORTS

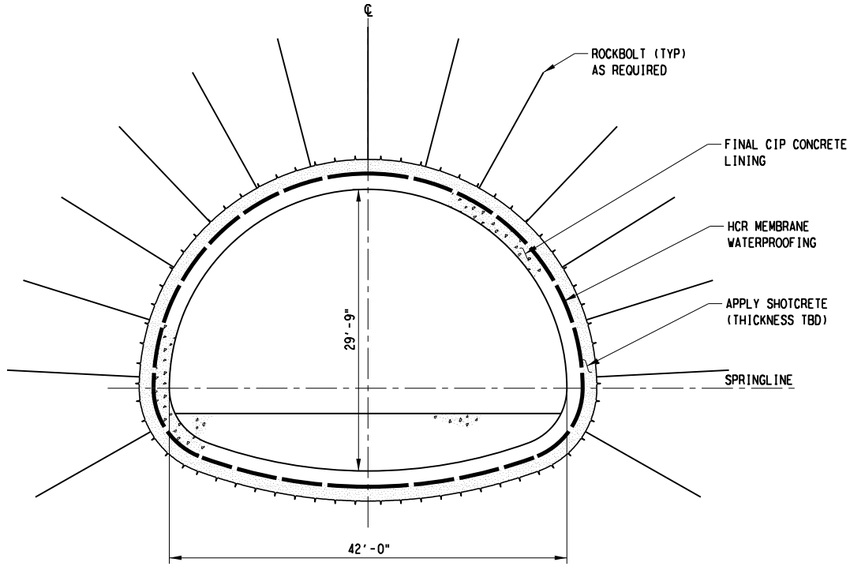
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	SC8-0005	

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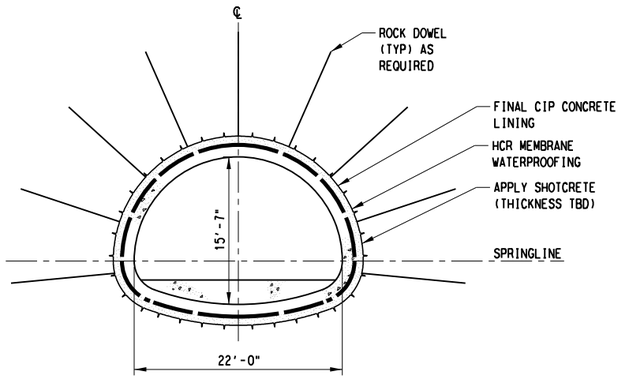
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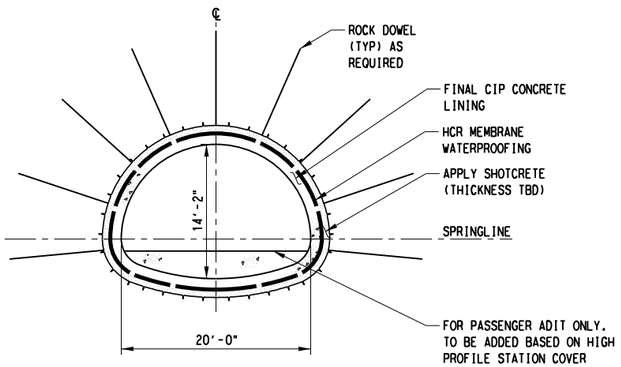
DWG No. SC8-0006



VENTILATION CHAMBER SECTION 1
SCALE: 1/8" = 1'-0"



VENTILATION ADIT SECTION 2
SCALE: 1/8" = 1'-0"



PASSENGER ADIT SECTION 3
SCALE: 1/8" = 1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
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DART PROJECT

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DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

MECHANICAL CHAMBER AND
MECHANICAL/PASSENGER ADIT
INITIAL AND FINAL SUPPORTS

CONTRACT | DWG No. SC8-0006 | REV

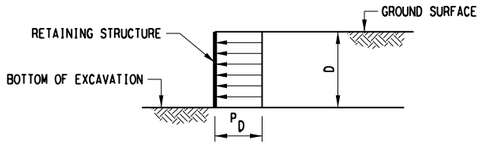
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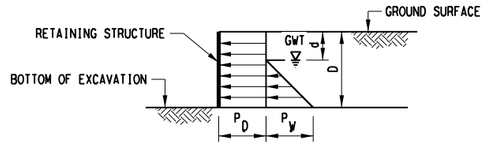
LATERAL PRESSURES DUE TO WEIGHT OF SOIL AND WATER

FLEXIBLE WALL WITH MULTIPLE LEVEL BRACED SUPPORT AND DEWATERING



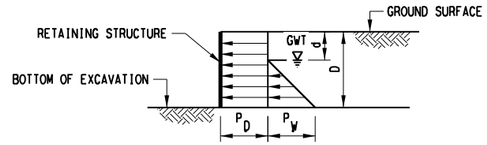
No.	LOCATION	P_D
1	TBD	TBD
2	TBD	TBD
3	TBD	TBD

FLEXIBLE WALL WITH MULTIPLE LEVEL BRACED SUPPORT AND NO DEWATERING



No.	LOCATION	P_D	P_W	d
1	TBD	TBD	62.4 (D-d)	TBD
2	TBD	TBD	62.4 (D-d)	TBD
3	TBD	TBD	62.4 (D-d)	TBD

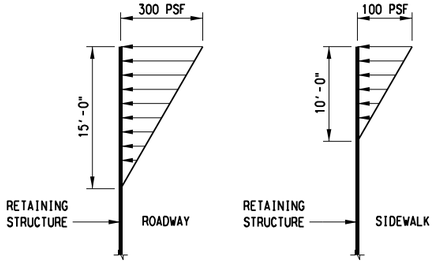
RIGID WALL WITH MULTIPLE LEVEL SUPPORT AND NO DEWATERING



No.	LOCATION	P_D	P_W	d
1	TBD	TBD	62.4 (D-d)	TBD
2	TBD	TBD	62.4 (D-d)	TBD
3	TBD	TBD	62.4 (D-d)	TBD

ADDITIONAL LATERAL PRESSURE DUE TO SURCHARGE LOADS

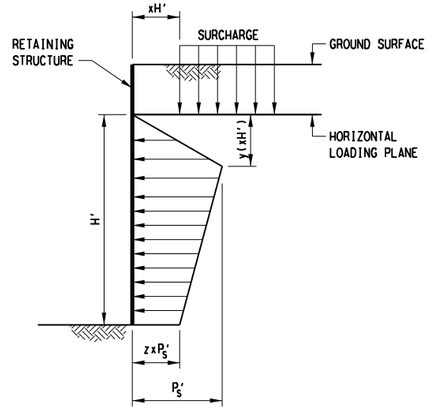
ADDITIONAL TRAFFIC AND CONSTRUCTION EQUIPMENT LOADS (WHERE APPLICABLE)



1. ROADWAY LATERAL PRESSURE IS BASED ON AN ASSUMED CONSTRUCTION EQUIPMENT ROADWAY LOADING 600 PSF. THIS SURCHARGE SHOULD BE APPLIED UNLESS IT CAN BE SHOWN THAT FIELD CONDITIONS DO NOT ALLOW MAJOR CONSTRUCTION EQUIPMENT TO BE POSITIONED AND SUPPORTED ON THE SIDEWALK OR ROADWAY ADJACENT TO THE RETAINING STRUCTURE. IN ALL OTHER CONDITIONS A SIDEWALK SURCHARGE LOADING OF 200 PSF SHOULD BE APPLIED.
2. THE LATERAL PRESSURE DUE TO SURCHARGE SHOWN APPLIES TO FLEXIBLE RETAINING STRUCTURES. FOR RIGID RETAINING STRUCTURES, THE LATERAL PRESSURES INDICATED ABOVE SHALL BE INCREASED BY A FACTOR OF 2.
3. THE CONTRACTOR SHALL EVALUATE LATERAL LOAD EFFECTS OF HIS CONSTRUCTION PLAN TO DETERMINE IF GREATER SURCHARGE LOADS WILL RESULT. FOR MORE SEVERE CONSTRUCTION LOADING, SPECIAL ANALYSIS SHALL BE UNDERTAKEN BY CONTRACTOR.

BUILDING OR CONSTRUCTION LOADS

DISTRIBUTION OF HORIZONTAL PRESSURE ON VERTICAL PLANE

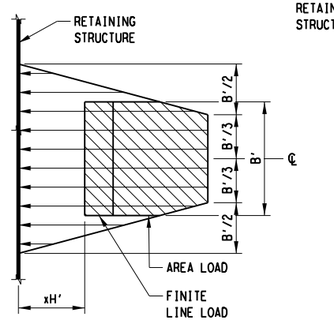


No.	LOAD CASES	y	z	P_S'
1	ISOLATED (INDIVIDUAL) FOOTING CONSIDERED AS POINT LOAD	0.6	0.4	$(2.1-1.8x)Q/[2(H')^2]$
2	CONTINUOUS FOOTING CONSIDERED AS LINE LOAD PARALLEL TO RETAINING STRUCTURE	0.4	0.25	$(1.1-0.5x)q/(2H')$
3	AREA LOAD	0.4	0.25	$(0.8-0.5x)q/(2H')$
4	CONTINUOUS FOOTING CONSIDERED AS LINE LOAD PERPENDICULAR TO RETAINING STRUCTURE	0.6	0.4	$(1.4-1.2x)Q/[2(H')^2]$

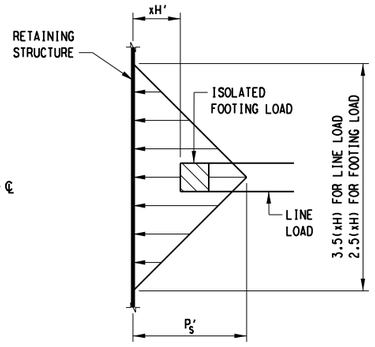
HORIZONTAL PRESSURE ON RETAINING STRUCTURES NEED NOT BE CONSIDERED FOR SURCHARGE LOADING LOCATED AT A DISTANCE xH' > H' FROM THE RETAINING STRUCTURE.

DISTRIBUTION OF HORIZONTAL PRESSURE IN PLAN

AREA LOAD OR FINITE LINE LOAD PARALLEL TO EXCAVATION



FOOTING LOAD OR LINE LOAD PERPENDICULAR TO EXCAVATION



NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. FOR NOTES CONCERNING LOADING DIAGRAMS ON THIS DRAWING, SEE DISCIPLINE DRAWINGS.
4. ADDITIONAL LATERAL PRESSURE DUE TO SURCHARGE LOADS ARE BASED ON DART DESIGN CRITERIA MANUAL.
5. APPLY LATERAL PRESSURE DUE TO SURCHARGE TO BOTH DEWATERED AND NON-DEWATERED SECTIONS.

DEFINITION OF SYMBOLS:

GWT	GROUND WATER TABLE
D	DEPTH FROM GROUND SURFACE TO FINAL BOTTOM OF EXCAVATION INCLUDING 2' OVER EXCAVATION (FT)
d	DEPTH FROM GROUND SURFACE TO GWT (FT)
P_W	HYDROSTATIC PRESSURE (PSF)
P_D	CALCULATED APPARENT LATERAL EARTH PRESSURE TO BE USED IN DESIGN OF RETAINING STRUCTURE (PSF)
B'	LENGTH OF AREA LOAD IN DIRECTION PARALLEL TO EDGE OF EXCAVATION (FT)
H'	DISTANCE BETWEEN HORIZONTAL LOADING PLANE AND BOTTOM OF EXCAVATION (FT)
P_S'	CALCULATED LATERAL PRESSURE DUE TO SURCHARGE (PSF)
q	TOTAL LOAD PER FT OF LENGTH PARALLEL TO RETAINING STRUCTURE (LBS/FT)
Q	TOTAL FOOTING LOAD ISOLATED OR PERPENDICULAR TO RETAINING STRUCTURE (LBS)
xH'	DISTANCE FROM RETAINING STRUCTURE TO FOOTING LOAD OR PARALLEL LINE LOAD OR TO LEADING EDGE OF AREA LOAD OR PERPENDICULAR LINE LOAD
x	COEFFICIENT OF H' FOR HORIZONTAL DISTANCE xH'

DRAFT
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DART PROJECT

SCALE	NTS
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	E. WANG
IN CHARGE	C. STONE
DATE	06 MAR 2020

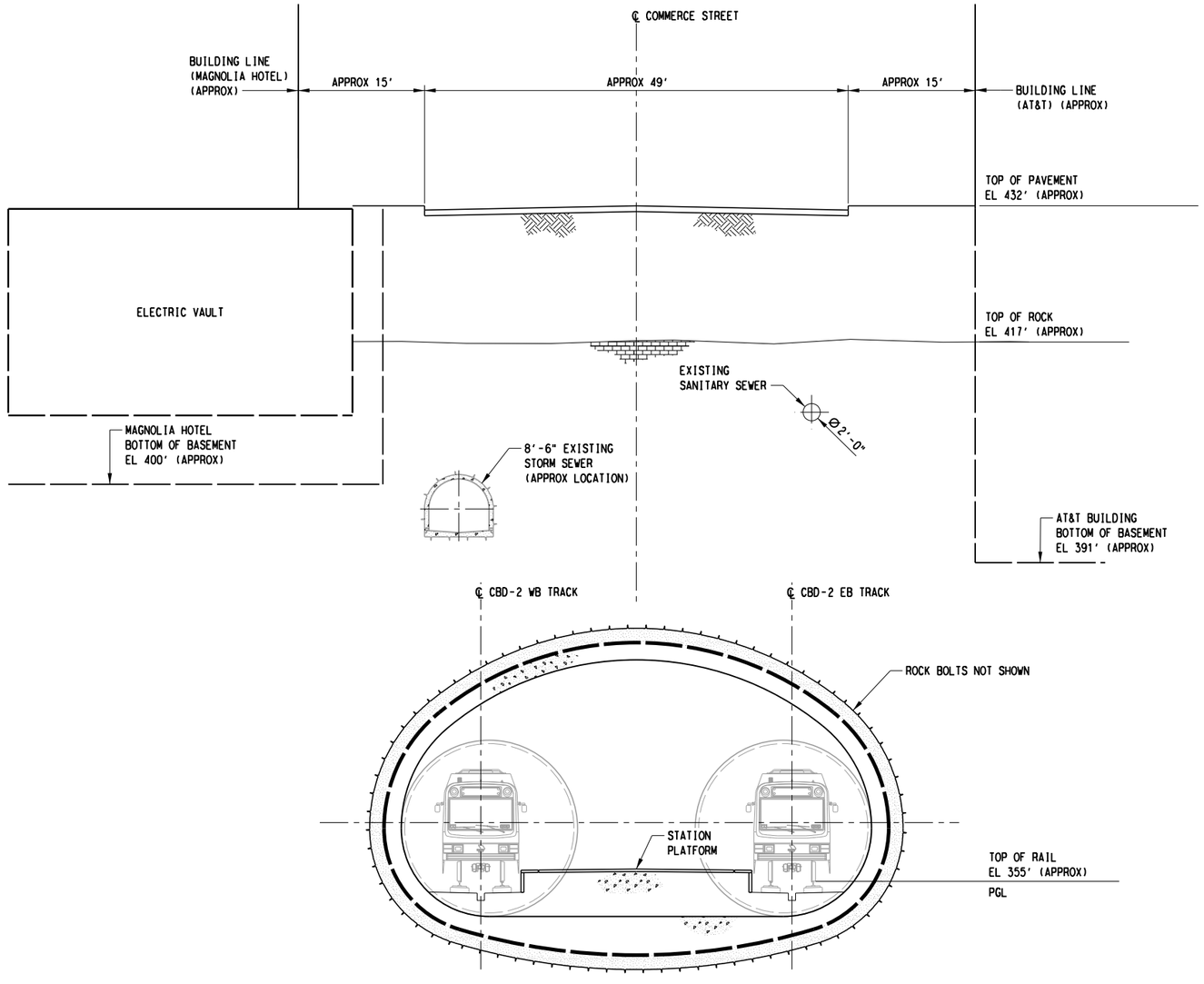
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

LATERAL PRESSURE DIAGRAMS

CONTRACT | DWG No. SC8-0007 | REV

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CROSS-SECTION AT COMMERCE STREET LOOKING EAST

SCALE: ⅛" - 1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. ALL DISTANCES AND ELEVATIONS SHOWN IN THIS DRAWING ARE APPROXIMATE AND ARE TO BE FIELD VERIFIED.
4. EXISTING MAJOR UTILITIES AND OUTLINES OF EXISTING BUILDINGS POTENTIALLY IMPACTING STATION CONSTRUCTION ARE SHOWN ONLY.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 177 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB

HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
COMMERCE STREET STATION
SECTION
AT AKARD STREET
EAST OF STA 72+00

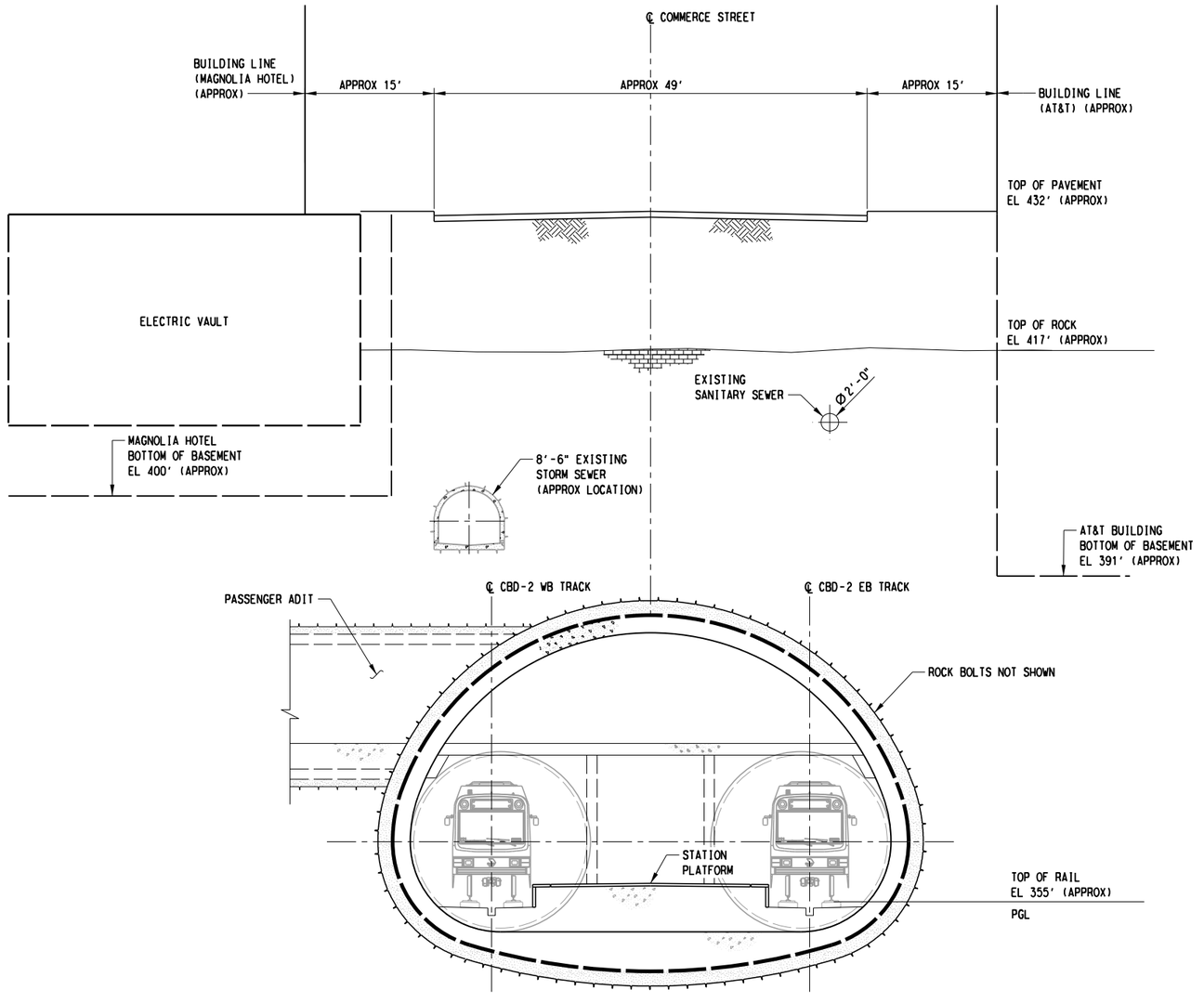
CONTRACT	DWG No.	REV
	SC8-0008	

bwhiteside
Default

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28-FEB-2020 18:20
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DWG No. SC8-0009



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. ALL DISTANCES AND ELEVATIONS SHOWN IN THIS DRAWING ARE APPROXIMATE AND ARE TO BE FIELD VERIFIED.
4. EXISTING MAJOR UTILITIES AND OUTLINES OF EXISTING BUILDINGS POTENTIALLY IMPACTING STATION CONSTRUCTION ARE SHOWN ONLY.

CROSS-SECTION AT COMMERCE STREET LOOKING EAST

SCALE: ⅛" - 1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 178 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
COMMERCE STREET STATION
SECTION
AT AKARD STREET
EAST OF STA 72+00

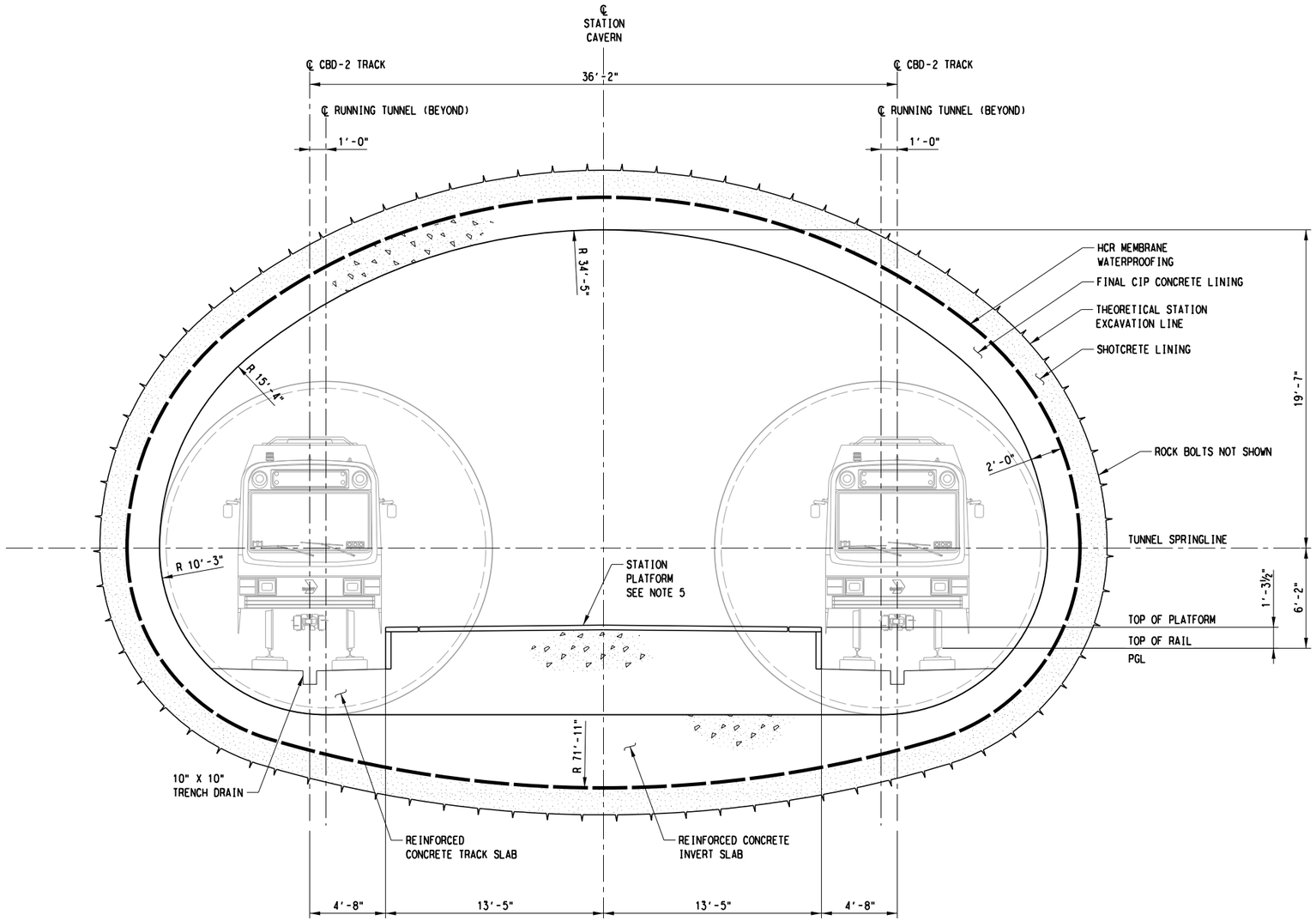
CONTRACT	DWG No.	REV
	SC8-0009	

bwhiteside
Default

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DWG No. SC8-0010



SCALE (IN FEET)
0 2 4 8

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. ALL INITIAL AND FINAL SUPPORTS SHOWN IN THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION ONLY, AND ARE TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.
4. FOR EXCAVATION SEQUENCE, SEE DRAWING No. SC8-4022.
5. STATION PLATFORM LIMITS ARE FROM CBD-2 EB STA 69+91.60 TO CBD-2 EB STA 73+76.60.

COMMERCE STATION - SEM SECTION FROM CBD-2 EB STA 72+00.0 TO CBD-2 EB STA 74+66.1

SCALE: ¼"=1'-0"

DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 179 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

SCALE	¼"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

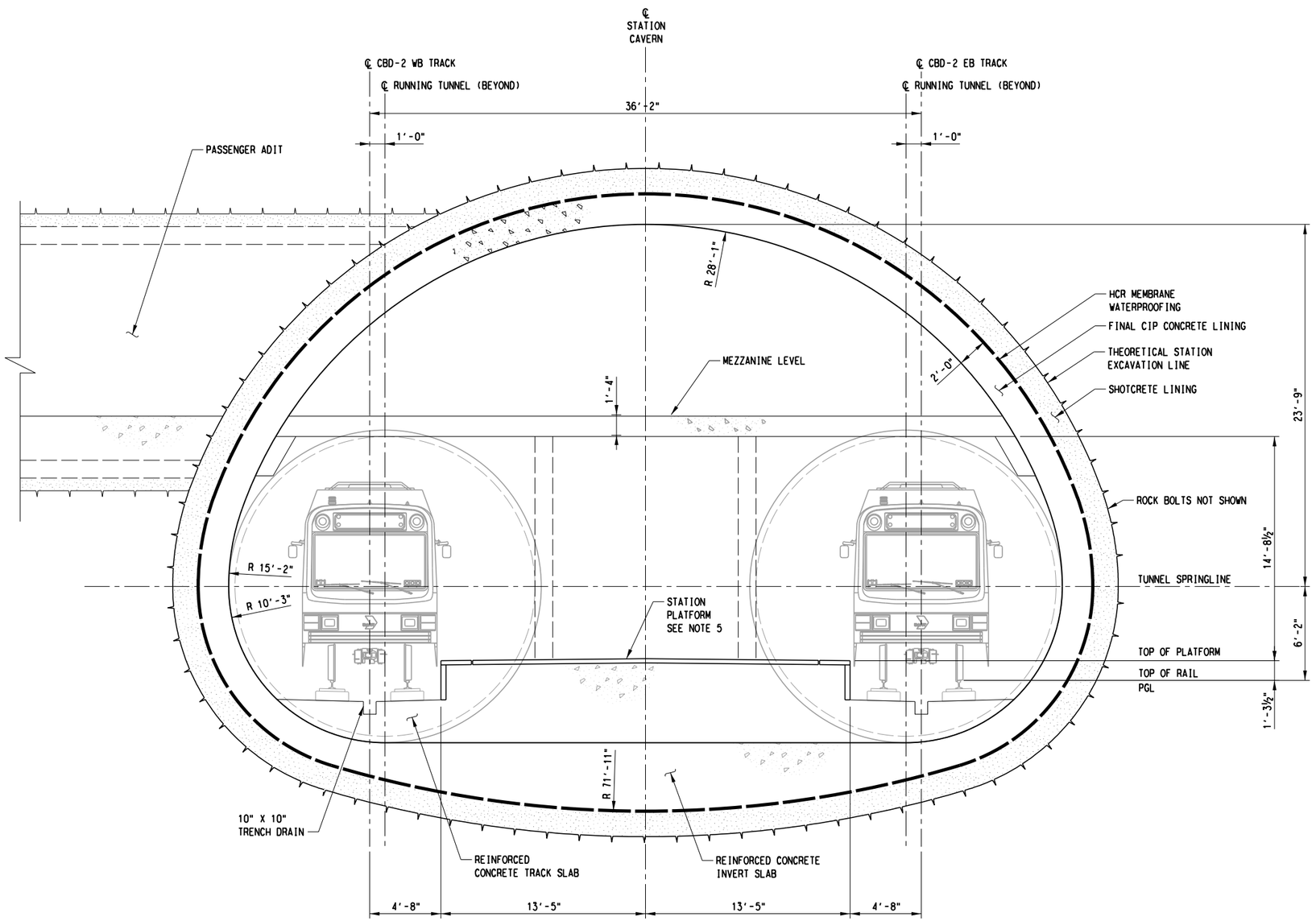
COMMERCE STREET STATION
SECTION
STA 72+00.0 TO STA 74+66.1

CONTRACT | DWG No. SC8-0010 | REV

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Default

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SCALE (IN FEET)
0 2 4 8

NOTES:

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2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
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4. FOR EXCAVATION SEQUENCE, SEE DRAWING No. SC8-4022.
5. STATION PLATFORM LIMITS ARE FROM CBD-2 EB STA 69+91.60 TO CBD-2 EB STA 73+76.60.

COMMERCE STATION - SEM SECTION
FROM CBD-2 EB STA 68+05.0 TO CBD-2 EB STA 72+00.0 AND FROM CBD-2 EB STA 74+66.1 TO CBD-2 EB STA 75+26.1

SCALE: ¼"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 180 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

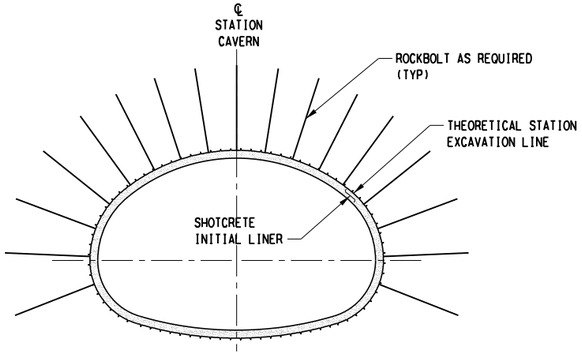
SCALE	¼"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
COMMERCE STREET STATION SECTION
STA 68+05.0 TO STA 72+00.0 AND STA 74+66.1 TO STA 75+26.1

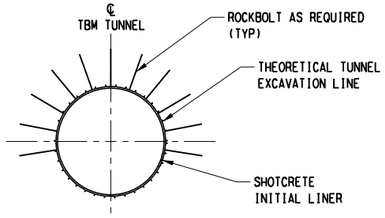
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pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planni



SECTION FROM STA 72+00.0 TO STA 74+66.1

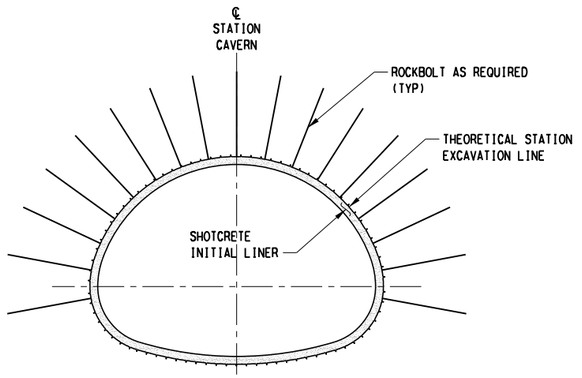


TBM RUNNING TUNNEL
(CAST-IN-PLACE LINING)

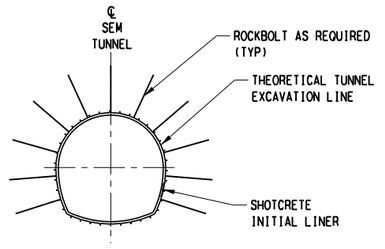
SCALE (IN FEET)
0 8 16 32

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. ALL INITIAL SUPPORTS SHOWN IN THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION ONLY, AND ARE TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.
4. FOR STATION EXCAVATION SEQUENCE, SEE DRAWING No. SC8-0013.



SECTION FROM STA 68+05.0 TO STA 72+00.0
AND FROM STA 74+66.1 TO STA 75+26.1



SEM RUNNING TUNNEL

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

RUNNING TUNNEL AND COMMERCE STATION CAVERN INITIAL SUPPORT - TYPICAL SECTIONS

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

CONTRACT SHEET No. 181 OF 276

bwhiteside
Default

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

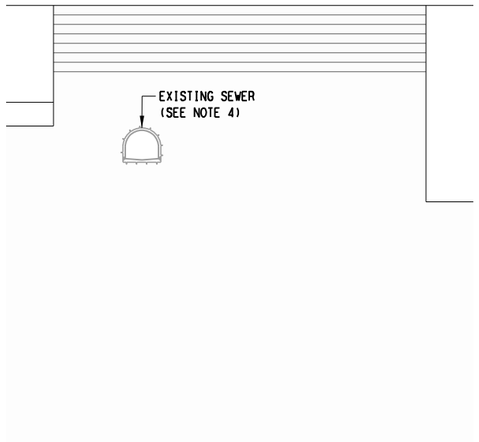
SCALE	1/8"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
RUNNING TUNNEL AND
COMMERCE STREET STATION CAVERN
INITIAL SUPPORT
TYPICAL SECTIONS

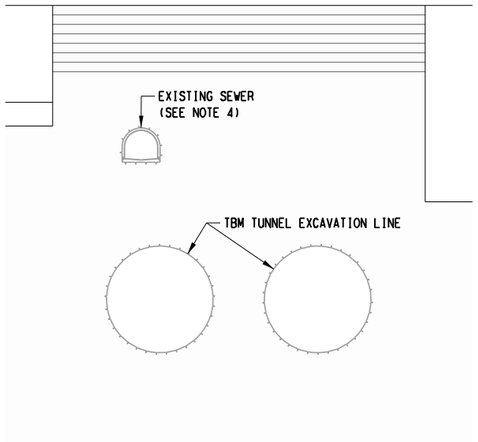
CONTRACT	DWG No.	REV
	SC8-0012	

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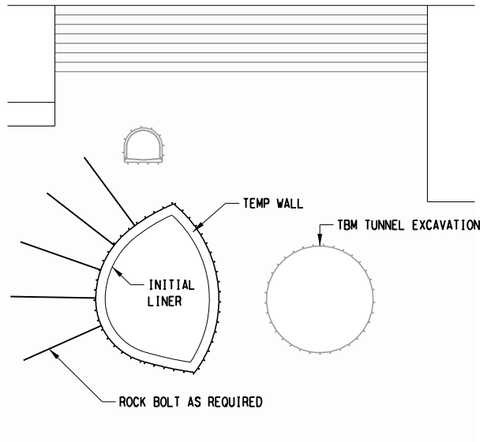
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pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planni



PRE-CONSTRUCTION CONDITION



STAGE 1
TBM MINING

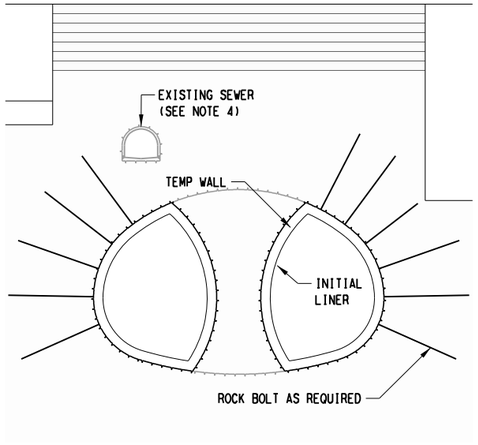


1. EXCAVATE LEFT SIDE DRIFT.
2. INSTALL ROCK BOLTS
3. INSTALL INITIAL LINER.
4. INSTALL TEMPORARY WALL (IF NECESSARY).

STAGE 2
FIRST SIDE DRIFT EXCAVATION AND SUPPORT

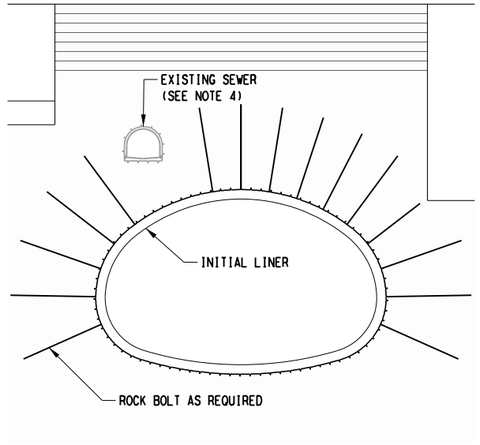
NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. ALL STAGES SHOWN ON THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION ONLY AND ARE BASED ON THE SIDE DRIFTING SEM EXCAVATION METHOD, WHICH IS TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.
4. ESTABLISH INSTRUMENTATION, MONITORING, PRE-CONSTRUCTION AND POST-CONSTRUCTION INSPECTION PROGRAMS TO ENSURE THAT STRUCTURAL AND FUNCTIONAL INTEGRITY OF THE EXISTING SEWER IS MAINTAINED DURING AND AFTER TUNNEL MINING AND STATION CONSTRUCTION.



1. EXCAVATE RIGHT SIDE DRIFT.
2. INSTALL ROCK BOLTS
3. INSTALL INITIAL LINER.
4. INSTALL TEMPORARY WALL (IF NECESSARY).

STAGE 3
SECOND SIDE DRIFT EXCAVATION AND SUPPORT



1. EXCAVATE CENTER SIDE DRIFT.
2. INSTALL ROCK BOLTS
3. COMPLETE INSTALLATION OF INITIAL LINER.
4. INSTALL TEMPORARY WALL (IF NECESSARY).

STAGE 4
CENTER DRIFT EXCAVATION AND SUPPORT

D R A F T
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CONTRACT SHEET No. 182 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

DART

SCALE	NTS
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CONSTRUCTION STAGES

CONTRACT	DWG No.	REV
	SC8-0013	

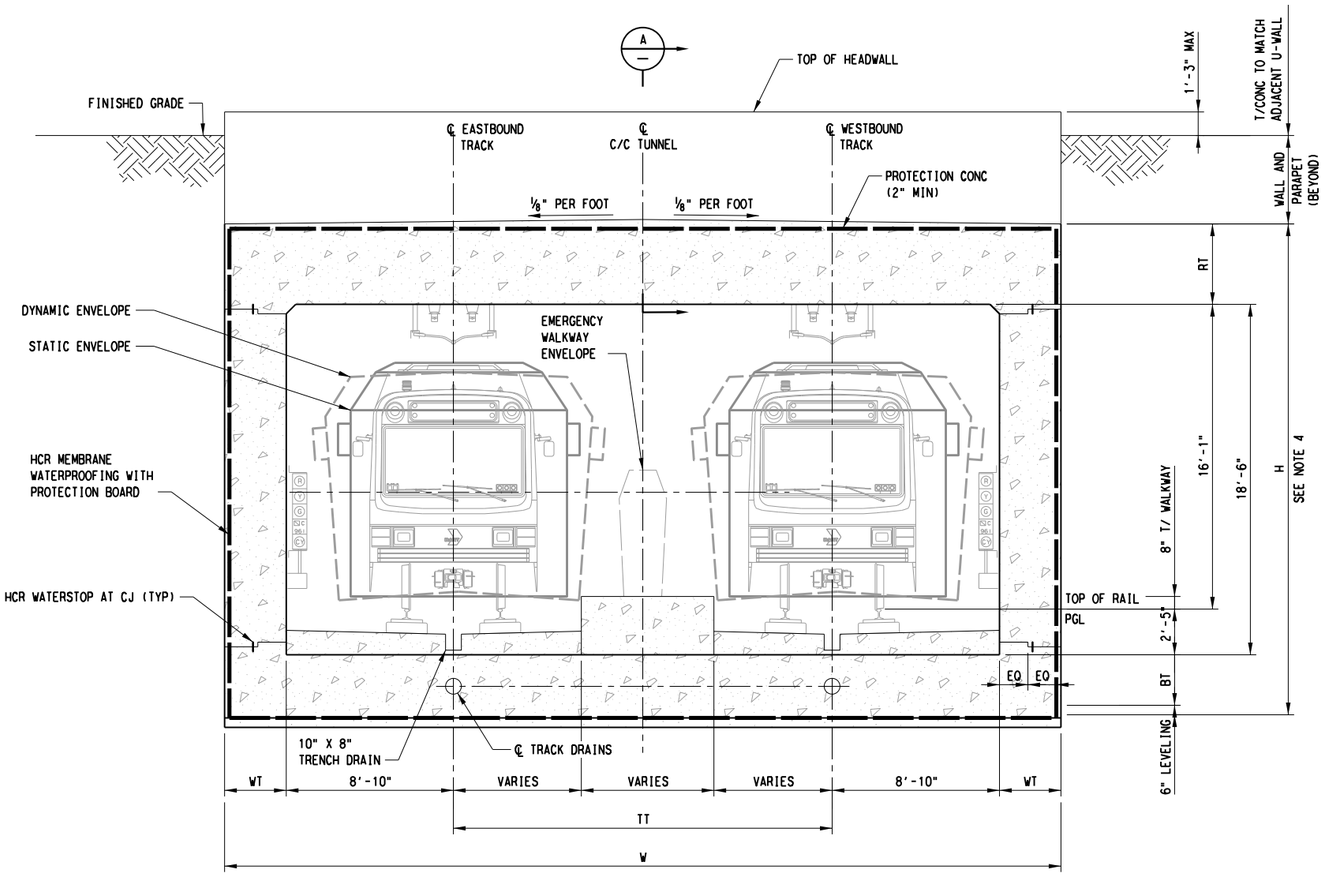
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Default

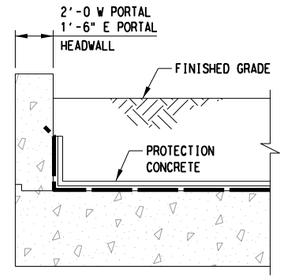
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DWG No. SC8-2001

CUT-AND-COVER TUNNEL DIMENSIONS

PORTAL LOCATION	TYPE	STATION LIMITS		TRACK SPACING (TT)	MINIMUM OVERALL HEIGHT (H)	INVERT THICKNESS (BT)	ROOF THICKNESS (RT)	WALL THICKNESSES		OVERALL WIDTH (W)
		BEGIN STA	END STA					EXTERIOR (WT)	INTERIOR (PT)	
WEST	A	41+50.00	45+07.00	15'-6" TO 21'-0"	25'-0"	3'-0"	3'-6"	2'-6"	N/A	38'-2" TO 43'-8"
WEST	B	45+07.00	46+50.00	21'-0" TO 28'-11"	25'-6"	3'-6"	3'-6"	3'-0"	1'-6"	44'-8" TO 52'-7"
WEST	C	46+50.00	49+26.58	28'-11" TO 40'-0"	25'-9"	3'-6"	3'-9"	3'-0"	2'-0"	52'-7" TO 63'-8"
EAST	B	86+29.61	92+25.00	36'-2" TO 45'-0"	25'-6"	3'-6"	3'-6"	3'-0"	2'-0"	59'-10" TO 68'-8"
EAST	B	98+35.00	101+27.00	45'-0" TO 21'-0"	24'-6"	3'-0'	3'-0'	3'-0"	1'-6"	68'-8" TO 44'-8"
EAST	A	101+27.00	101+55.23	21'-0" TO 17'-8"	24'-6"	3'-0"	3'-0"	2'-6"	N/A	43'-8" TO 40'-4"





SECTION A
SCALE: NONE

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. OVERALL HEIGHT (H) TO BE INCREASED AS NECESSARY, IF REQUIRED FOR INSTALLATION OF JET FANS.
5. SIGNALS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE INCOMPLETE AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.

WEST PORTAL: STA 41+50.00 TO STA 45+07.00
EAST PORTAL: STA 101+27.00 TO STA 101+55.23

CUT-AND-COVER TUNNEL TYPE A (SECTION LOOKING WEST)
SCALE: NTS

DRAFT
CONCEPTUAL DESIGN PENDING
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TUNNEL/STATION VENTILATION INPUT,
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CONTRACT SHEET No. 183 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

SCALE	NTS
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CUT-AND-COVER TUNNEL
SECTION TYPE A

CONTRACT | DWG No. SC8-2001 | REV

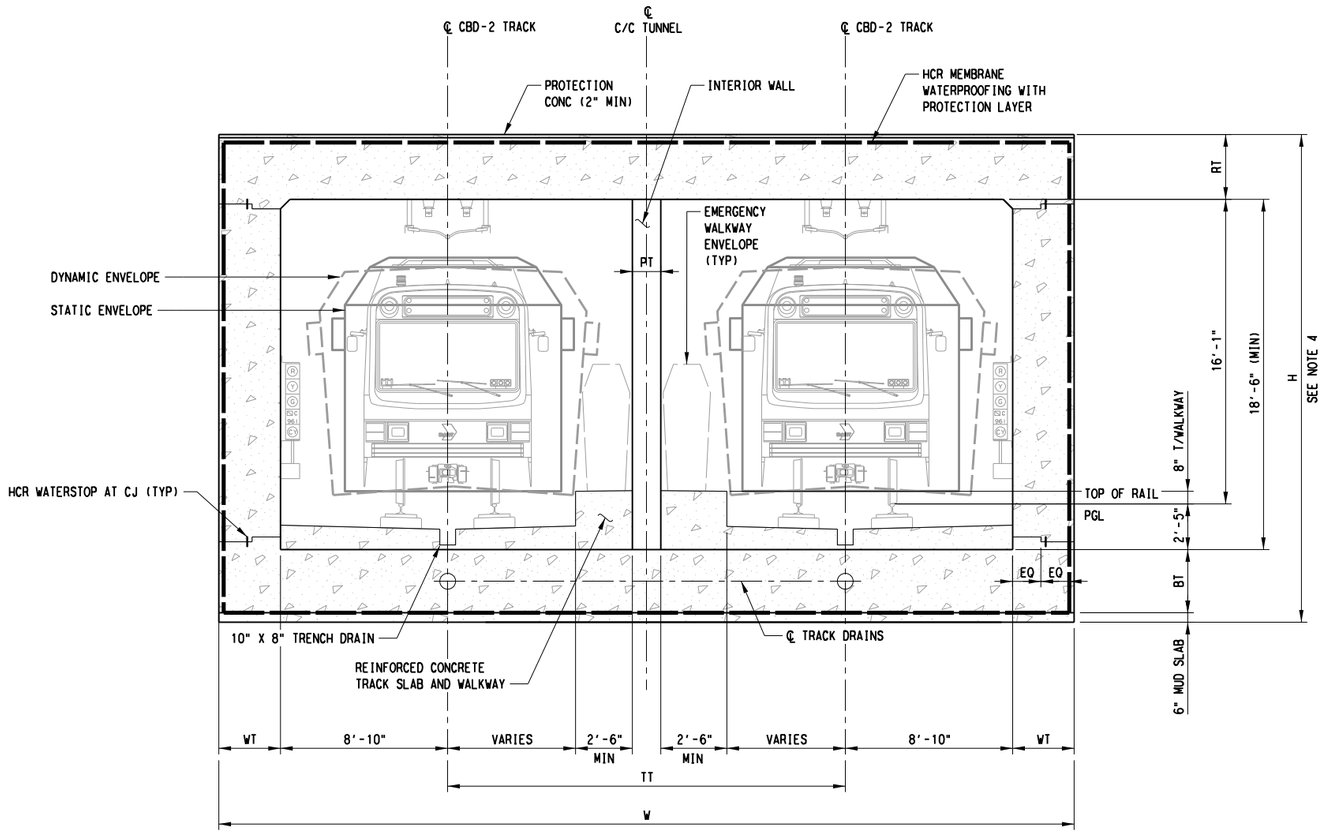
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DWG No. SC8-2002

CUT-AND-COVER TUNNEL DIMENSIONS

PORTAL LOCATION	TYPE	STATION LIMITS		TRACK SPACING (TT)	MINIMUM OVERALL HEIGHT (H)	INVERT THICKNESS (BT)	ROOF THICKNESS (RT)	WALL THICKNESSES		OVERALL WIDTH (W)
		BEGIN STA	END STA					EXTERIOR (WT)	INTERIOR (PT)	
WEST	A	41+50.00	45+07.00	15'-6" TO 21'-0"	25'-0"	3'-0"	3'-6"	2'-6"	N/A	38'-2" TO 43'-8"
WEST	B	45+07.00	46+50.00	21'-0" TO 28'-11"	25'-6"	3'-6"	3'-6"	3'-0"	1'-6"	44'-8" TO 52'-7"
WEST	C	46+50.00	49+26.58	28'-11" TO 40'-0"	25'-9"	3'-6"	3'-9"	3'-0"	2'-0"	52'-7" TO 63'-8"
EAST	B	86+29.61	92+25.00	36'-2" TO 45'-0"	25'-6"	3'-6"	3'-6"	3'-0"	2'-0"	59'-10" TO 68'-8"
EAST	B	98+35.00	101+27.00	45'-0" TO 21'-0"	24'-6"	3'-0'	3'-0'	3'-0"	1'-6"	68'-8" TO 44'-8"
EAST	A	101+27.00	101+55.23	21'-0" TO 17'-8"	24'-6"	3'-0"	3'-0"	2'-6"	N/A	43'-8" TO 40'-4"



NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. OVERALL HEIGHT (H) TO BE INCREASED AS NECESSARY, IF REQUIRED FOR INSTALLATION OF JET FANS.
5. SIGNALS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE INCOMPLETE AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.

WEST PORTAL: STA 45+07.00 TO STA 46+50.00 (SECTION LOOKING WEST)
EAST PORTAL: STA 86+29.61 TO STA 93+13.09 (SECTION LOOKING EAST)
EAST PORTAL: STA 98+05.17 TO STA 101+65.00 (SECTION LOOKING WEST)

CUT-AND-COVER TUNNEL SECTION TYPE B
SCALE: NTS

D R A F T
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 184 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB
HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	NTS
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CUT-AND-COVER TUNNEL
SECTION TYPE B

CONTRACT	DWG No.	REV
	SC8-2002	

whiteside
Default

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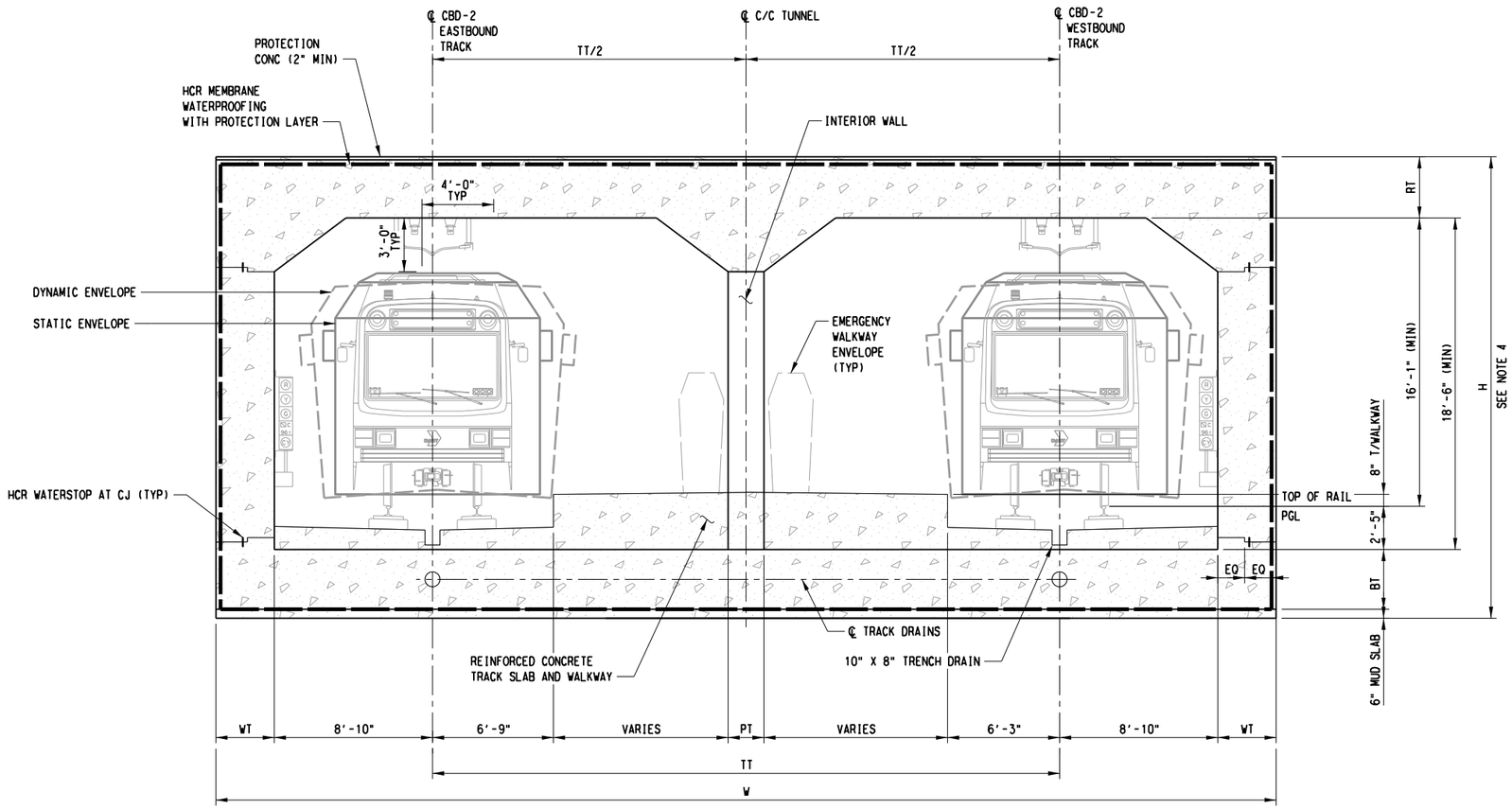
DWG No. SC8-2003

CUT-AND-COVER TUNNEL DIMENSIONS

PORTAL LOCATION	TYPE	STATION LIMITS		TRACK SPACING (TT)	MINIMUM OVERALL HEIGHT (H)	INVERT THICKNESS (BT)	ROOF THICKNESS (RT)	WALL THICKNESSES		OVERALL WIDTH (W)
		BEGIN STA	END STA					EXTERIOR (WT)	INTERIOR (PT)	
WEST	A	41+50.00	45+07.00	15'-6" TO 21'-0"	25'-0"	3'-0"	3'-6"	2'-6"	N/A	38'-2" TO 43'-8"
WEST	B	45+07.00	46+50.00	21'-0" TO 28'-11"	25'-6"	3'-6"	3'-6"	3'-0"	1'-6"	44'-8" TO 52'-7"
WEST	C	46+50.00	49+26.58	28'-11" TO 40'-0"	25'-9"	3'-6"	3'-9"	3'-0"	2'-0"	52'-7" TO 63'-8"
EAST	B	86+29.61	92+25.00	36'-2" TO 45'-0"	25'-6"	3'-6"	3'-6"	3'-0"	2'-0"	59'-10" TO 68'-8"
EAST	B	98+35.00	101+27.00	45'-0" TO 21'-0"	24'-6"	3'-0'	3'-0'	3'-0"	1'-6"	68'-8" TO 44'-8"
EAST	A	101+27.00	101+55.23	21'-0" TO 17'-8"	24'-6"	3'-0"	3'-0"	2'-6"	N/A	43'-8" TO 40'-4"

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. OVERALL HEIGHT (H) TO BE INCREASED AS NECESSARY, IF REQUIRED FOR INSTALLATION OF JET FANS.
5. SIGNALS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE INCOMPLETE AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.



WEST PORTAL: STA 46+50.00 TO STA 49+26.58

CUT-AND-COVER TUNNEL TYPE C (SECTION LOOKING WEST)

SCALE: NTS

DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 185 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB

HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No. 420

DART PROJECT

SCALE	NTS
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANJELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CUT-AND-COVER TUNNEL
SECTION TYPE C

CONTRACT | DWG No. SC8-2003 | REV

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bwhiteside
Default

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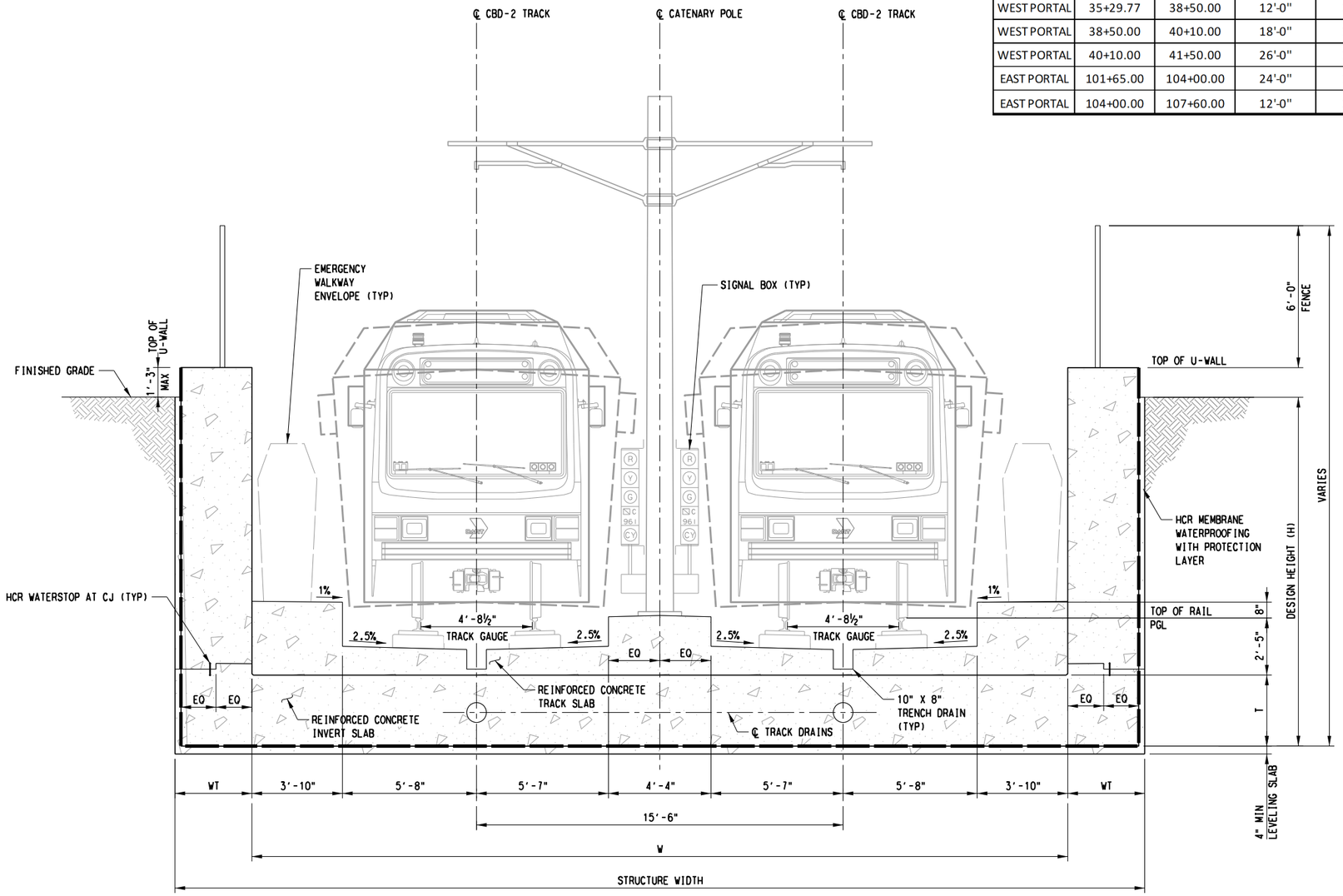
DWG No. SC8-1010

U-WALL DIMENSIONS

STRUCTURE LOCATION	STATION LIMITS		MAXIMUM DESIGN HEIGHT (H)	INVERT SLAB THICKNESS (T)	WALL THICKNESS (WT)	WIDTH (W)
	BEGIN STA	END STA				
WEST PORTAL	35+29.77	38+50.00	12'-0"	2'-6"	1'-6"	37'-6"
WEST PORTAL	38+50.00	40+10.00	18'-0"	3'-0"	2'-6"	39'-6"
WEST PORTAL	40+10.00	41+50.00	26'-0"	3'-0"	3'-3"	40'-6"
EAST PORTAL	101+65.00	104+00.00	24'-0"	3'-0"	3'-0"	35'-10" TO 40'-6"
EAST PORTAL	104+00.00	107+60.00	12'-0"	2'-6"	1'-6"	37'-6"

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. SIGNALS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE INCOMPLETE AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.



U-WALL CROSS-SECTION
EGRESS WALKWAYS AT OUTSIDE OF TRACKWAY
SCALE: ⅜" = 1'-0"

DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 186 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	NTS
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EAST/WEST PORTAL SECTION
U-WALL

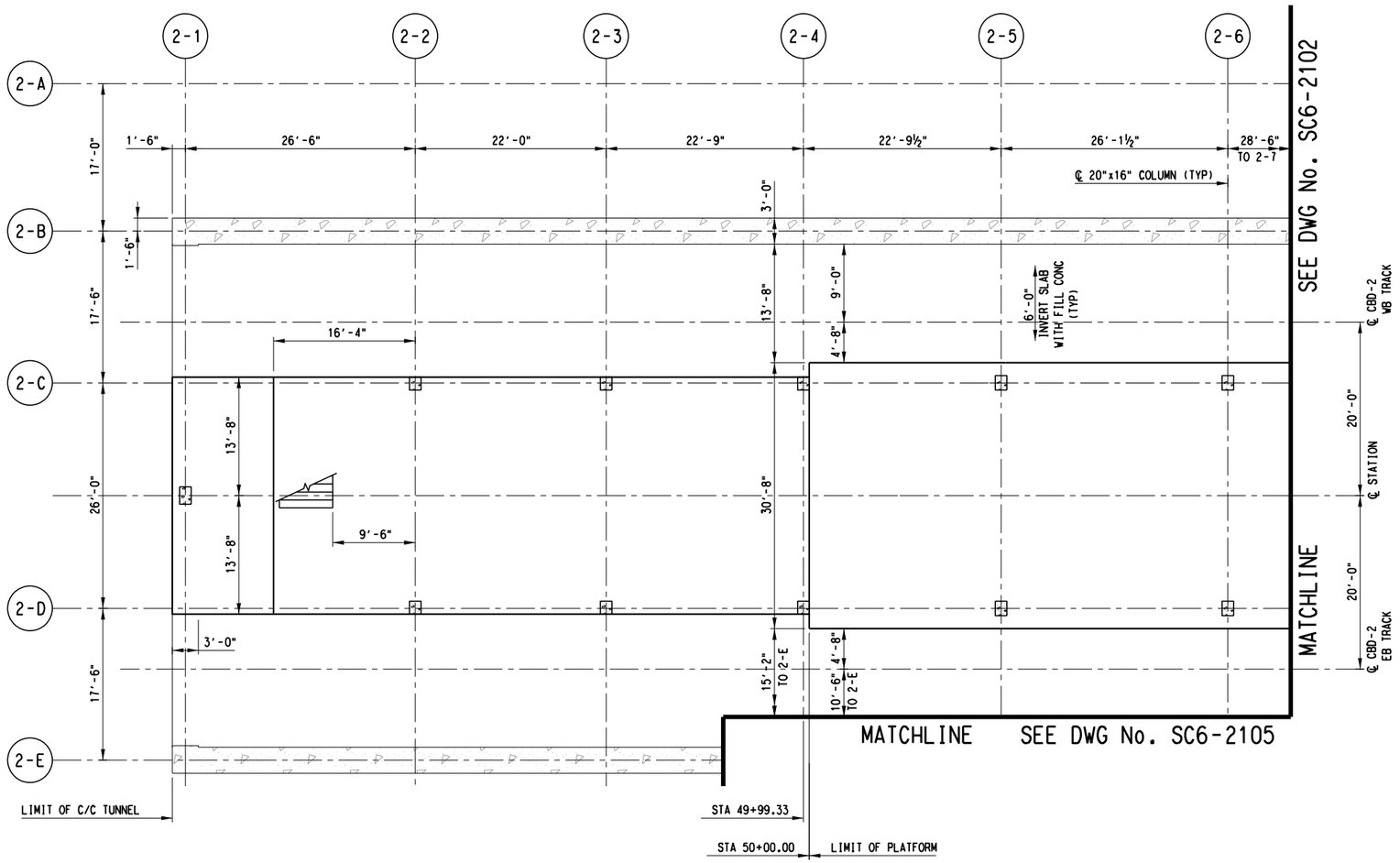
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	SC8-1010	

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DWG No. SC6-2101



PLATFORM LEVEL PLAN A

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 187 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

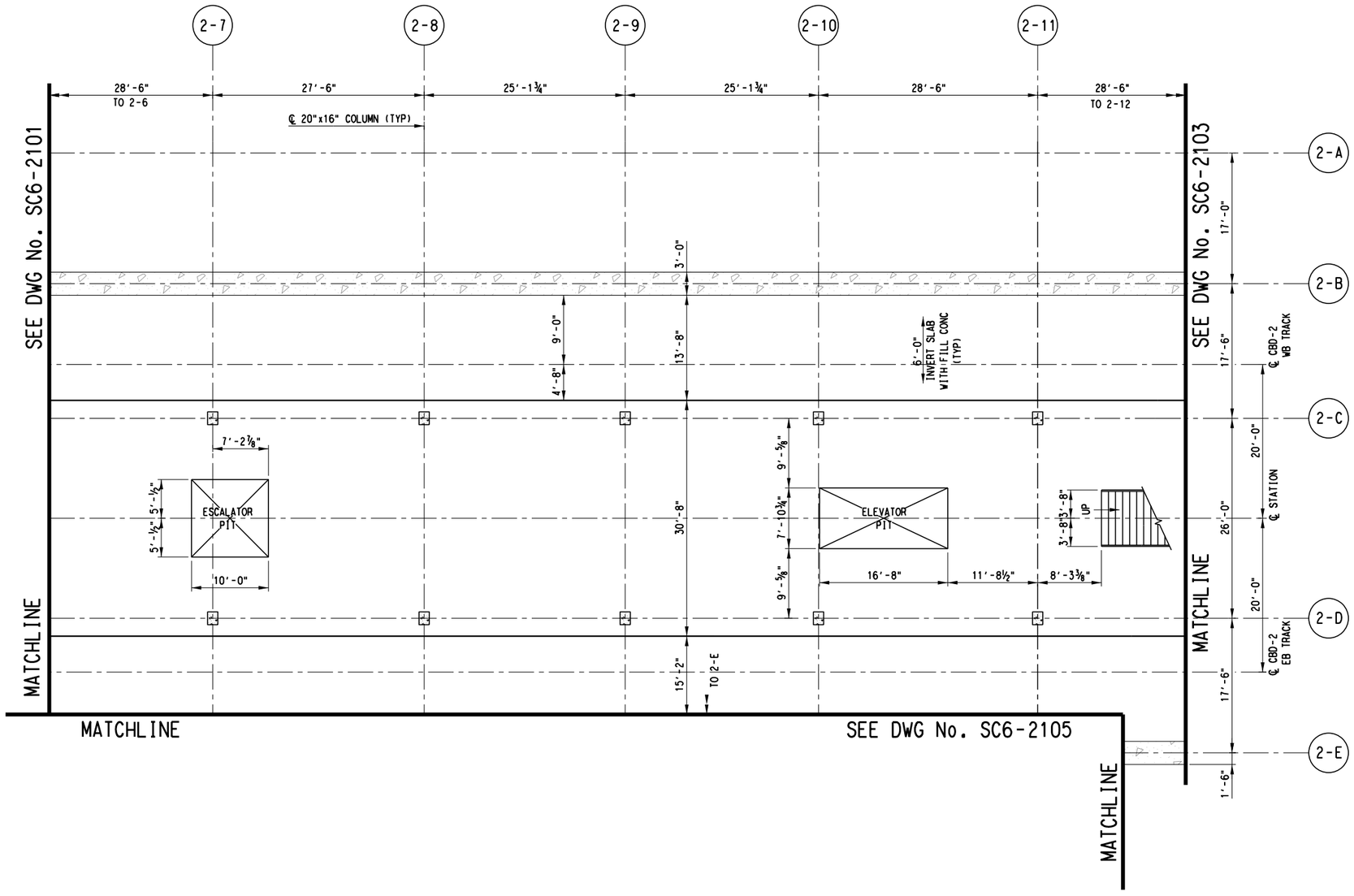
METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 1 OF 8

CONTRACT | DWG No. SC6-2101 | REV

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PLATFORM LEVEL PLAN B

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 188 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

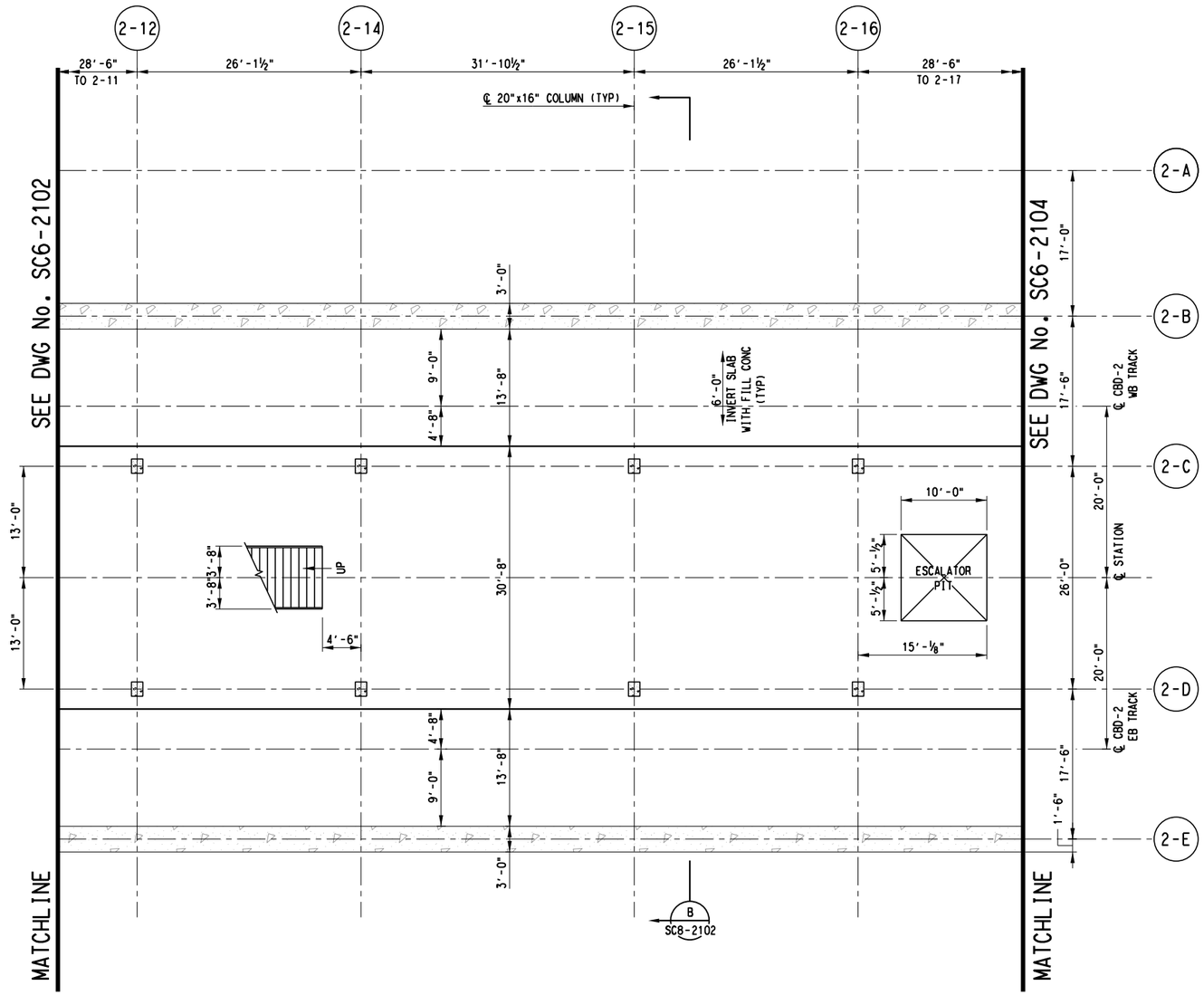
METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 2 OF 8

CONTRACT	DWG No.	REV
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PLATFORM LEVEL PLAN C

SCALE: ⅛"=1'-0"



NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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CONTRACT SHEET No. 189 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

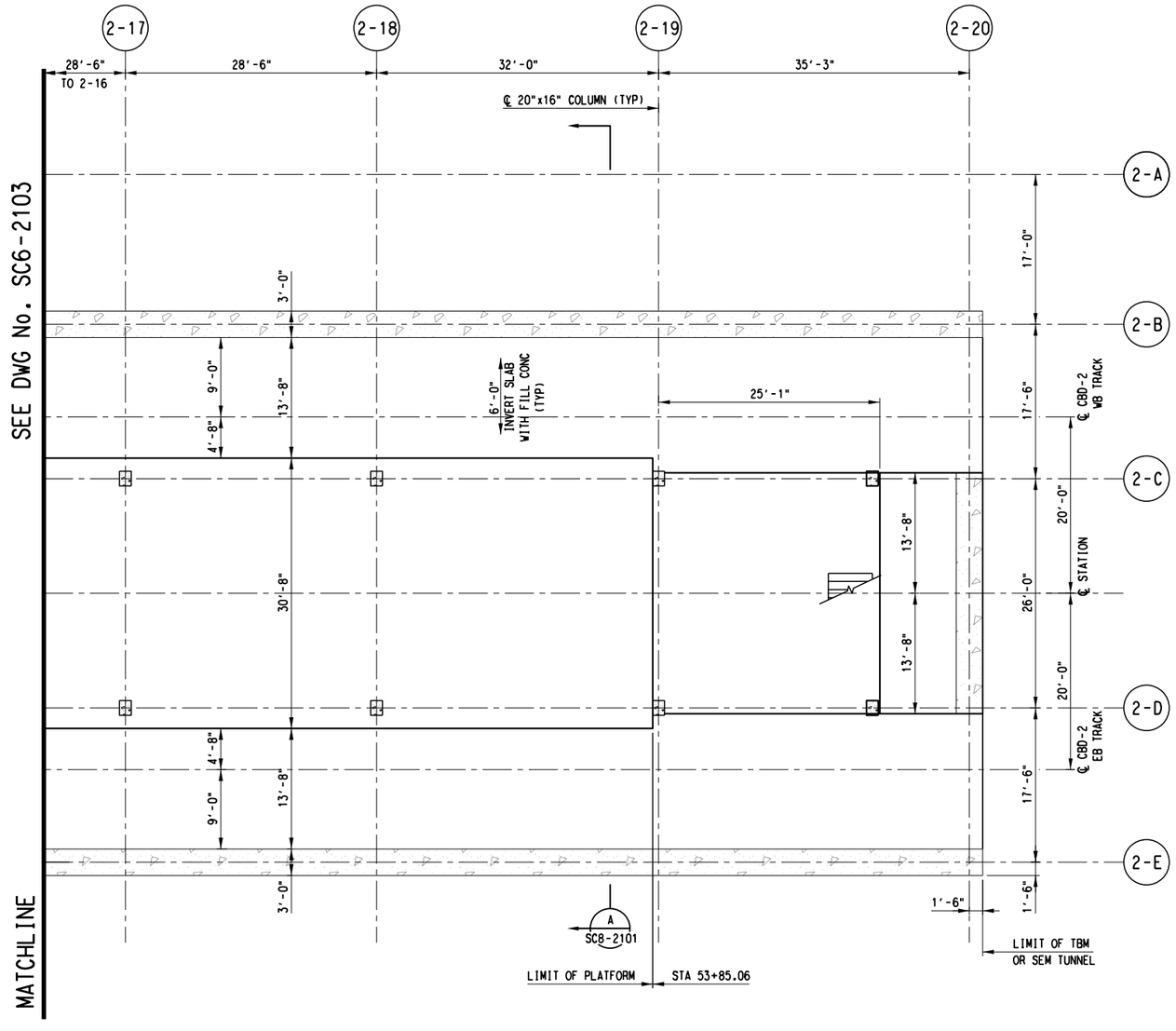
METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 3 OF 8

CONTRACT	DWG No.	REV
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DWG No. SC6-2104



PLATFORM LEVEL PLAN D

SCALE: 1/8"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 190 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	1/8"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

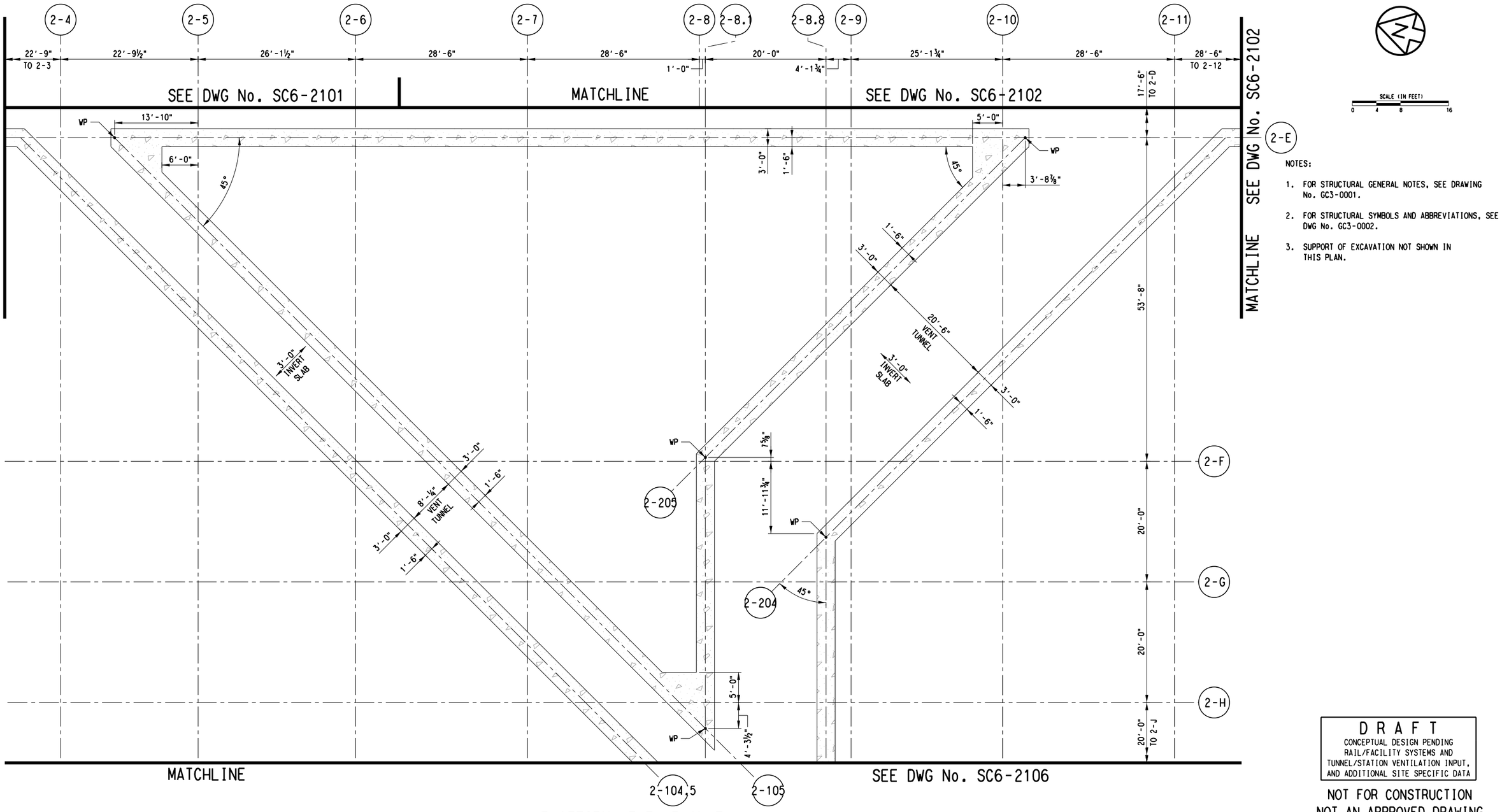
METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 4 OF 8

CONTRACT	DWG No.	REV
	SC6-2104	

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DWG No. SC6-2105



PLATFORM LEVEL PLAN E
SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 191 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
TBPE Firm Registration No. 420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

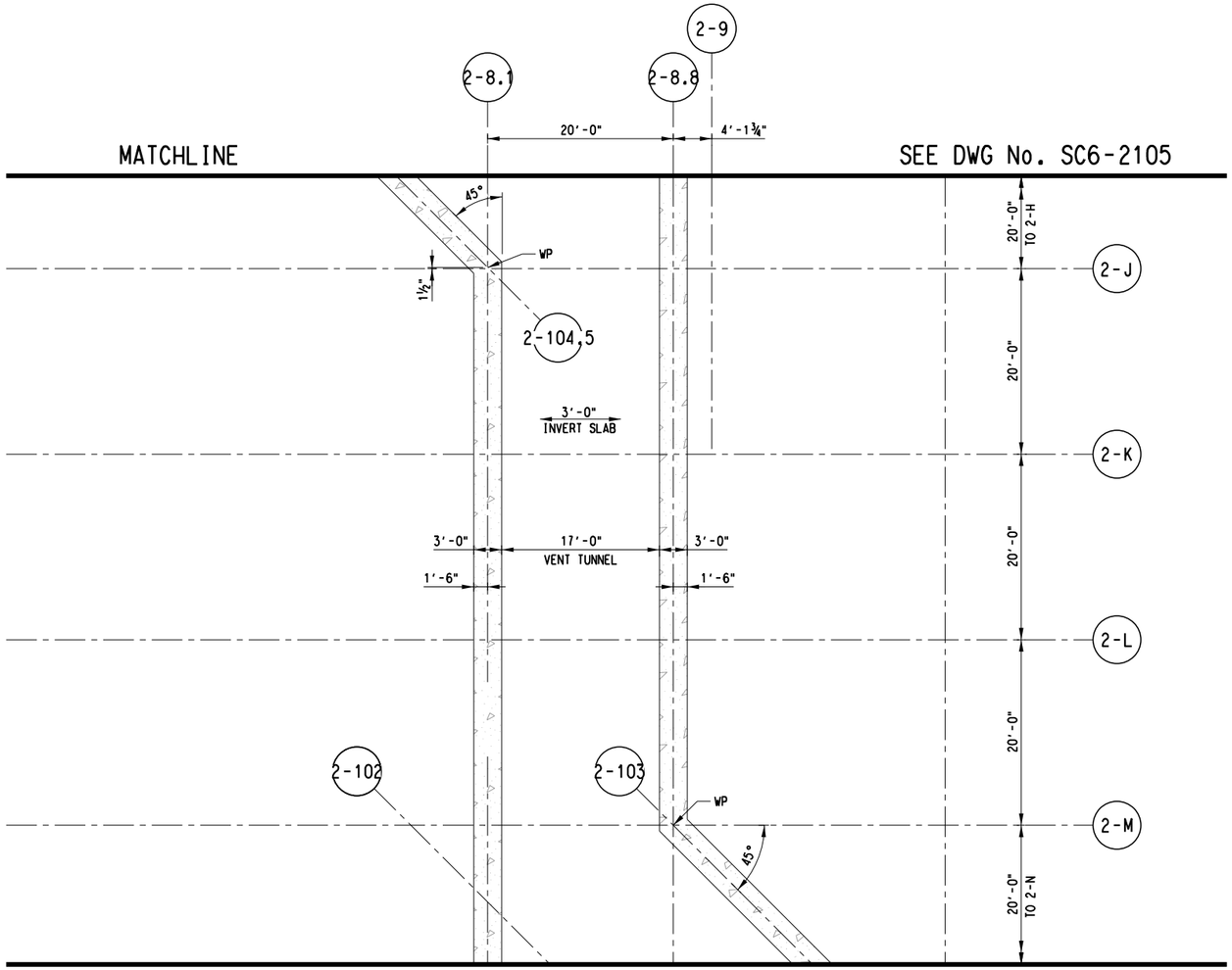
METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 5 OF 8

CONTRACT	DWG No.	REV
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SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

PLATFORM LEVEL PLAN F

SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
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TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 192 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 6 OF 8

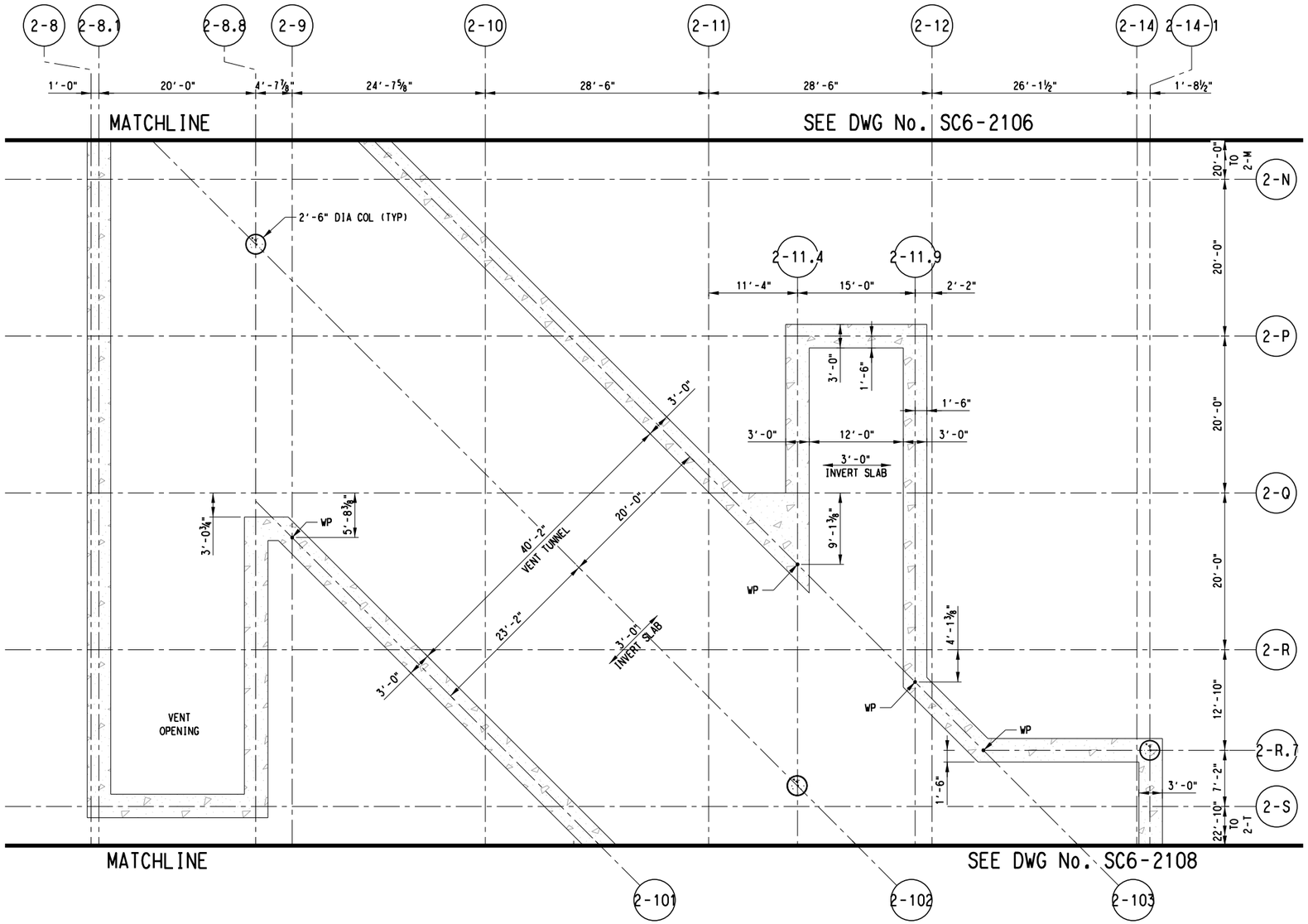
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	SC6-2106	

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DWG No. SC6-2107



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

PLATFORM LEVEL PLAN G

SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 193 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB

HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 7 OF 8

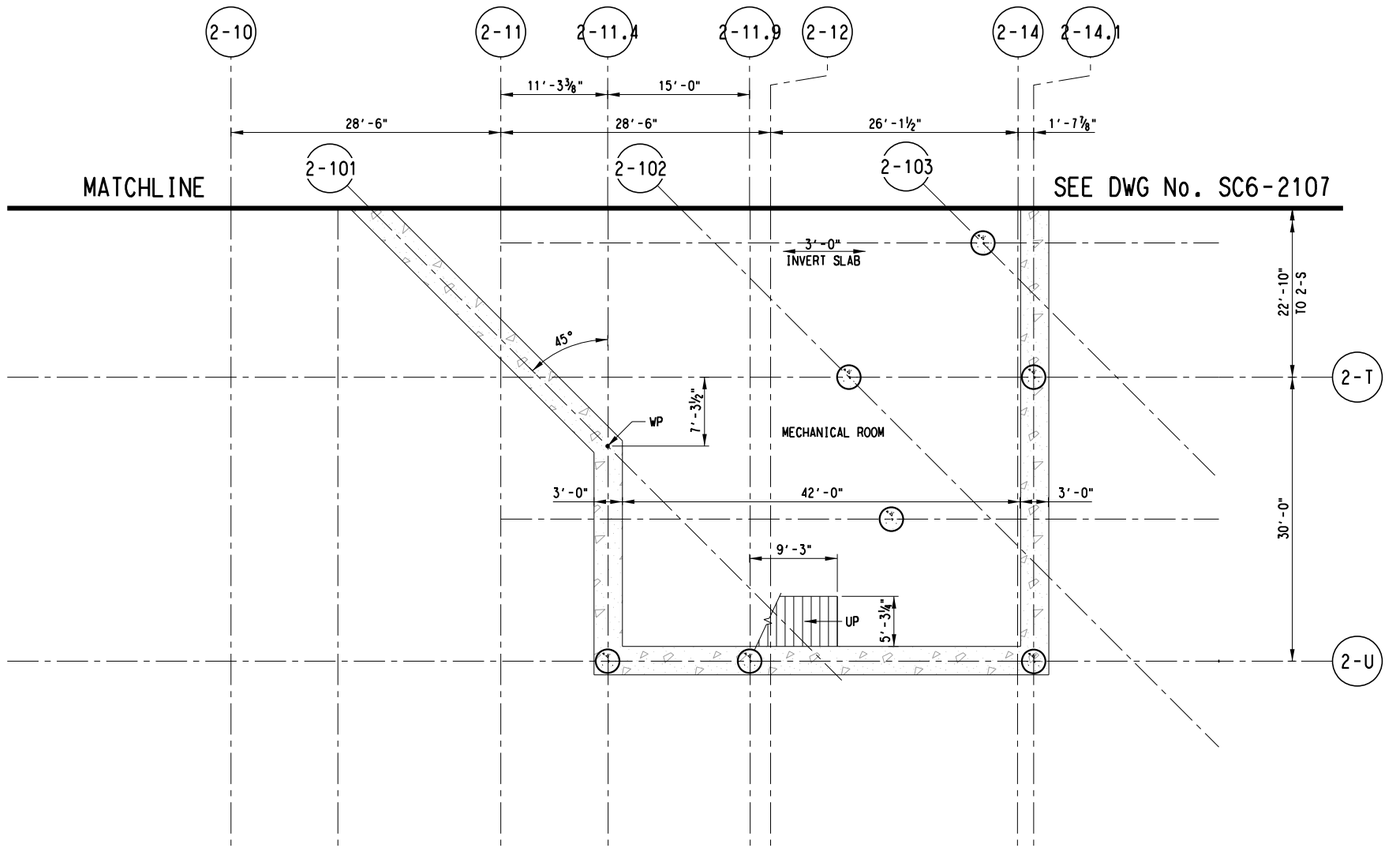
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DWG No. SC6-2108



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

PLATFORM LEVEL PLAN H

SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 194 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
TBPE Firm Registration No. 420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 8 OF 8

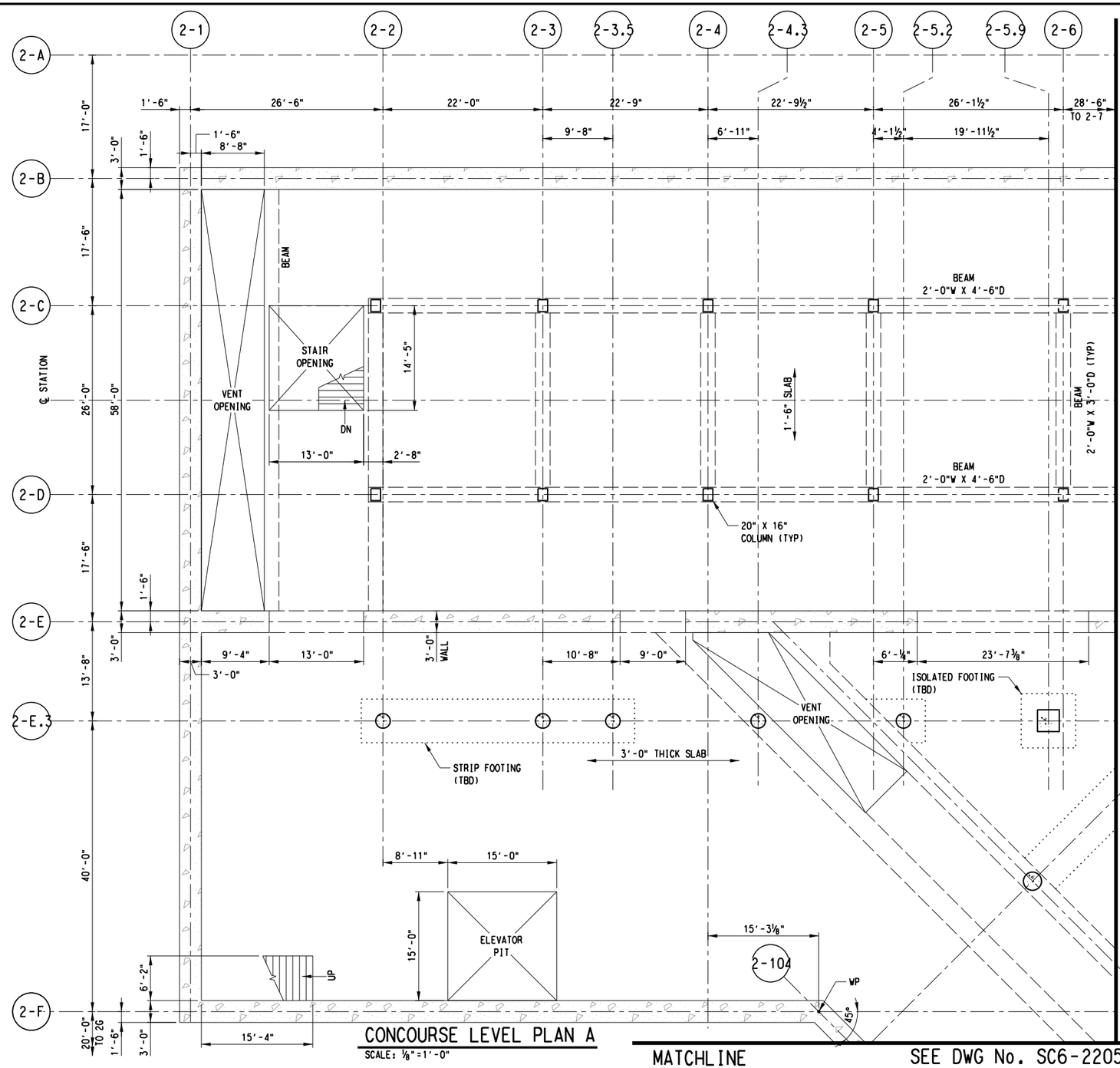
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DWG No. SC6-2201



CONCOURSE LEVEL PLAN A
SCALE: ⅛"=1'-0"

MATCHLINE

SEE DWG No. SC6-2202

SEE DWG No. SC6-2205

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
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TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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CONTRACT SHEET No. 195 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 1 OF 9

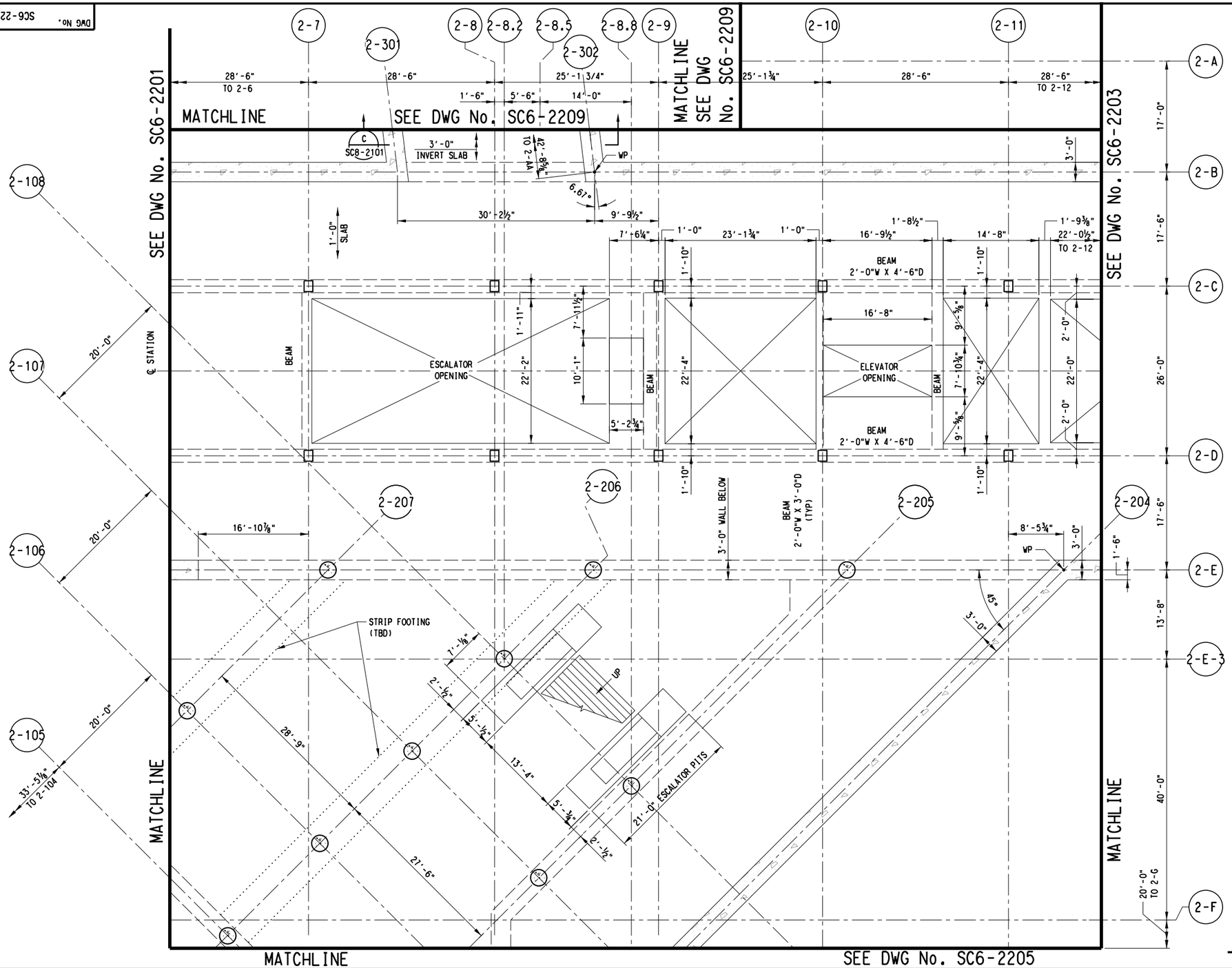
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DWG No. SC6-2202



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

CONCOURSE LEVEL PLAN B
SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
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REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP
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TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

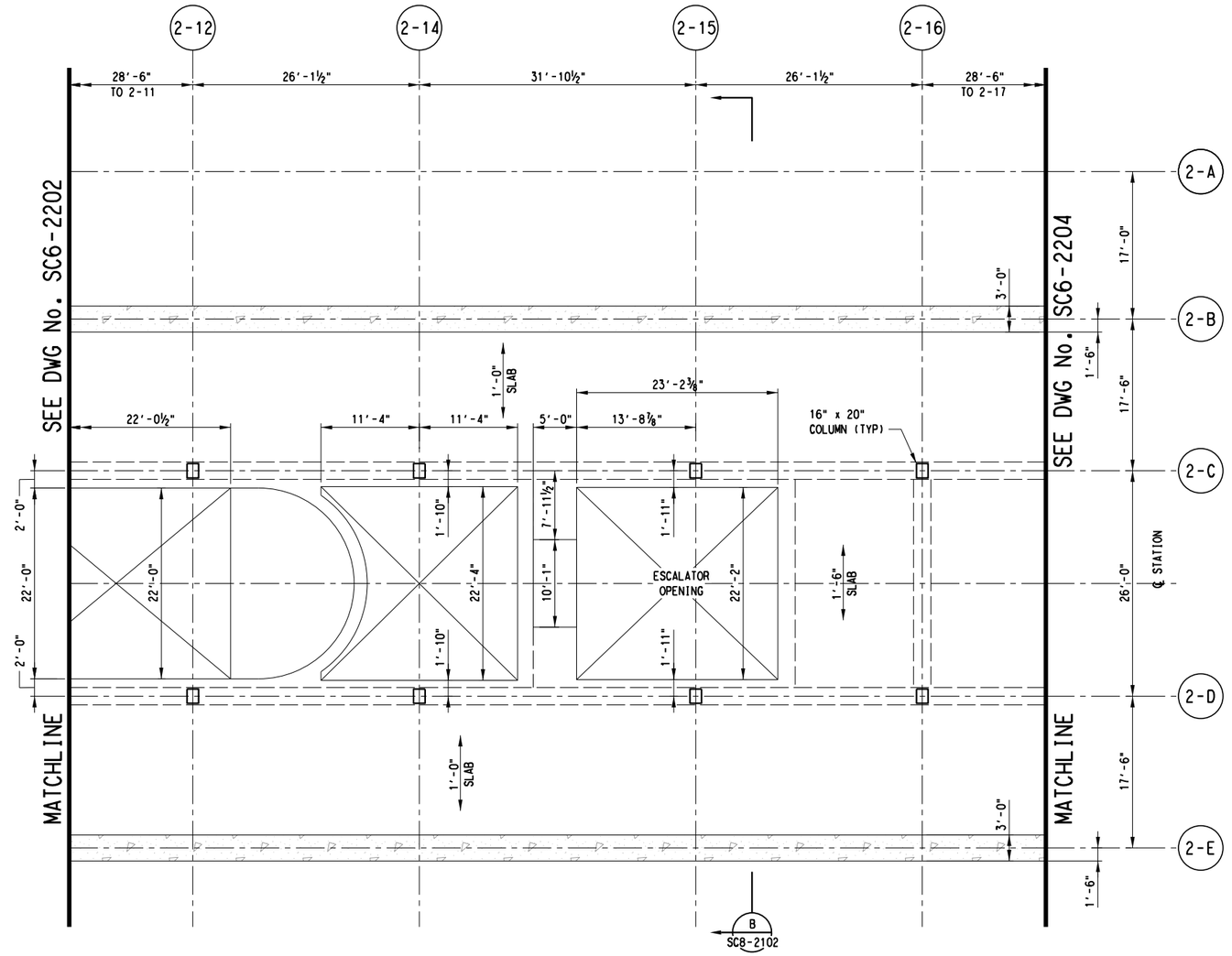
METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 2 OF 9

CONTRACT	DWG No.	REV
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CONCOURSE LEVEL PLAN C

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
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TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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CONTRACT SHEET No. 197 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 3 OF 9

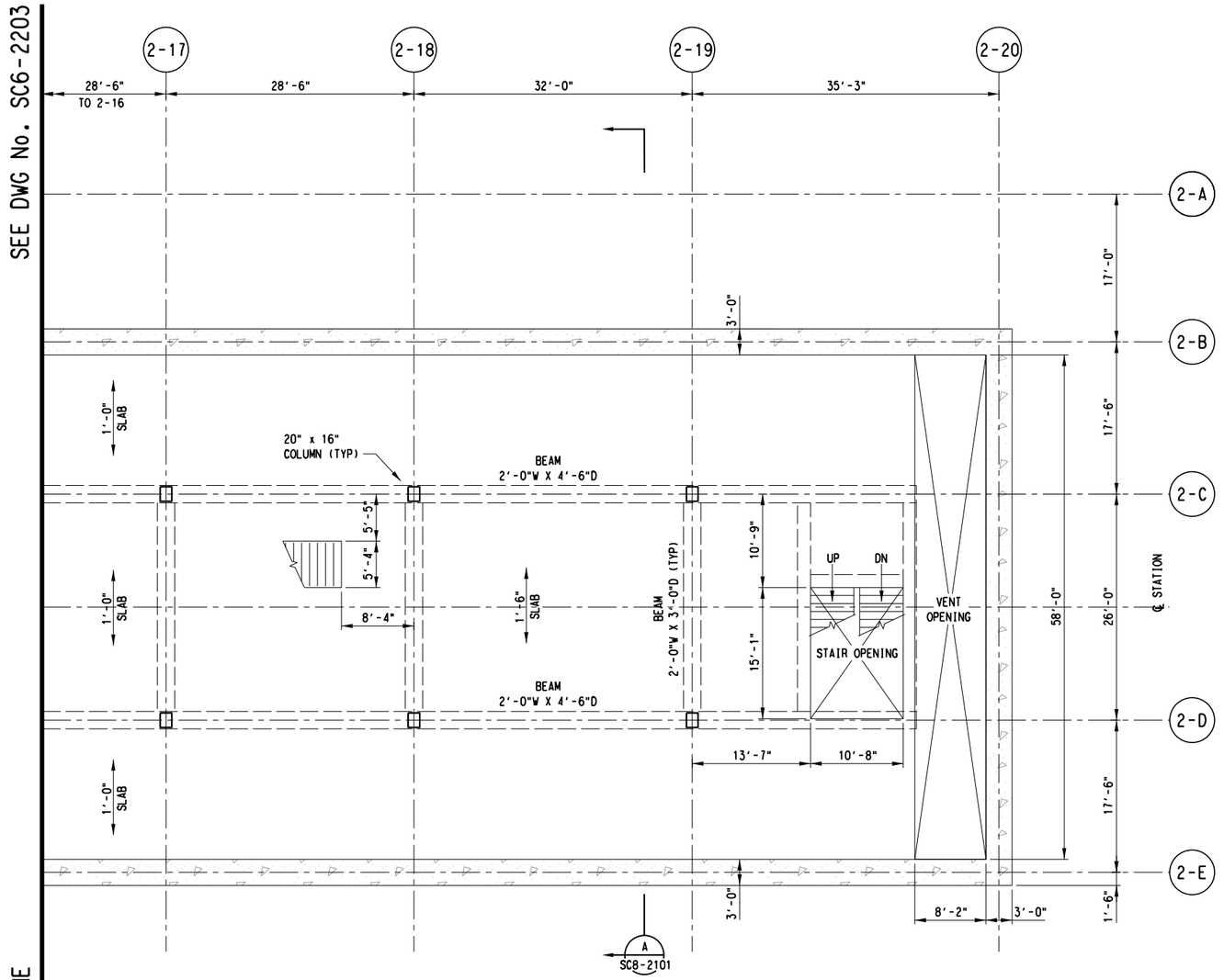
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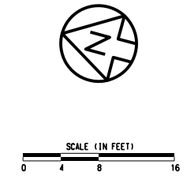
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DWG No. SC6-2204



CONCOURSE LEVEL PLAN D

SCALE: 1/8"=1'-0"



NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	1/8"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 4 OF 9

CONTRACT	DWG No.	REV
	SC6-2204	

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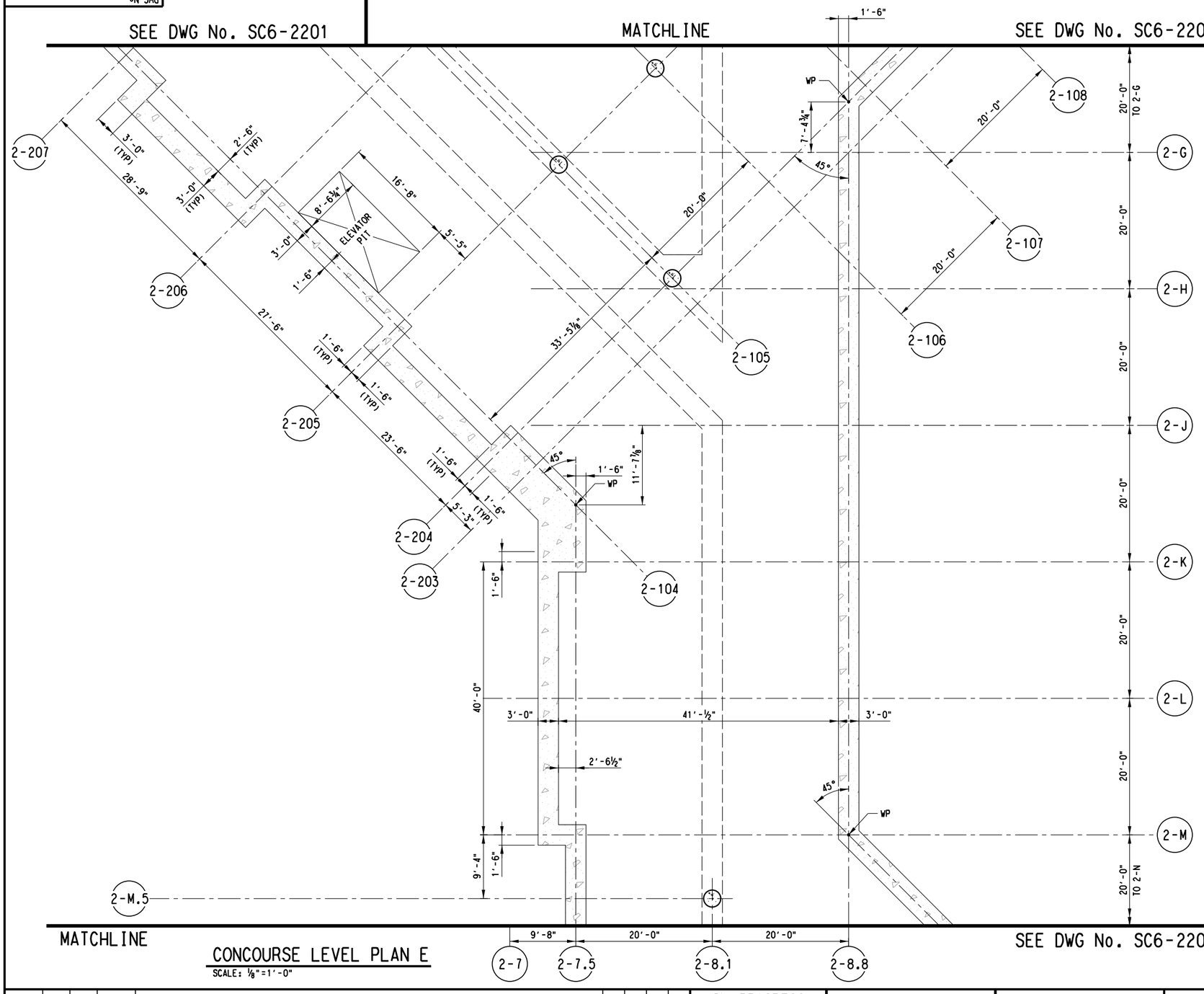
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DWG No. SC6-2205

SEE DWG No. SC6-2201

MATCHLINE

SEE DWG No. SC6-2202



MATCHLINE

SEE DWG No. SC6-2206

CONCOURSE LEVEL PLAN E

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

DRAFT
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 199 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 5 OF 9

CONTRACT | DWG No. SC6-2205 | REV

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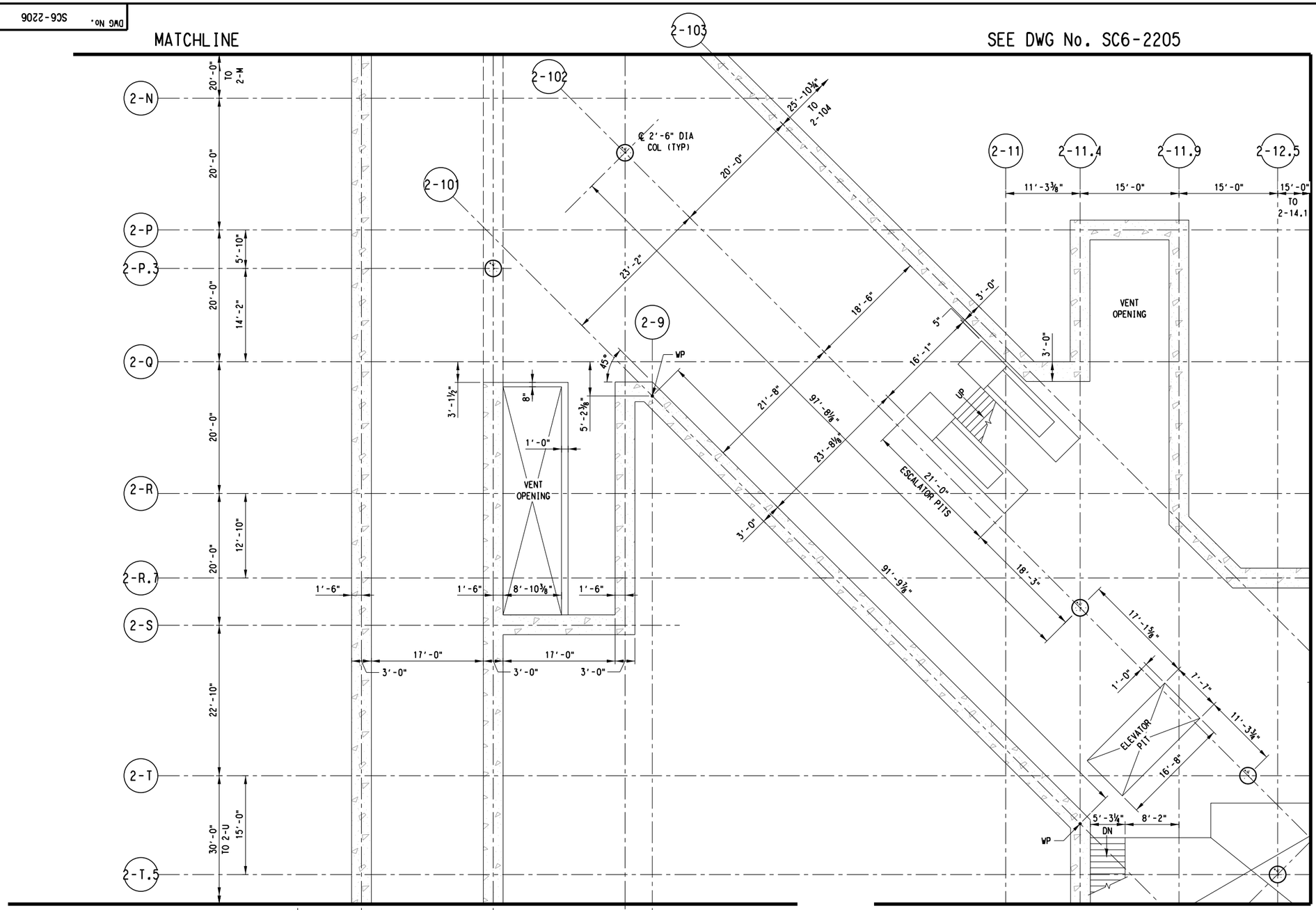
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DWG No. SC6-2206

MATCHLINE

SEE DWG No. SC6-2205



MATCHLINE

SEE DWG No. SC6-2207

MATCHLINE

SEE DWG No. SC6-2208

CONCOURSE LEVEL PLAN F

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 200 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 6 OF 9

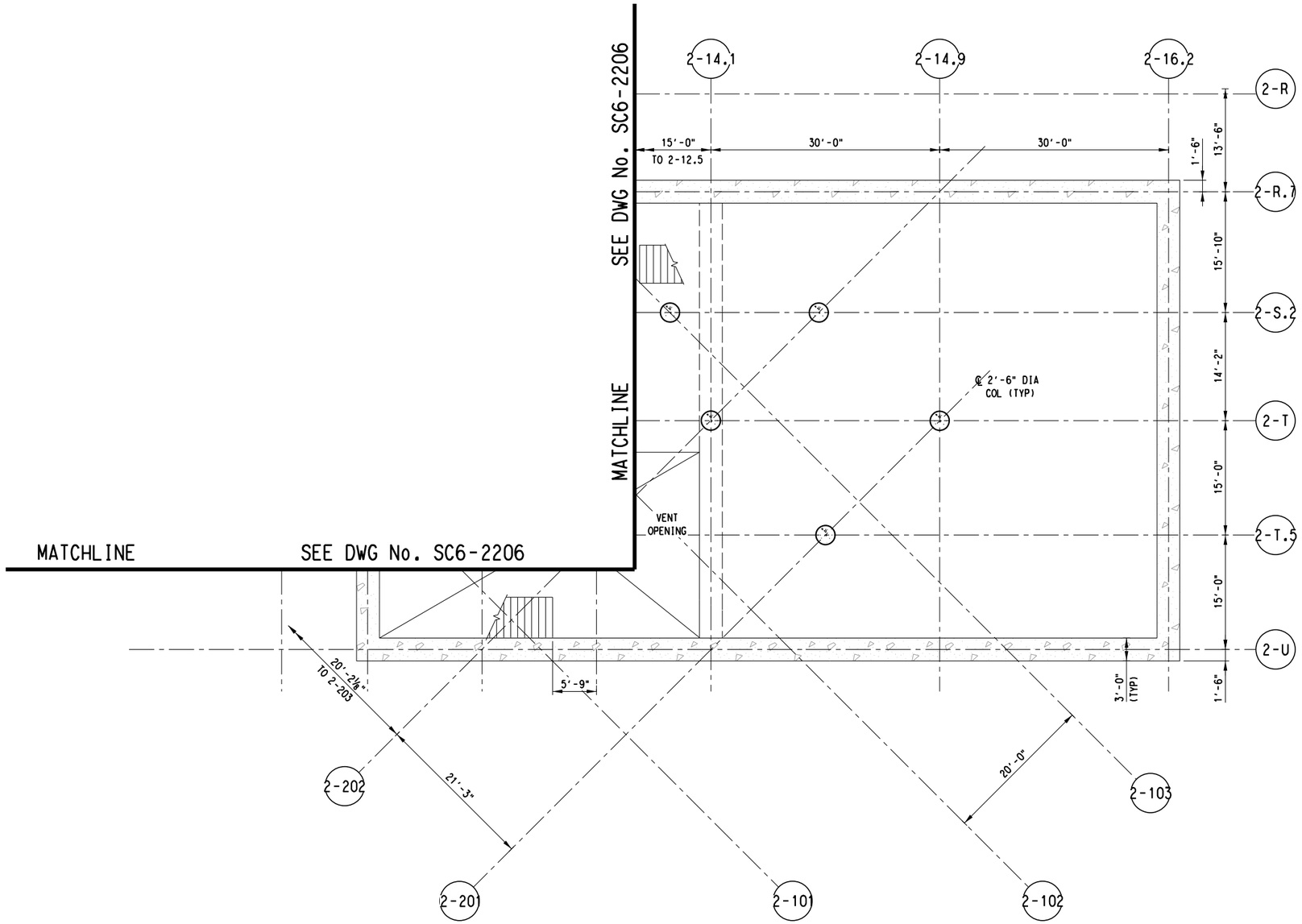
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DWG No. SC6-2207



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

CONCOURSE LEVEL PLAN G

SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 201 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 7 OF 9

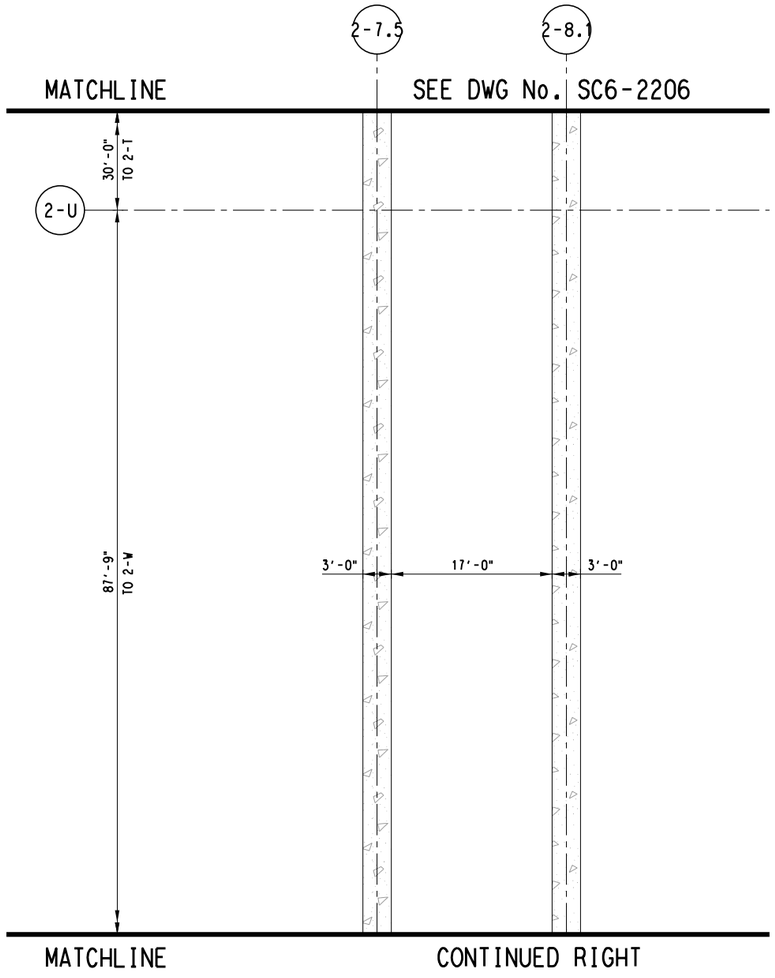
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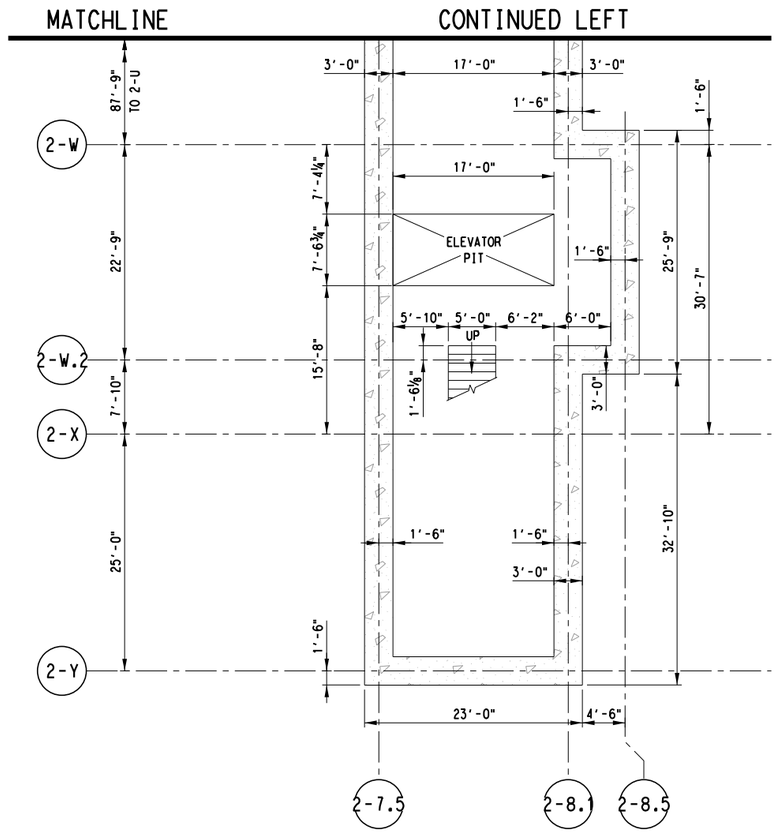
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DWG No. SC6-2208





SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

CONCOURSE LEVEL PLAN H

SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 202 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 8 OF 9

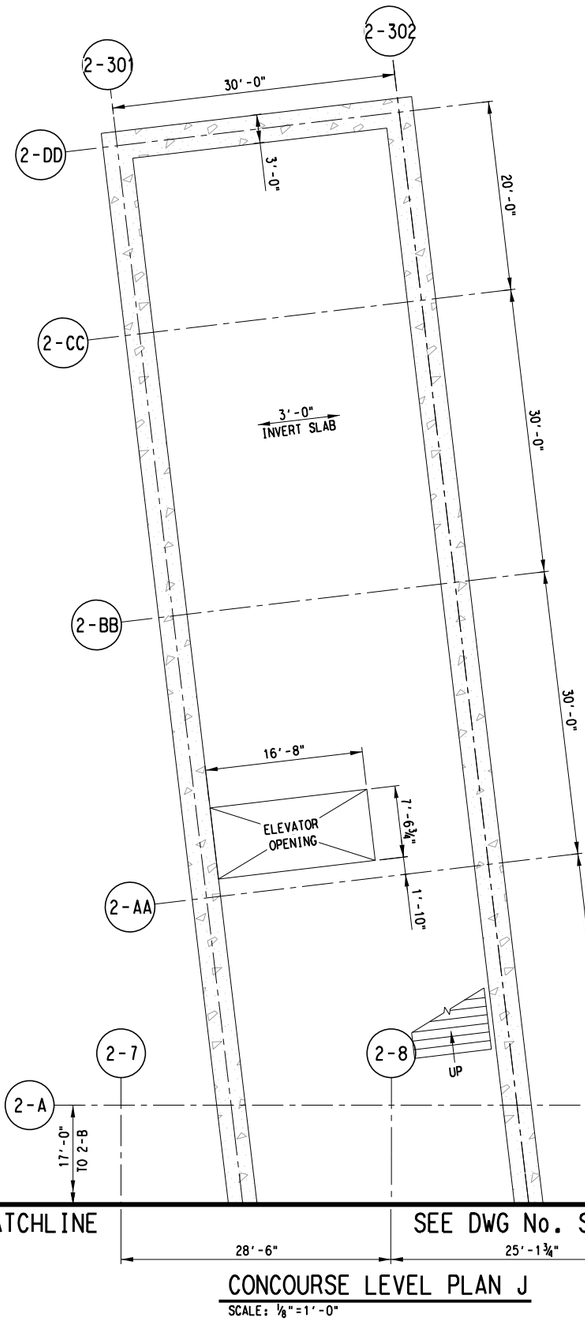
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DWG No. SC6-2209



CONCOURSE LEVEL PLAN J

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 203 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
CONCOURSE LEVEL PLAN
SHEET 9 OF 9

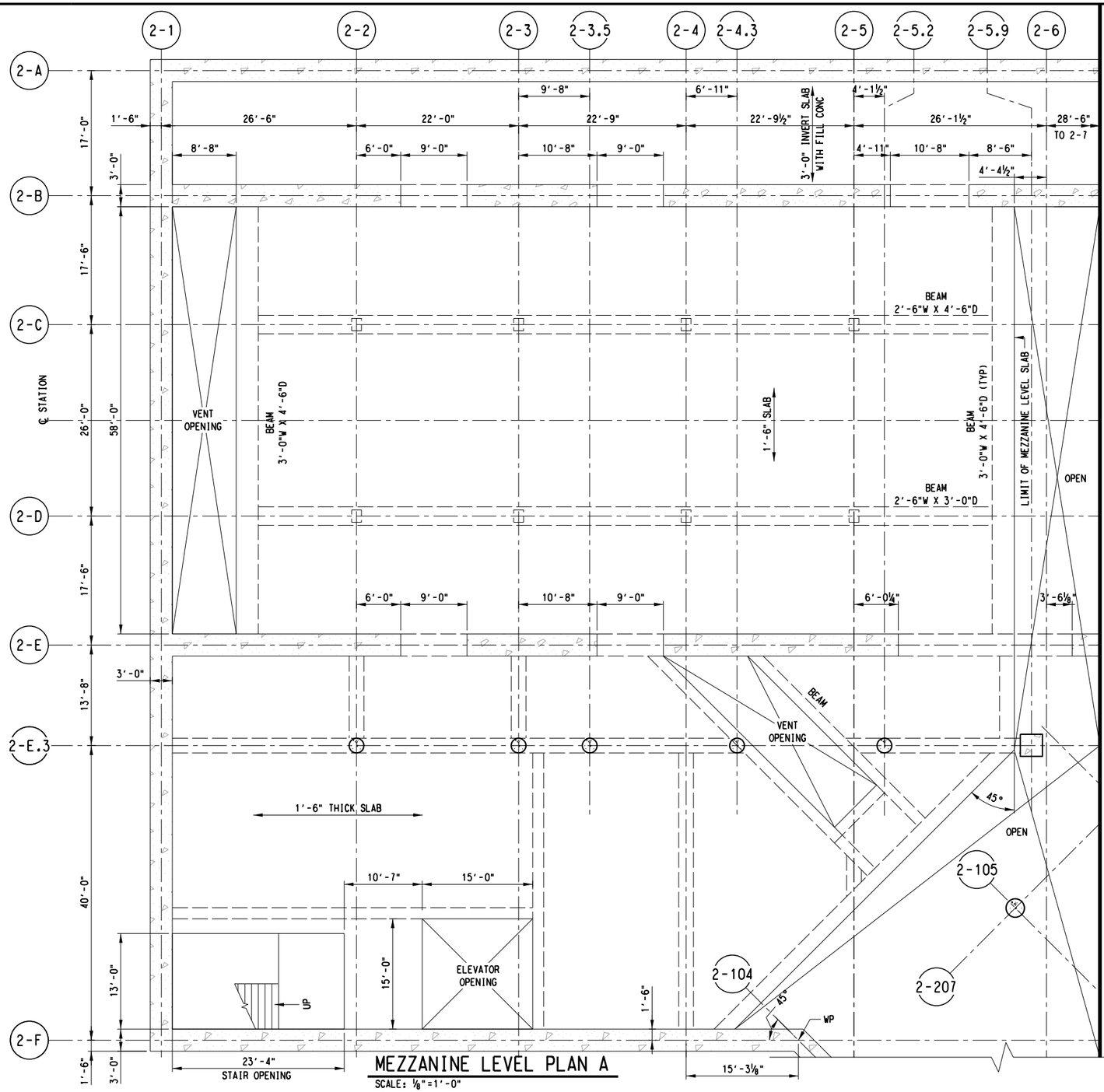
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DWG No. SC6-2301



MEZZANINE LEVEL PLAN A

SCALE: ⅛"=1'-0"

SEE DWG No. SC6-2302

SCALE (IN FEET)
0 4 8 16

NOTES:

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3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

DRAFT
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DART PROJECT

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CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
MEZZANINE LEVEL PLAN
SHEET 1 OF 4

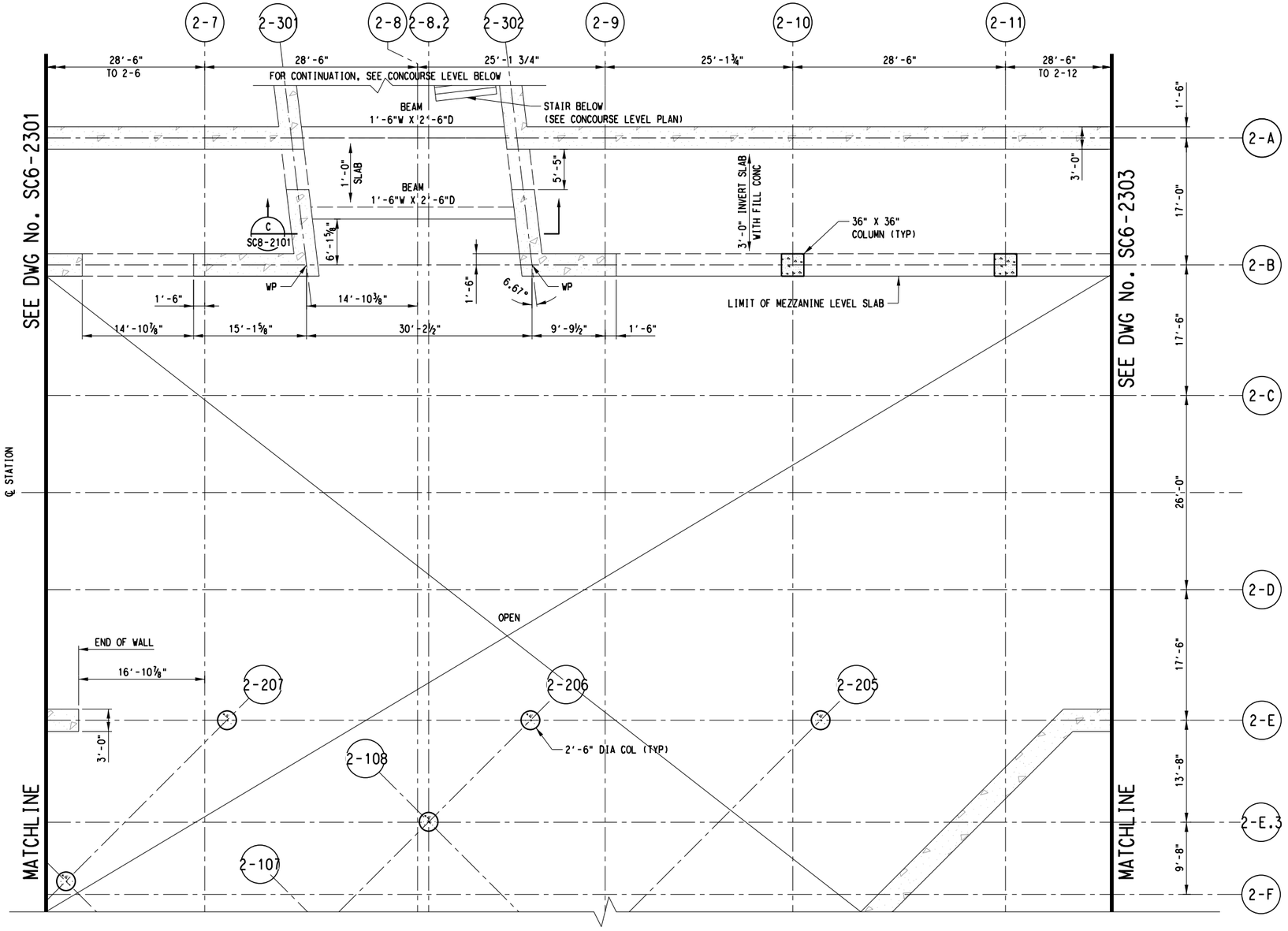
CONTRACT	DWG No.	REV
	SC6-2301	

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DWG No. SC6-2302



SCALE (IN FEET)
0 4 8 16

NOTES:

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3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

MEZZANINE LEVEL PLAN B

SCALE: ⅛"=1'-0"

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CONTRACT SHEET No. 205 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

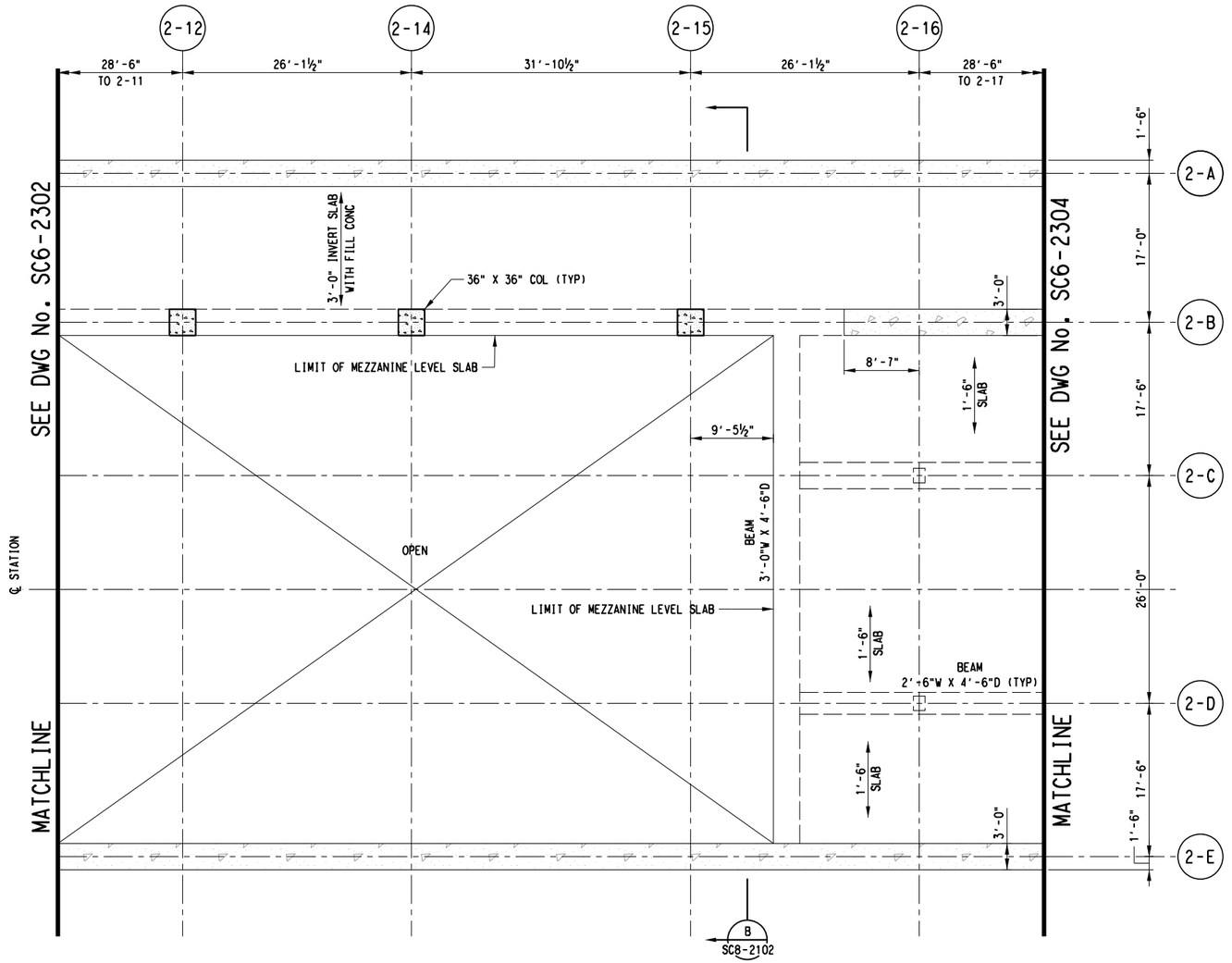
METRO CENTER STATION
MEZZANINE LEVEL PLAN
SHEET 2 OF 4

CONTRACT | DWG No. SC6-2302 | REV

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MEZZANINE LEVEL PLAN C

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

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3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

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CONTRACT SHEET No. 206 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

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IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
MEZZANINE LEVEL PLAN
SHEET 3 OF 4

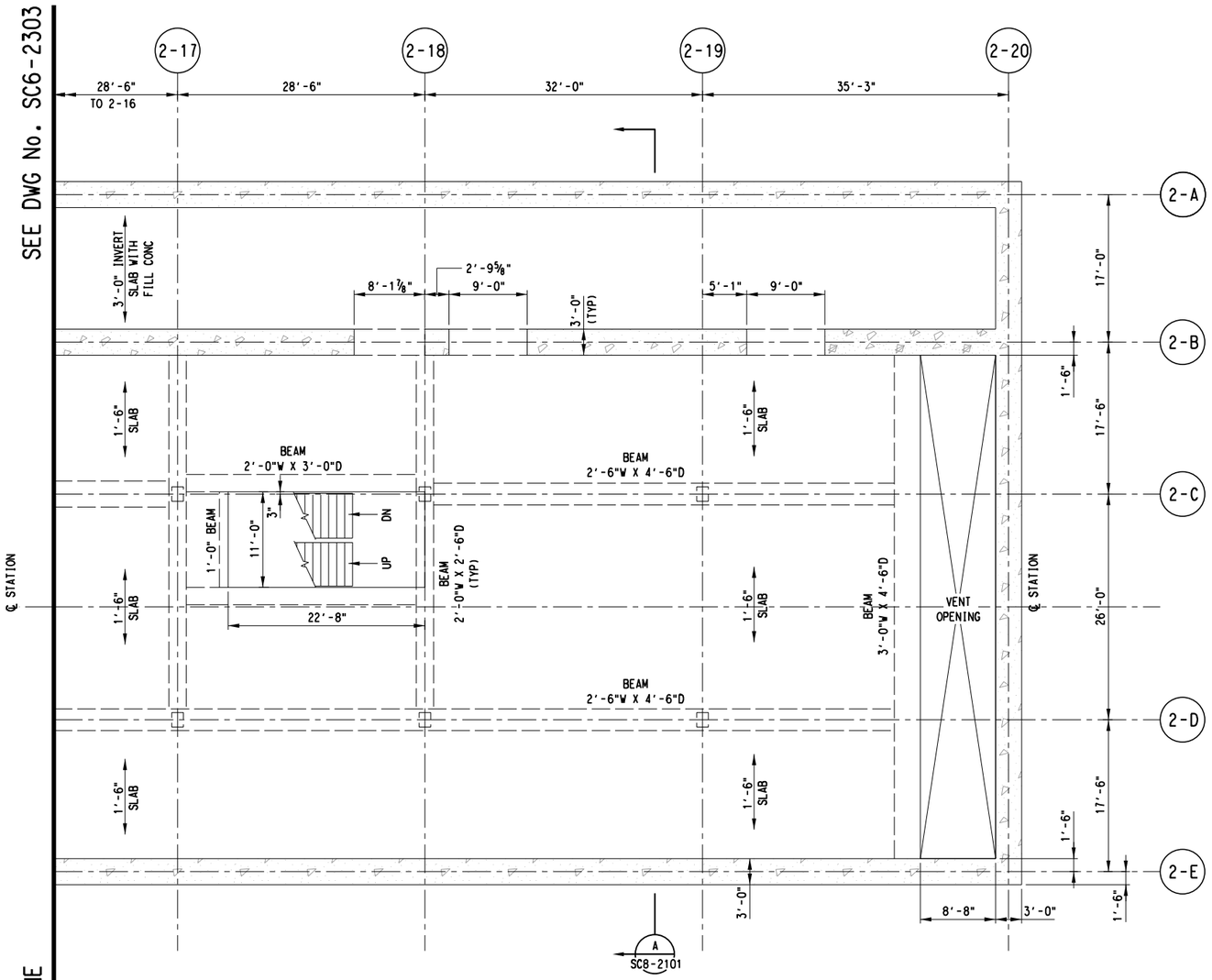
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DWG No. SC6-2304



MEZZANINE LEVEL PLAN D

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

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CONTRACT SHEET No. 207 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

DART

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
MEZZANINE LEVEL PLAN
SHEET 4 OF 4

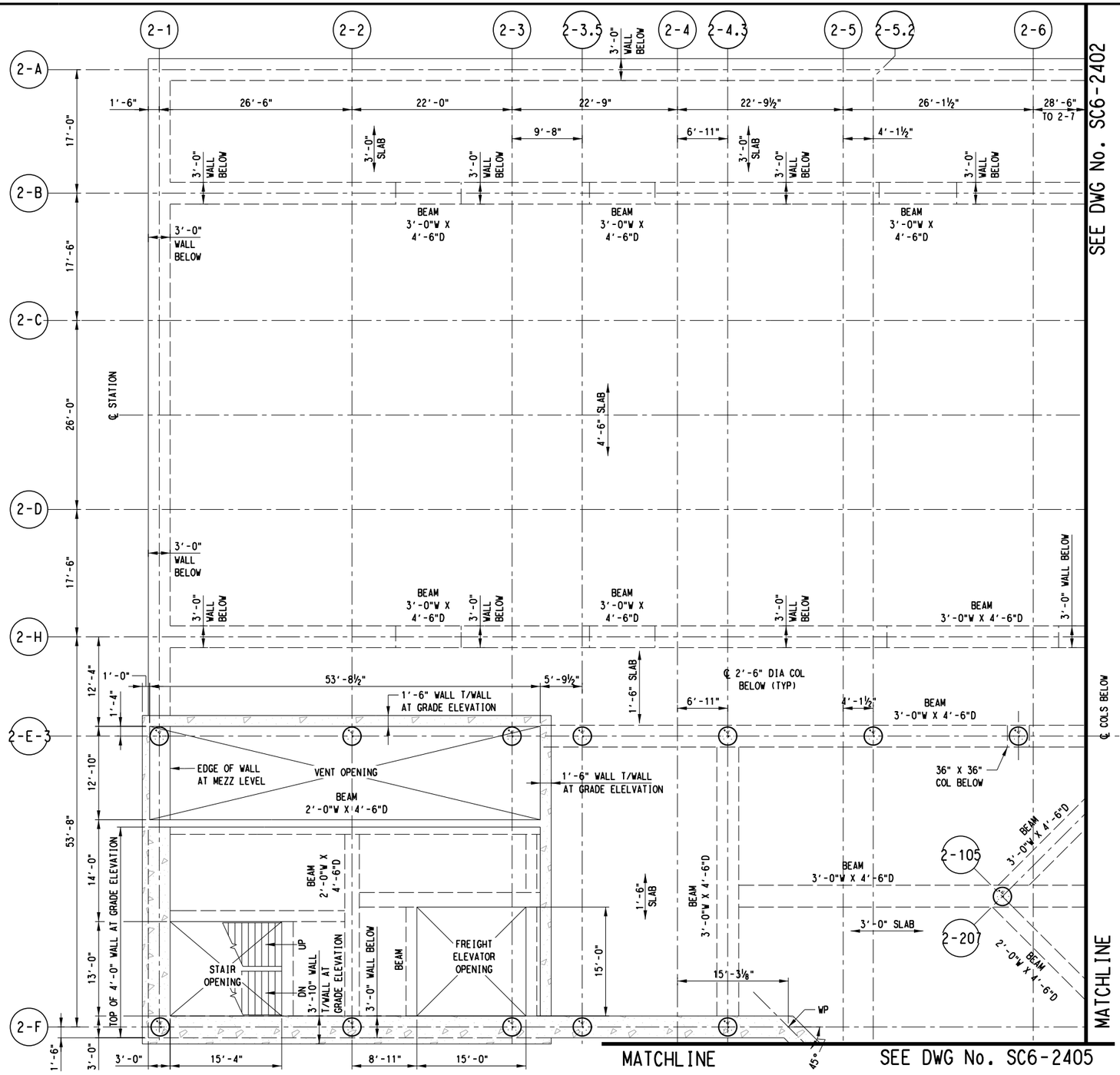
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DWG No. SC6-2401





NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 1'-6" X 1'-6" NO SHOWN.

ROOF LEVEL PLAN A

SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
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CONTRACT SHEET No. 208 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 1 OF 9

CONTRACT	DWG No.	REV
	SC6-2401	

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DWG No. SC6-2402

SEE DWG No. SC6-2401

MATCHLINE SEE DWG No. SC6-2409

MATCHLINE SEE DWG No. SC6-2409

SEE DWG No. SC6-2403

℄ STATION

2-7 2-301 2-8 2-302 2-9 2-10 2-11

2-A 2-B 2-C 2-D 2-E 2-E.3 2-F

28'-6" TO 2-6 | 28'-6" | 25'-1 3/4" | 25'-1¾" | 28'-6" | 28'-6" TO 2-12

1'-6" | 17'-0" | 17'-6" | 26'-0" | 17'-6" | 1'-6" | 13'-8" | 53'-8" | 20'-0" TO 2-6

C SC8-2101

BEAM 3'-0"W X 4'-6"D

3'-0" WALL BELOW

12'-1 3/8" TO 2-4A

WP

6.6/12

3'-0" SLAB

BEAM 3'-0"W X 4'-6"D (TYP)

36" X 36" COL BELOW (TYP)

℄ 20"x16" COLUMN (TYP)

2-107 2-207 2-109 2-206 2-110 2-205

124'-3½"

17'-0" | 2'-11⅞" | 10'-0"

2'-0" END OF BEAM

END OF WALL BELOW

℄ 2'-6" DIA COL BELOW (TYP)

2-108

1'-6" SLAB

27'-6"

2-106

PERIMETER BEAM 2'-0"W X 3'-0" D

BEAM 3'-0"W X 4'-6"D

3'-0"W X 4'-6"D (TYP)

20'-0"

2-0"W X 3'-0"D (TYP)

2-105

1'-6" WALL T/WALL AT GRADE ELEVATION

ROOF OPENING SEE TABLE 1 ON DWG No. SC6-2405

MATCHLINE

SEE DWG No. SC6-2405

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 1'-6" X 1'-6" NO SHOWN.

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ROOF LEVEL PLAN B

SCALE: ⅛"=1'-0"

CONTRACT SHEET No. 209 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

DART

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
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IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

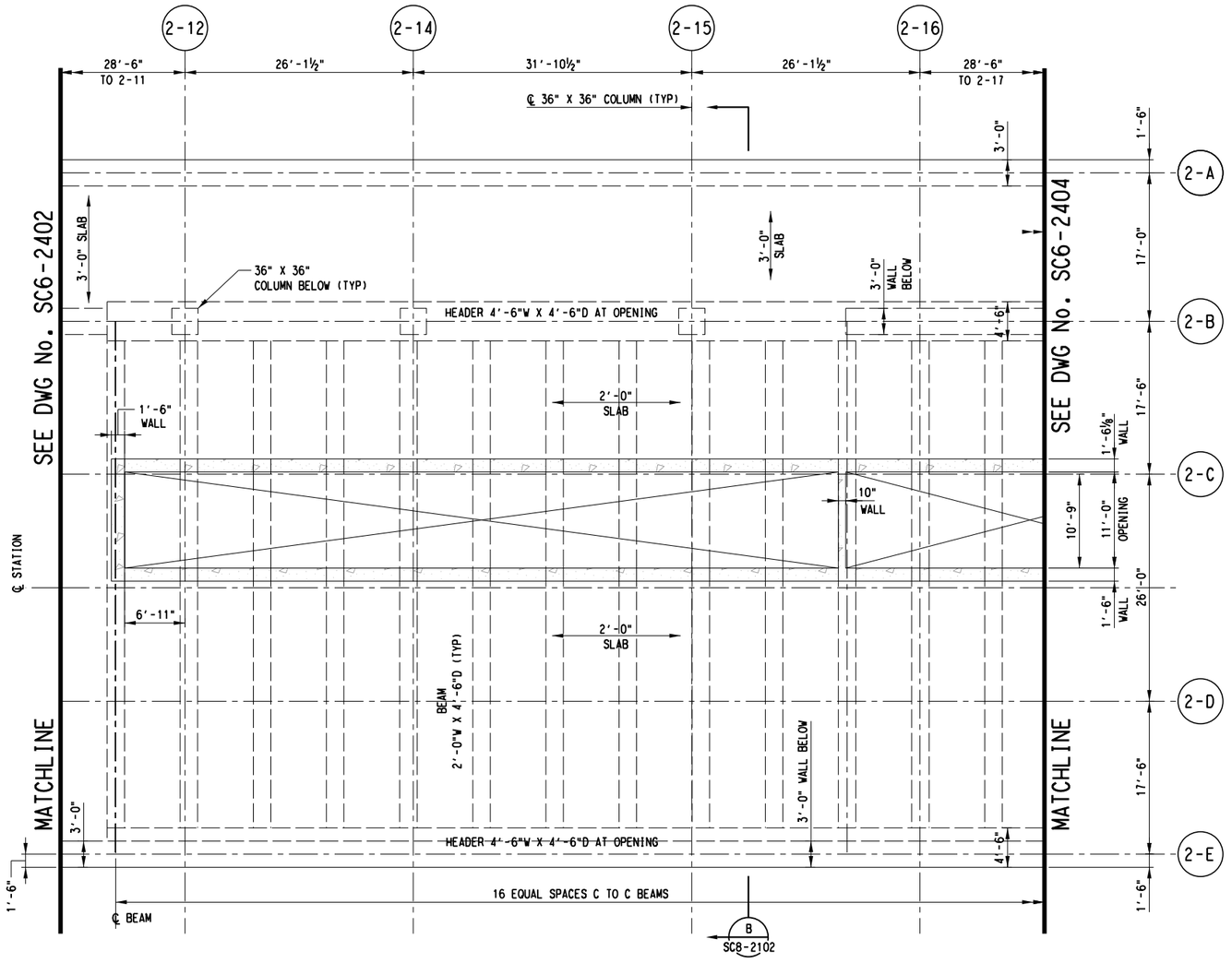
METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 2 OF 9

CONTRACT	DWG No.	REV
	SC6-2402	

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ROOF LEVEL PLAN C

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

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2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
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CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 3 OF 9

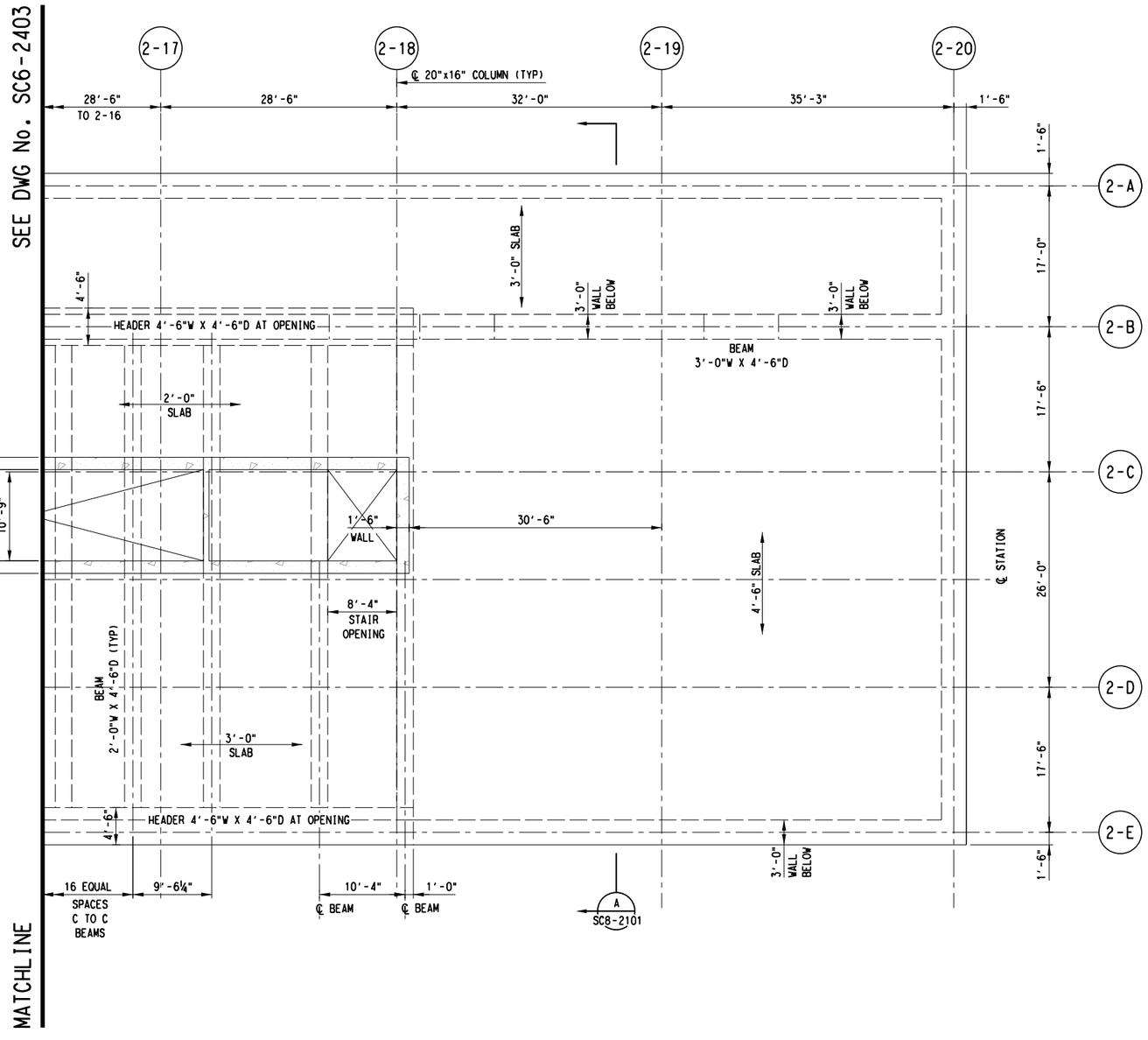
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DWG No. SC6-2404



ROOF LEVEL PLAN D
SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
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4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 1'-6" X 1'-6" NO SHOWN.

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DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 4 OF 9

CONTRACT	DWG No.	REV
	SC6-2404	

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SEE DWG No. SC6-2401

MATCHLINE

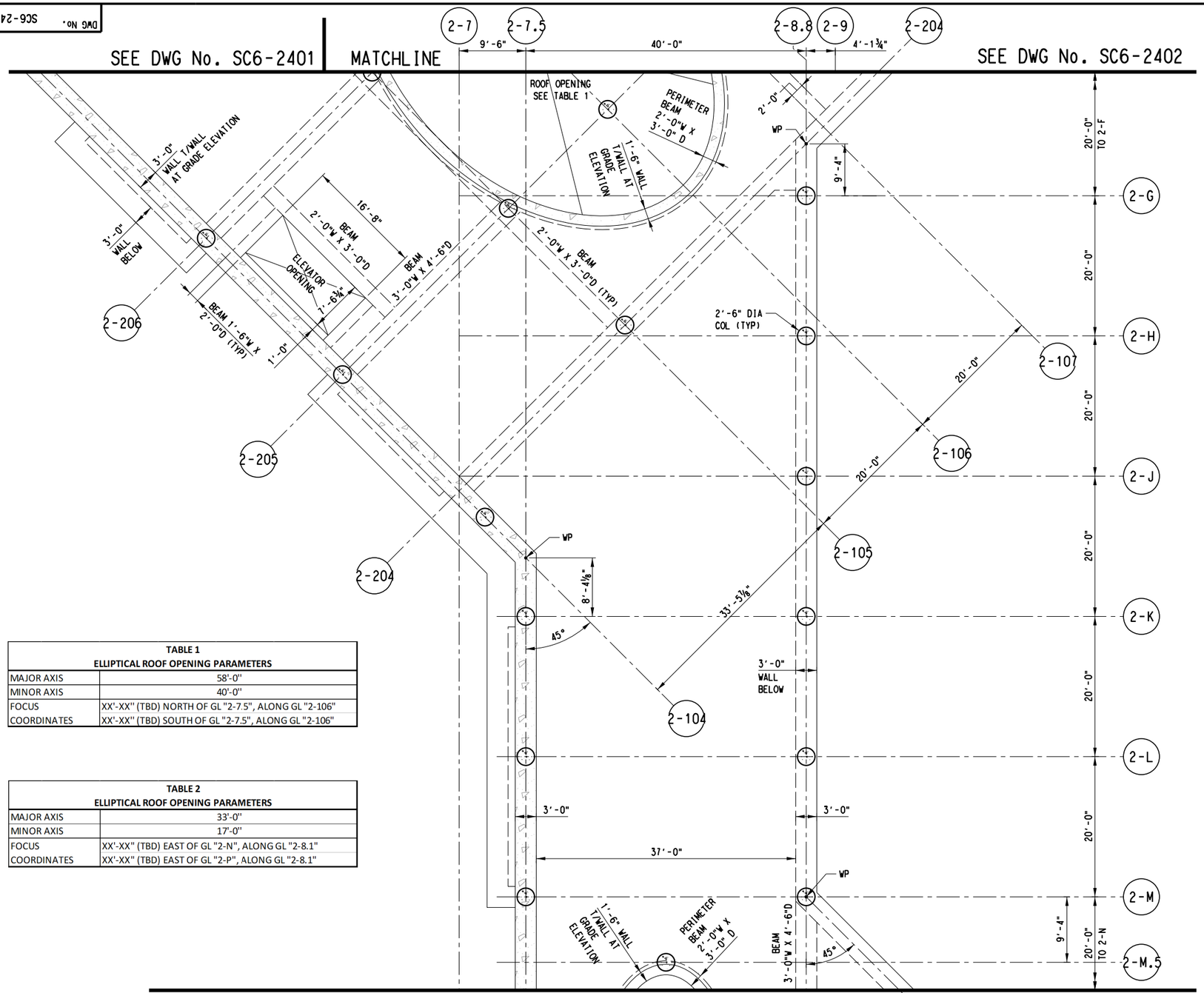


TABLE 1 ELLIPTICAL ROOF OPENING PARAMETERS	
MAJOR AXIS	58'-0"
MINOR AXIS	40'-0"
FOCUS COORDINATES	XX'-XX" (TBD) NORTH OF GL "2-7.5", ALONG GL "2-106" XX'-XX" (TBD) SOUTH OF GL "2-7.5", ALONG GL "2-106"

TABLE 2 ELLIPTICAL ROOF OPENING PARAMETERS	
MAJOR AXIS	33'-0"
MINOR AXIS	17'-0"
FOCUS COORDINATES	XX'-XX" (TBD) EAST OF GL "2-N", ALONG GL "2-8.1" XX'-XX" (TBD) EAST OF GL "2-P", ALONG GL "2-8.1"

SEE DWG No. SC6-2402

MATCHLINE

ROOF LEVEL PLAN E
SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 1'-6" X 1'-6" NO SHOWN.

D R A F T
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 212 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB

HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 5 OF 9

CONTRACT | DWG No. SC6-2405 | REV

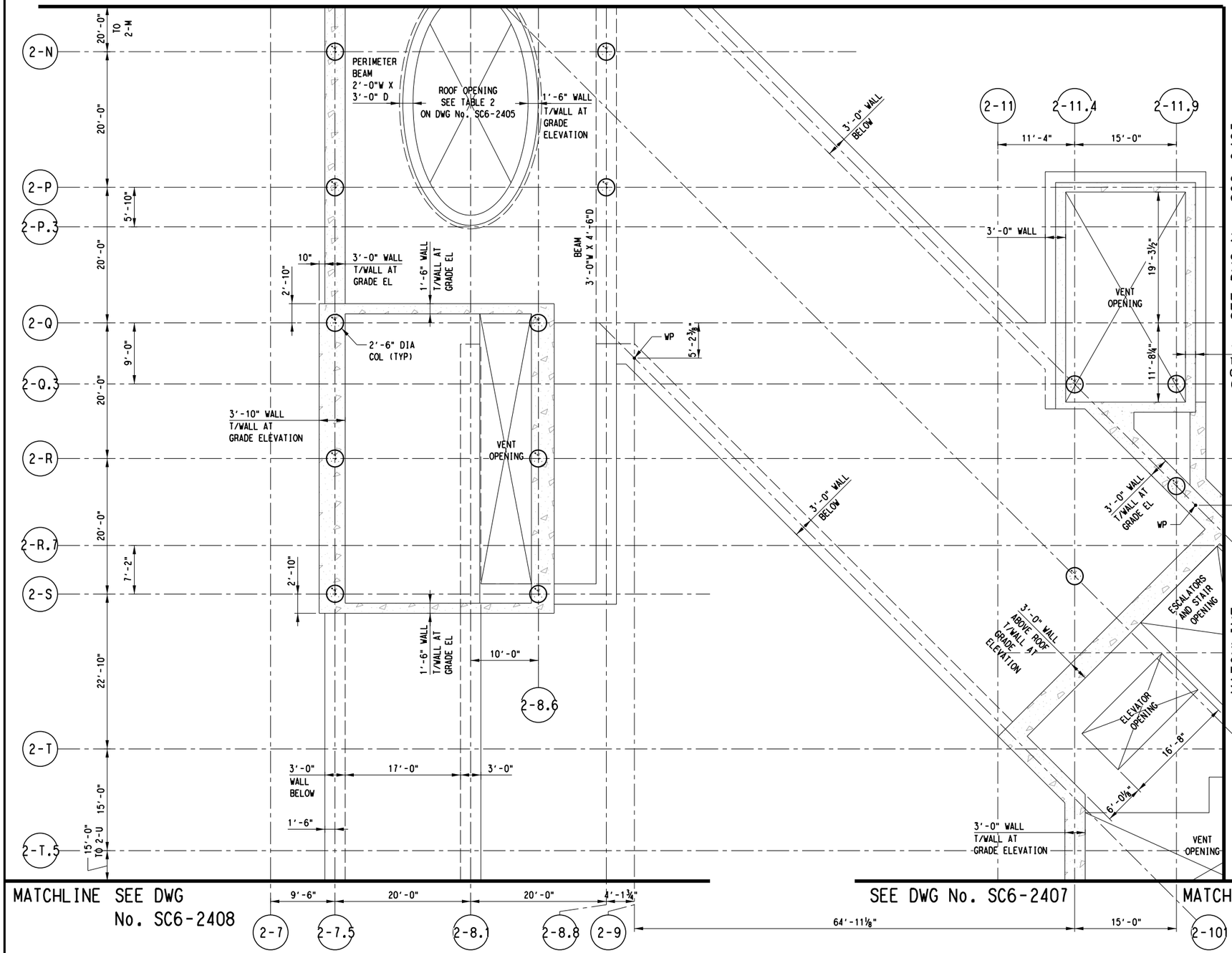
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DWG No. SC6-2406

MATCHLINE

SEE DWG No. SC6-2405



MATCHLINE SEE DWG No. SC6-2408

SEE DWG No. SC6-2407 MATCHLINE

SEE DWG No. SC6-2407

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 1'-6" X 1'-6" NO SHOWN.

ROOF LEVEL PLAN F
SCALE: ⅛"=1'-0"

DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 213 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

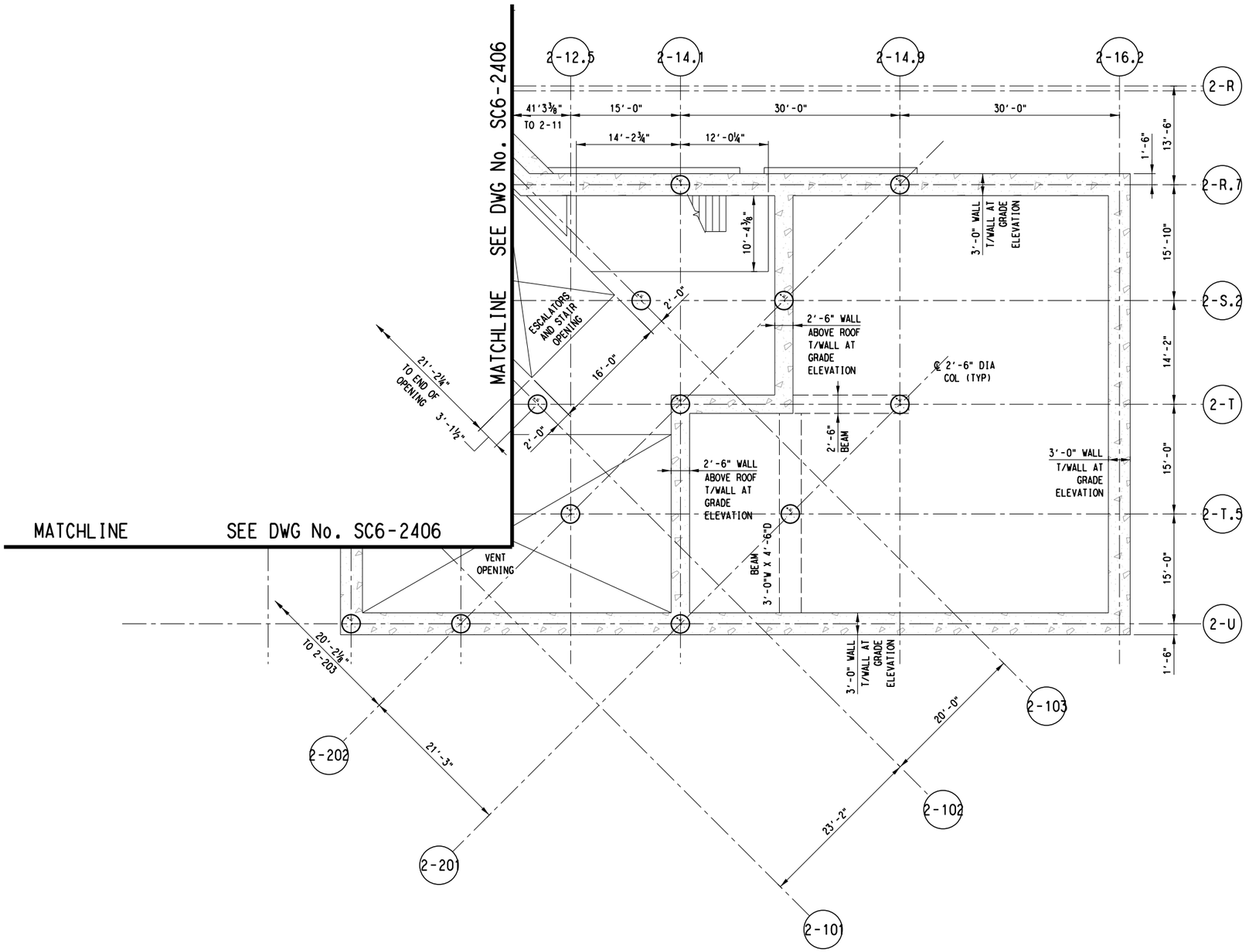
METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 6 OF 9

CONTRACT	DWG No.	REV
	SC6-2406	

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MATCHLINE SEE DWG No. SC6-2406

ROOF LEVEL PLAN G

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 1'-6" X 1'-6" NO SHOWN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 7 OF 9

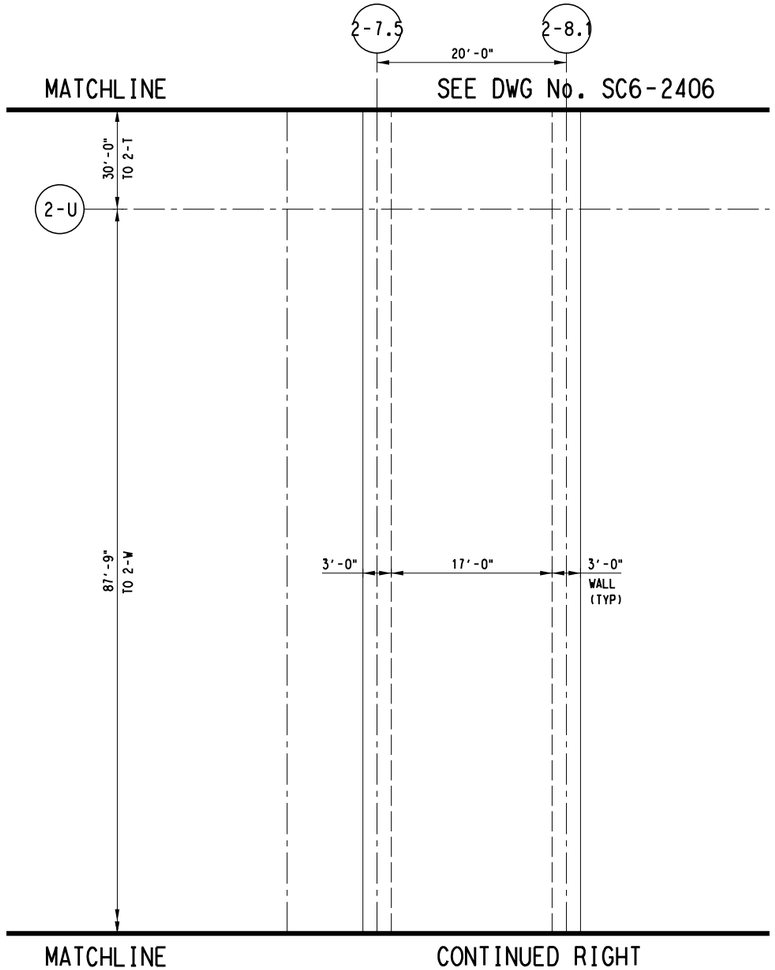
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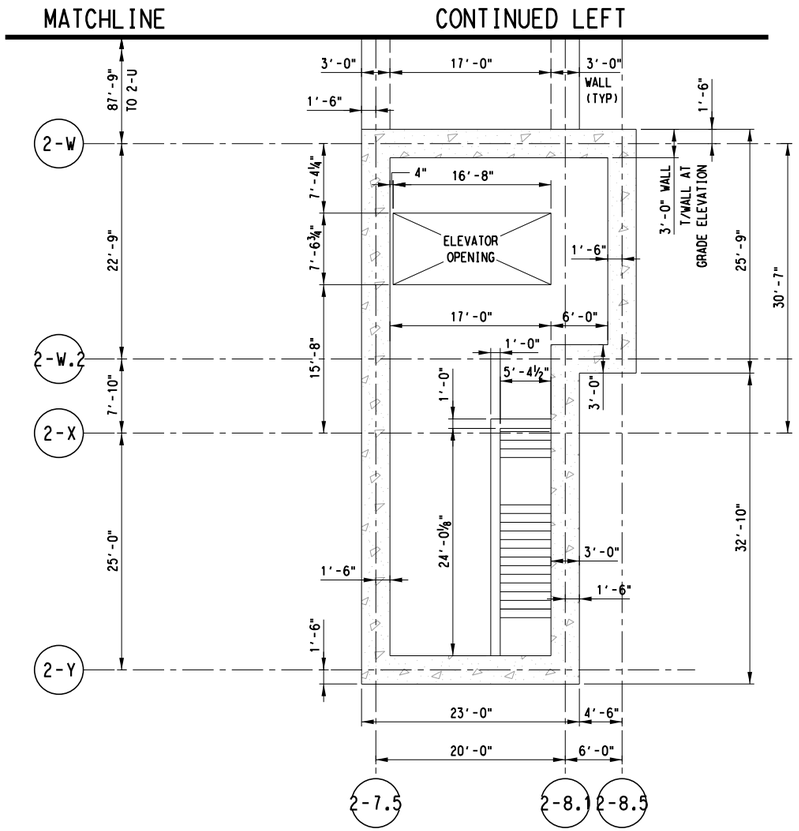
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DWG No. SC6-2408





SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 1'-6" X 1'-6" NO SHOWN.

ROOF LEVEL PLAN H

SCALE: ⅛"=1'-0"

D R A F T
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TUNNEL/STATION VENTILATION INPUT,
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TBPE Firm Registration No. 420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

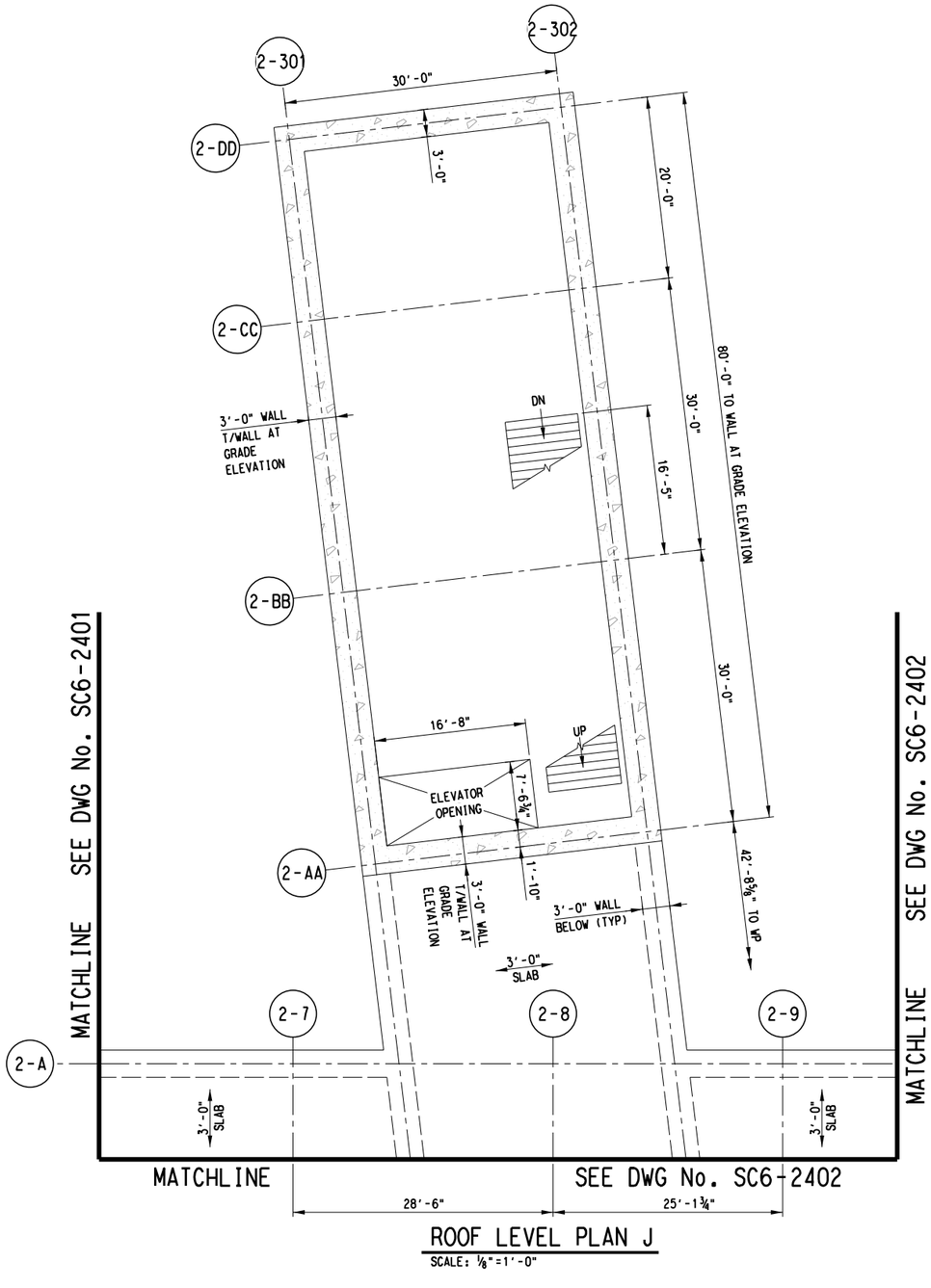
METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 8 OF 9

CONTRACT | DWG No. SC6-2408 | REV

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ROOF LEVEL PLAN J
SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 1'-6" X 1'-6" NO SHOWN.

D R A F T
CONCEPTUAL DESIGN PENDING
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TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
ROOF LEVEL PLAN
SHEET 9 OF 9

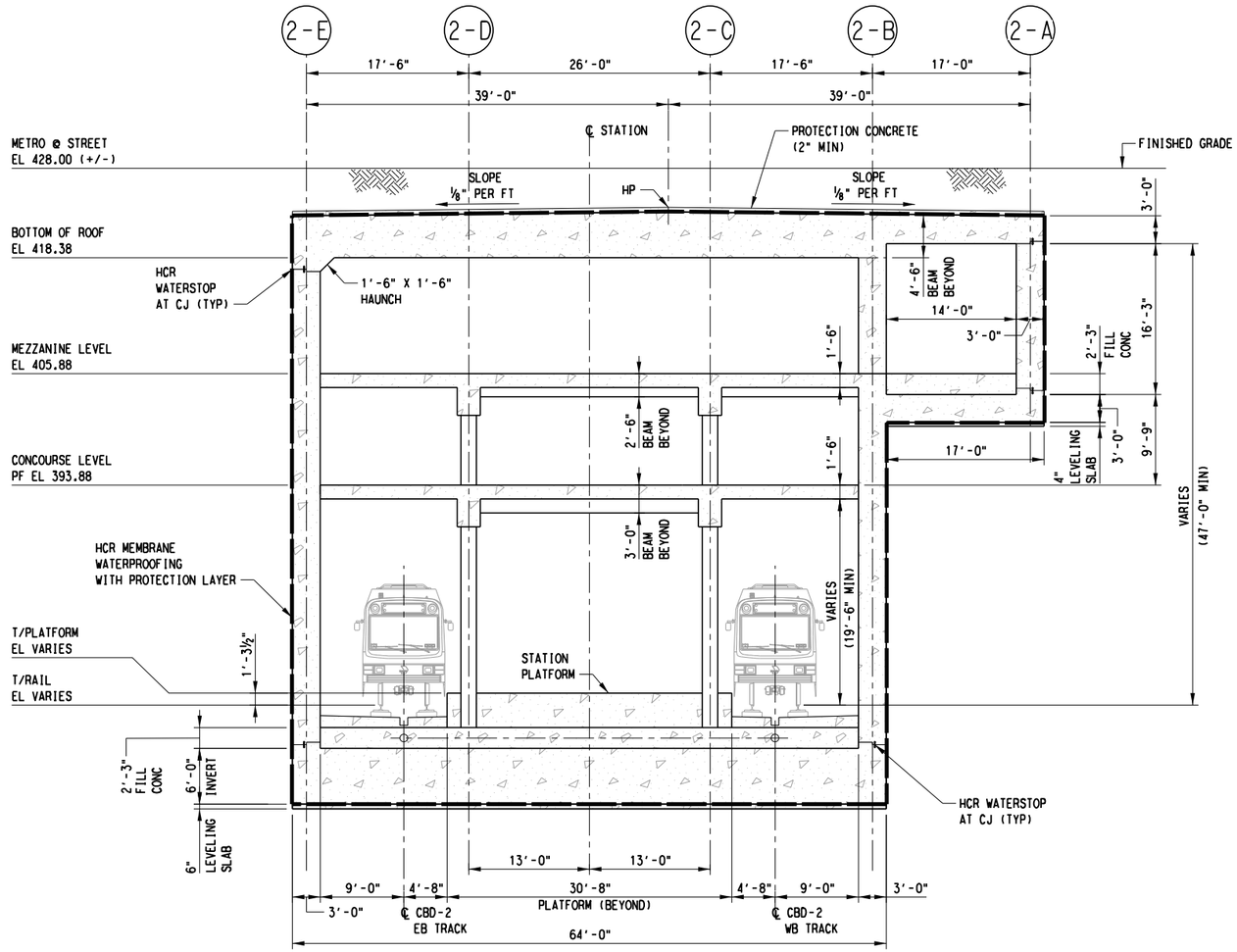
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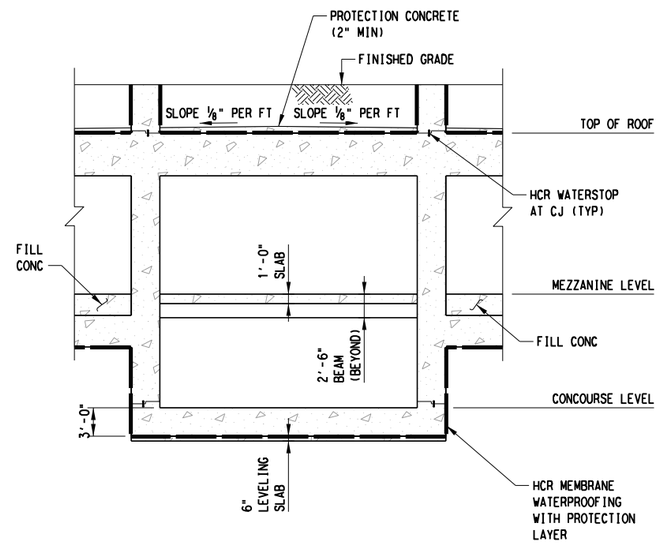
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DWG No. SC8-2101



SECTION A
SCALE: ⅛"=1'-0"

SC6-2104
SC6-2204
SC6-2304
SC6-2404



SECTION C
SCALE: NTS

SC6-2202
SC6-2302
SC6-2402

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
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TBPE Firm Registration No.420

DART PROJECT

SCALE	AS NOTED
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

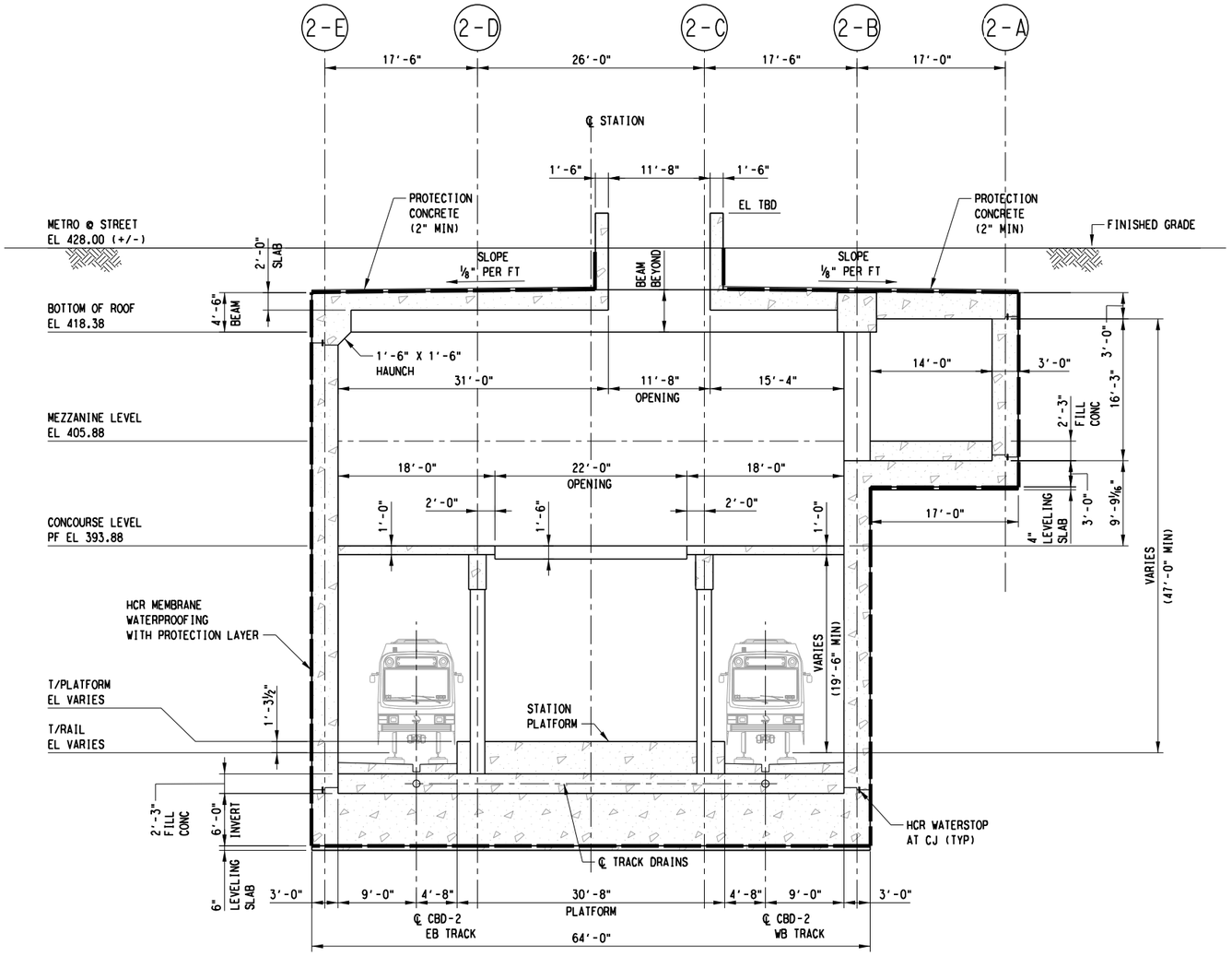
METRO CENTER STATION
SECTION A

CONTRACT | DWG No. SC8-2101 | REV

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SECTION B
SCALE: ⅛"=1'-0"

SC6-2103
SC6-2203
SC6-2303
SC6-2403

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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TBPE Firm Registration No.420

DART PROJECT

DART

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
SECTION B

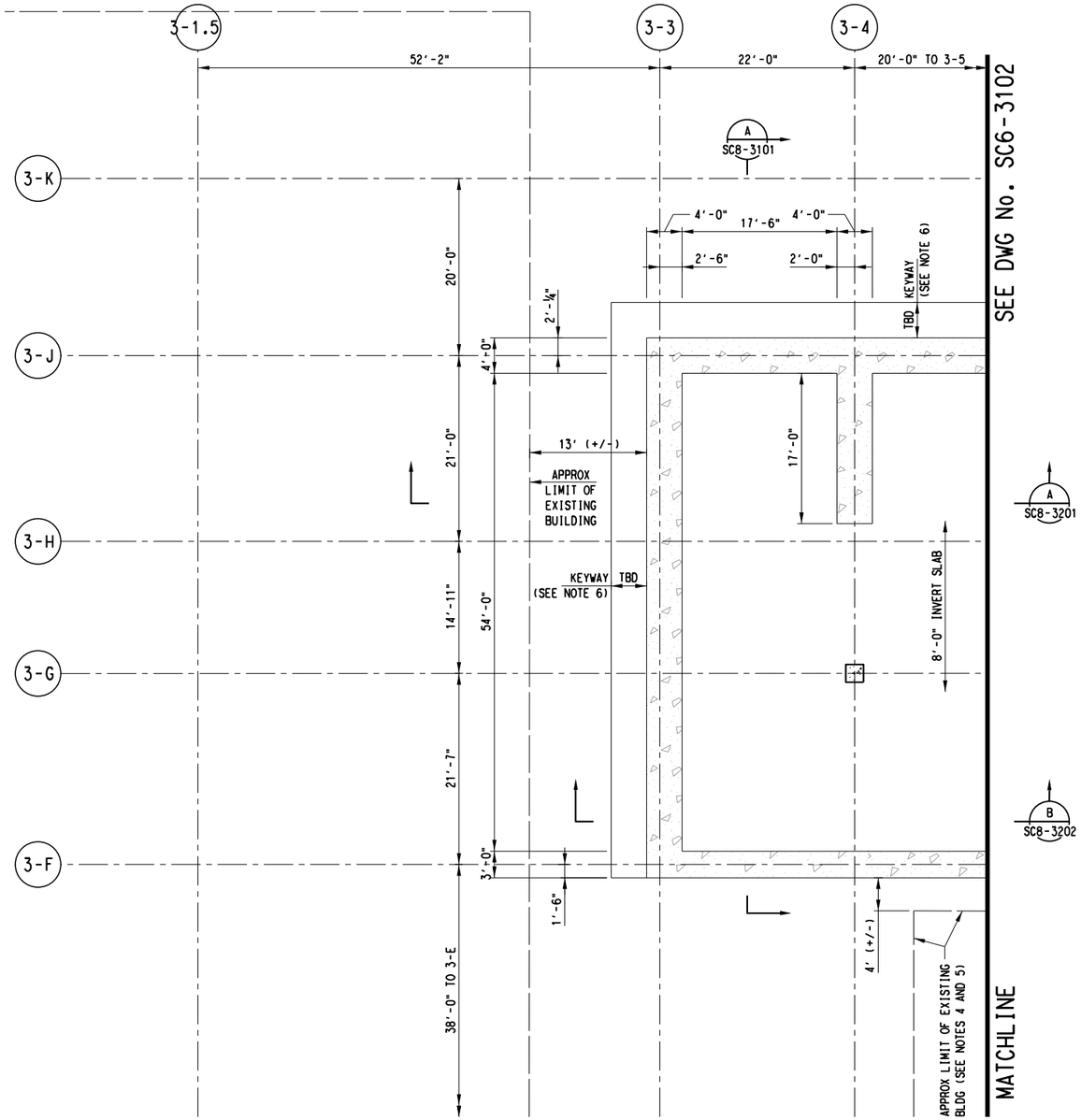
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DWG No. SC6-3101



PLATFORM LEVEL PLAN A

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF FOUNDATION OF EXISTING BUILDING.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DEVELOP AN EXCAVATION SEQUENCE AND AN UNDERPINNING DESIGN IN ACCORDANCE WITH DART SPECIFICATIONS SECTION 31 48 00 "UNDERPINNING, SUPPORT AND RESTORATION OF STRUCTURES" TO MITIGATE GROUND MOVEMENTS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.
   (C) BASED ON THE CONDITIONS OF THE EXISTING BUILDING, ESTABLISH AND IMPLEMENT AN INSTRUMENTATION AND MONITORING PLAN TO RECORD THE STRUCTURES BEHAVIOR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXPOSED SIDE OF EXISTING BUILDING FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE STRUCTURE.
6. KEYWAY FOR RESISTANCE TO FLOATATION MAY BE OMITTED IF ALTERANTIVE MEASURES, SUCH AS TIE-DOWN ANCHORS, ARE PROVIDED.

D R A F T
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 219 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STATION HEADHOUSE
PLATFORM PLAN
SHEET 1 OF 2

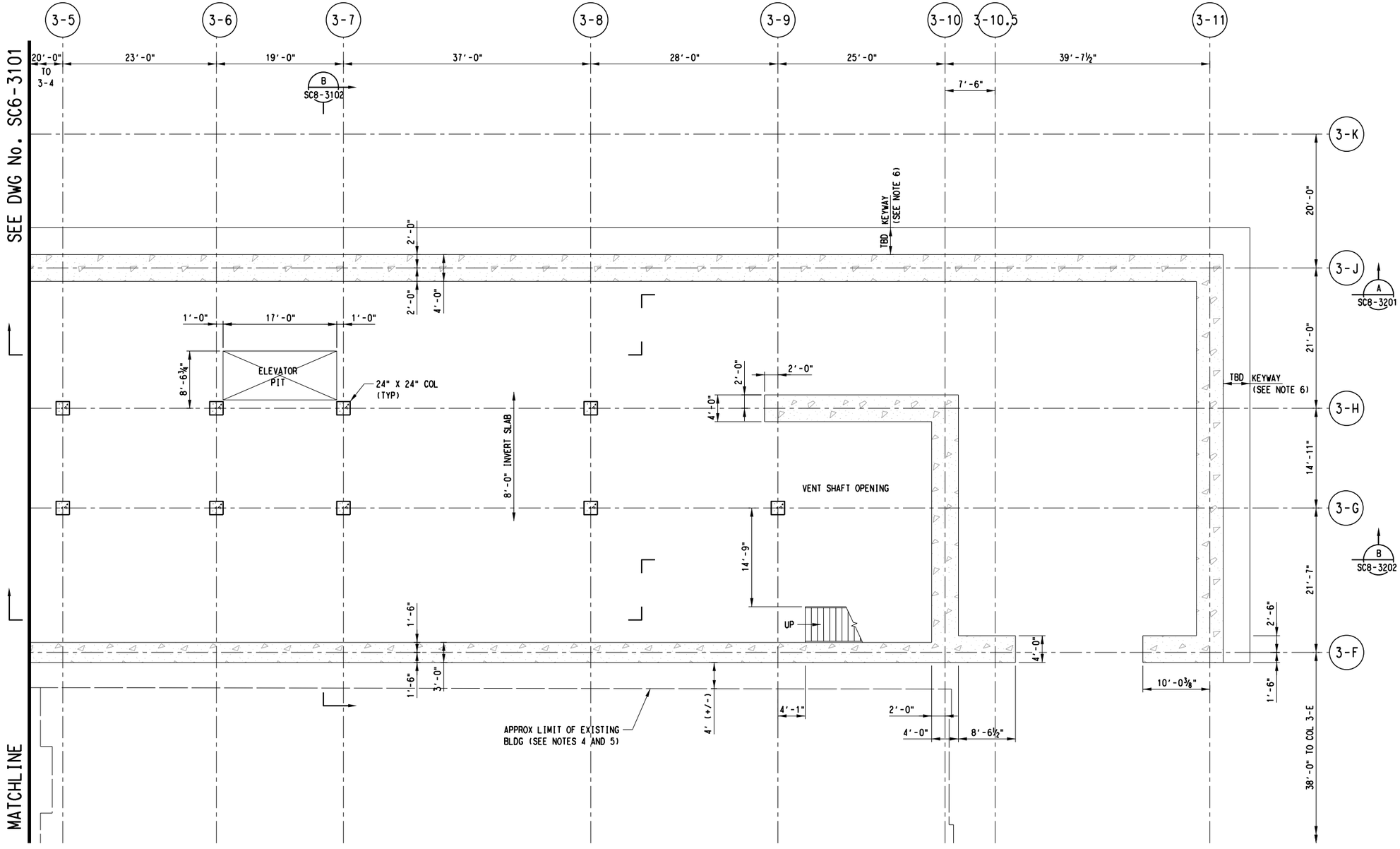
CONTRACT | DWG No. SC6-3101 | REV

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DWG No. SC6-3102



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF FOUNDATION OF EXISTING BUILDING.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DEVELOP AN EXCAVATION SEQUENCE AND AN UNDERPINNING DESIGN IN ACCORDANCE WITH DART SPECIFICATIONS SECTION 31 48 00 "UNDERPINNING, SUPPORT AND RESTORATION OF STRUCTURES" TO MITIGATE GROUND MOVEMENTS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.
   (C) BASED ON THE CONDITIONS OF THE EXISTING BUILDING, ESTABLISH AND IMPLEMENT AN INSTRUMENTATION AND MONITORING PLAN TO RECORD THE STRUCTURES BEHAVIOR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXPOSED SIDE OF EXISTING BUILDING FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE STRUCTURE.
6. KEYWAY FOR RESISTANCE TO FLOATATION MAY BE OMITTED IF ALTERANTIVE MEASURES, SUCH AS TIE-DOWN ANCHORS, ARE PROVIDED.

PLATFORM LEVEL PLAN B

SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
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AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 220 OF 276

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

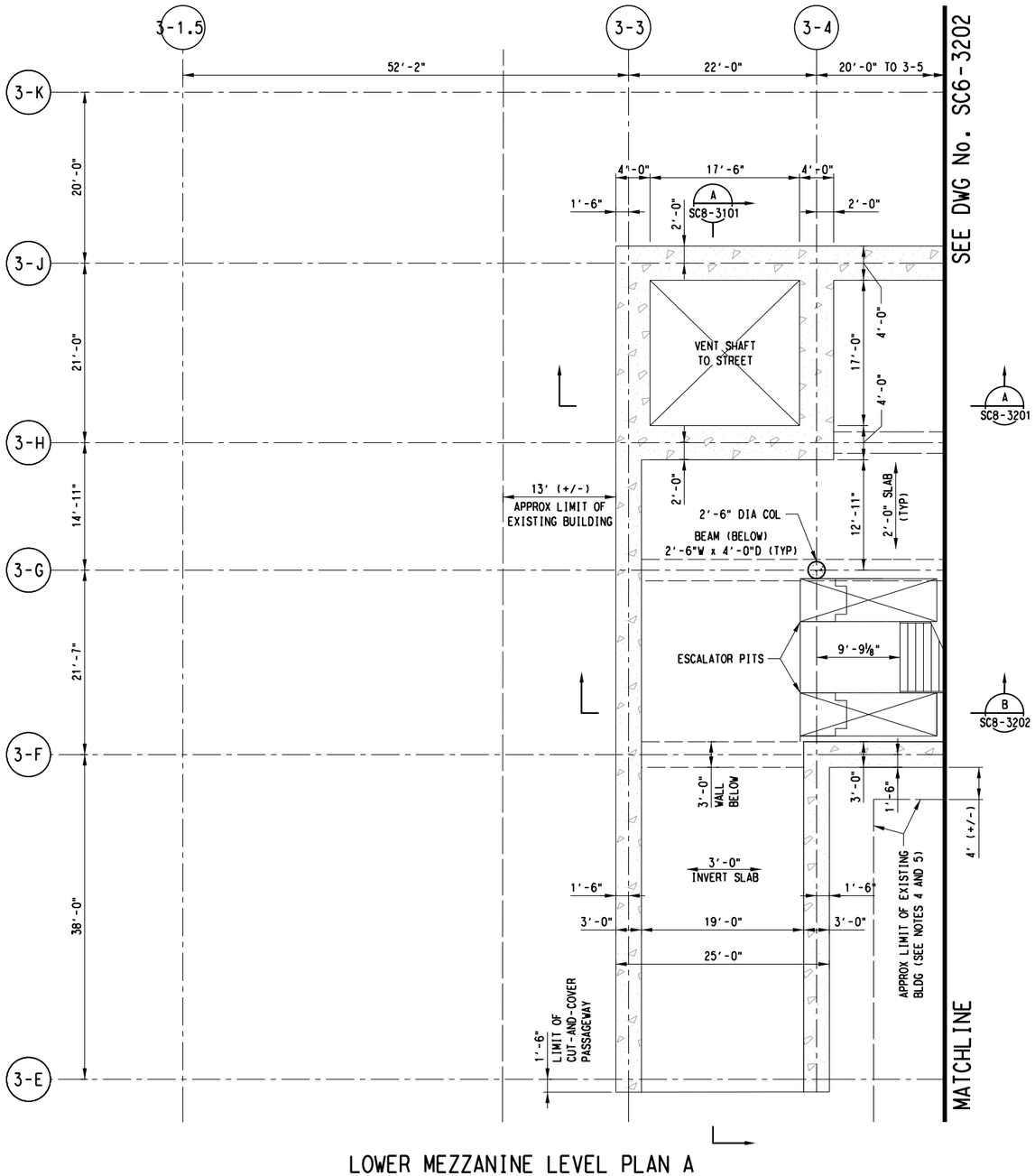
COMMERCE STATION HEADHOUSE
PLATFORM PLAN
SHEET 2 OF 2

CONTRACT	DWG No.	REV
	SC6-3102	

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DWG No. SC6-3201



LOWER MEZZANINE LEVEL PLAN A

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF FOUNDATION OF EXISTING BUILDING.
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DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
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CONTRACT SHEET No. 221 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

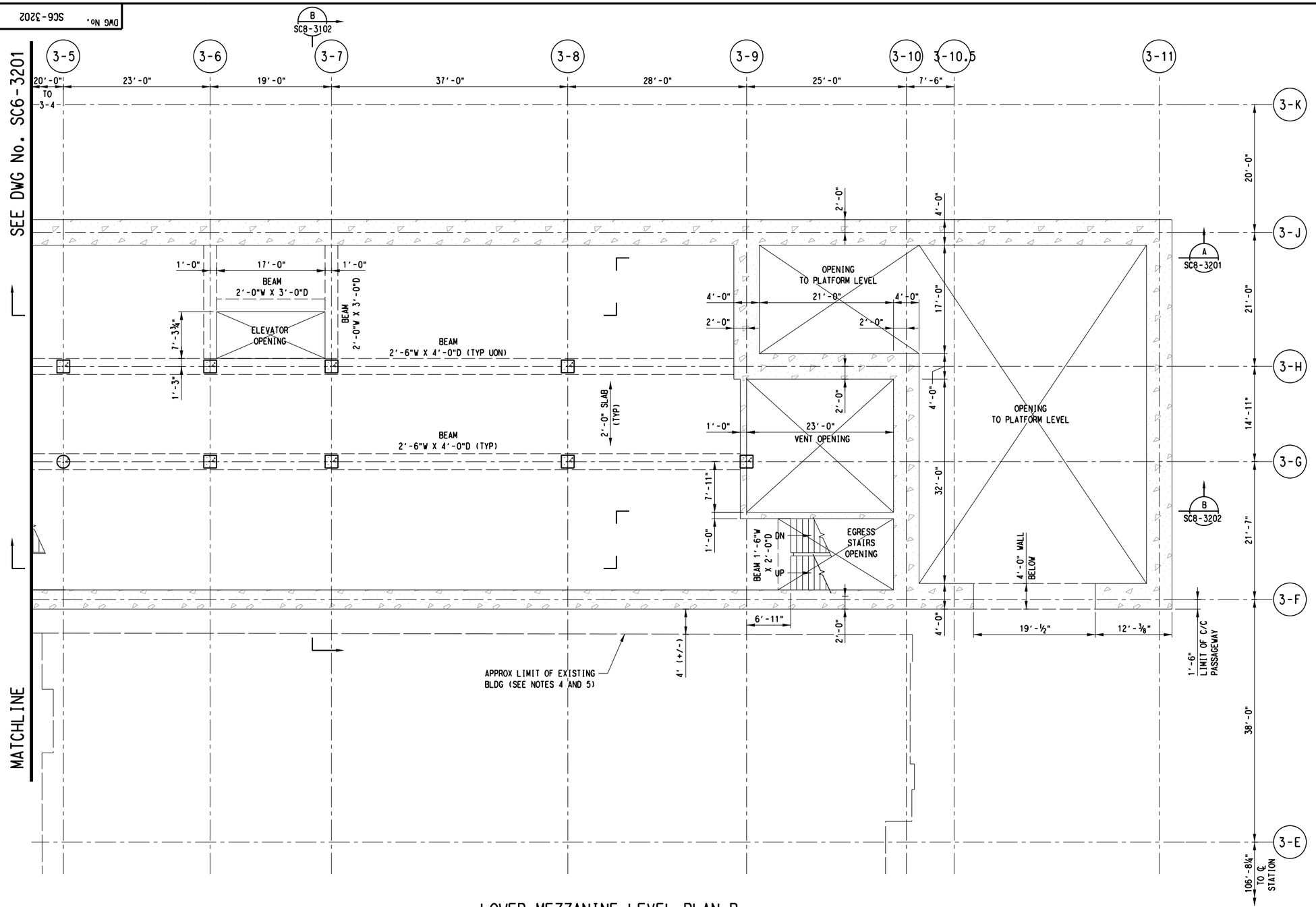
COMMERCE STATION HEADHOUSE
LOWER MEZZANINE PLAN
SHEET 1 OF 2

CONTRACT	DWG No.	REV
	SC6-3201	

bwhiteside
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DWG No. SC6-3202



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
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LOWER MEZZANINE LEVEL PLAN B

SCALE: ⅛"=1'-0"

DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 222 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STATION HEADHOUSE
LOWER MEZZANINE PLAN
SHEET 2 OF 2

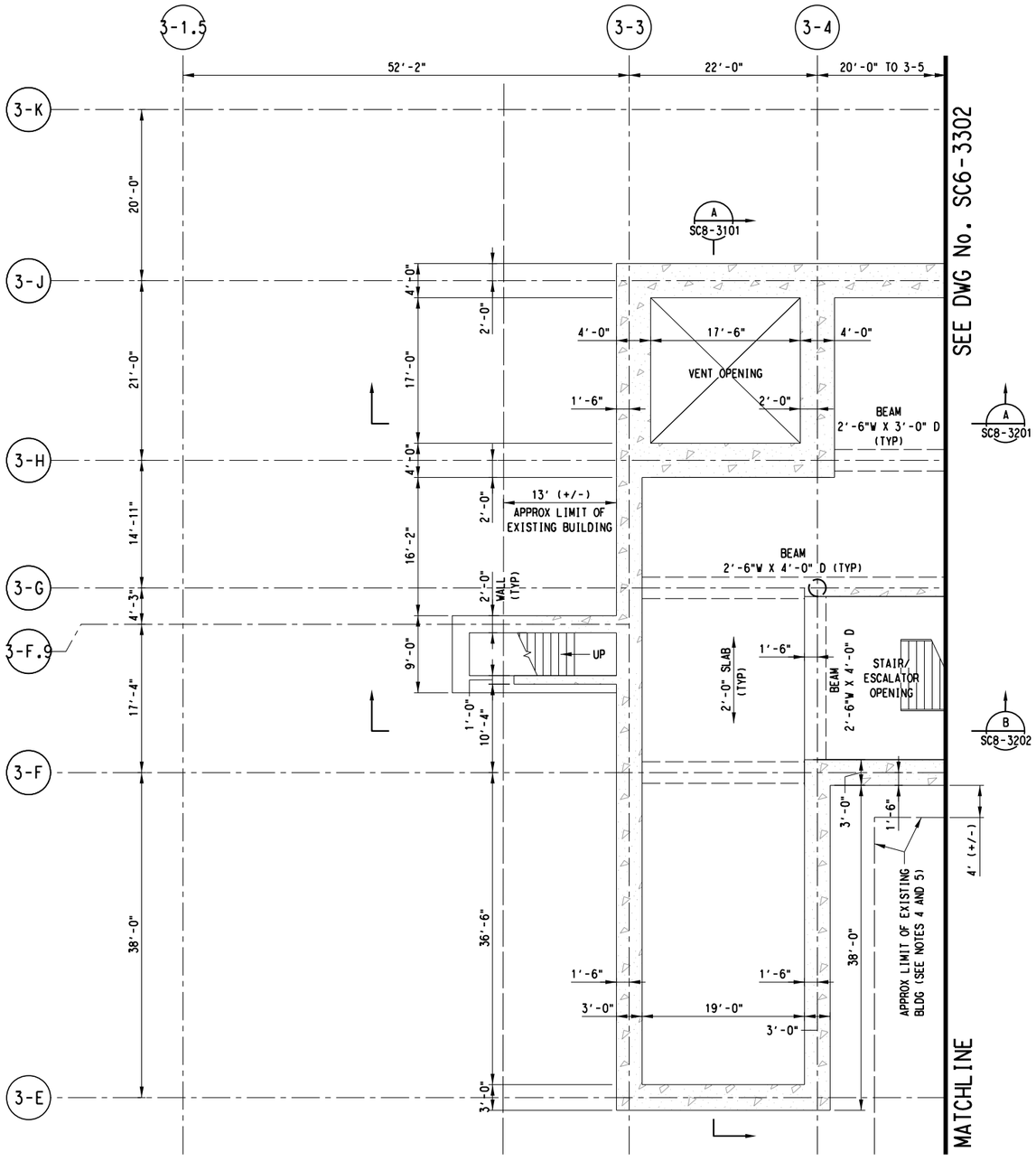
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	SC6-3202	

bwhiteside
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DWG No. SC6-3301



MIDDLE MEZZANINE LEVEL PLAN A

SCALE: 1/8"=1'-0"



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D R A F T
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TUNNEL/STATION VENTILATION INPUT,
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PRELIMINARY 20% DESIGN

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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	1/8 "=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

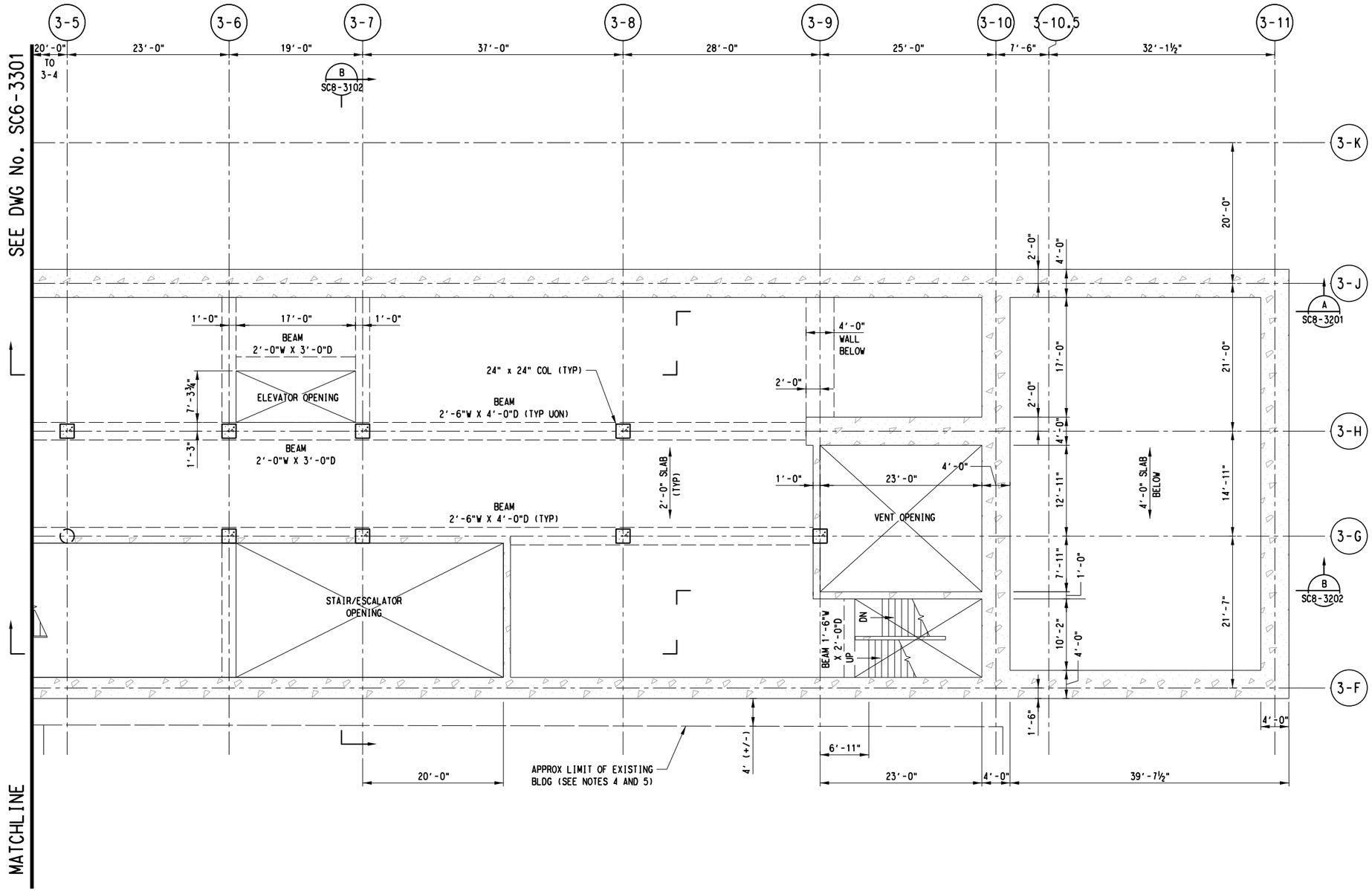
COMMERCE STATION HEADHOUSE
MIDDLE MEZZANINE PLAN
SHEET 1 OF 2

CONTRACT	DWG No.	REV
	SC6-3301	

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DWG No. SC6-3302



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
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MIDDLE MEZZANINE LEVEL PLAN B

SCALE: ⅛"=1'-0"

DRAFT
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
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PRELIMINARY 20% DESIGN

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REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP
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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STATION HEADHOUSE
MIDDLE MEZZANINE PLAN
SHEET 2 OF 2

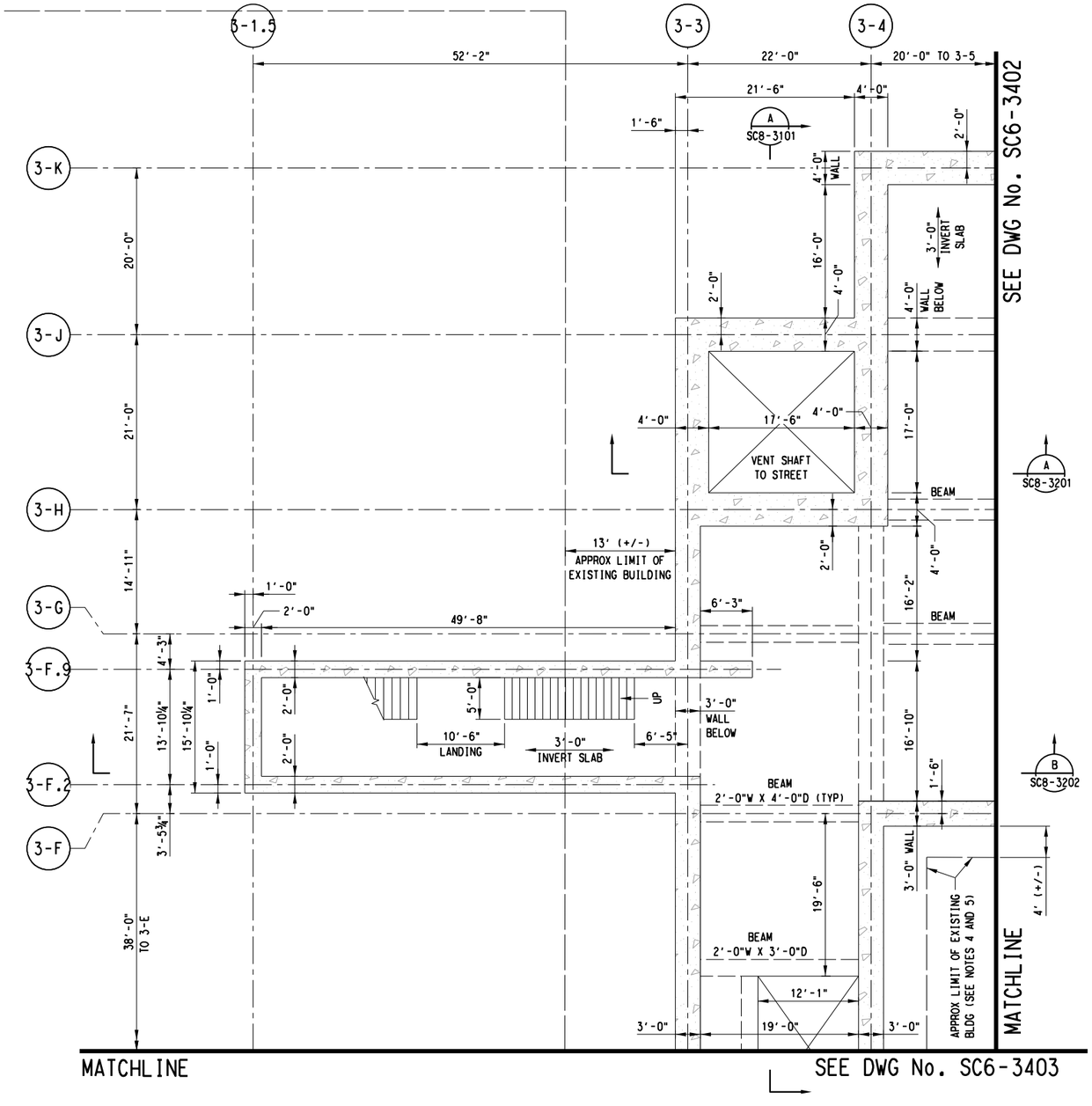
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DWG No. SC6-3401



UPPER MEZZANINE LEVEL PLAN A

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

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DRAFT
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SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

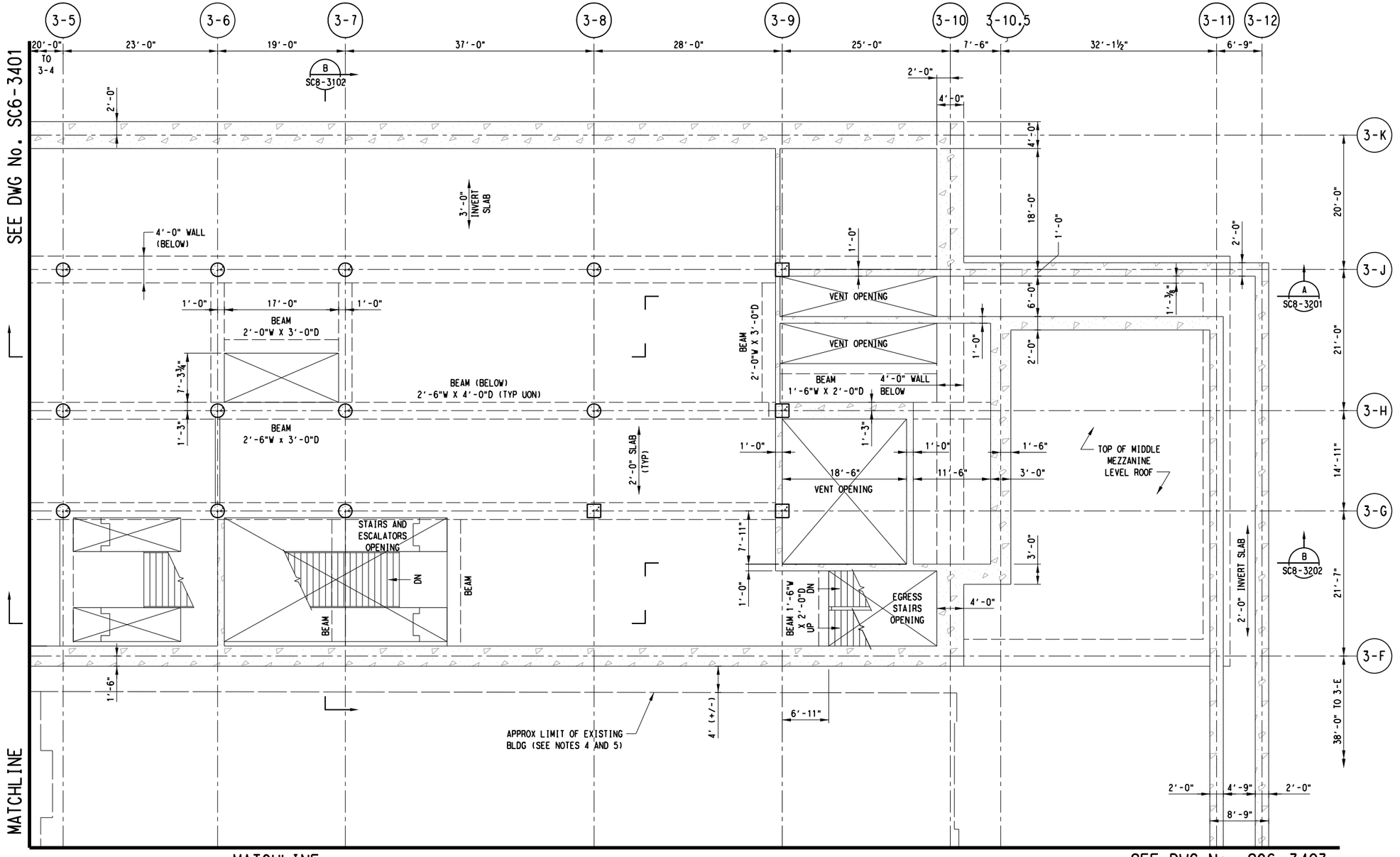
COMMERCE STATION HEADHOUSE
UPPER MEZZANINE PLAN
SHEET 1 OF 3

CONTRACT | DWG No. SC6-3401 | REV

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DWG No. SC6-3402



UPPER MEZZANINE LEVEL PLAN B

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

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PRELIMINARY 20% DESIGN

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DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

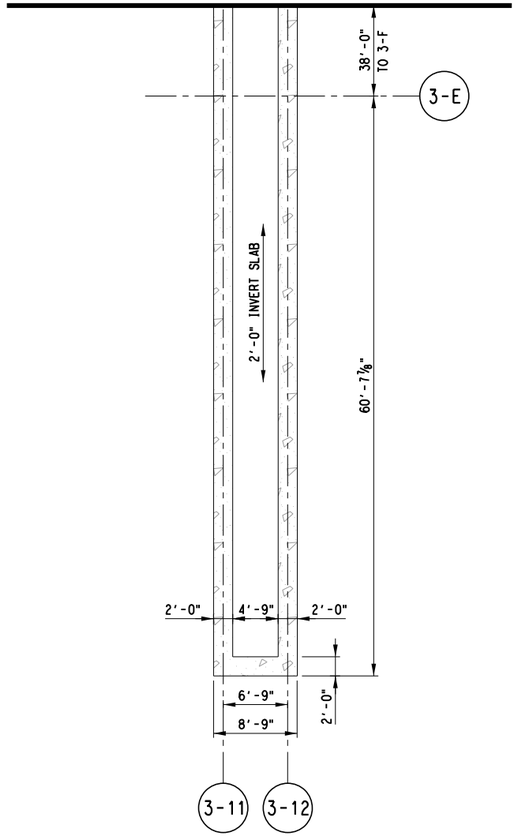
COMMERCE STATION HEADHOUSE
UPPER MEZZANINE PLAN
SHEET 2 OF 3

CONTRACT | DWG No. SC6-3402 | REV

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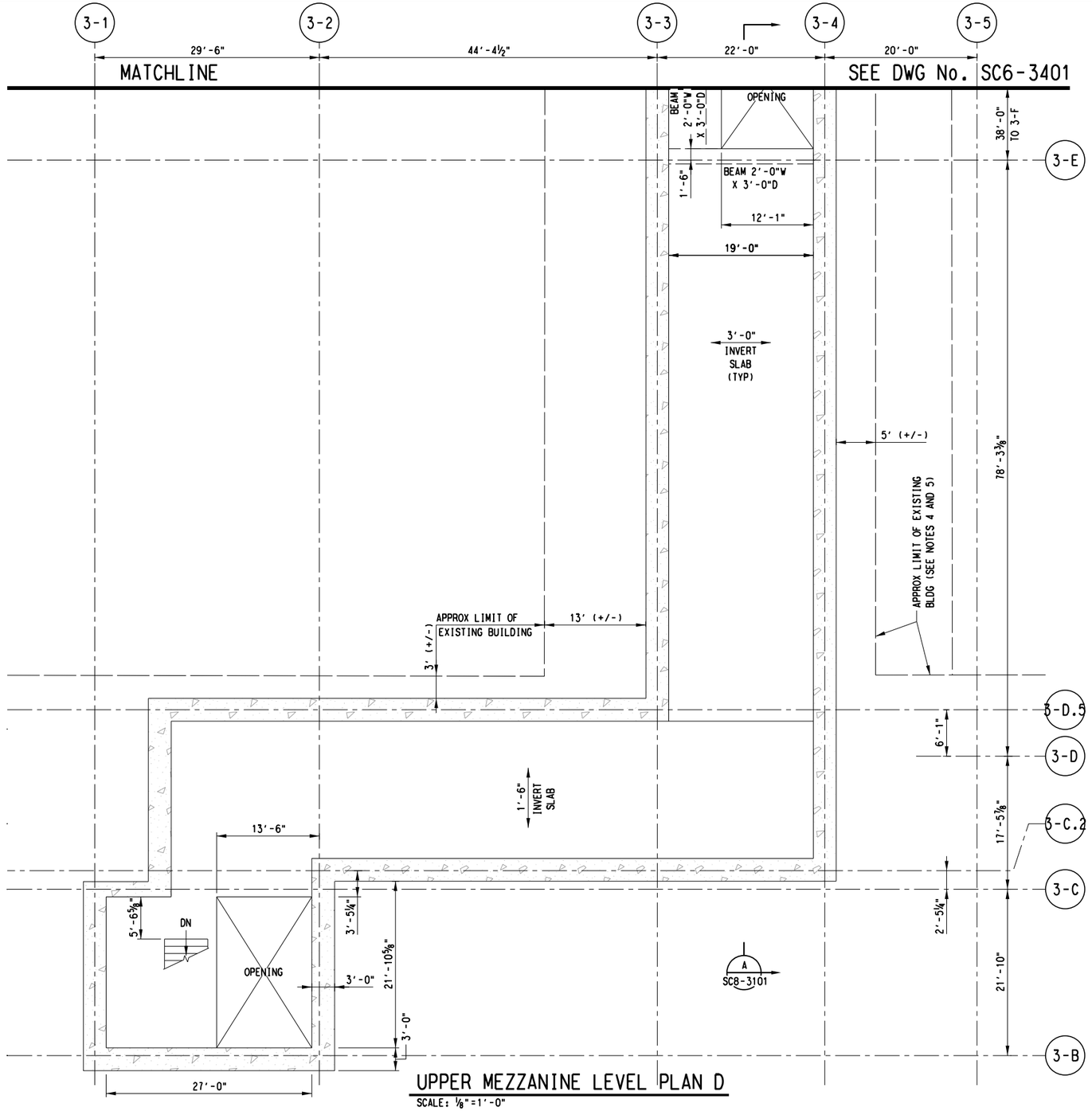
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UPPER MEZZANINE LEVEL PLAN C

SCALE: ⅛"=1'-0"



UPPER MEZZANINE LEVEL PLAN D

SCALE: ⅛"=1'-0"



NOTES:

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CONTRACT SHEET No. 227 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

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LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

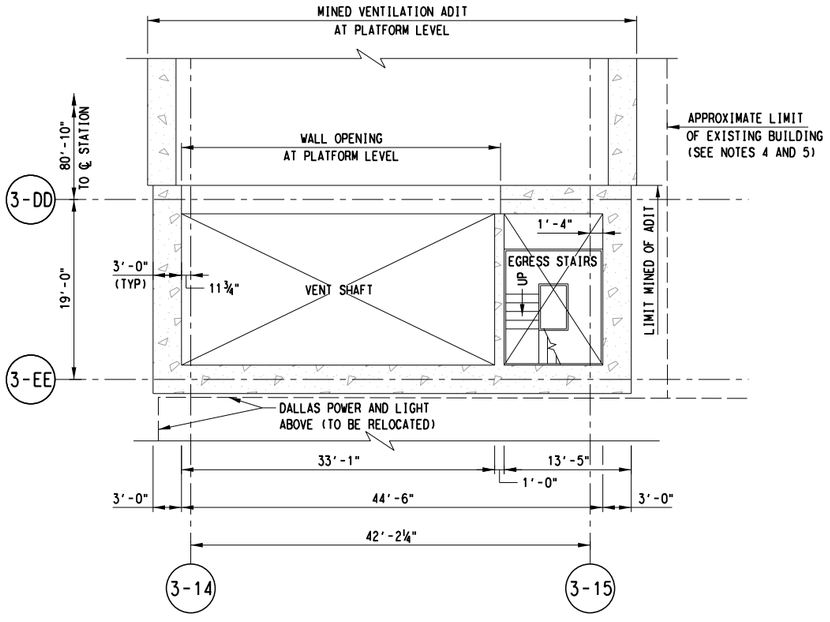
COMMERCE STATION HEADHOUSE
UPPER MEZZANINE PLAN
SHEET 3 OF 3

CONTRACT	DWG No.	REV
	SC6-3403	

bwhiteside
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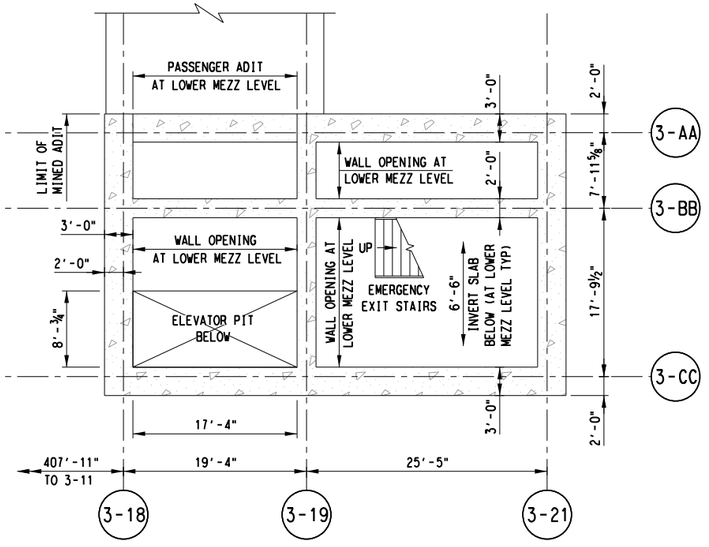
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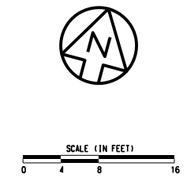
SHAFT XXX PLAN ABOVE PLATFORM LEVEL

SCALE: ⅛"=1'-0"



SHAFT XXX PLAN ABOVE LOWER MEZZANINE LEVEL

SCALE: ⅛"=1'-0"



NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF FOUNDATION OF EXISTING BUILDING.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DEVELOP AN EXCAVATION SEQUENCE AND AN UNDERPINNING DESIGN IN ACCORDANCE WITH DART SPECIFICATIONS SECTION 31 48 00 "UNDERPINNING, SUPPORT AND RESTORATION OF STRUCTURES" TO MITIGATE GROUND MOVEMENTS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.
   (C) BASED ON THE CONDITIONS OF THE EXISTING BUILDING, ESTABLISH AND IMPLEMENT AN INSTRUMENTATION AND MONITORING PLAN TO RECORD THE STRUCTURES BEHAVIOR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXPOSED SIDE OF EXISTING BUILDING FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE STRUCTURE.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 228 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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HNTB

HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STATION
MISCELLANEOUS SHAFT PLAN

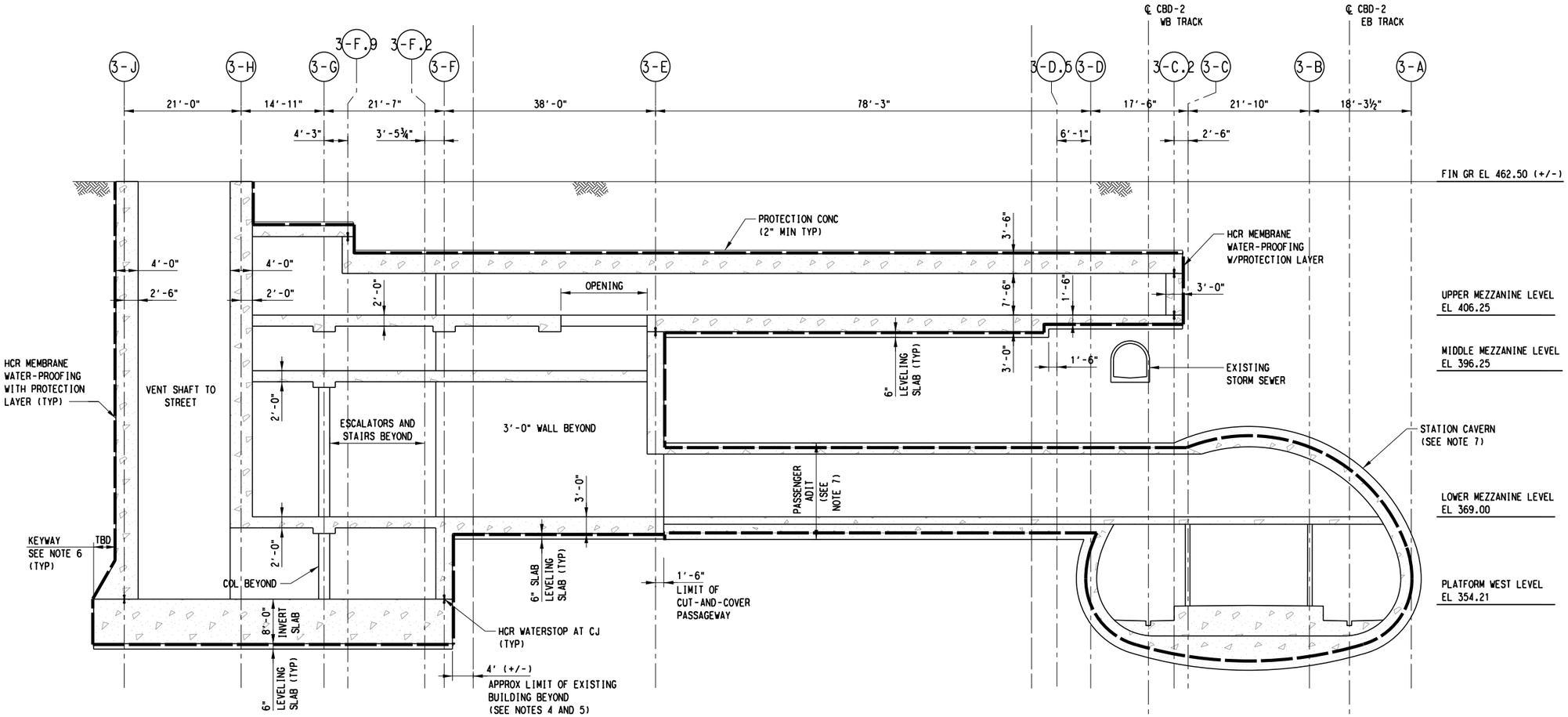
CONTRACT	DWG No.	REV
	SC6-3110	

bwhiteside
Default

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DWG No. SC8-3101



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
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6. KEYWAY FOR RESISTANCE TO FLOATATION MAY BE OMITTED IF ALTERANTIVE MEASURES, SUCH AS TIE-DOWN ANCHORS, ARE PROVIDED.
7. FOR STATION CAVERN AND PASSENGER ADIT SEE DRAWING Nos SC8-006 TO SC8-0012.

SECTION A

SCALE: 3/32"=1'-0"

SC6-3101, SC6-3102
SC6-3201, SC6-3202
SC6-3301, SC6-3302
SC6-3401, SC6-3403

DRAFT
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 229 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	3/32"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

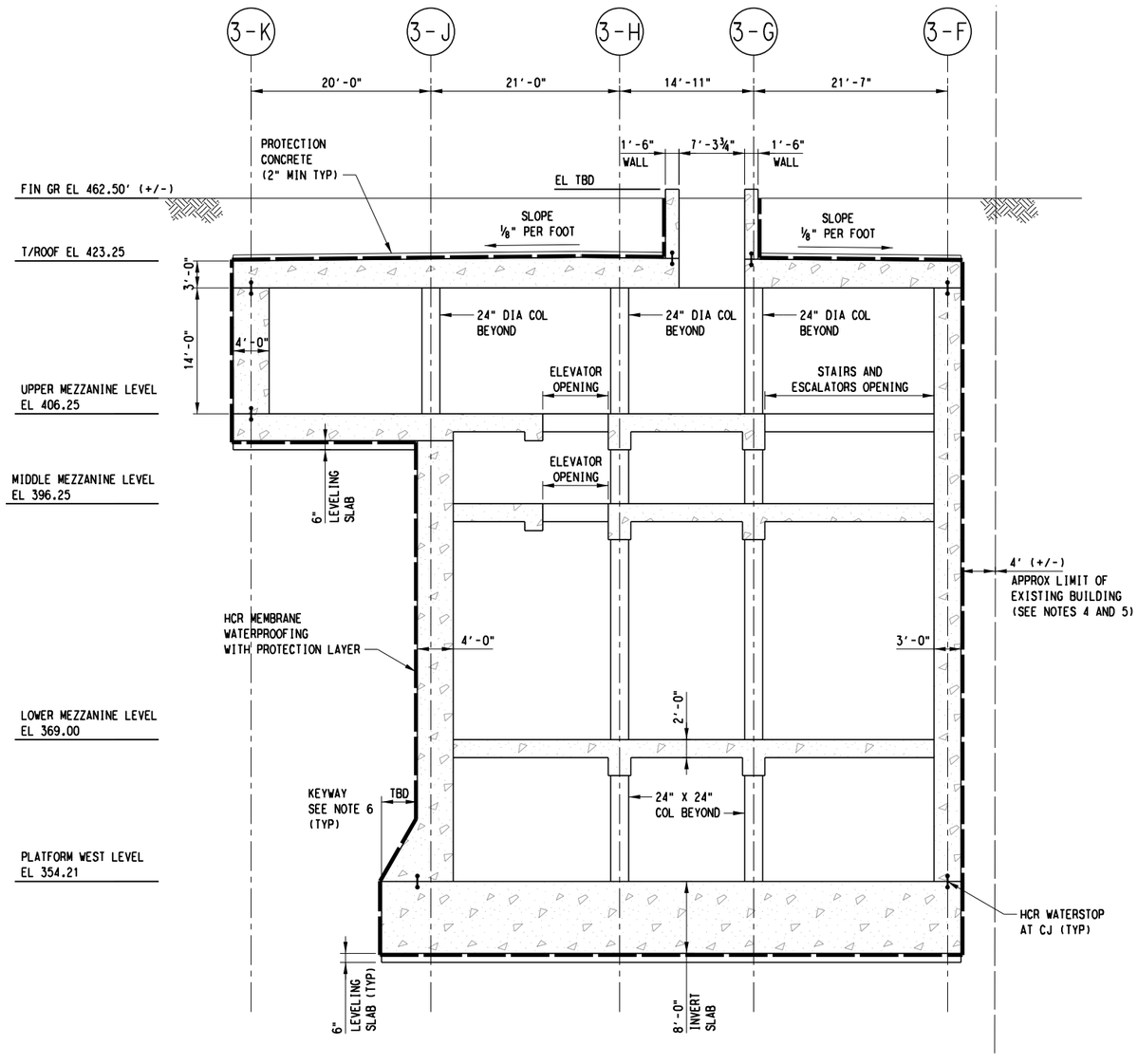
COMMERCE STATION
SECTION A

CONTRACT | DWG No. SC8-3101 | REV

bwhiteside
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28-FEB-2020 18:24
pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planni



SECTION B

SCALE: ⅛"=1'-0"

SC6-3102
SC6-3202
SC6-3302
SC6-3402

SCALE (IN FEET)
0 4 8 16

NOTES:

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D R A F T
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 230 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STATION
SECTION B

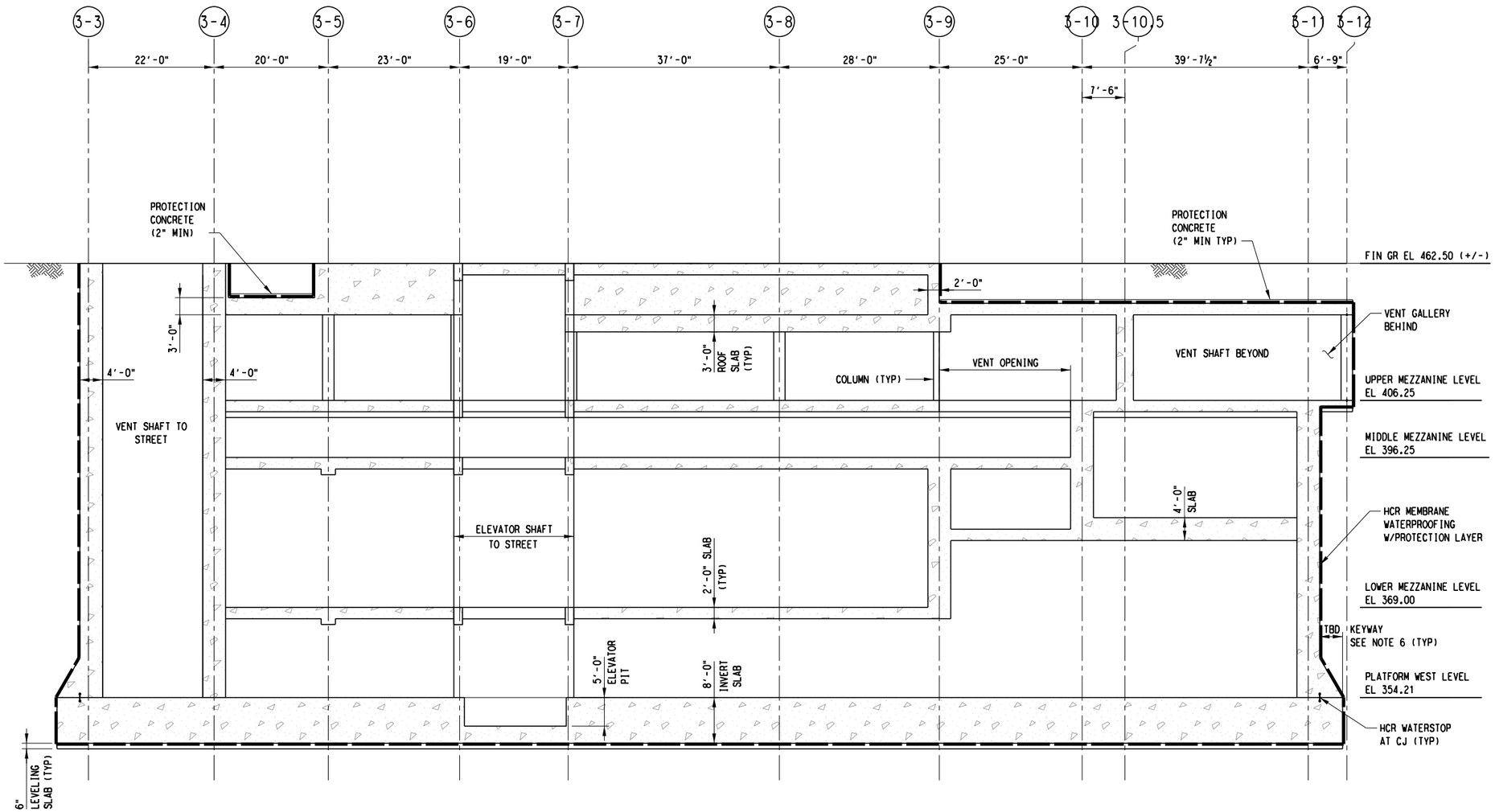
CONTRACT | DWG No. SC8-3102 | REV

bwhiteside
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DWG No. SC8-3201



SECTION A
SCALE: 3/32"=1'-0"

SC6-3101, SC6-3102
SC6-3201, SC6-3202
SC6-3301, SC6-3302
SC6-3401, SC6-3402

SCALE (IN FEET)
0 4 8 16

NOTES:

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DRAFT
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 231 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	3/32"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STATION
SECTION A

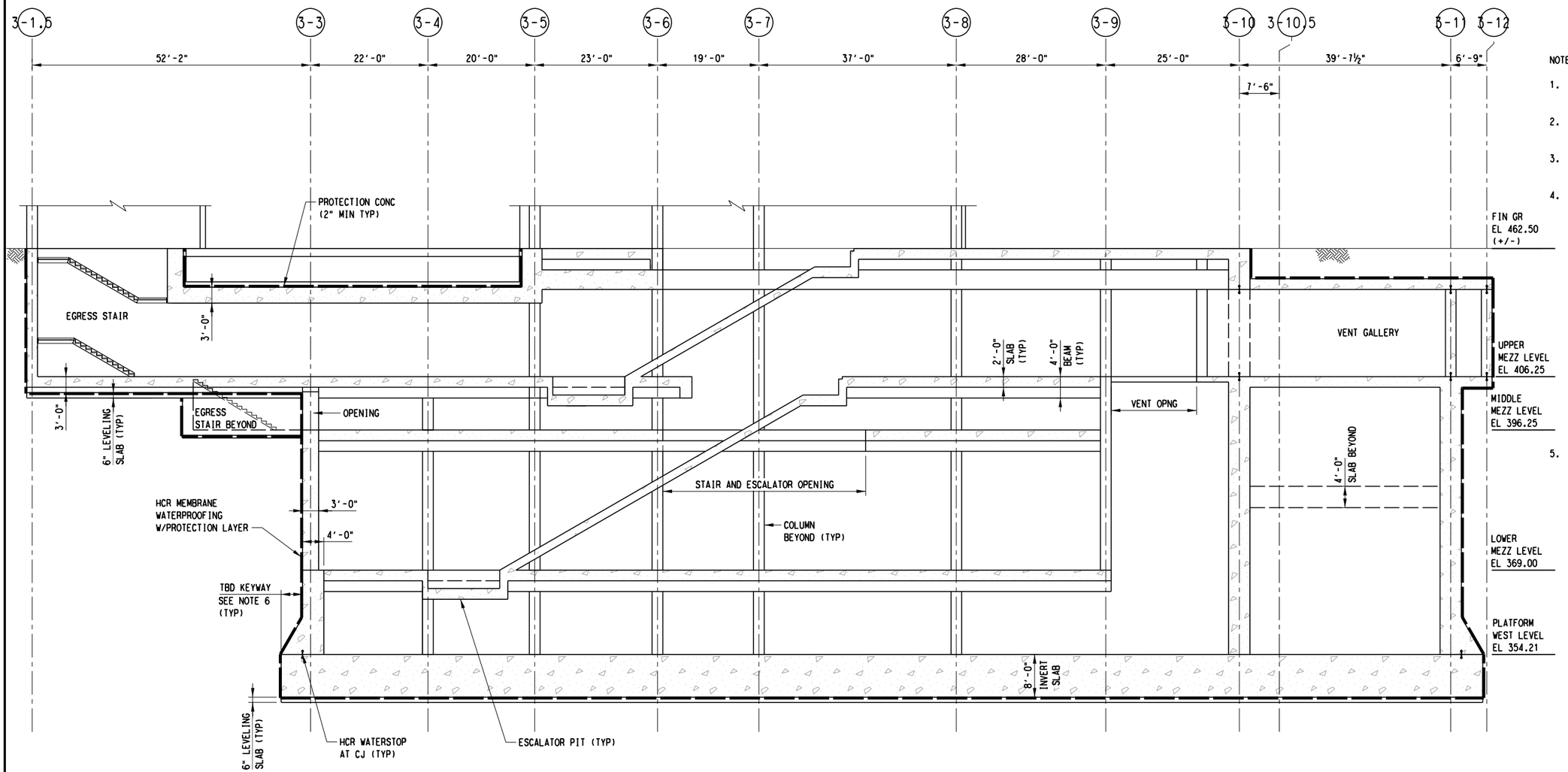
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	SC8-3201	

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DWG No. SC8-3202



SCALE (IN FEET)
0 4 8 16

NOTES:

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SECTION B

SCALE: 3/32"=1'-0"

SC6-3101, SC6-3102
SC6-3201, SC6-3202
SC6-3301, SC6-3302
SC6-3401, SC6-3402

D R A F T
CONCEPTUAL DESIGN PENDING RAIL/FACILITY SYSTEMS AND TUNNEL/STATION VENTILATION INPUT, AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 232 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	3/32"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STATION
SECTION B

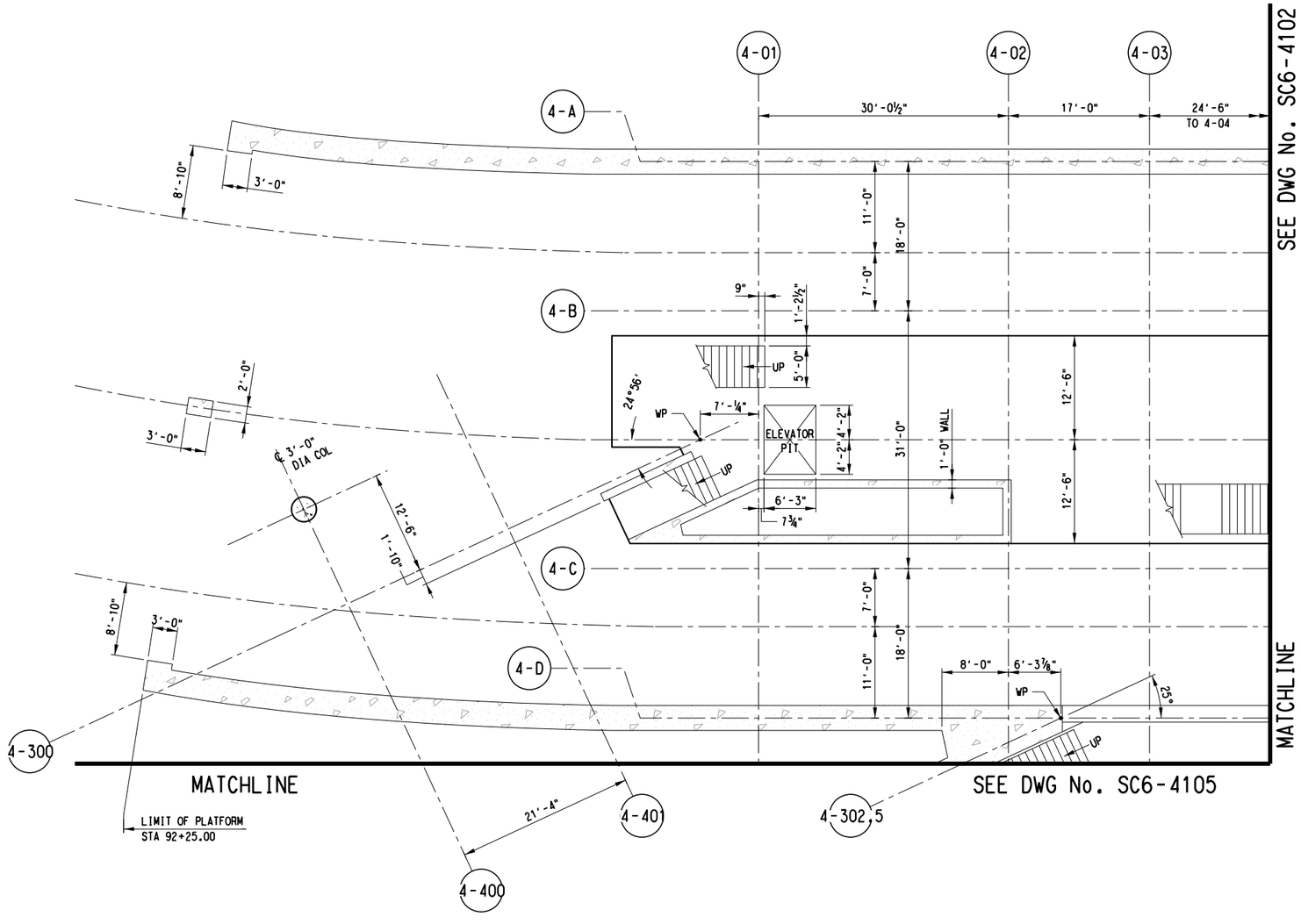
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DWG No. SC6-4101



PLATFORM LEVEL PLAN A

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

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D R A F T
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 233 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB

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The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

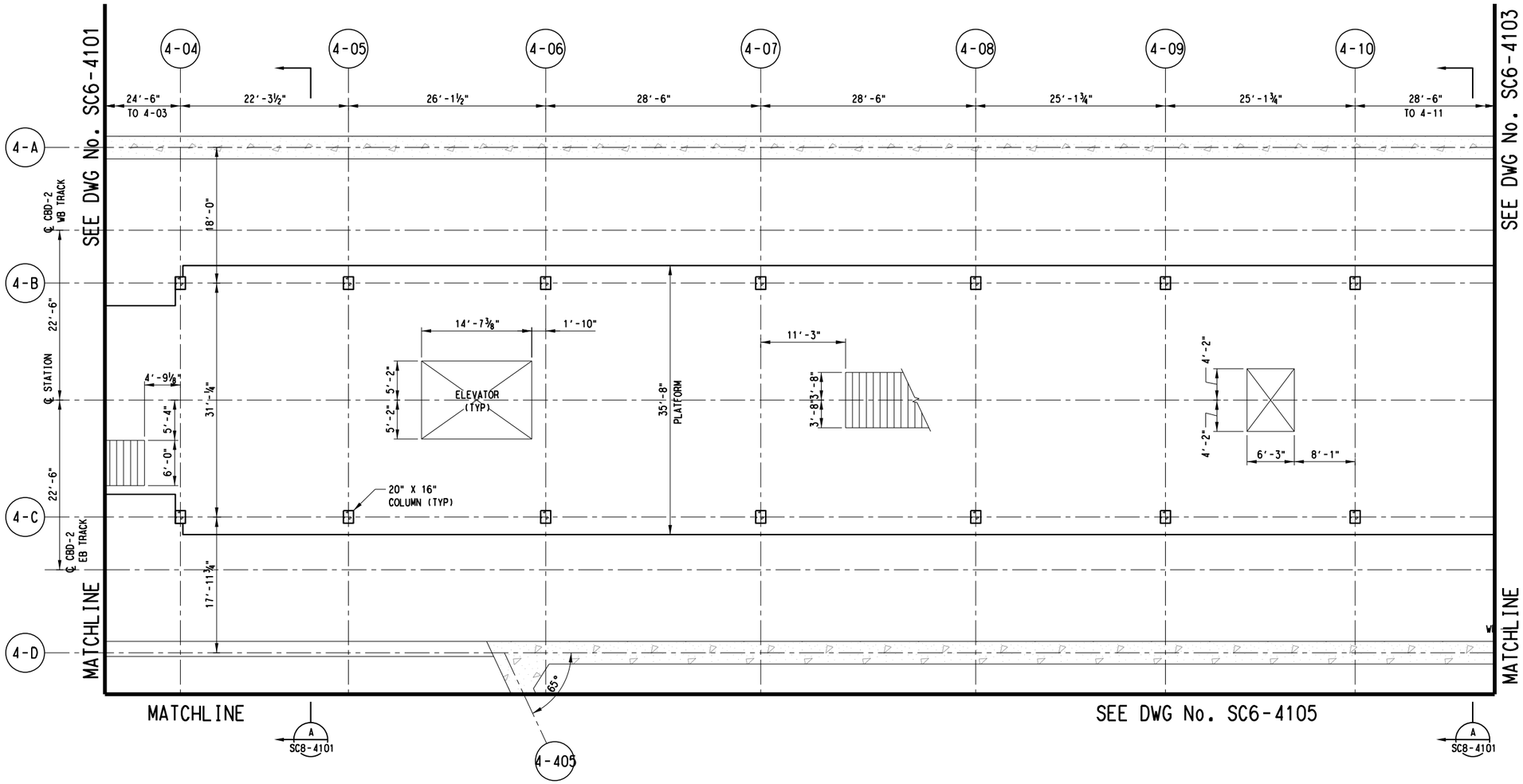
CBD EAST STATION
PLATFORM LEVEL PLAN
SHEET 1 OF 6

CONTRACT	DWG No.	REV
	SC6-4101	

bwhiteside
Default

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PLATFORM LEVEL PLAN B

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

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3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
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RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 234 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

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DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD EAST STATION
PLATFORM LEVEL PLAN
SHEET 2 OF 6

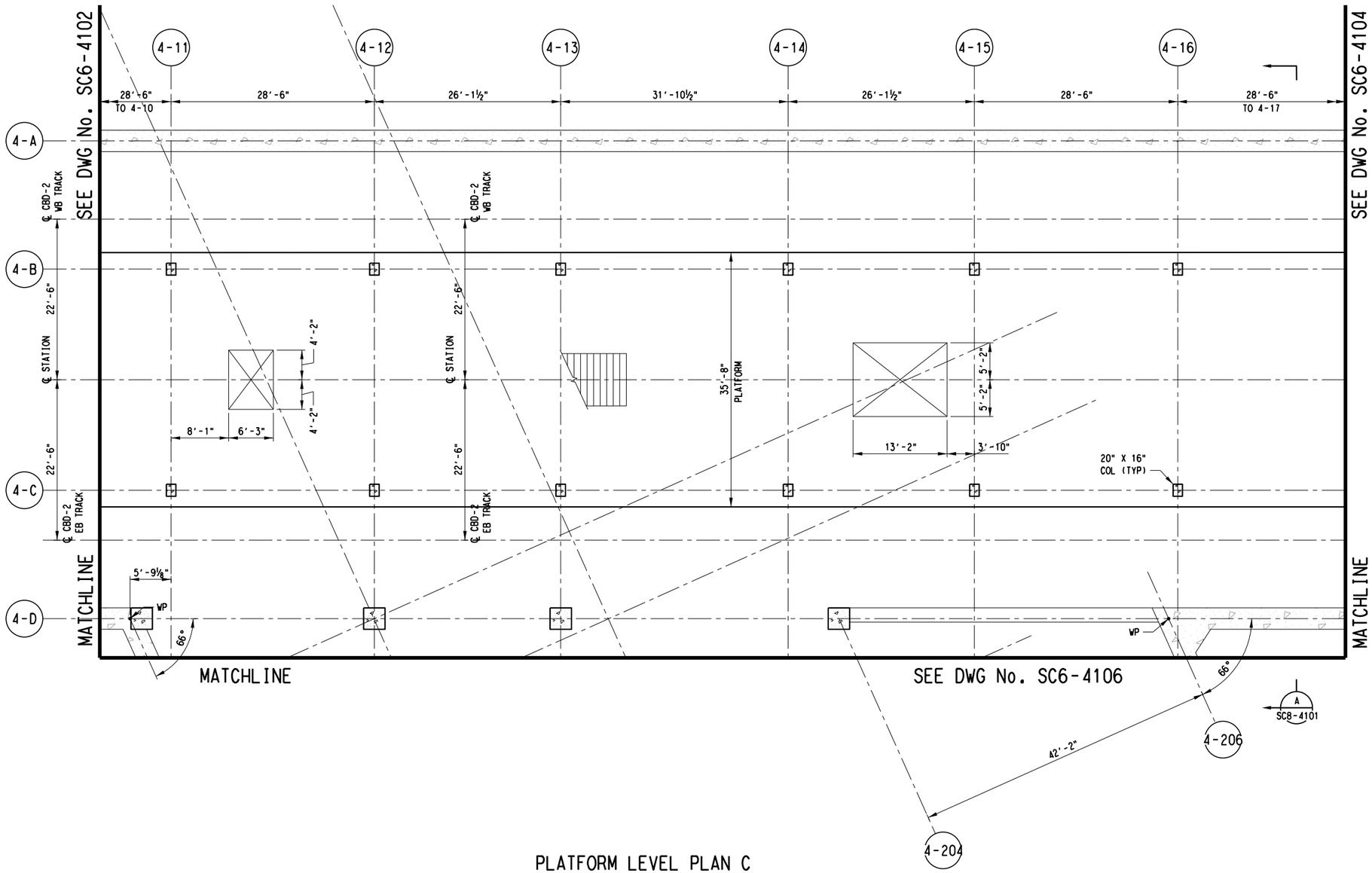
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DWG No. SC6-4103



PLATFORM LEVEL PLAN C

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

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3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 235 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
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TBPE FIRM NO. F-420
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HNTB

HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD EAST STATION
PLATFORM LEVEL PLAN
SHEET 3 OF 6

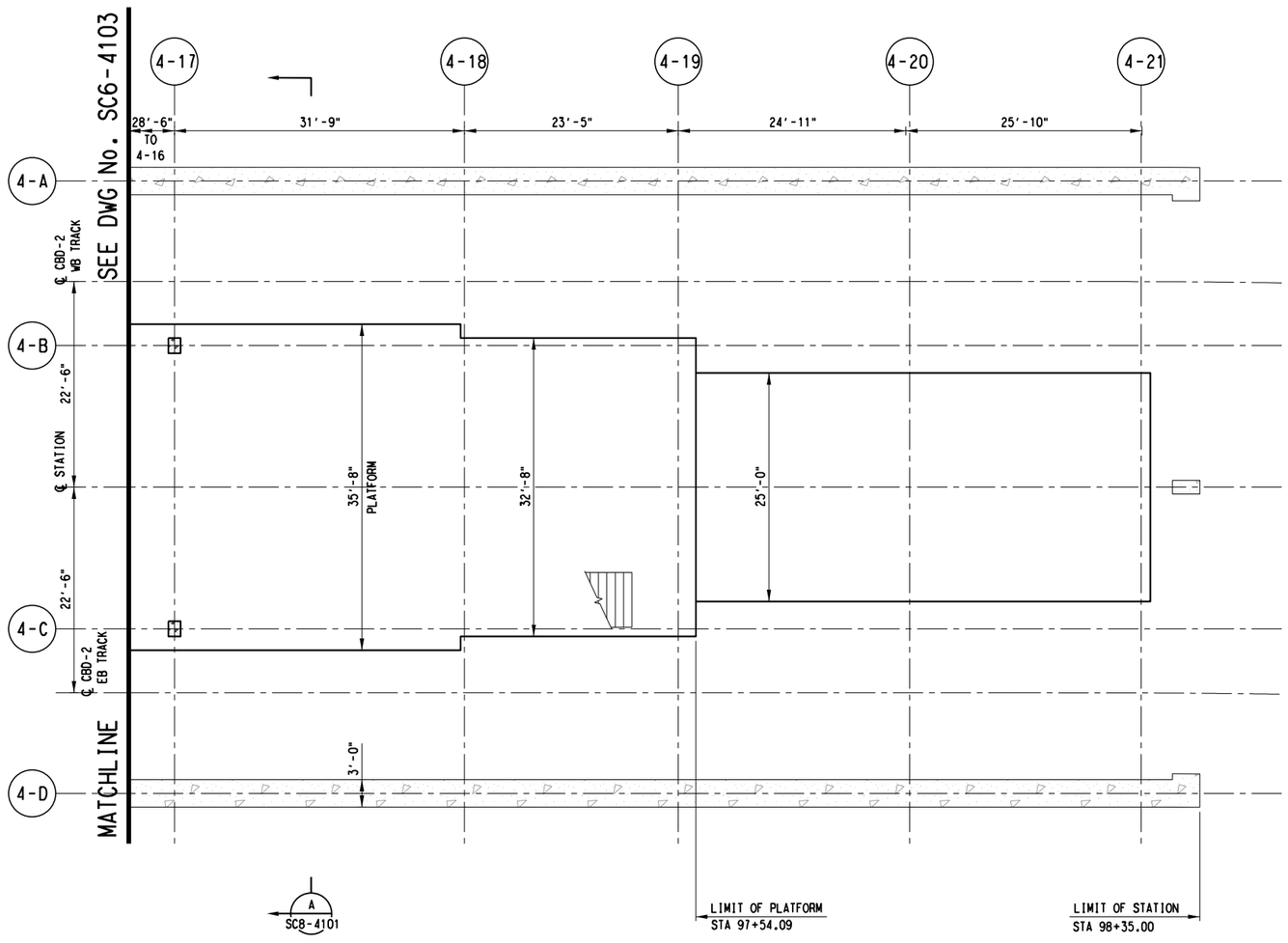
CONTRACT | DWG No. SC6-4103 | REV

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28-FEB-2020 18:25
pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planni

DWG No. SC6-4104



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

PLATFORM LEVEL PLAN D

SCALE: 1/8"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 236 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB Corporation
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Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	1/8"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD EAST STATION
PLATFORM LEVEL PLAN
SHEET 4 OF 6

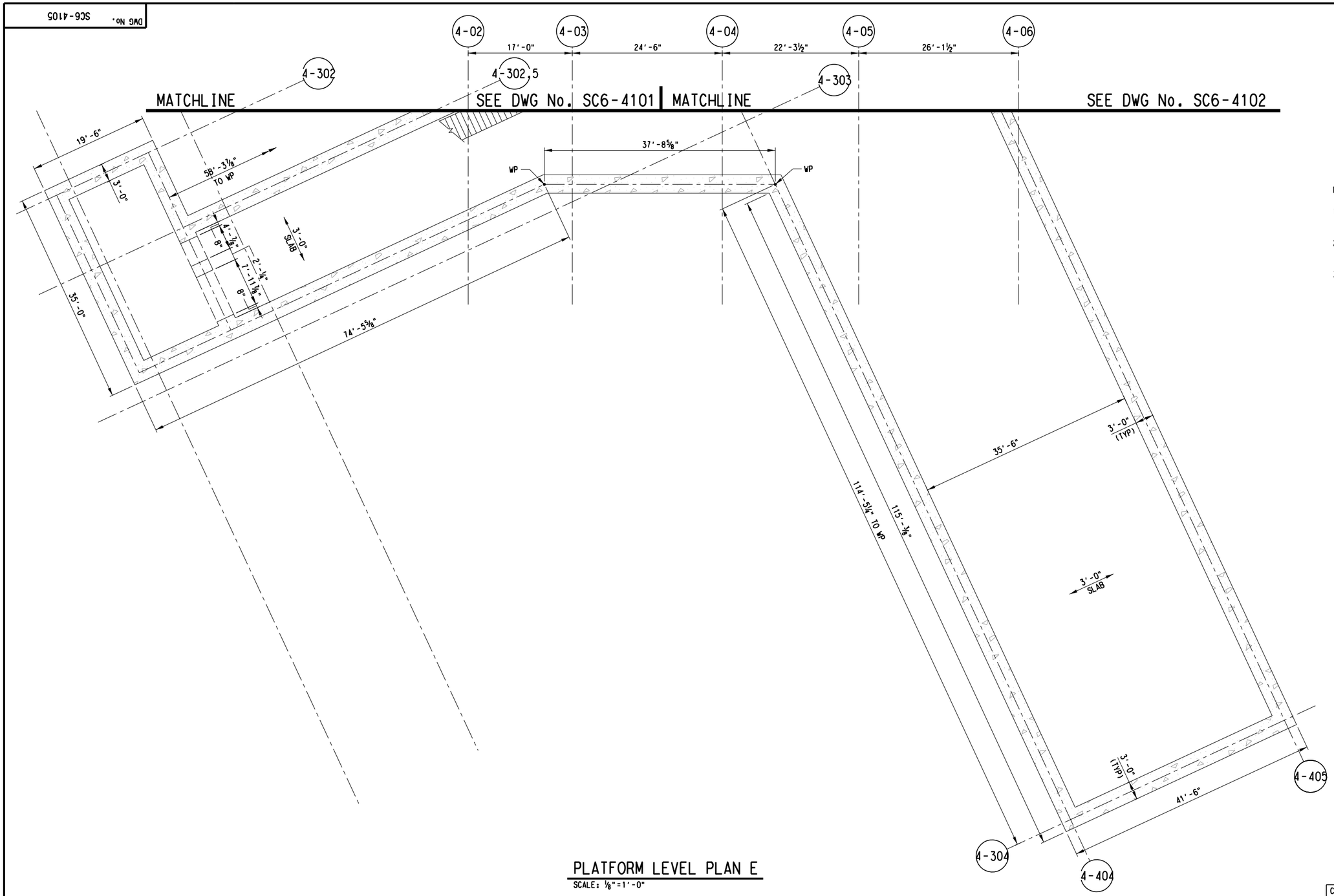
CONTRACT	DWG No.	REV
	SC6-4104	

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DWG No. SC6-4105



PLATFORM LEVEL PLAN E

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

D R A F T
CONCEPTUAL DESIGN PENDING
RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
AND ADDITIONAL SITE SPECIFIC DATA

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 237 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD EAST STATION
PLATFORM LEVEL PLAN
SHEET 5 OF 6

CONTRACT	DWG No.	REV
	SC6-4105	

bwhiteside
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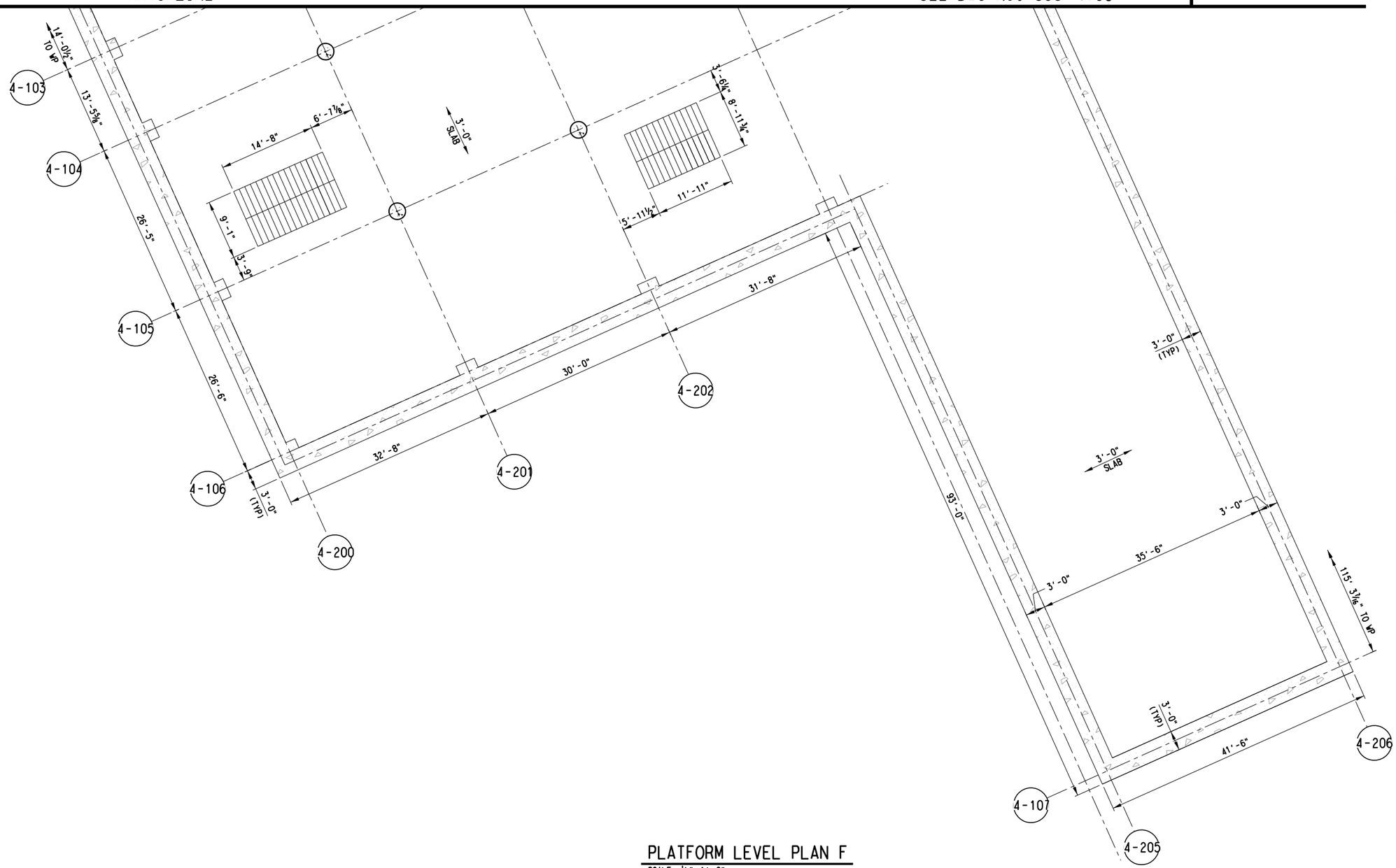
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pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planni

DWG No. SC6-4106

MATCHLINE

SEE DWG No. SC6-4103



SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

PLATFORM LEVEL PLAN F

SCALE: ⅛"=1'-0"

D R A F T
CONCEPTUAL DESIGN PENDING
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CONTRACT SHEET No. 238 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

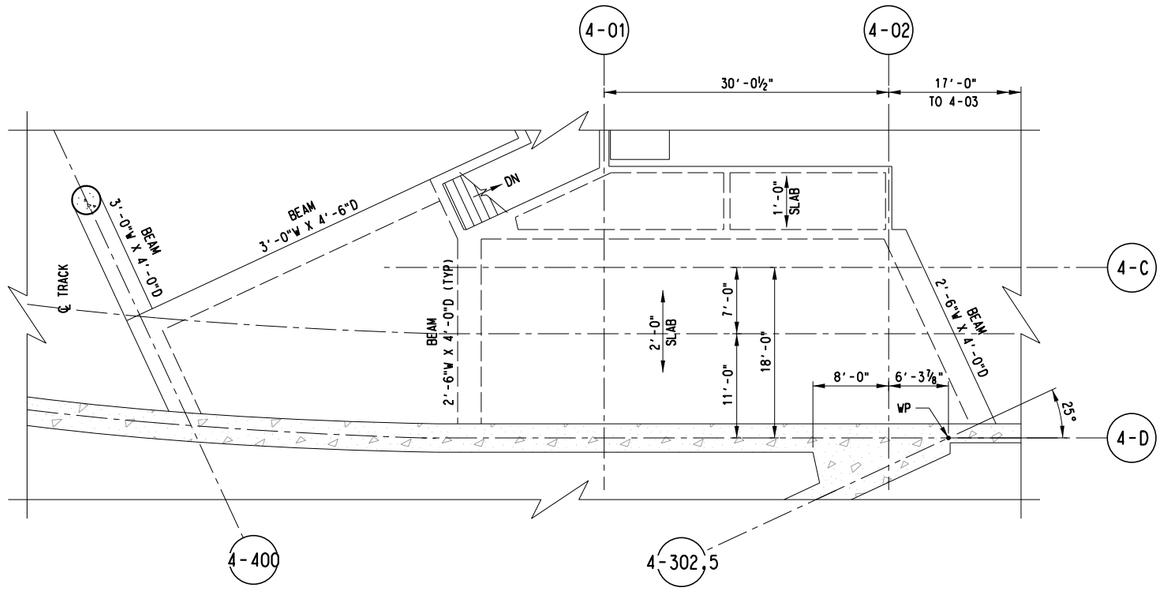
CBD EAST STATION
PLATFORM LEVEL PLAN
SHEET 6 OF 6

CONTRACT	DWG No.	REV
	SC6-4106	

bwhiteside
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28-FEB-2020 18:25
pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planni



MEZZANINE LEVEL PLAN

SCALE: ⅛"=1'-0"

SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

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TUNNEL/STATION VENTILATION INPUT,
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 239 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	R. MANUELYAN
CHECKED	K. XU
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

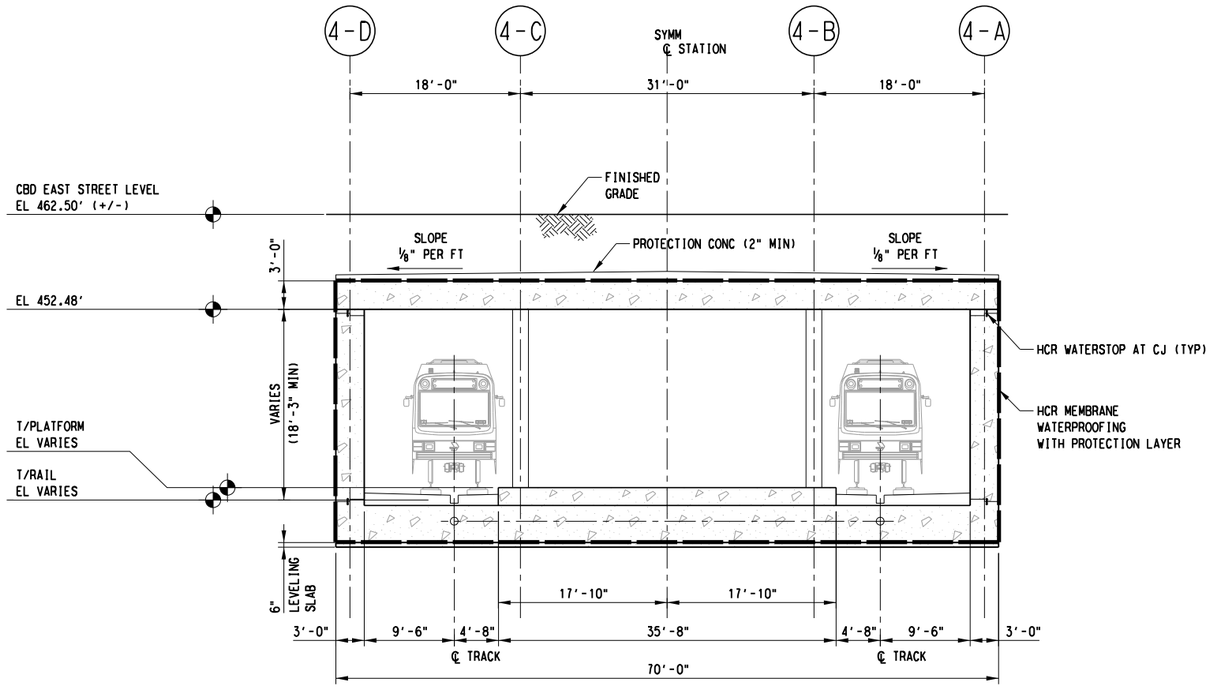
CBD EAST STATION
MEZZANINE LEVEL PLAN

CONTRACT	DWG No.	REV
	SC6-4201	

bwhiteside
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SCALE (IN FEET)
0 4 8 16

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

SECTION A
SCALE: ⅛"=1'-0"

SC6-4102
SC6-4103
SC6-4104

D R A F T
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RAIL/FACILITY SYSTEMS AND
TUNNEL/STATION VENTILATION INPUT,
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CONTRACT SHEET No. 240 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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HNTB Corporation
The HNTB Companies
Engineers Architects Planners
TBPE Firm Registration No.420

DART PROJECT

SCALE	⅛"=1'-0"
DRAWN	B. WHITESIDE
DESIGNED	C. MOON
CHECKED	R. MANUELYAN
IN CHARGE	C. STONE
DATE	06 MAR 2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

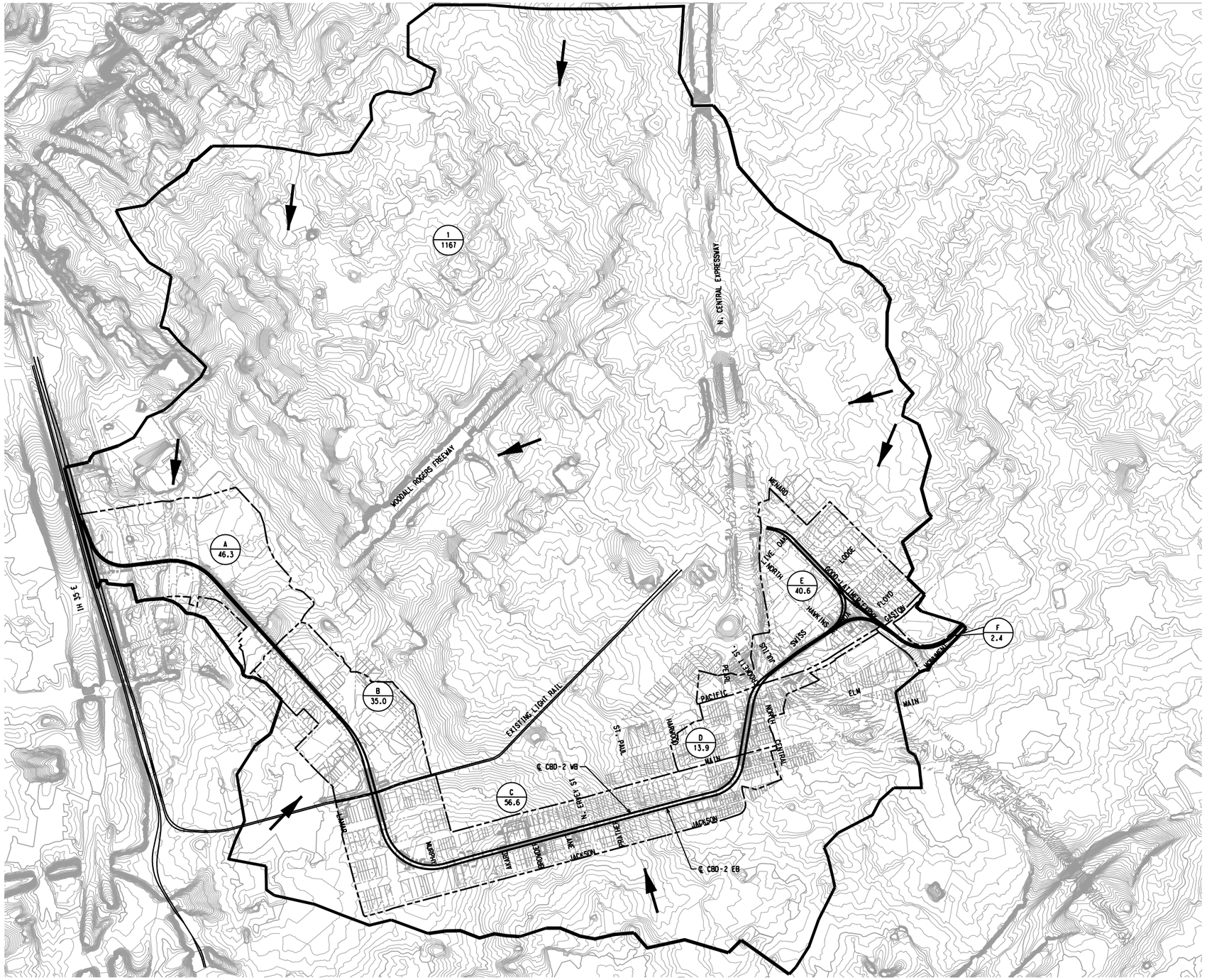
CBD EAST STATION
SECTION A

CONTRACT	DWG No.	REV
	SC8-4101	

bwhiteside
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pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planning_CS_V1/6.0_CAD_BIM/6.2_Work_In_Prog

DWG No. CC6-0100



SCALE (IN FEET)
0 250 500 1000

LEGEND
- DRAINAGE AREA BOUNDARY
- SUBBASIN AREA
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 241 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

DART

SCALE	1"=500'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

OVERALL DRAINAGE AREA MAP

CONTRACT	DWG No.	REV
	CC6-0100	

Thursday, February 20, 2020 03:47:36 PM
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Personal
Default

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC6-0101

MATCH LINE CBD-2 STA 18+00.00
SEE DWG No. CC6-0102

CS 17+55.46

CS 17+77.93

18

A23
1.05

℄ CBD-2 EB

A01
4.39

℄ CBD-2 WB

16+00

16+00

PS NO 8 TO
CBD-2 WB
STA 11+33.54 =
NW-1A NB
STA 122+59.56
PI 11+64.50

11+34

12+00

13+45.89
TS

13+95.89
SC

14+00

14+00

12+00

TS
13+48.17

SC
13+93.17

10+00

PS NO 8 TO
CBD-2 EB
STA 10+00.00 =
NW-1A SB
STA 123+90.26
PI 10+30.96

I. H. 35
STEMMONS EXPWY.

SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 242 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

gpc SIX

DART PROJECT

DART

CAES

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

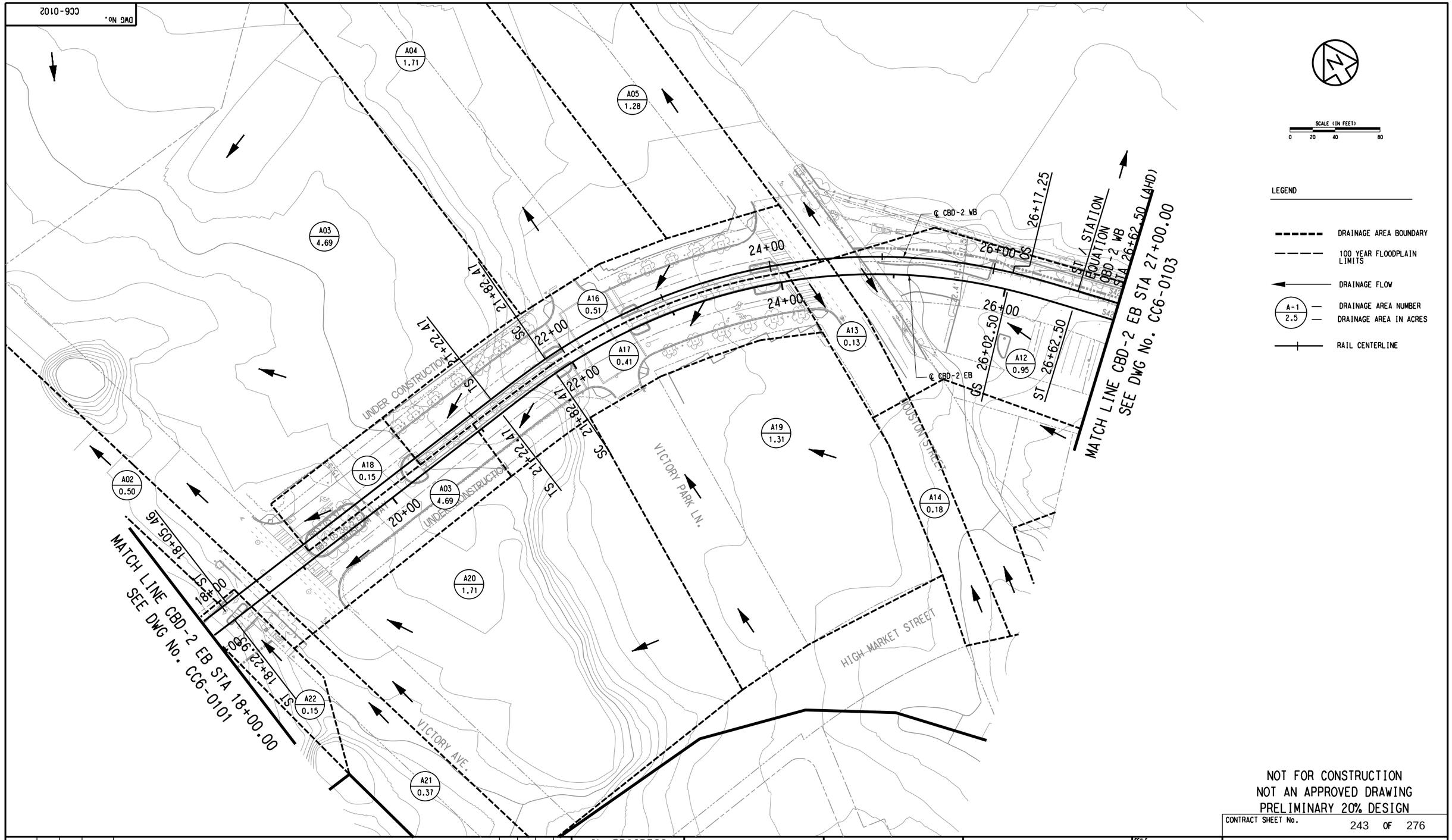
DRAINAGE AREA MAP
SHEET 1 OF 13

CONTRACT	DWG No.	REV
	CC6-0101	

Thursday, February 27, 2020 09:01:30 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
ks ims
\

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC6-0102



NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 243 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

gpc SIX

DART PROJECT

DART

CAES

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

DRAINAGE AREA MAP
SHEET 2 OF 13

CONTRACT	DWG No.	REV
	CC6-0102	

Thursday, February 27, 2020 09:05:33 PM
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ks ims
\
$$$$DGN$$SPECIFICATION$$$$$$$$$$

DWG No. CC6-0103

MATCH LINE CBD-2 EB STA 27+00.00
SEE DWG No. CC6-0102

℄ CBD-2 WB
STA 26+77.25 (BK)

MATCH LINE CBD-2 EB STA 36+50.00
SEE DWG No. CC6-0104

PS NO 8 TO
CBD-2 WB
STA 32+84.46

PS NO 8 TO
CBD-2 WB
STA 34+69.90

PS NO 8 TO
CBD-2 EB
STA 32+84.46

PS NO 8 TO
CBD-2 EB
STA 34+69.90

BEGIN PORTAL
STA 35+30

℄ CBD-2 WB

℄ CBD-2 EB

PROPOSED ROW

GRIFFIN ST.
ABAND.ORD. 18615

MCKINNEY

LAWS

28+00 30+00 32+00 34+00 36+00

A06 10.58
A07 4.67
A08 3.07
B01 2.22
A12 0.95
A10 1.01
A09 2.73
B23 0.09
B26 1.30
A15 0.46
B25 0.42

SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 244 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

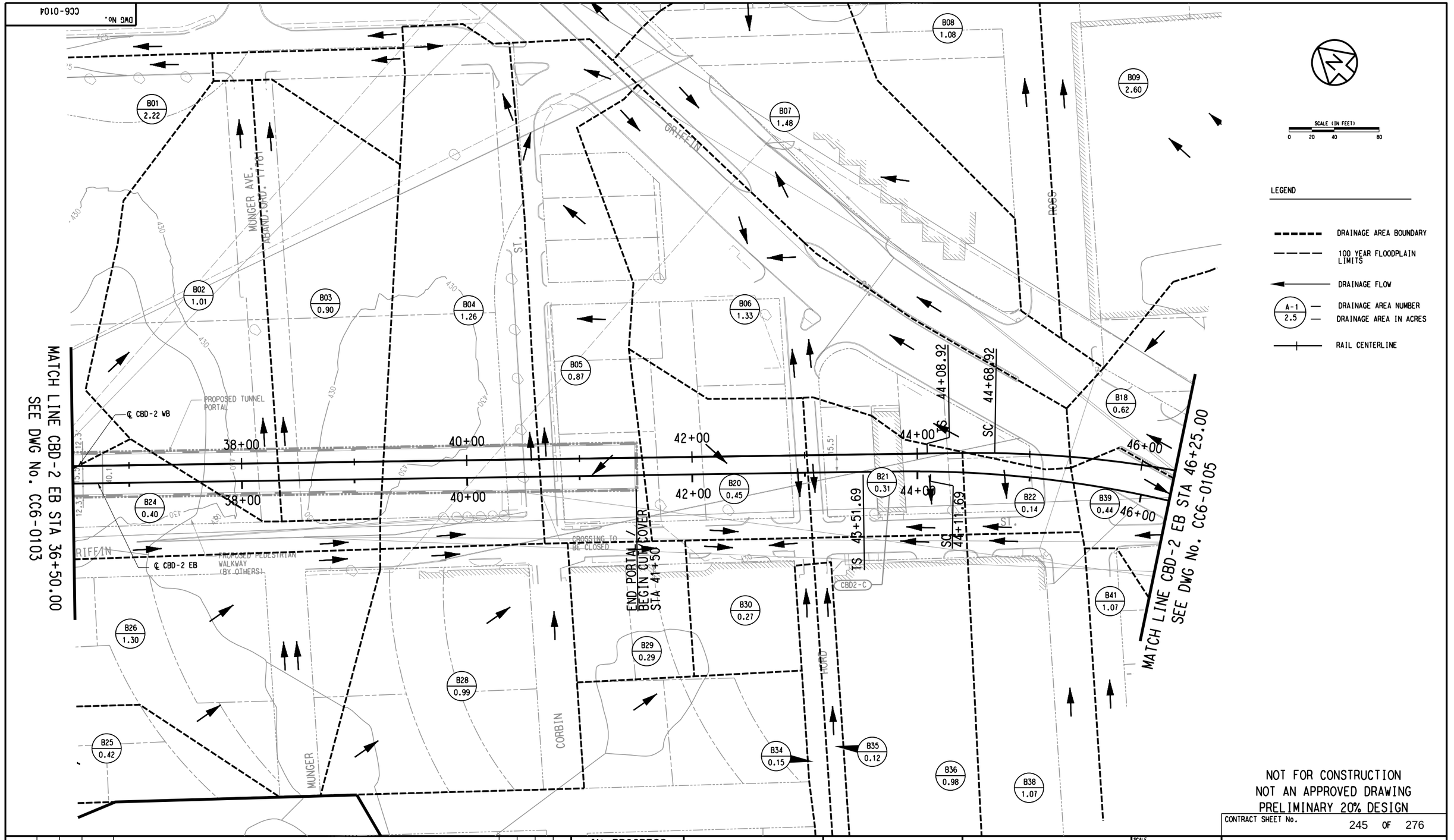
DRAINAGE AREA MAP
SHEET 3 OF 13

CONTRACT	DWG No.	REV
	CC6-0103	

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ksims

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC6-0104



SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 245 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

DRAINAGE AREA MAP
SHEET 4 OF 13

CONTRACT	DWG No.	REV
	CC6-0104	

Friday, February 28, 2020 10:57:32 AM
$$$$DGN$SPECIFICATION$$$$$$$$$
ksims
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC6-0105

B13 0.14 | B14 1.57 | B15 0.98 | C14 0.49

B11 1.86 | B10 0.47 | B16 0.35 | B17 0.05 | C04 2.08

B18 0.62 | B19 0.45 | C03 0.10 | C09 0.54 | C08 0.73

B43 0.48 | B40 0.34 | B39 0.44 | B45 0.26 | C02 0.39

B44 0.84 | B48 0.13 | C06 0.37 | C07 1.08

B42 0.77 | B46 0.37 | C01 0.24 | B47 0.14 | B41 1.07

48+00 | 50+00 | 52+00 | 54+00

CS 48+84.96 | ST / STATION EQUATION CBD-2 WB STA 49+44.96 = CBD-2 WB STA 49+31.49 (AHD) (BK)

CS 48+27.75 | ST 48+81.73

℄ CBD-2 WB | ℄ CBD-2 EB

TS 54+91.77

END CUT/COVER / BEGIN TUNNEL STA 54+22

MATCH LINE CBD-2 EB STA 55+00.00 SEE DWG No. CC6-0106

MATCH LINE CBD-2 EB STA 46+25.00 SEE DWG No. CC6-0104

SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 246 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

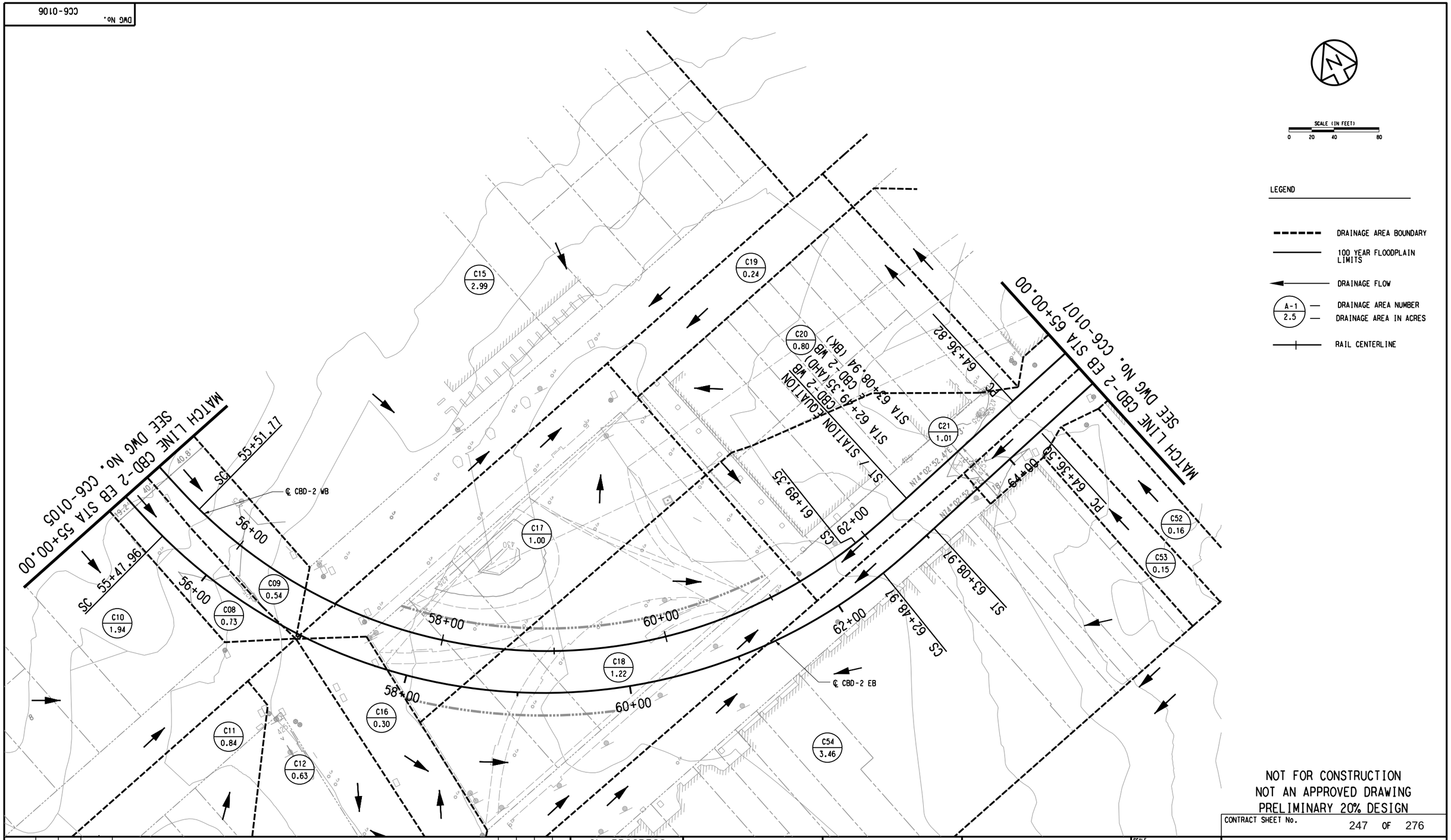
DRAINAGE AREA MAP
SHEET 5 OF 13

CONTRACT	DWG No.	REV
	CC6-0105	

$$$$DGN$SPECIFICATION$$$$$$$$$

Thursday, February 27, 2020 09:34:33 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
ksims

DWG No. CC6-0106



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CONTRACT SHEET No. 247 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

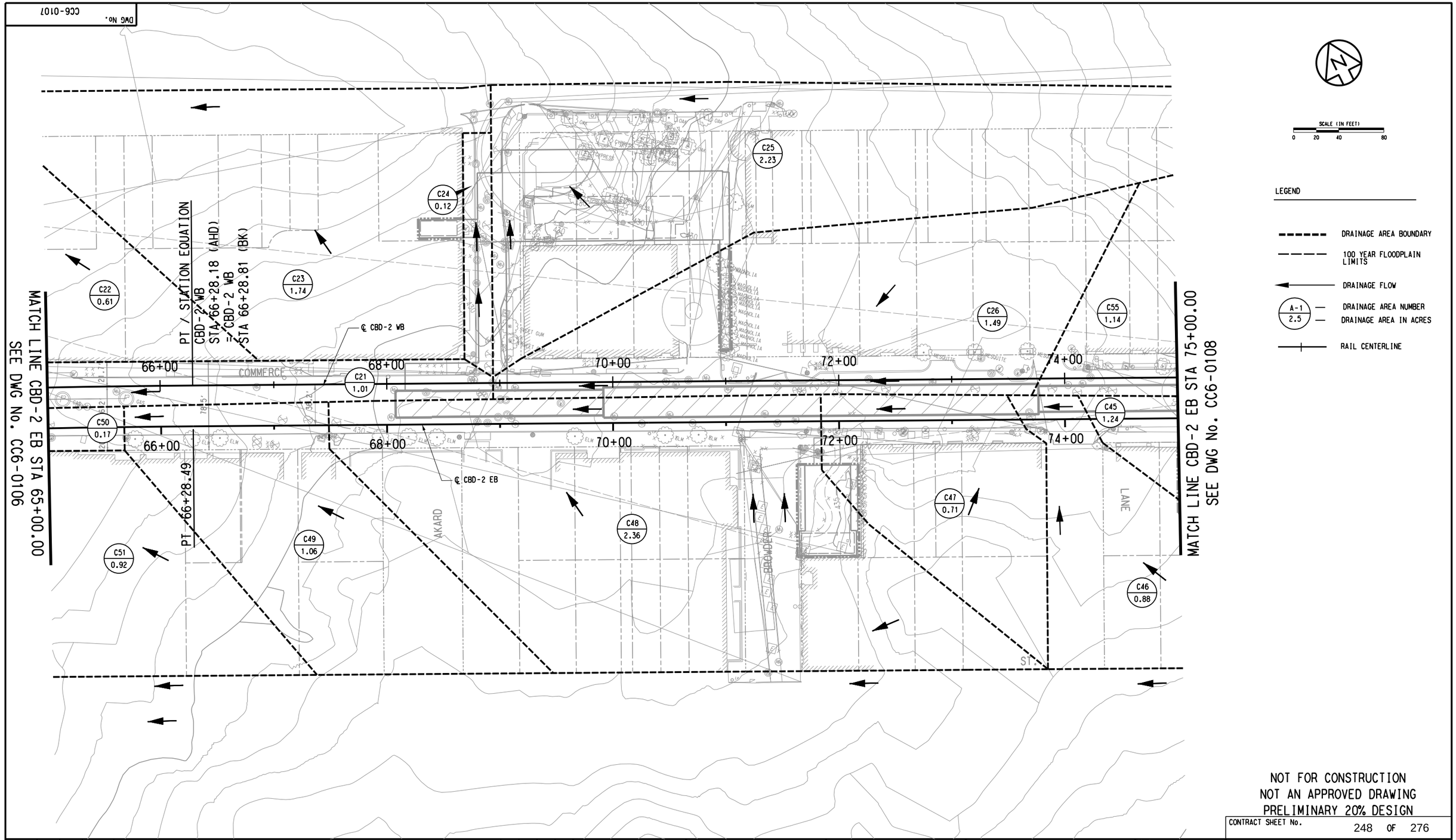
DRAINAGE AREA MAP
SHEET 6 OF 13

CONTRACT	DWG No.	REV
	CC6-0106	

Thursday, February 27, 2020 09:39:37 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$$
ksims

$$$$DGN$$SPECIFICATION$$$$$$$$$$

DWG No. CC6-0107



SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

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CONTRACT SHEET No. 248 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

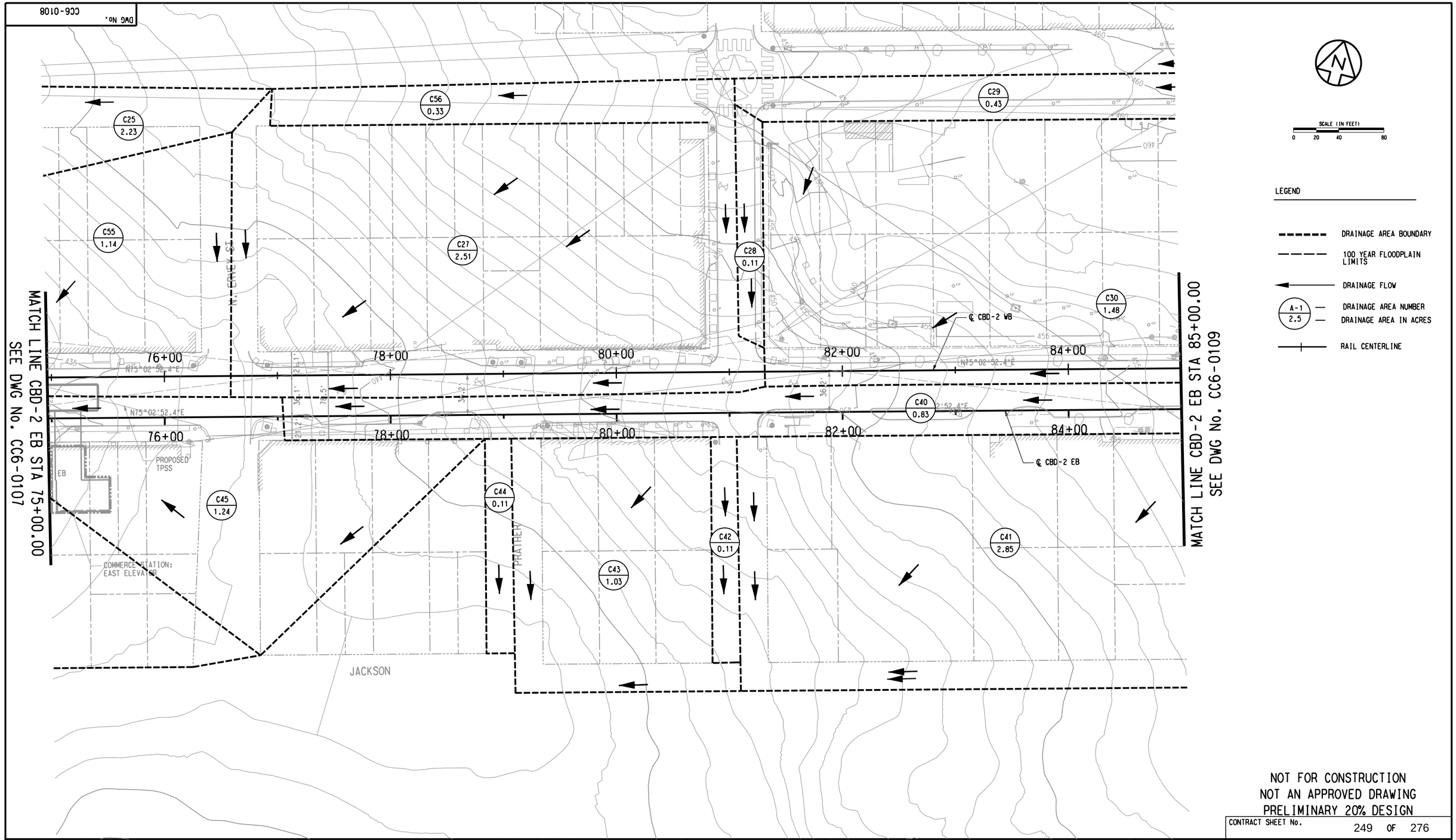
DRAINAGE AREA MAP
SHEET 7 OF 13

CONTRACT	DWG No.	REV
	CC6-0107	

Thursday, February 27, 2020 09:44:42 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
ksims
\

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC6-0108



SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 249 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

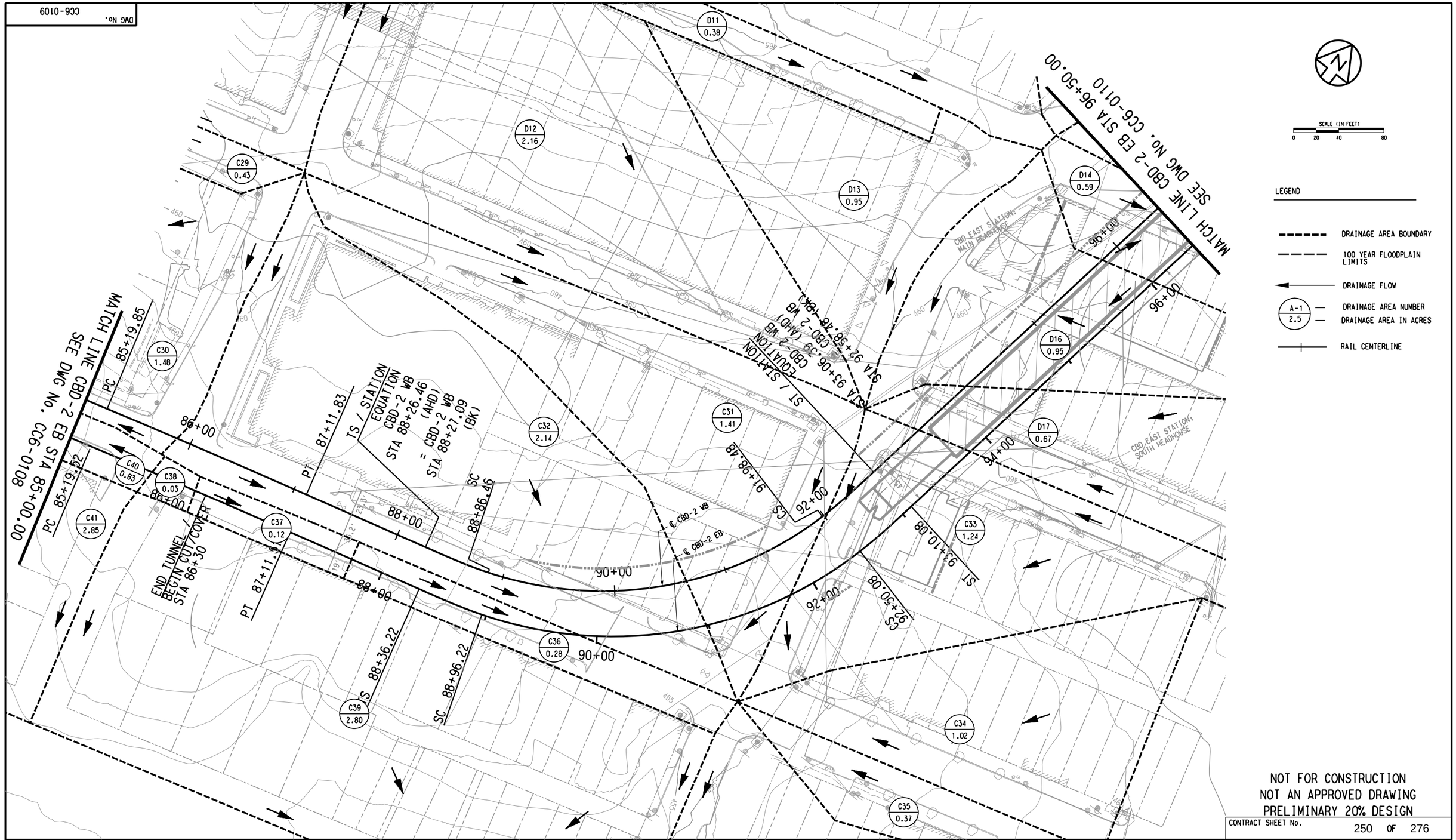
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

DRAINAGE AREA MAP
SHEET 8 OF 13

CONTRACT	DWG No.	REV
	CC6-0108	

Thursday, February 27, 2020 09:50:09 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$
ksims
$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC6-0109



N

SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

NOT FOR CONSTRUCTION
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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 250 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

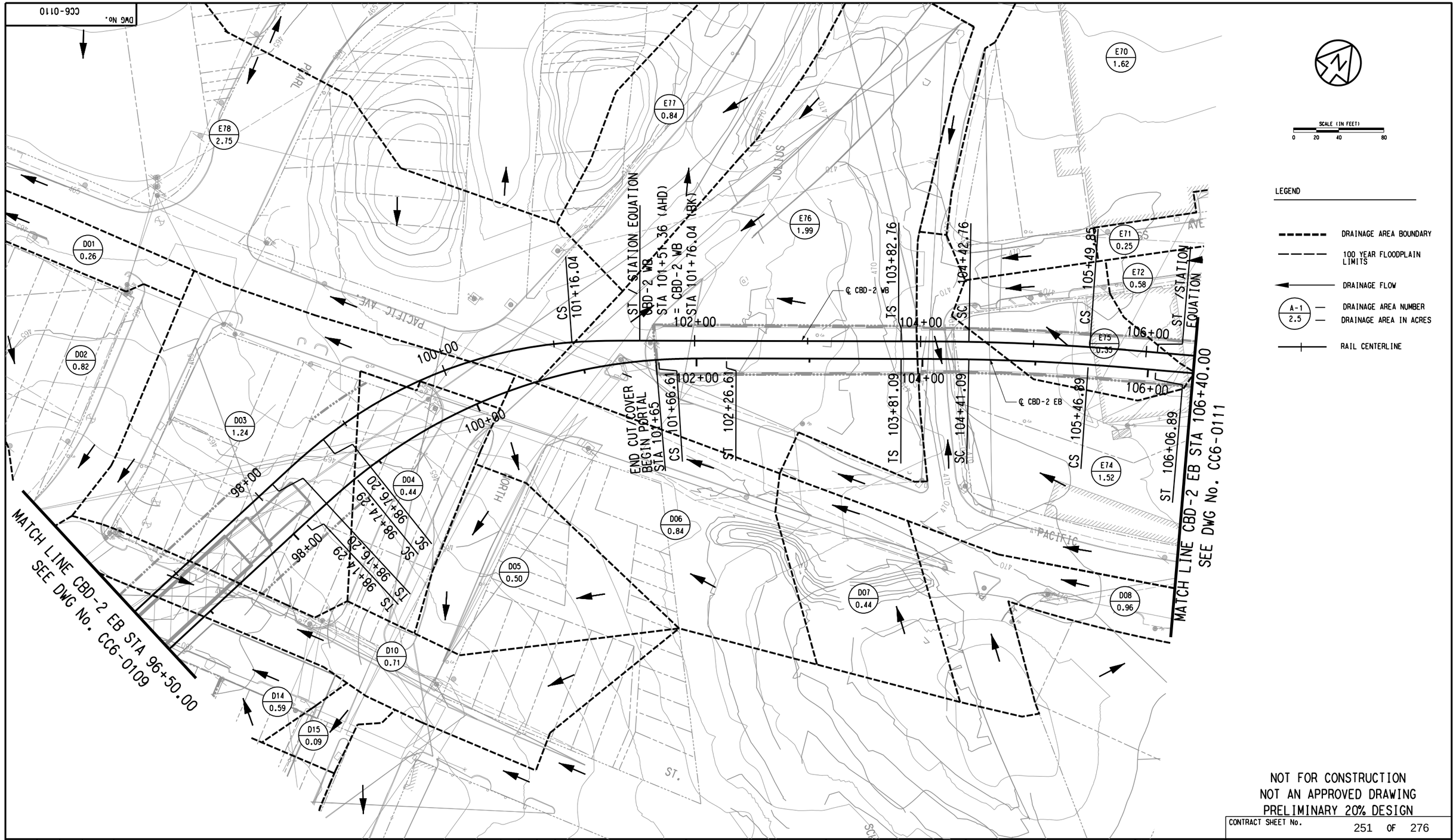
DRAINAGE AREA MAP
SHEET 9 OF 13

CONTRACT	DWG No.	REV
	CC6-0109	

Thursday, February 27, 2020 09:54:58 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$
ksims

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC6-0110



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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 251 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

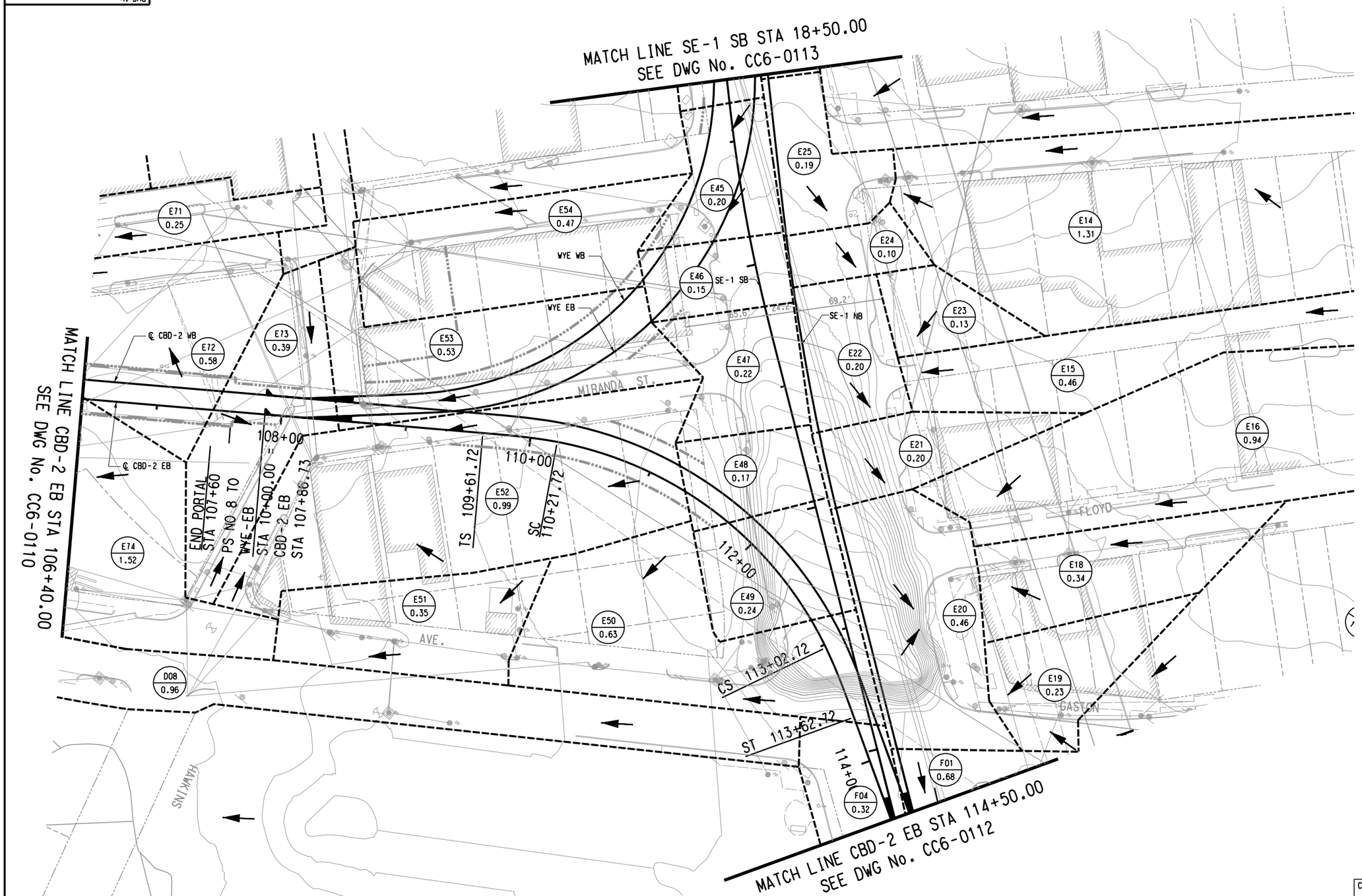
DRAINAGE AREA MAP
SHEET 10 OF 13

CONTRACT	DWG No.	REV
	CC6-0110	

$$$$DGN$SPECIFICATION$$$$$$$$$

Thursday, February 27, 2020 10:06:06 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
ksims

DWG No. CC6-0111



SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 252 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

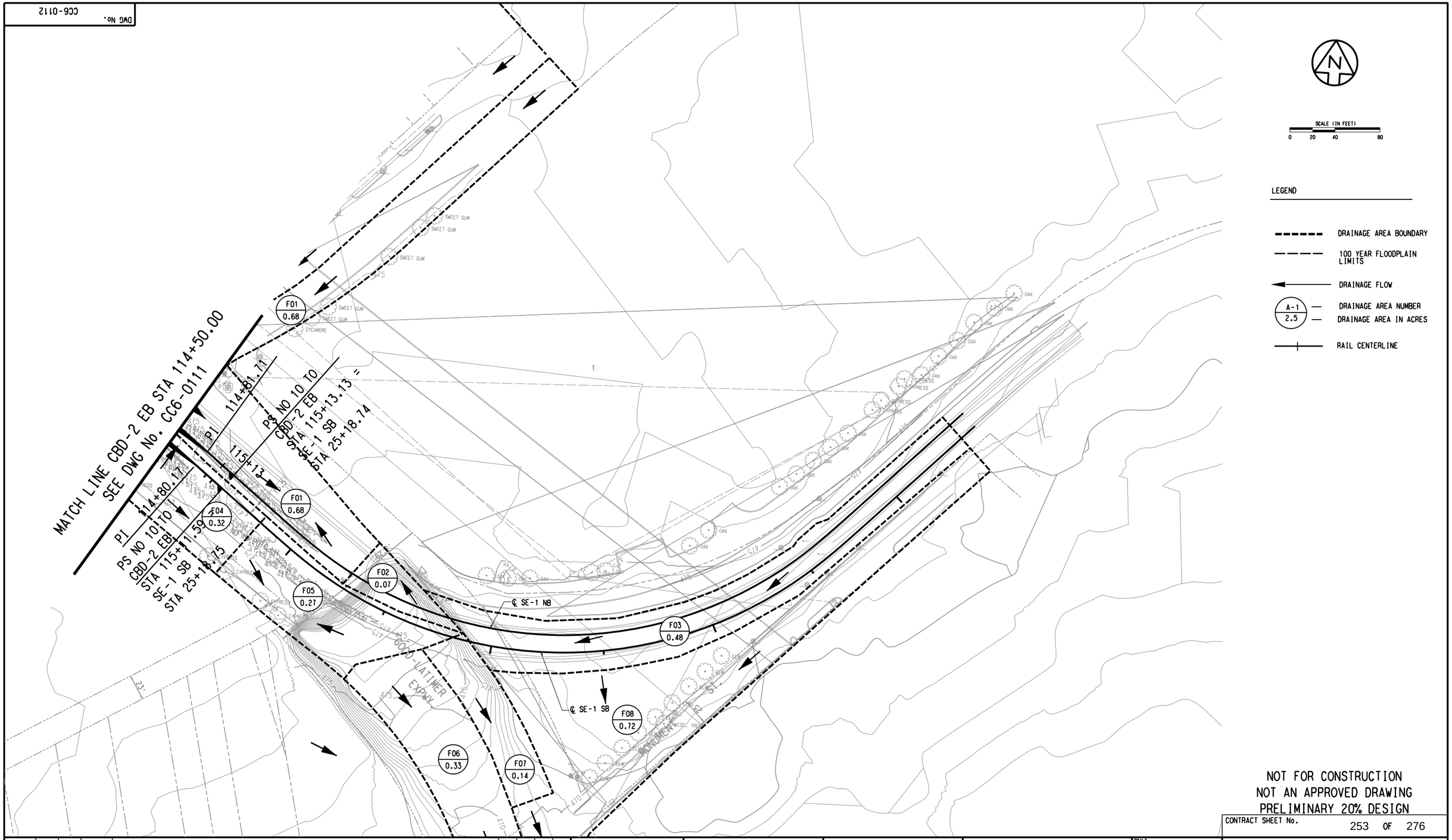
DRAINAGE AREA MAP
SHEET 11 OF 13

CONTRACT	DWG No.	REV
	CC6-0111	

$$$$DGN$$SPECIFICATION$$$$$$$$$

Thursday, February 27, 2020 10:13:22 PM
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ksims

DWG No. CC6-0112



SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 253 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

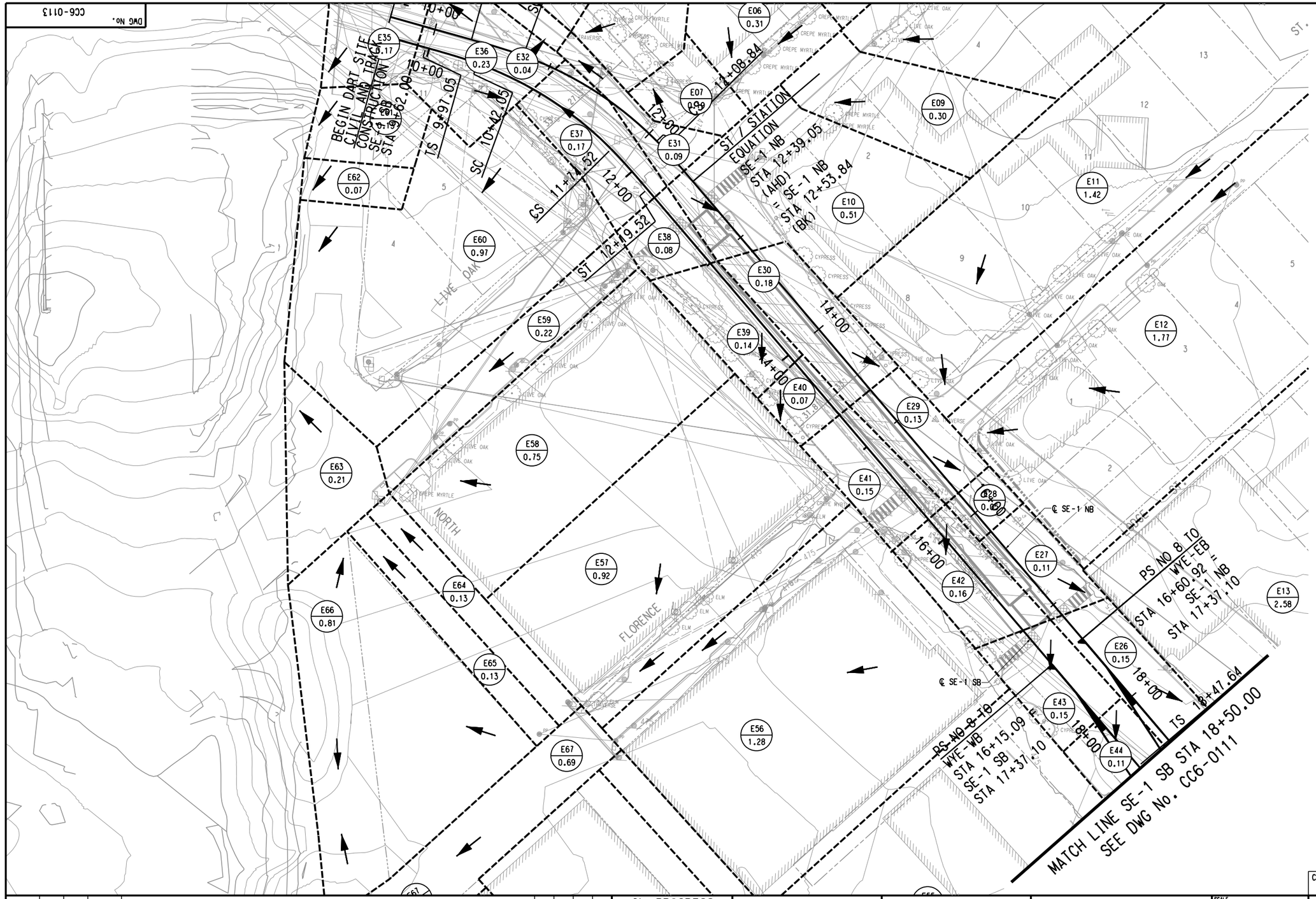
DRAINAGE AREA MAP
SHEET 12 OF 13

CONTRACT	DWG No.	REV
	CC6-0112	

Thursday, February 20, 2020 04:36:41 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
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$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. CC6-0113



SCALE (IN FEET)
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- 100 YEAR FLOODPLAIN LIMITS
- DRAINAGE FLOW
- A-1 / 2.5 — DRAINAGE AREA NUMBER / DRAINAGE AREA IN ACRES
- RAIL CENTERLINE

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 254 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

DART

SCALE	1"=40'
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

DRAINAGE AREA MAP
SHEET 13 OF 13

CONTRACT	DWG No.	REV
	CC6-0113	

Thursday, February 20, 2020 04:38:08 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$
ksims
$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. CC6-0114

DRAINAGE AREA SUMMARY TABLE						
DRAINAGE AREA NO.	AREA(ACRES)	RUNOFF COEFF. "C"	Tc (MIN.)	I (100-YR) (IN/HR)	Q (100 YR) (CFS)	COMMENTS
A01	4.39	0.95	10	8.88	37.03	
A02	0.50	0.95	10	8.88	4.22	
A03	4.69	0.95	10	8.88	39.56	
A04	1.71	0.95	10	8.88	14.43	
A05	1.28	0.95	10	8.88	10.80	
A06	10.58	0.95	10	8.88	89.25	
A07	4.67	0.95	10	8.88	39.40	
A08	3.07	0.95	10	8.88	25.90	
A09	2.73	0.95	10	8.88	23.03	
A10	1.01	0.95	10	8.88	8.52	
A11	0.95	0.95	10	8.88	8.01	
A12	0.95	0.95	10	8.88	8.01	
A13	0.13	0.95	10	8.88	1.10	
A14	0.18	0.95	10	8.88	1.52	
A15	0.46	0.95	10	8.88	3.88	
A16	0.51	0.95	10	8.88	4.30	
A17	0.41	0.95	10	8.88	3.46	
A18	0.15	0.95	10	8.88	1.27	
A19	1.31	0.95	10	8.88	11.05	
A20	1.71	0.95	10	8.88	14.43	
A21	0.37	0.95	10	8.88	3.12	
A22	0.15	0.95	10	8.88	1.27	
A23	4.39	0.95	10	8.88	37.03	

DRAINAGE AREA SUMMARY TABLE						
DRAINAGE AREA NO.	AREA (ACRES)	RUNOFF COEFF. "C"	Tc (MIN.)	I (100-YR) (IN/HR)	Q (100 YR) (CFS)	COMMENTS
B01	2.22	0.95	10	8.88	18.73	
B02	1.01	0.95	10	8.88	8.52	
B03	0.90	0.95	10	8.88	7.59	
B04	1.26	0.95	10	8.88	10.63	
B05	0.87	0.95	10	8.88	7.34	
B06	1.33	0.95	10	8.88	11.22	
B07	1.48	0.95	10	8.88	12.49	
B08	1.08	0.95	10	8.88	9.11	
B09	2.60	0.95	10	8.88	21.93	
B10	0.47	0.95	10	8.88	3.96	
B11	1.86	0.95	10	8.88	15.69	
B12	1.06	0.95	10	8.88	8.94	
B13	0.14	0.95	10	8.88	1.18	
B14	1.57	0.95	10	8.88	13.24	
B15	0.98	0.95	10	8.88	8.27	
B16	0.35	0.95	10	8.88	2.95	
B17	0.05	0.95	10	8.88	0.42	
B18	0.62	0.95	10	8.88	5.23	
B19	0.45	0.95	10	8.88	3.80	
B20	0.45	0.95	10	8.88	3.80	
B21	0.31	0.95	10	8.88	2.62	
B22	0.14	0.95	10	8.88	1.18	
B23	0.09	0.95	10	8.88	0.76	
B24	0.40	0.95	10	8.88	3.37	
B25	0.42	0.95	10	8.88	3.54	
B26	1.04	0.95	10	8.88	8.77	
B28	0.99	0.95	10	8.88	8.35	
B29	0.29	0.95	10	8.88	2.45	
B30	0.27	0.95	10	8.88	2.28	
B31	0.64	0.95	10	8.88	5.40	
B32	1.04	0.95	10	8.88	8.77	
B33	1.13	0.95	10	8.88	9.53	
B34	0.15	0.95	10	8.88	1.27	
B35	0.12	0.95	10	8.88	1.01	
B36	0.98	0.95	10	8.88	8.27	
B37	0.23	0.95	10	8.88	1.94	
B38	1.07	0.95	10	8.88	9.03	
B39	0.44	0.95	10	8.88	3.71	
B40	0.34	0.95	10	8.88	2.87	
B41	1.07	0.95	10	8.88	9.03	
B42	0.77	0.95	10	8.88	6.50	
B43	0.48	0.95	10	8.88	4.05	
B44	0.84	0.95	10	8.88	7.09	
B45	0.26	0.95	10	8.88	2.19	
B46	0.37	0.95	10	8.88	3.12	
B47	0.14	0.95	10	8.88	1.18	
B48	0.13	0.95	10	8.88	1.10	
B49	0.11	0.95	10	8.88	0.93	

NOTES:

1. DRAINAGE DESIGN CRITERIA (FREQUENCY, INTENSITY, AND RUNOFF COEFFICIENTS) ARE BASED ON THE CITY OF DALLAS DRAINAGE DESIGN MANUAL, DATED MAY 1993.
2. ALL DRAINAGE AREAS ARE CALCULATED FOR THE 100-YEAR FREQUENCY STORM.
3. ALIGNMENT IS WITHIN THE ZONING DISTRICT: CA-1(A), CENTRAL AREA - 1.
4. INTENSITY WERE DETERMINED USING THE RAINFALL INTENSITY DURATION TABLE LOCATED ON PAGE 2 OF THE APPENDIX.
5. RUNOFF COEFFICIENTS ARE TAKEN FROM THE TABLE: RUNOFF COEFFICIENTS AND MAXIMUM INLET TIMES LOCATED ON PAGE 1 OF THE APPENDIX.

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PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 255 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

gpc SIX

DART PROJECT

DART

CAES

SCALE	NO SCALE
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

DRAINAGE AREA CALCULATIONS
SHEET 1 OF 3

CONTRACT | DWG No. CC6-0114 | REV

Friday, February 28, 2020 12:00:57 PM
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DWG No. CC6-0115

DRAINAGE AREA SUMMARY TABLE						
DRAINAGE AREA NO.	AREA(ACRES)	RUNOFF COEFF. "C"	Tc (MIN.)	1 (100-YR) (IN/HR)	Q (100 YR) (CFS)	COMMENTS
C01	0.24	0.95	10	8.88	2.02	
C02	0.39	0.95	10	8.88	3.29	
C03	0.10	0.95	10	8.88	0.84	
C04	2.08	0.95	10	8.88	17.55	
C05	1.33	0.95	10	8.88	11.22	
C06	0.37	0.95	10	8.88	3.12	
C07	1.08	0.95	10	8.88	9.11	
C08	0.73	0.95	10	8.88	6.16	
C09	0.54	0.95	10	8.88	4.56	
C10	1.94	0.95	10	8.88	16.37	
C11	0.84	0.95	10	8.88	7.09	
C12	0.63	0.95	10	8.88	5.31	
C13	0.95	0.95	10	8.88	8.01	
C14	0.16	0.95	10	8.88	1.35	
C15	2.99	0.95	10	8.88	25.22	
C16	0.30	0.95	10	8.88	2.53	
C17	1.00	0.95	10	8.88	8.44	
C18	1.22	0.95	10	8.88	10.29	
C19	0.24	0.95	10	8.88	2.02	
C20	0.80	0.95	10	8.88	6.75	
C21	1.01	0.95	10	8.88	8.52	
C22	0.61	0.95	10	8.88	5.15	
C23	1.74	0.95	10	8.88	14.70	
C24	0.12	0.95	10	8.88	1.01	
C25	2.23	0.95	10	8.88	18.81	
C26	1.49	0.95	10	8.88	12.57	
C27	2.51	0.95	10	8.88	21.17	
C28	0.11	0.95	10	8.88	0.93	
C29	0.43	0.95	10	8.88	3.63	
C30	1.48	0.95	10	8.88	12.49	
C31	1.41	0.95	10	8.88	11.89	
C32	2.14	0.95	10	8.88	18.05	
C33	1.24	0.95	10	8.88	10.46	
C34	1.02	0.95	10	8.88	8.60	
C35	0.37	0.95	10	8.88	3.12	
C36	0.28	0.95	10	8.88	2.36	
C37	0.12	0.95	10	8.88	1.01	
C38	0.03	0.95	10	8.88	0.25	
C39	2.80	0.95	10	8.88	23.62	
C40	0.83	0.95	10	8.88	7.00	
C41	2.85	0.95	10	8.88	24.04	
C42	0.11	0.95	10	8.88	0.93	
C43	1.03	0.95	10	8.88	8.69	
C44	0.11	0.95	10	8.88	0.93	
C45	1.24	0.95	10	8.88	10.46	
C46	0.88	0.95	10	8.88	7.42	
C47	0.71	0.95	10	8.88	5.99	
C48	2.36	0.95	10	8.88	19.91	
C49	1.06	0.95	10	8.88	8.94	
C50	0.17	0.95	10	8.88	1.43	
C51	0.92	0.95	10	8.88	7.76	
C52	0.16	0.95	10	8.88	1.35	
C53	0.15	0.95	10	8.88	1.27	
C54	3.46	0.95	10	8.88	29.19	
C55	1.14	0.95	10	8.88	9.62	
C56	0.33	0.95	10	8.88	2.78	

DRAINAGE AREA SUMMARY TABLE						
DRAINAGE AREA NO.	AREA(ACRES)	RUNOFF COEFF. "C"	Tc (MIN.)	1 (100-YR) (IN/HR)	Q (100 YR) (CFS)	COMMENTS
D01	0.26	0.95	10	8.88	2.19	
D02	0.82	0.95	10	8.88	6.92	
D03	1.24	0.95	10	8.88	10.46	
D04	0.44	0.95	10	8.88	3.71	
D05	0.50	0.95	10	8.88	4.22	
D06	0.84	0.95	10	8.88	7.09	
D07	0.44	0.95	10	8.88	3.71	
D08	0.96	0.95	10	8.88	8.10	
D09	1.54	0.95	10	8.88	12.99	
D10	0.71	0.95	10	8.88	5.99	
D11	0.38	0.95	10	8.88	3.21	
D12	2.16	0.95	10	8.88	18.22	
D13	0.95	0.95	10	8.88	8.01	
D14	0.95	0.95	10	8.88	8.01	
D15	0.09	0.95	10	8.88	0.76	
D16	0.95	0.95	10	8.88	8.01	
D17	0.67	0.95	10	8.88	5.65	

NOTES:

1. DRAINAGE DESIGN CRITERIA (FREQUENCY, INTENSITY, AND RUNOFF COEFFICIENTS) ARE BASED ON THE CITY OF DALLAS DRAINAGE DESIGN MANUAL, DATED MAY 1993.
2. ALL DRAINAGE AREAS ARE CALCULATED FOR THE 100-YEAR FREQUENCY STORM.
3. ALIGNMENT IS WITHIN THE ZONING DISTRICT: CA-1(A), CENTRAL AREA - 1.
4. INTENSITY WERE DETERMINED USING THE RAINFALL INTENSITY DURATION TABLE LOCATED ON PAGE 2 OF THE APPENDIX.
5. RUNOFF COEFFICIENTS ARE TAKEN FROM THE TABLE: RUNOFF COEFFICIENTS AND MAXIMUM INLET TIMES LOCATED ON PAGE 1 OF THE APPENDIX.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 256 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

SCALE	NO SCALE
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

DRAINAGE AREA CALCULATIONS
SHEET 2 OF 3

CONTRACT	DWG No.	REV
	CC6-0115	

$$$$DGN$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 12:04:30 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

ksims
\

DWG No. CC6-0116

DRAINAGE AREA SUMMARY TABLE						
DRAINAGE AREA NO.	AREA(ACRES)	RUNOFF COEFF. "C"	Tc (MIN.)	I (100-YR) (IN/HR)	Q (100 YR) (CFS)	COMMENTS
E01	0.18	0.95	10	8.88	1.52	
E02	0.42	0.95	10	8.88	3.54	
E03	0.35	0.95	10	8.88	2.95	
E04	0.24	0.95	10	8.88	2.02	
E05	0.25	0.95	10	8.88	2.11	
E06	0.31	0.95	10	8.88	2.62	
E07	0.19	0.95	10	8.88	1.60	
E08	1.00	0.95	10	8.88	8.44	
E09	0.30	0.95	10	8.88	2.53	
E10	0.51	0.95	10	8.88	4.30	
E11	1.42	0.95	10	8.88	11.98	
E12	1.77	0.95	10	8.88	14.93	
E13	2.58	0.95	10	8.88	21.76	
E14	1.31	0.95	10	8.88	11.05	
E15	0.46	0.95	10	8.88	3.88	
E16	0.94	0.95	10	8.88	7.93	
E17	1.03	0.95	10	8.88	8.69	
E18	0.34	0.95	10	8.88	2.87	
E19	0.23	0.95	10	8.88	1.94	
E20	0.46	0.95	10	8.88	3.88	
E21	0.20	0.95	10	8.88	1.69	
E22	0.20	0.95	10	8.88	1.69	
E23	0.13	0.95	10	8.88	1.10	
E24	0.10	0.95	10	8.88	0.84	
E25	0.19	0.95	10	8.88	1.60	
E26	0.15	0.95	10	8.88	1.27	
E27	0.11	0.95	10	8.88	0.93	
E28	0.05	0.95	10	8.88	0.42	
E29	0.13	0.95	10	8.88	1.10	
E30	0.18	0.95	10	8.88	1.52	
E31	0.09	0.95	10	8.88	0.76	
E32	0.04	0.95	10	8.88	0.34	
E33	0.14	0.95	10	8.88	1.18	
E34	0.16	0.95	10	8.88	1.35	
E35	0.17	0.95	10	8.88	1.43	
E36	0.23	0.95	10	8.88	1.94	
E37	0.17	0.95	10	8.88	1.43	
E38	0.08	0.95	10	8.88	0.67	
E39	0.14	0.95	10	8.88	1.18	
E40	0.07	0.95	10	8.88	0.59	
E41	0.15	0.95	10	8.88	1.27	
E42	0.16	0.95	10	8.88	1.35	
E43	0.15	0.95	10	8.88	1.27	
E44	0.11	0.95	10	8.88	0.93	
E45	0.20	0.95	10	8.88	1.69	
E46	0.15	0.95	10	8.88	1.27	
E47	0.22	0.95	10	8.88	1.86	
E48	0.17	0.95	10	8.88	1.43	
E49	0.24	0.95	10	8.88	2.02	
E50	0.63	0.95	10	8.88	5.31	
E51	0.35	0.95	10	8.88	2.95	
E52	0.99	0.95	10	8.88	8.35	
E53	0.53	0.95	10	8.88	4.47	
E54	0.47	0.95	10	8.88	3.96	
E55	1.19	0.95	10	8.88	10.04	
E56	1.28	0.95	10	8.88	10.80	
E57	0.92	0.95	10	8.88	7.76	
E58	0.75	0.95	10	8.88	6.33	
E59	0.22	0.95	10	8.88	1.86	
E60	0.97	0.95	10	8.88	8.18	
E61	0.13	0.95	10	8.88	1.10	
E62	0.07	0.95	10	8.88	0.59	
E63	0.21	0.95	10	8.88	1.77	

DRAINAGE AREA SUMMARY TABLE						
DRAINAGE AREA NO.	AREA(ACRES)	RUNOFF COEFF. "C"	Tc (MIN.)	I (100-YR) (IN/HR)	Q (100 YR) (CFS)	COMMENTS
E64	0.13	0.95	10	8.88	1.10	
E65	0.13	0.95	10	8.88	1.10	
E66	0.81	0.95	10	8.88	6.83	
E67	0.69	0.95	10	8.88	5.82	
E68	0.25	0.95	10	8.88	2.11	
E69	1.03	0.95	10	8.88	8.69	
E70	1.62	0.95	10	8.88	13.67	
E71	0.25	0.95	10	8.88	2.11	
E72	0.58	0.95	10	8.88	4.89	
E73	0.39	0.95	10	8.88	3.29	
E74	1.52	0.95	10	8.88	12.82	
E75	0.35	0.95	10	8.88	2.95	
E76	1.99	0.95	10	8.88	16.79	
E77	0.84	0.95	10	8.88	7.09	
E78	2.75	0.95	10	8.88	23.20	

DRAINAGE AREA SUMMARY TABLE						
DRAINAGE AREA NO.	AREA(ACRES)	RUNOFF COEFF. "C"	Tc (MIN.)	I (100-YR) (IN/HR)	Q (100 YR) (CFS)	COMMENTS
F01	0.68	0.95	10	8.88	5.74	
F02	0.07	0.95	10	8.88	0.59	
F03	0.48	0.95	10	8.88	4.05	
F04	0.32	0.95	10	8.88	2.70	
F05	0.21	0.95	10	8.88	1.77	
F06	0.33	0.95	10	8.88	2.78	
F07	0.14	0.95	10	8.88	1.18	
F08	0.12	0.95	10	8.88	1.01	

NOTES:

1. DRAINAGE DESIGN CRITERIA (FREQUENCY, INTENSITY, AND RUNOFF COEFFICIENTS) ARE BASED ON THE CITY OF DALLAS DRAINAGE DESIGN MANUAL, DATED MAY 1993.
2. ALL DRAINAGE AREAS ARE CALCULATED FOR THE 100-YEAR FREQUENCY STORM.
3. ALIGNMENT IS WITHIN THE ZONING DISTRICT: CA-1(A), CENTRAL AREA - 1.
4. INTENSITY WERE DETERMINED USING THE RAINFALL INTENSITY DURATION TABLE LOCATED ON PAGE 2 OF THE APPENDIX.
5. RUNOFF COEFFICIENTS ARE TAKEN FROM THE TABLE: RUNOFF COEFFICIENTS AND MAXIMUM INLET TIMES LOCATED ON PAGE 1 OF THE APPENDIX.

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 257 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ICONIC CONSULTING GROUP, INC.

DART PROJECT

DART

CAES

SCALE	NO SCALE
DRAWN	K. SIMS
DESIGNED	J. TAYLOR
CHECKED	J. HUDSON
IN CHARGE	J. BRISCOE
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

DRAINAGE AREA CALCULATIONS
SHEET 3 OF 3

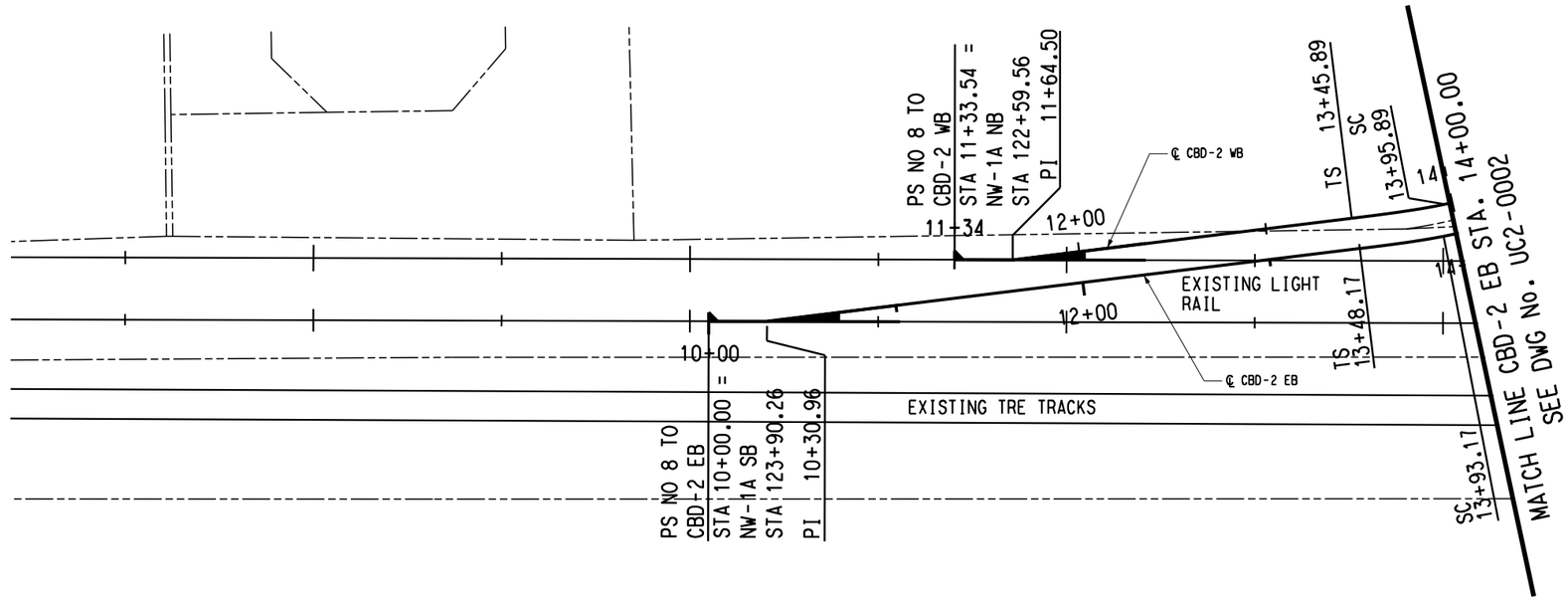
CONTRACT | DWG No. CC6-0116 | REV

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$$$$DGN$$SPECIFICATION$$$$$$$$$

ksims

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. UC2-0001



SCALE (IN FEET)
0 20 40 80

NOTES:

1. FOR HORIZONTAL AND VERTICAL GEOMETRY, SEE HORIZONTAL ALIGNMENT DATA TABLE SHEETS AND GUIDEWAY PLAN AND PROFILE SHEETS.

2. FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS RELATED TO UTILITY CONSTRUCTION, SEE DWG No. GC1-0003 AND GC1-0004.

3. UTILITY INFORMATION IS BASED UPON EXISTING UTILITY PLANS PROVIDED BY CITY OF DALLAS AND DALLAS WATER UTILITIES. THIS DOES NOT PRECLUDE THE EXISTENCE OF OTHER UNDERGROUND FACILITIES. RECORD INFORMATION IS BASED UPON DATA COLLECTED FROM BOTH PUBLIC AND PRIVATE SOURCES. THE COMPLETENESS AND/OR ACCURACY OF THESE RECORDS CANNOT BE GUARANTEED EXCEPT BY FIELD MEASUREMENT. UTILITIES SHALL BE VERIFIED BY FINAL DESIGNER.

4. INDIVIDUAL GAS SERVICES ARE UNKNOWN AND NOT SHOWN ON THESE DRAWINGS.

5. FINAL DESIGNERS SHALL VERIFY THE HEIGHT OF ALL AERIAL CABLE CROSSINGS AND PERFORM SUE FOR ALL HIGH PRESSURE GAS.

6. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY IN ANY AREA OF THE PROJECT, THE CONTRACTOR SHALL CONTACT ALL COMPANIES KNOWN TO OPERATE UTILITY SYSTEMS IN THE AREA AND SHALL HAVE THEIR FACILITIES PHYSICALLY LOCATED.

7. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE EXACT SIZE OF EXISTING WATER AND WASTEWATER SERVICES.

8. STORM SEWER PLANS ARE NOT SHOWN ON THESE DRAWINGS.

9. FOR PROPOSED STATIONS, SEE ARCHITECTURAL SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 258 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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urban engineers group

DART PROJECT

DART

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
BEGIN PROJECT TO STA 14+00.00

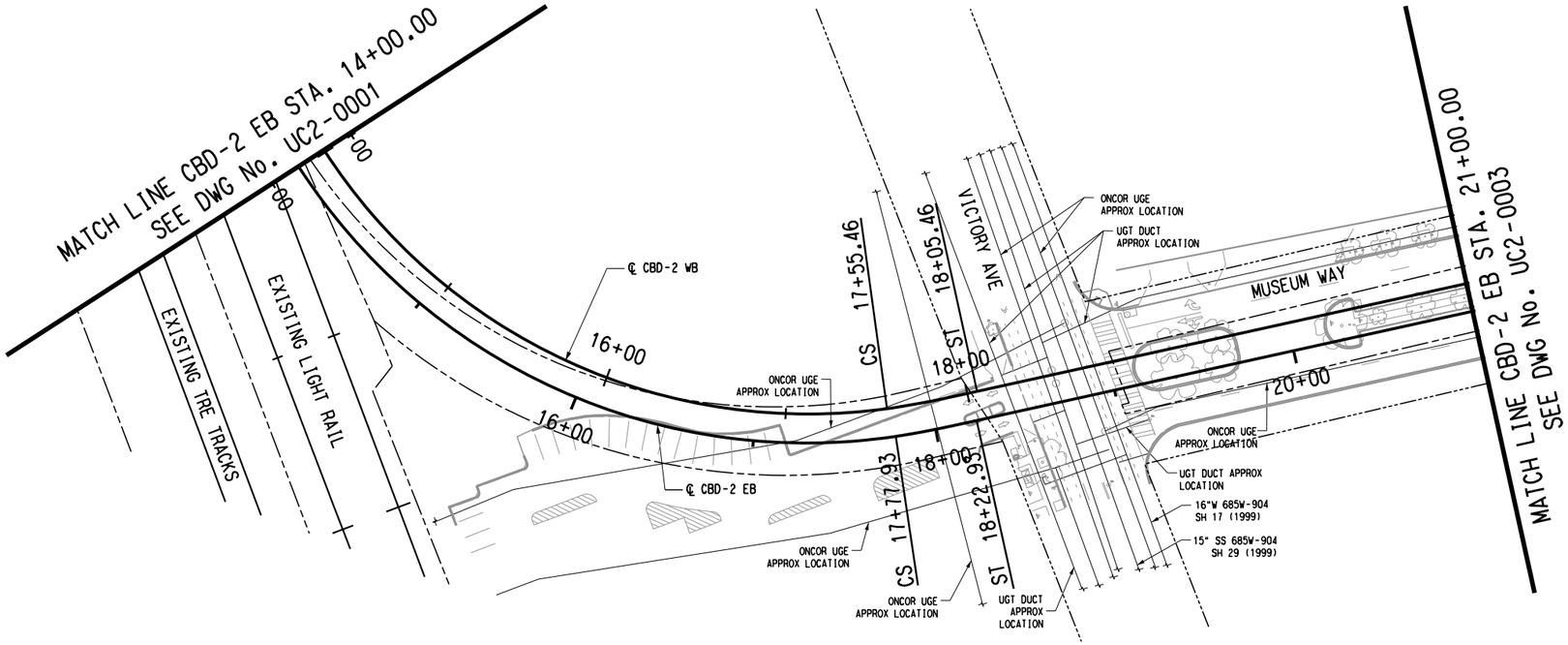
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	UC2-0001	

Friday, February 28, 2020 01:46:04 PM
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Hasan Raza

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. UC2-0002



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 259 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
URBAN ENGINEERS GROUP, INC.
TBPE FIRM NO. F-5332
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urban|engineers|group

DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

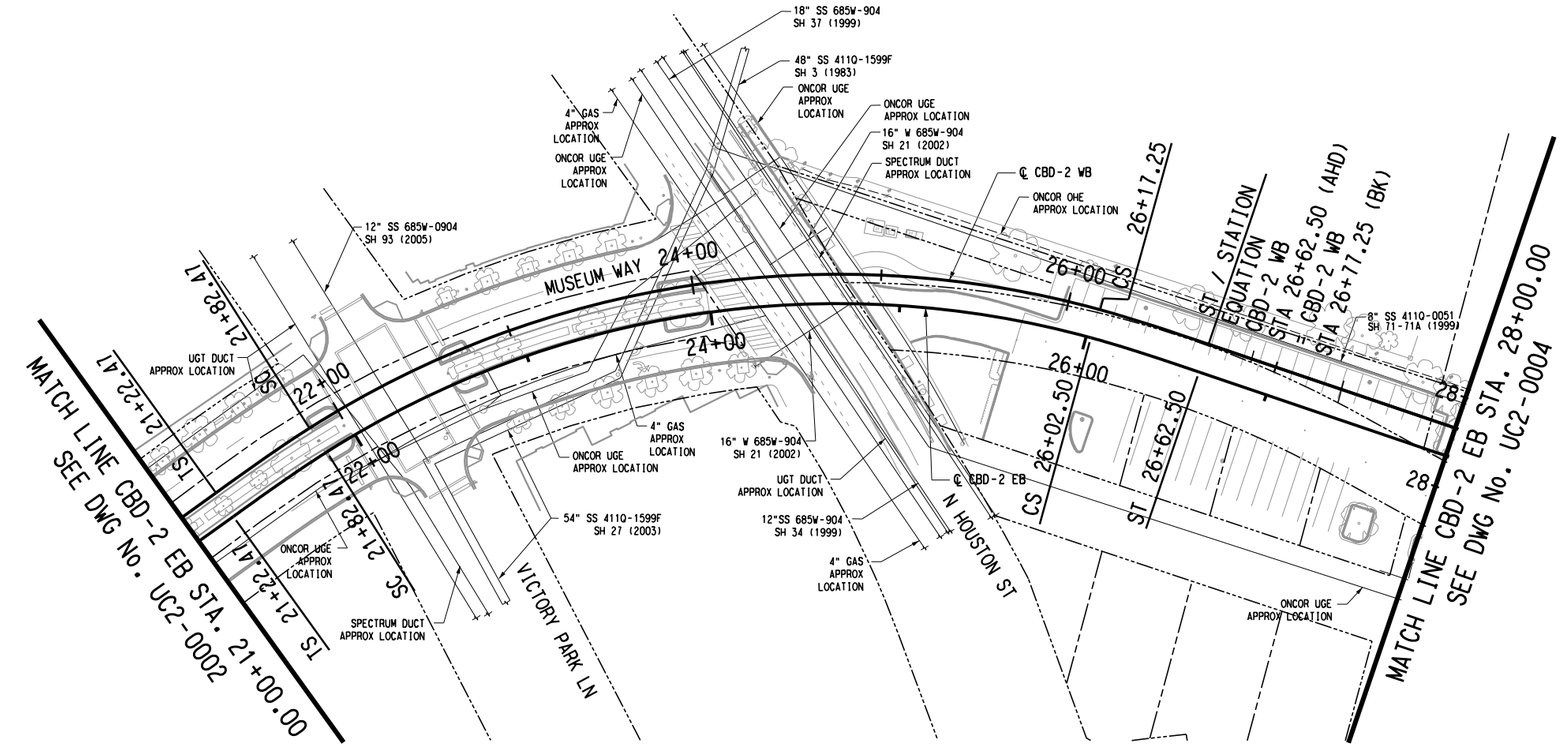
EXISTING UTILTY COMPOSITE
STA 14+00.00 TO STA 21+00.00

CONTRACT	DWG No.	REV
	UC2-0002	

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$$$$DGN$SPECIFICATION$$$$$$$$$$
Hasan Raza
\

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. UC2-0003



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 260 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

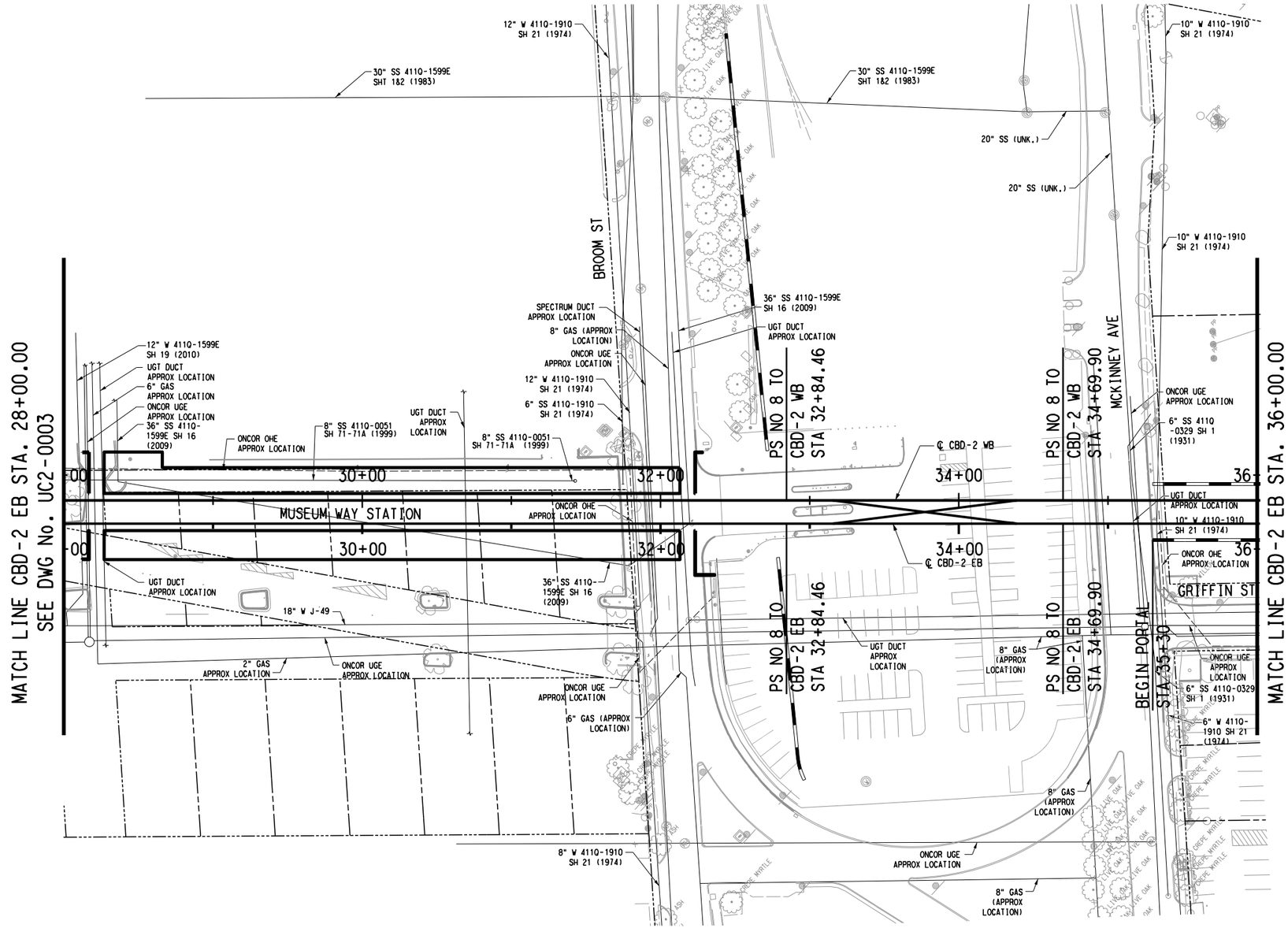
EXISTING UTILITY COMPOSITE
STA 21+00.00 TO STA 28+00.00

CONTRACT	DWG No.	REV
	UC2-0003	

Friday, February 28, 2020 01:46:40 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
Hasan Raza

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. UC2-0004



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 261 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ON 03/06/2020
URBAN ENGINEERS GROUP, INC.
TBPE FIRM NO. F-5332
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

urban engineers group

DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 28+00.00 TO STA 36+00.00

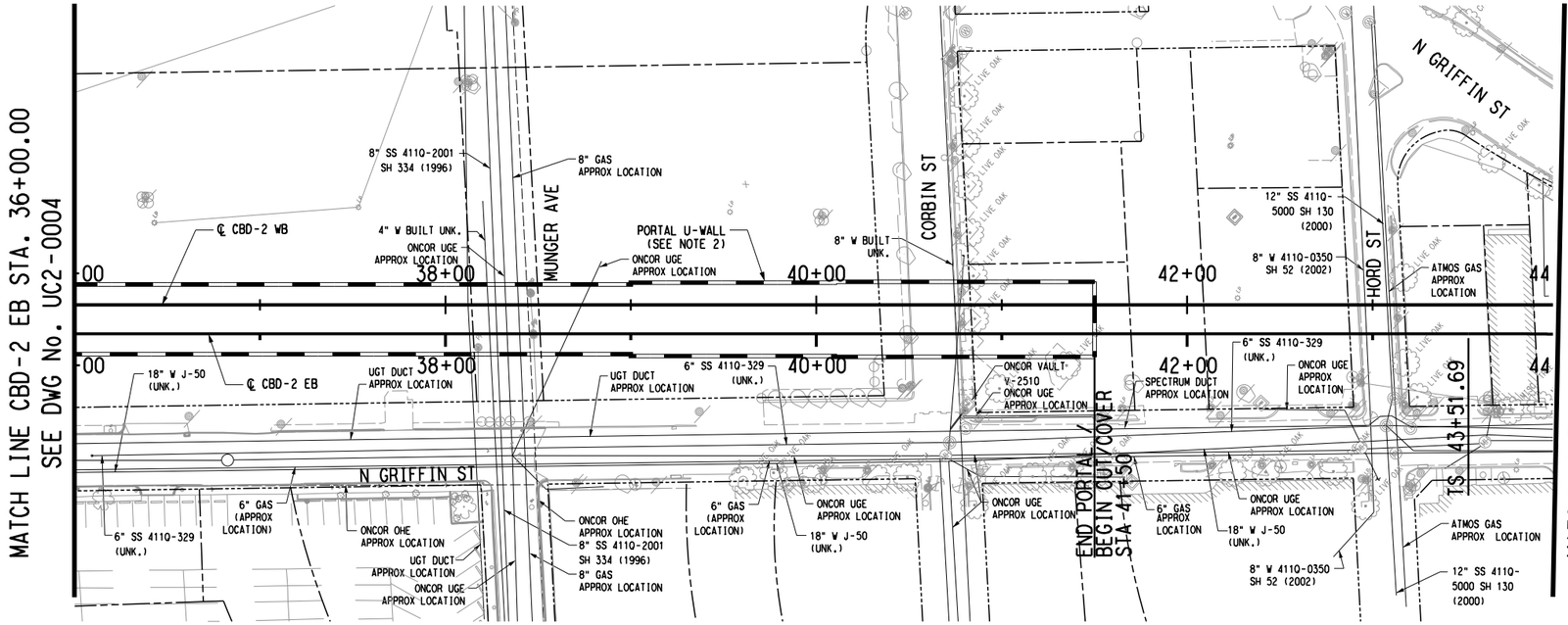
CONTRACT	DWG No.	REV
	UC2-0004	

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$$$$DGN$SPECIFICATION$$$$$$$$$

Hasan Raza

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. UC2-0005



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
2. FOR PORTAL U-WALLS, SEE STRUCTURAL SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 262 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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ON 03/06/2020
URBAN ENGINEERS GROUP, INC.
TBPE FIRM NO. F-5332
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

urban engineers group

gpc SIX

DART PROJECT

DART

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	HDR
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 36+00.00 TO STA 44+00.00

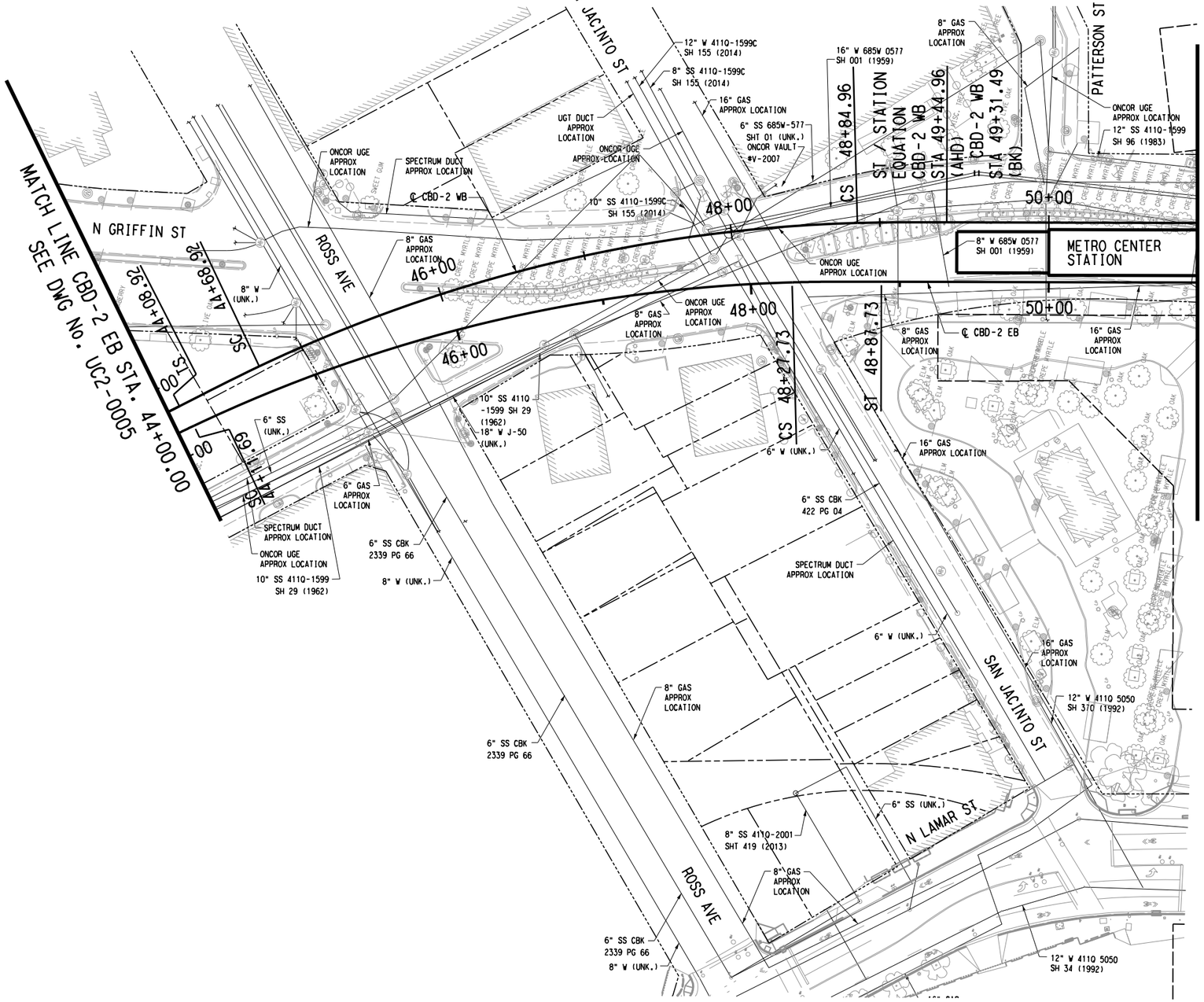
CONTRACT	DWG No.	REV
	UC2-0005	

$$$$DGN$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 01:47:05 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

Hasan Raza

DWG No. UC2-0006



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 263 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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UEG urban|engineers|group

gpc SIX

DART PROJECT

DART

CAES

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

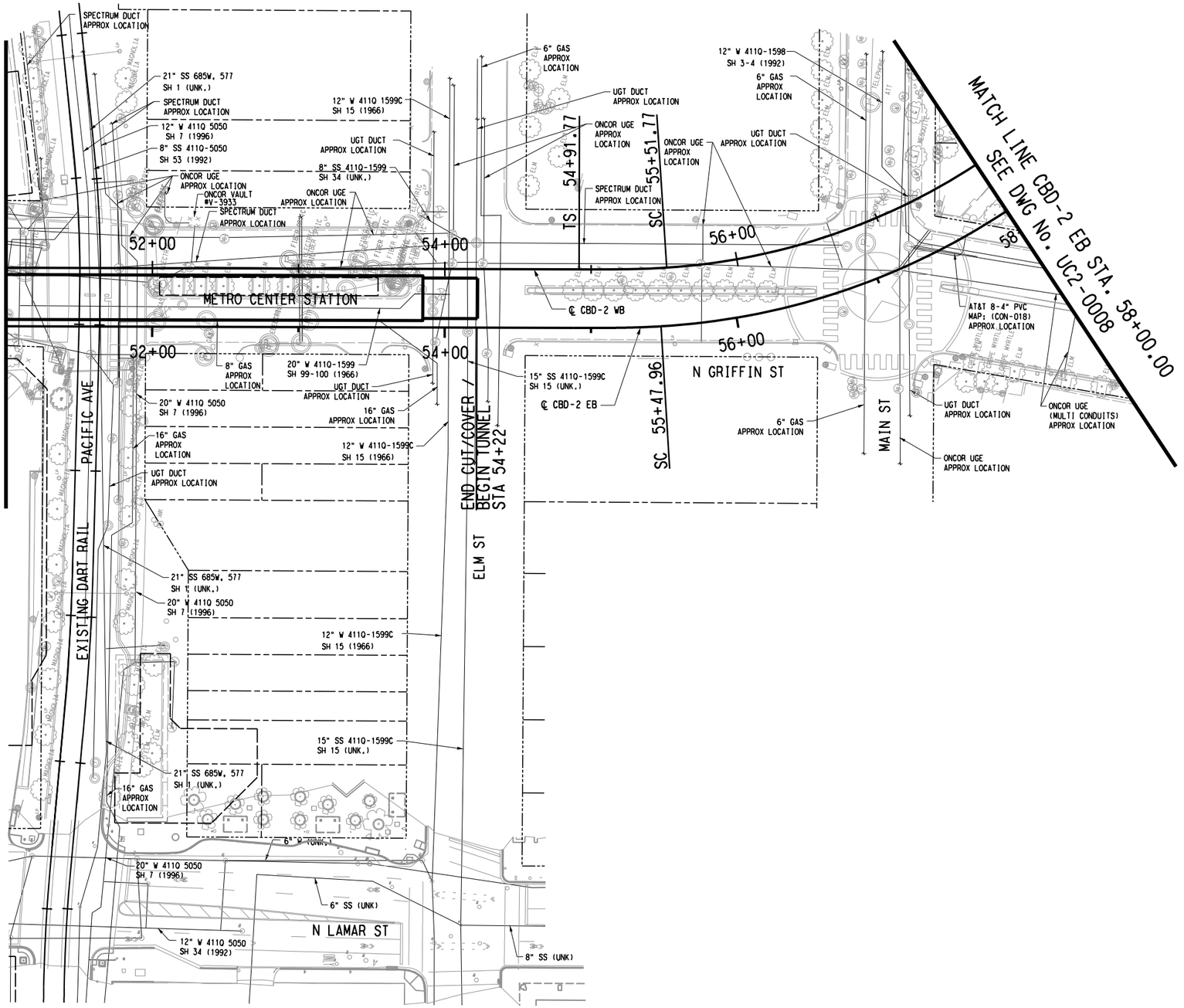
EXISTING UTILITY COMPOSITE
STA 44+00.00 TO STA 51+00.00

CONTRACT	DWG No.	REV
	UC2-0006	

Friday, February 28, 2020 01:47:17 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
Hasan Raza

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. UC2-0007



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 264 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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urban engineers group

DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

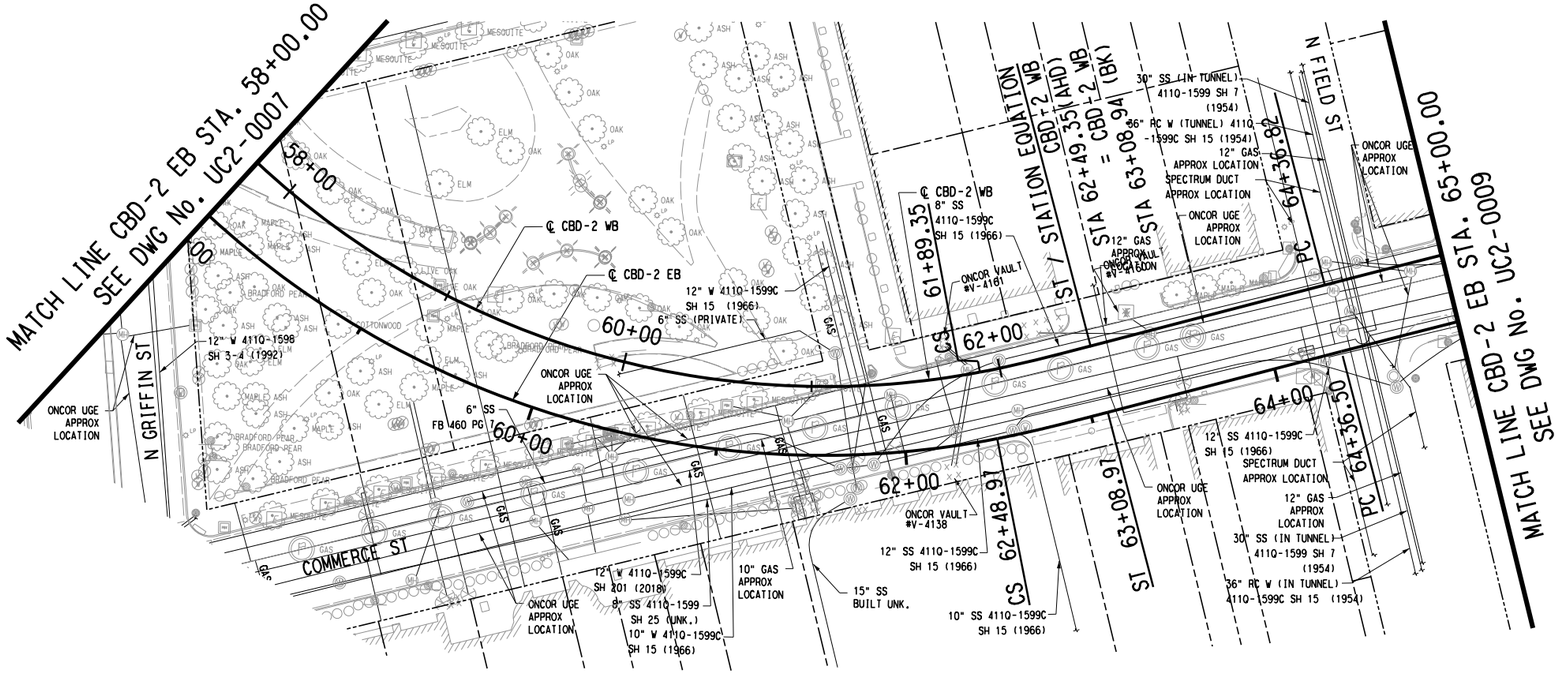
EXISTING UTILITY COMPOSITE
STA 51+00.00 TO STA 58+00.00

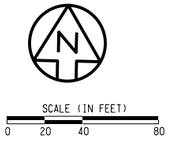
CONTRACT	DWG No.	REV
	UC2-0007	

Friday, February 28, 2020 01:47:29 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$
Hasan Raza

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. UC2-0008





NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 265 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

DART

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

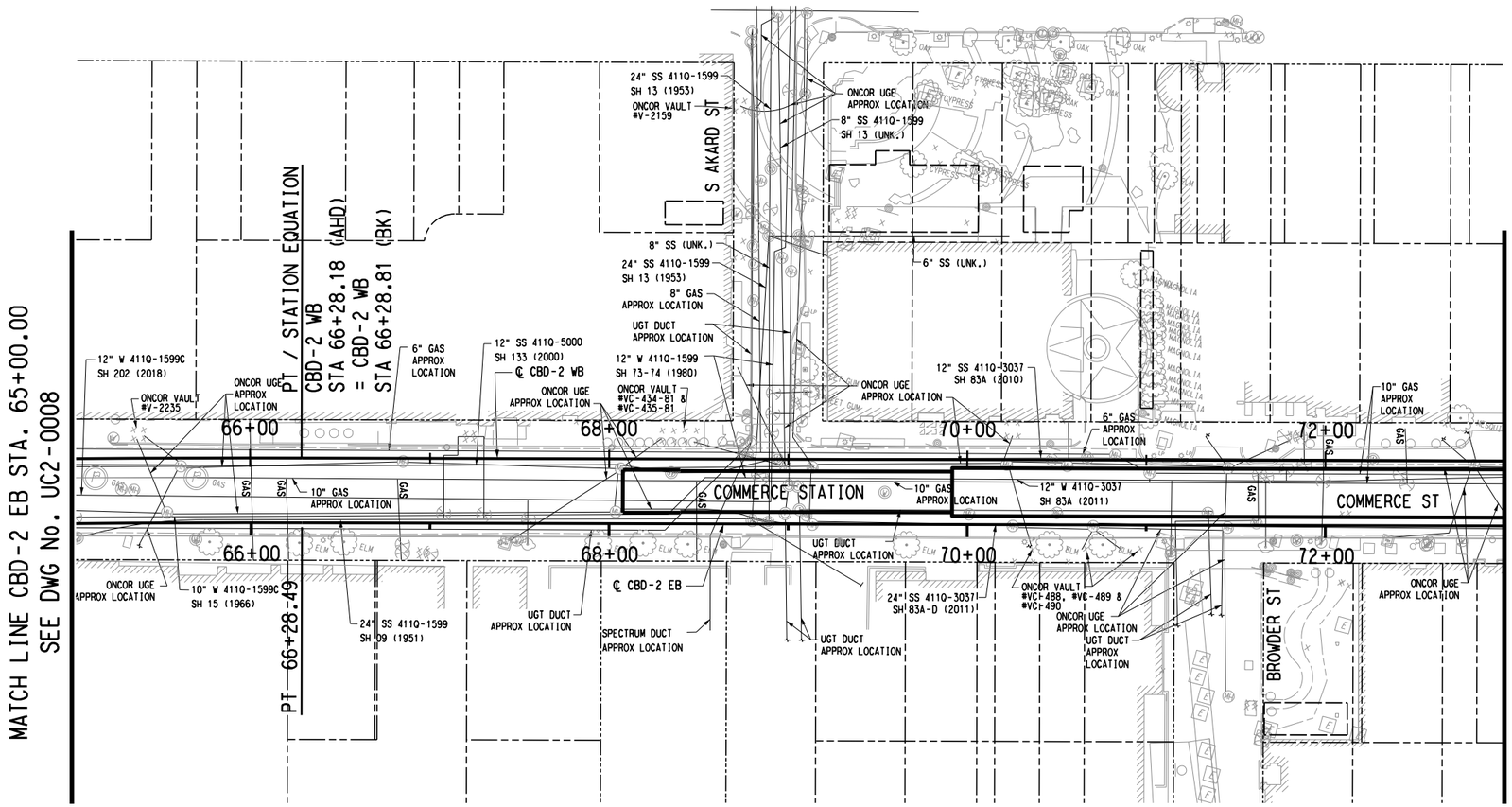
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 58+00.00 TO STA 65+00.00

CONTRACT	DWG No.	REV
	UC2-0008	

Friday, February 28, 2020 01:47:46 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$$
Hasan Raza
$$$$DGN$$SPECIFICATION$$$$$$$$$$

DWG No. UC2-0009



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 266 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

DART

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 65+00.00 TO STA 73+00.00

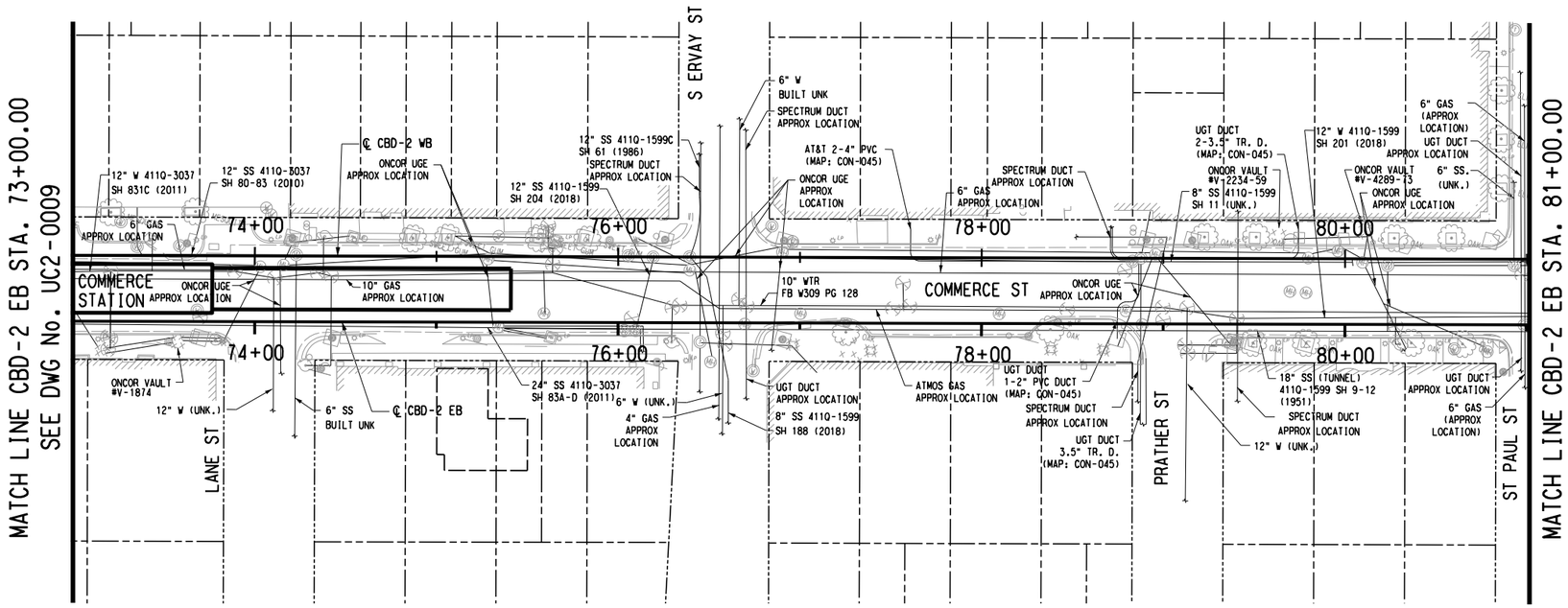
CONTRACT	DWG No.	REV
	UC2-0009	

$$$$DGN$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 01:47:58 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

Hasan Raza

DWG No. UC2-0010



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 267 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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gpc SIX

DART PROJECT

DART®

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

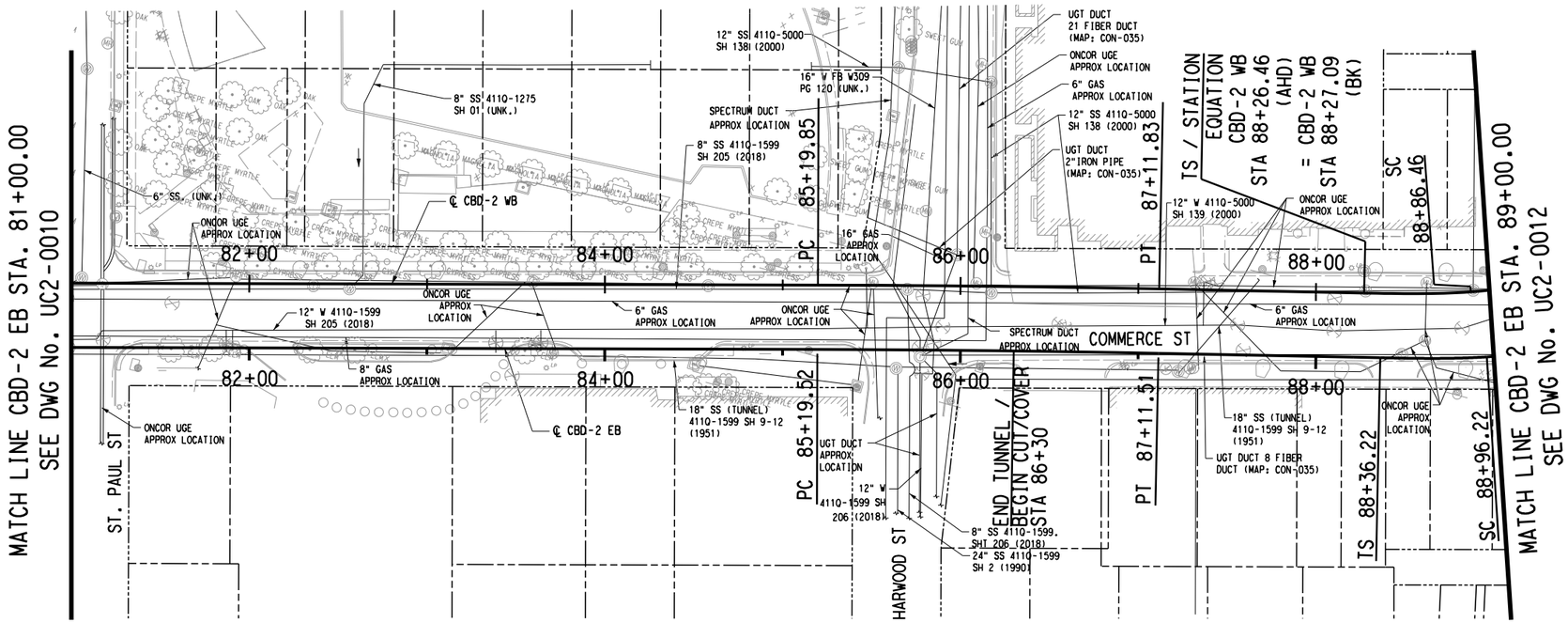
EXISTING UTILITY COMPOSITE
STA 73+00.00 TO STA 81+00.00

CONTRACT	DWG No.	REV
	UC2-0010	

$$$$DGN$$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 01:46:09 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$
Hasan Raza

DWG No. UC2-0011



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 268 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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gpc SIX

DART PROJECT

DART

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 81+00.00 TO STA 89+00.00

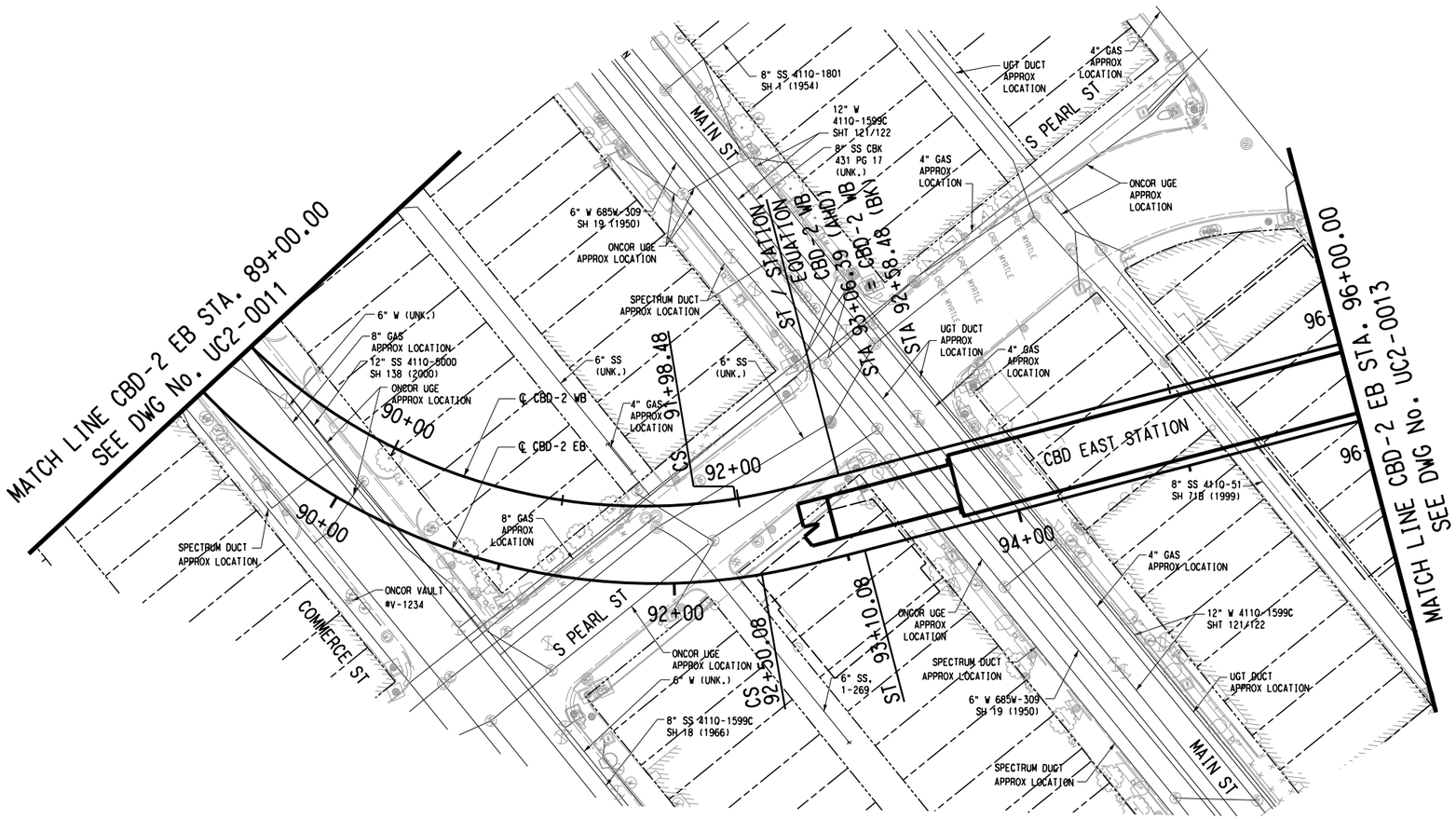
CONTRACT	DWG No.	REV
	UC2-0011	

$$$$DGN$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 01:48:23 PM
$$$$DGN$SPECIFICATION$$$$$$$$$

Hasan Raza

DWG No. UC2-0012



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 269 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

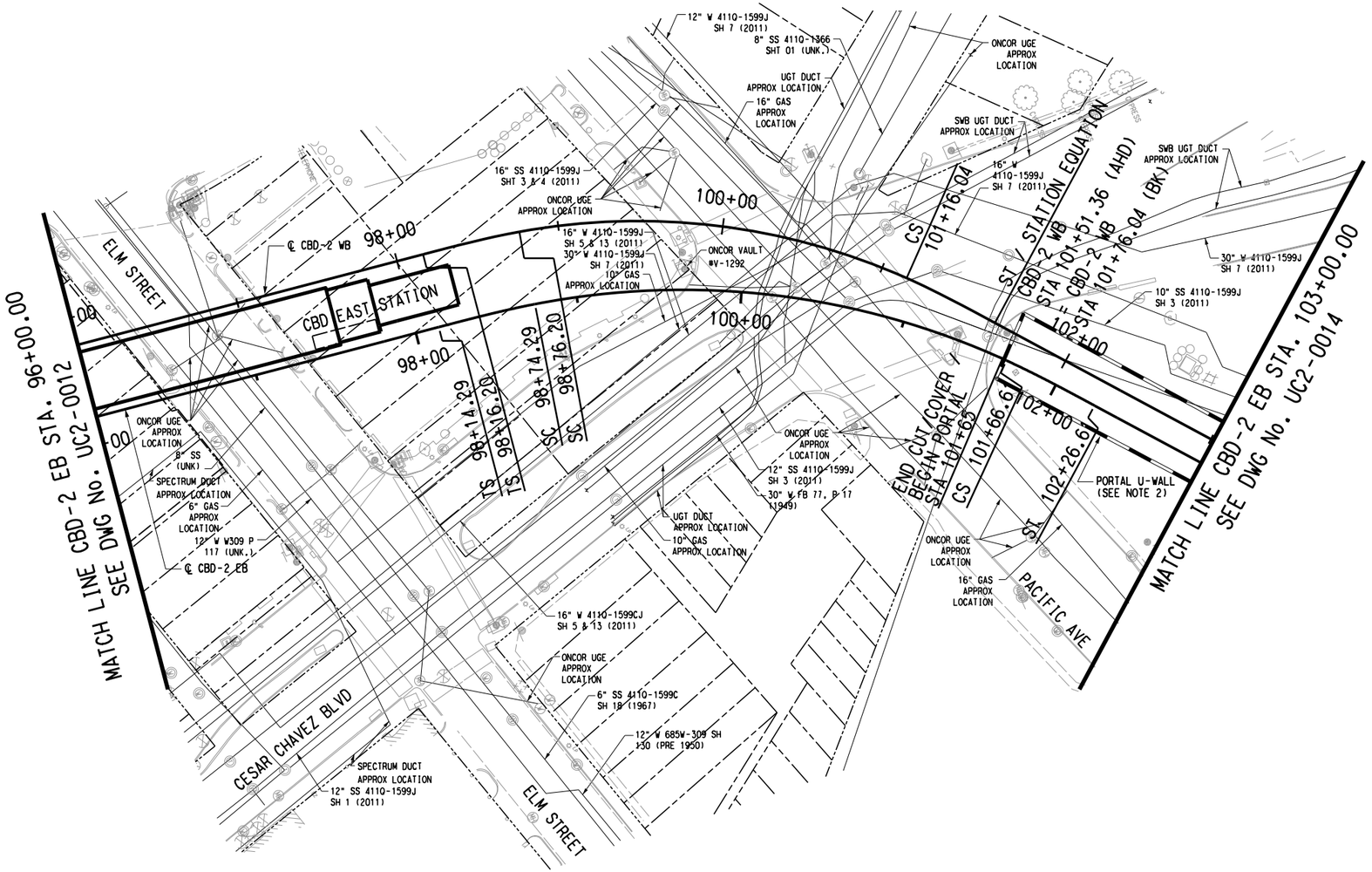
EXISTING UTILITY COMPOSITE
STA 89+00.00 TO STA 96+00.00

CONTRACT	DWG No.	REV
	UC2-0012	

$$$$DGN$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 01:46:36 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
Hasan Raza

DWG No. UC2-0013



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
2. FOR PORTAL U-WALL, SEE STRUCTURAL SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 270 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

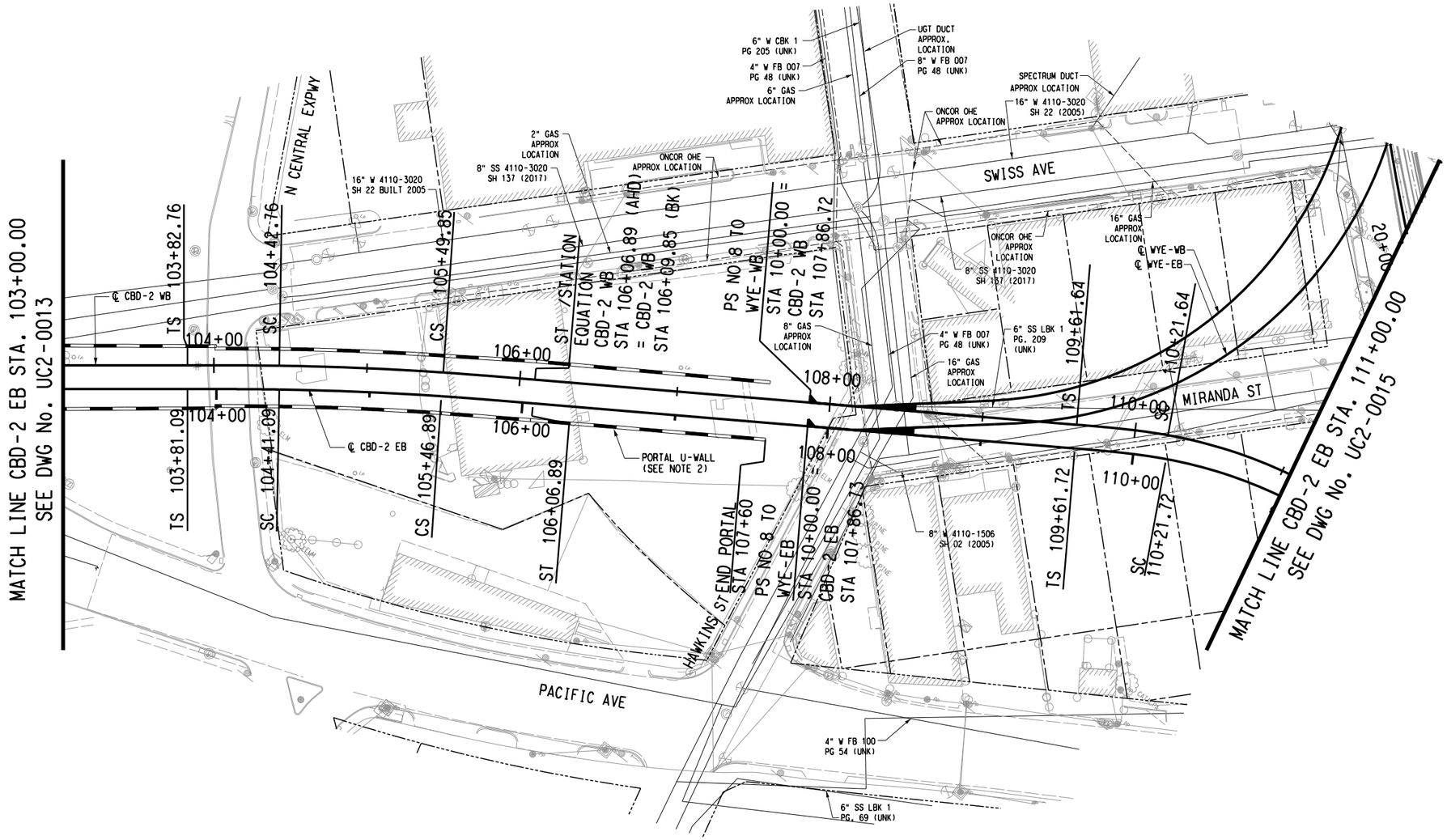
EXISTING UTILITY COMPOSITE
STA 96+00.00 TO STA 103+00.00

CONTRACT	DWG No.	REV
	UC2-0013	

Friday, February 28, 2020 01:46:49 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$
Hasan Raza

$$$$DGN$$SPECIFICATION$$$$$$$$$

DWG No. UC2-0014



NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
2. FOR PORTAL U-WALL, SEE STRUCTURAL SHEETS.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 271 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

DART

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

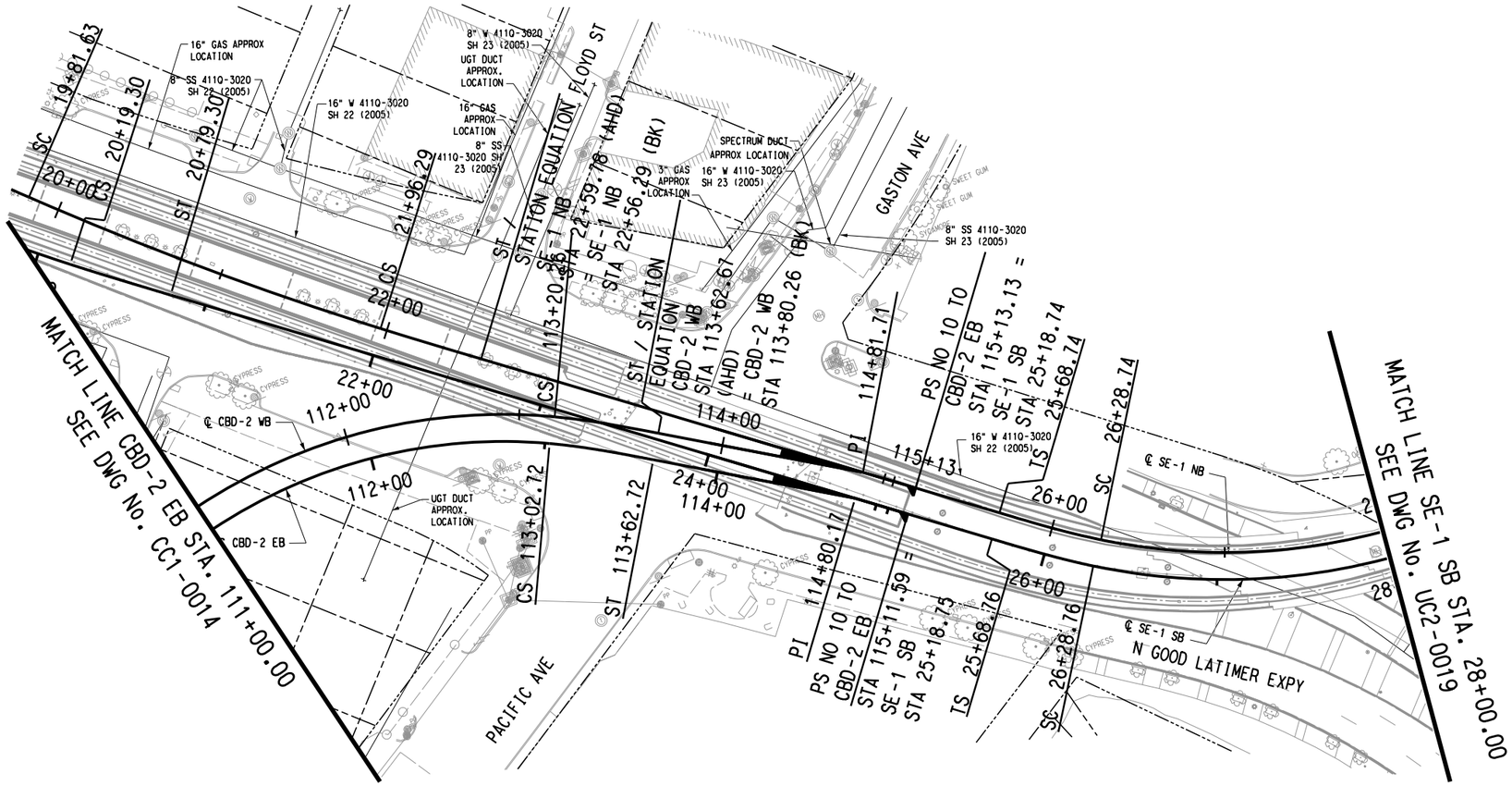
EXISTING UTILITY COMPOSITE
STA 103+00.00 TO STA 111+00.00

CONTRACT | DWG No. UC2-0014 | REV

Friday, February 28, 2020 03:31:49 PM
$$$$DGN$SPECIFICATION$$$$$$$$$$
Hasan Raza

$$$$DGN$SPECIFICATION$$$$$$$$$$

DWG No. UC2-0015



NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 272 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

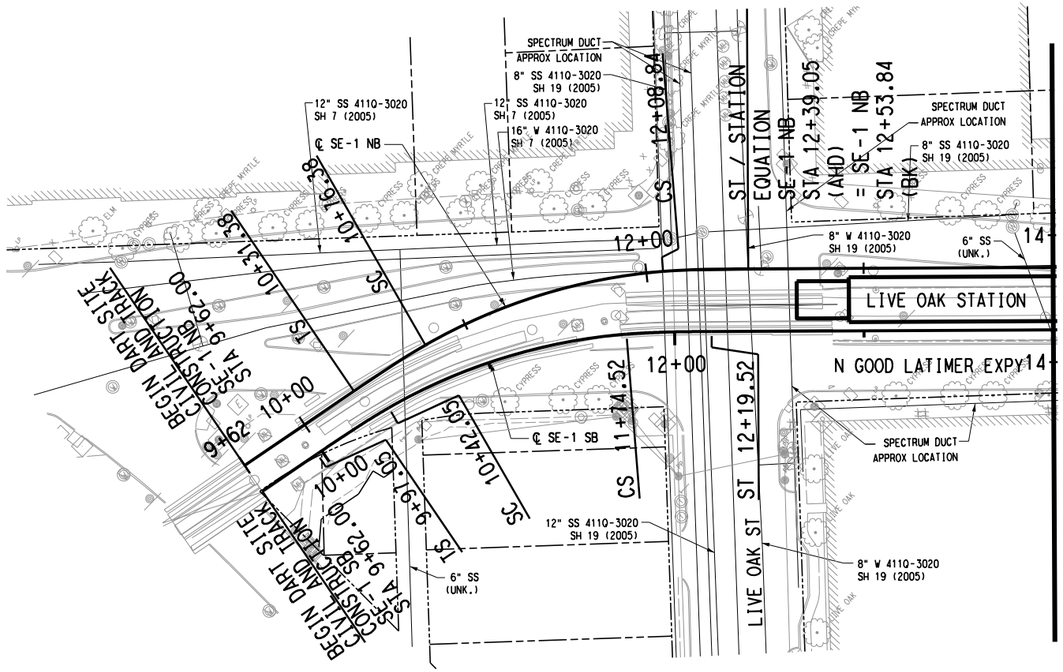
EXISTING UTILITY COMPOSITE
STA 111+00.00 TO SE-1 STA. 28+00.00

CONTRACT	DWG No.	REV
	UC2-0015	

Friday, February 28, 2020 01:49:18 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
Hasan Raza

$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. UC2-0016



NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 273 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

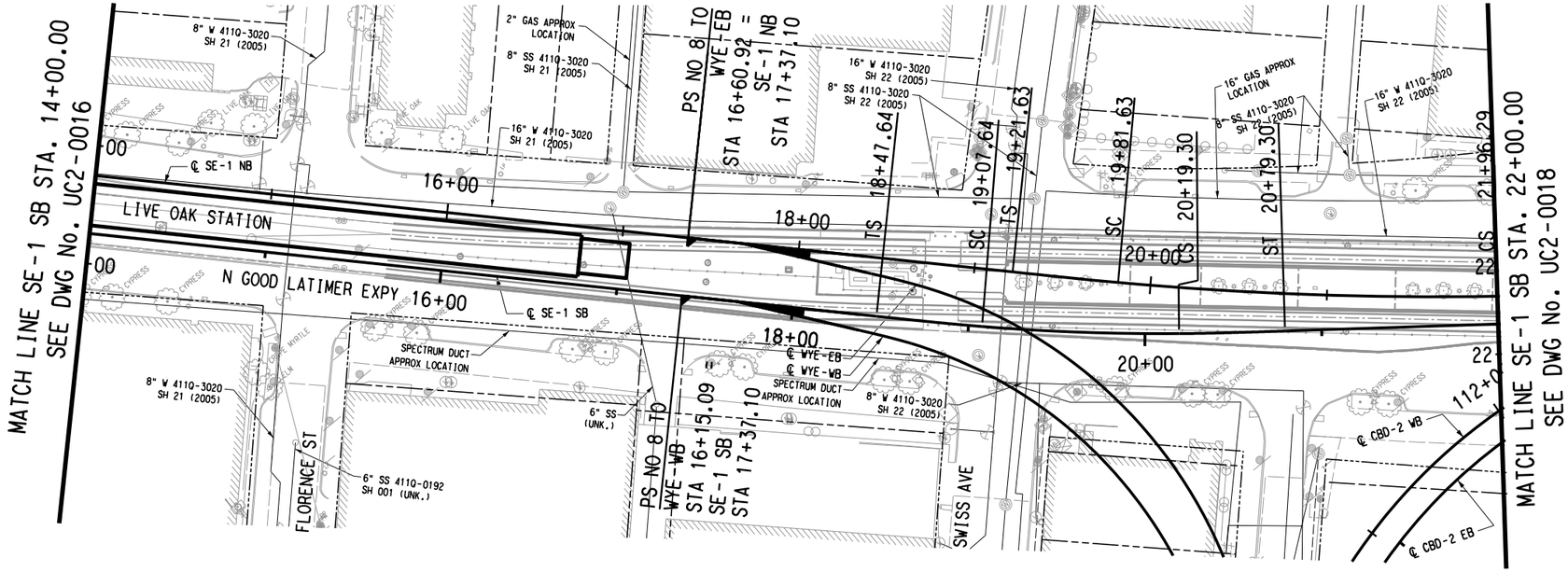
SE-1 SB
EXISTING UTILITY COMPOSITE
BEGIN PROJECT TO STA 14+00.00

CONTRACT	DWG No.	REV
	UC2-0016	

$$$$DGN$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 01:49:33 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
Hasan Raza
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DWG No. UC2-0017



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 274 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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TBPE FIRM NO. F-5332
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gpc SIX

DART PROJECT

DART

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 SB
EXISTING UTILITY COMPOSITE
STA 14+00.00 TO STA 22+00.00

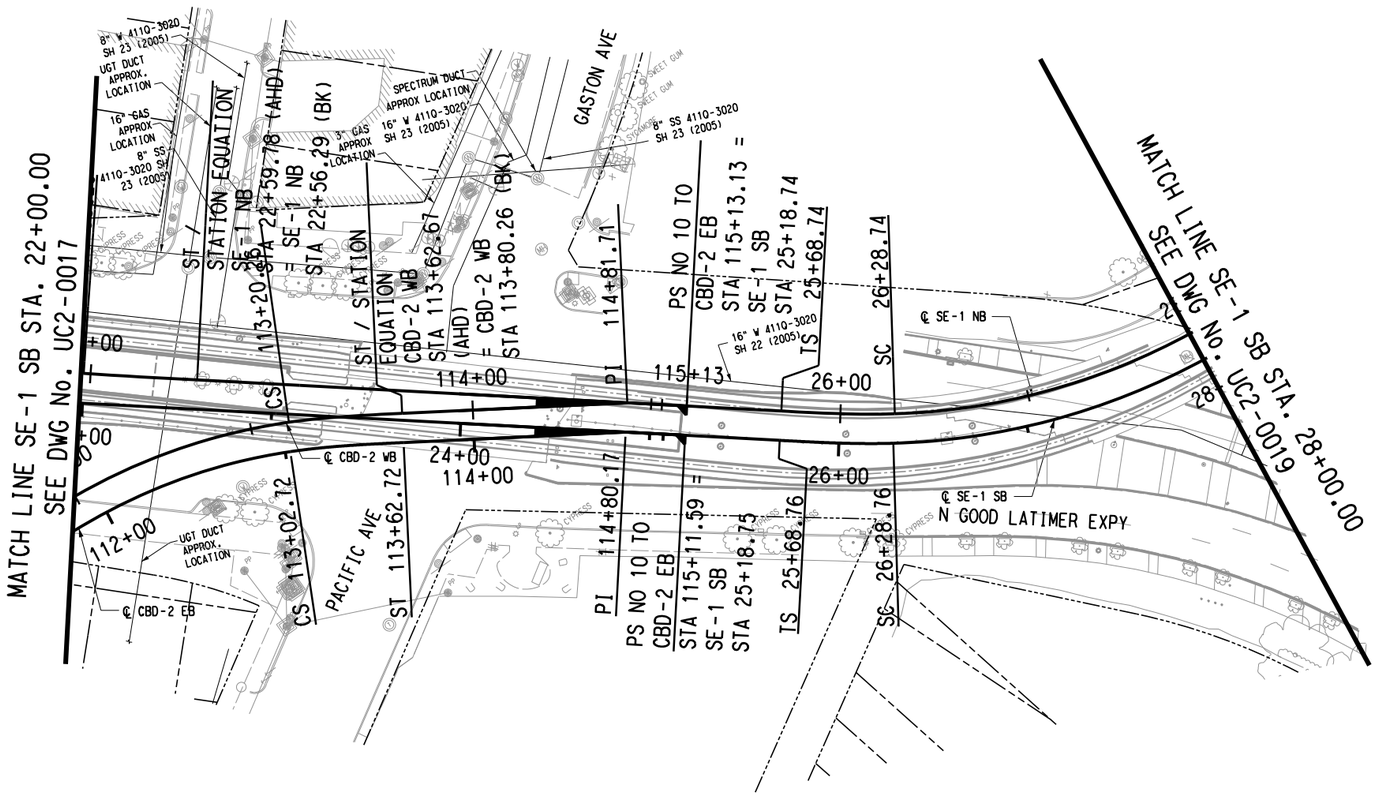
CONTRACT	DWG No.	REV
	UC2-0017	

$$$$DGN$$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 01:50:15 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

Hasan Raza
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DWG No. UC2-0018



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 275 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART PROJECT

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

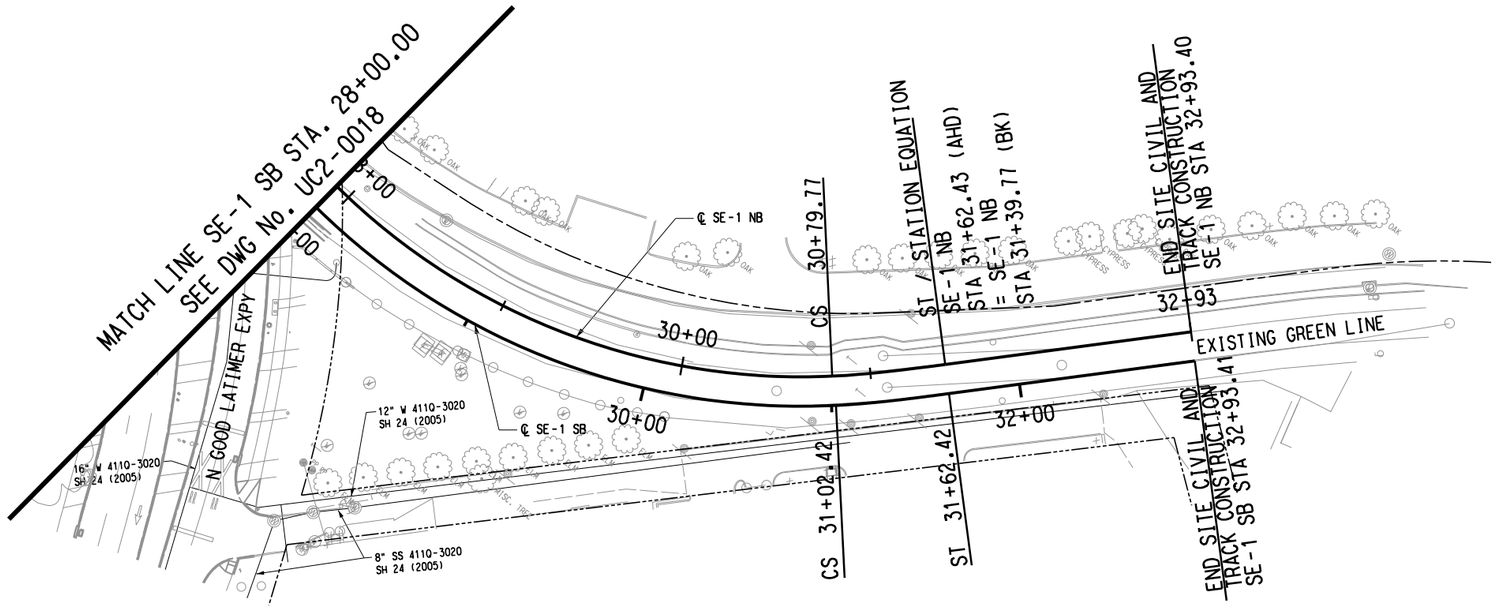
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 SB
EXISTING UTILITY COMPOSITE
STA 22+00.00 TO STA 28+00.00

CONTRACT	DWG No.	REV
	UC2-0018	

Friday, February 28, 2020 01:50:40 PM
$$$$DGN$SPECIFICATION$$$$$$$$$
Hasan Raza
$$$$DGN$SPECIFICATION$$$$$$$$$

DWG No. UC2-0019



SCALE (IN FEET)
0 20 40 80

NOTES:

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 276 OF 276

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS

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DART gpc SIX

DART PROJECT

DART

SCALE	1" = 40'
DRAWN	L. WYANDON
DESIGNED	H. RAZA
CHECKED	UEG
IN CHARGE	F. SYED
DATE	03/06/2020

CAES

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SE-1 SB
EXISTING UTILITY COMPOSITE
STA 28+00.00 TO END PROJECT

CONTRACT	DWG No.	REV
	UC2-0019	

$$$$DGN$$SPECIFICATION$$$$$$$$$

Friday, February 28, 2020 01:51:13 PM
$$$$DGN$$SPECIFICATION$$$$$$$$$

Hasan Raza