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

20% PRELIMINARY ENGINEERING
VICINITY MAP
NO SCALE

D2 SUBWAY
VICTORY STATION TO DEEP ELLUM

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
OVERALL PROJECT TITLE SHEET
DART D2 SUBWAY - CBD-2
GUIDEWAY PLAN AND PROFILE KEY PLAN

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

HDR ENGINEERING, INC.
ON 03/06/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
DART D2 SUBWAY - CBD-2
GUIDEWAY PLAN AND PROFILE KEY PLAN
### PERMANENT ALIGNMENT CONTROL MONUMENTS

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### NOT FOR CONSTRUCTION

1. GRID COORDINATES ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM (NAD83, V.E., SURVEY 2000).

2. SURFACE COORDINATES ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM (NAD83, V.E., SURVEY 2000).

3. THE CONTROL POINTS SHOWN WERE PROVIDED BY LFM IN MAY 2018. NEW SURVEYED POINTS ARE SHOWN IN RED. OFFICIAL SURVEYED POINTS ARE SHOWN IN BLACK.

4. DWG No. 6971400.12

5. LIGHT RAIL TRANSIT SYSTEM SURFACE COORDINATES X 0.999863513 BASED ON THE TEXAS STATE PLANE SURVEY FOOT.

6. DATE CHECKED

7. DRAWN

8. L. GUBLO

9. L. GUBLO

10. LIGHT RAIL TRANSIT SYSTEM

11. CONTRACT No. 2764

12. NOT FOR CONSTRUCTION

13. NOT AN APPROVED DRAWING (PROVISIONAL FOR DESIGN)
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

NOTES:

1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LIMITS ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL ELEVATION 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 BASIS OF RECORD OR RELIABLE UPON AS A FINAL SURVEY DOCUMENT.

3. PROPOSED ROW LIMITS SHOWN IN ENGINEERING INPS ARE FOR PURPOSES OF PLANNING. THESE LIMITS MAY INCLUDE ACQUISITION AGREEMENTS, EXEMPTS, ETC. THESE LIMITS MAY NOT BE THE FINAL ROW LIMITS AND AS SUCH, THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.

4. BASIS OF BEARINGS - BEARINGS FOR THIS SURVEY ARE BASED ON A TERRA CONTROLasco IN MAY 2018 WITH UPDATES FROM NOVEMBER 2018 - NEW TRAVERSE POINTS SET IN NOV 2019.

LEGEND

- - - - EXISTING RIGHT OF WAY
- - - - EXISTING PROPERTY LINE
- - - - PROPOSED RIGHT OF WAY
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

IN-PROGRESS
NOT PREPARED FOR CONSTRUCTION
DATE: 03/10/2021
SCALE: 1"=100' OR 1"=200'

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
RIGHT-OF-WAY PLAN
STA 51+00.00 TO STA 58+00.00

DART PROJECT

NOTES:
1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM ORIGINAL INFORMATION AND DO NOT REPRESENT AN ACTUAL ENGINEER SURVEY. THE EXISTING ROW SHALL BE VERIFIED BY THE FINAL DESIGNER.

2. PRELIMINARY. THIS DOCUMENT SHALL NOT BE RELEASED FOR ANY PURPOSE AND SHALL NOT BE USED OR REFERENCED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.

3. PROPOSED ROW LIMITS SHOWN ARE BASED ON ENGINEERING NOTES AND ARE SUBJECT TO CHANGE. THE PROPOSED ROW LIMITS MAY INCLUDE ACQUISITION AGREEMENTS, EASEMENTS, ETC. THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.

4. BASIS OF BEARING - BEARINGS FOR THIS SURVEY ARE BASED ON A SURVEY CONDUCTED IN MAY 2018 WITH UPDATES FROM NOW IN SUMMER/FALL 2018 - NEW TRAVERSE POINTS SET IN NOW IN 2019.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

IN-PROGRESS

DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

NOTES:
1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL ENSURING SURVEY. THE EXISTING ROW SHALL BE VERIFY BY THE FINAL DESIGNER.
2. PRELIMINARY: THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.
3. PROPOSED ROW LIMITS SHOWN ARE BASED ON ENGINEERING NOTES AND ARE SUBJECT TO CHANGE. THESE LIMITS MAY INCLUDE ACQUIESCENCE AGREEMENTS, EASEMENTS, ETC. FOR THE PROPOSED ROW LIMITS TO BE RESOLVED PRIOR TO CONSTRUCTION, THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.
4. BASIS OF BEARING - BEARINGS FOR THIS SURVEY ARE BASED ON UTSI CONTROL POINTS IN MAY 2016 WITH UPDATES FROM HWY IN SUMMER/FALL 2018 - NO NEW TRAVERSE POINTS SET DURING 2019.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

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

NOTES:
1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL SURVEY SURVEY; THE EXISTING RUN SHALL BE verified BY THE FINAL DESIGNER.

2. PRELIMINARY. THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR REFERRED TO OR RELIED UPON AS A FINAL SURVEY DOCUMENT. (RELEASE DATE 01/15/2021)

3. PROPOSED ROW LIMITS SHOWN ARE BASED ON ENGINEERING WORK AND ARE SUBJECT TO CHANGE. THESE LIMITS MAY INCLUDE ACQUISITION, AGREEMENTS, EXEMPTIONS, ETC. FOR ADDITIONAL INFORMATION, THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.

4. BASIS OF BEARING - REFERENCES TO THIS SURVEY ARE BASED ON A STRAIGHT CONTROL PROFILED IN MAY 2016 WITH UPDATES FROM NOW IN SUMMER/FALL 2019 - NEW TRAVERSE POINTS SET ON NOW IN 2019.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
SHEET 1 OF 4

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
HORIZONTAL ALIGNMENT
SCHEMATIC
SHEET 1 OF 4
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
### HORIZONTAL ALIGNMENT DATA

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**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 E99.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

**DEFINITION.**

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 E99.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.
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NOTES:
1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM (FDTA), NAD83, SURVEY 1983.
3. CURVE RADII ARE BASED ON THE CHORD DEVIATION.

GRID COORDINATES:
- SURFACE COORDINATES
- SURVEY FOOT:
- GRID COORDINATES = SURFACE COORDINATES X 0.999863513

COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM (FDTA), NAD83, SURVEY 1983.

CURVE RADII ARE BASED ON THE CHORD DEVIATION.
## Horizontal Alignment Data
### Centerline of Eastbound Track

**Line Section:** CBD-2 EB Track

- **Notes:**
  1. Grid coordinates = survey coordinates x 0.999863513
  2. Coordinates shown herein are based on the Texas State Plane Coordinate System (WGS 84, U.S. Survey Foot).
  3. Curve radii are based on the chord definition.

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<tr>
<th>Curve Name</th>
<th>Curve Type</th>
<th>Chainage</th>
<th>N.</th>
<th>E.</th>
<th>Element</th>
<th>Length</th>
<th>Degree of Curve</th>
<th>Ch</th>
<th>E.</th>
<th>Passenger Speed</th>
<th>Deflection Angle</th>
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** specifications**

- **Notes:**
  1. Grid coordinates = survey coordinates x 0.999863513
  2. Coordinates shown herein are based on the Texas State Plane Coordinate System (WGS 84, U.S. Survey Foot).
  3. Curve radii are based on the chord definition.

**Oversight:**

- **Line Section:** CBD-2 EB Track
- **Centerline of Eastbound Track**

**Drawn:**

- **L. GUBLLO**

**Designated:**

- **A. STAHLNECKER**

**Checked:**

- **A. STAHLNECKER**

**In Charge:**

- **A. STAHLNECKER**

**Drawn and Designed:**

- **HDR ENGINEERING, INC.**

**Drawn On:**

- **03/06/2020**

**Reviewed by:**

- **A. STAHLNECKER, P.E. NO. 124571**

**Date:**

- **03/06/2020**

**Purpose:**

- **PRELIMINARY 20% DESIGN**

**NOT FOR CONSTRUCTION**

- **NOT AN APPROVED DRAWING**

**FOR THE PURPOSE OF REVIEW UNDER THE DESIGN AUTHORITY OF:**

- **TBPE FIRM NO. F-754**

**IN PROGRESS**

- **Light Rail Transit System**

**Contract No.: 34 of 276**

**DART PROJECT**

- **CBD-2 EB**

**HORIZONTAL ALIGNMENT DATA**

**CENTERLINE OF EASTBOUND TRACK**

**NOTES:**

1. Grid coordinates = survey coordinates x 0.999863513
2. Coordinates shown herein are based on the Texas State Plane Coordinate System (WGS 84, U.S. Survey Foot).
3. Curve Radii are based on the chord definition.
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<th>CURVE NAME</th>
<th>POINTS</th>
<th>CHAINAGE</th>
<th>NORTHING</th>
<th>EASTING</th>
<th>ELEMENT</th>
<th>LENGTH</th>
<th>CURVATURE</th>
<th>DEGREES OF CURVATURE</th>
<th>CH</th>
<th>EV</th>
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<th>DEVIATION FROM CENTERLINE</th>
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**NOTES:**
1. GRID COORDINATES = SURFACE COORDINATES × 0.999863513
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

**GRID COORDINATES = SURFACE COORDINATES × 0.999863513**

**NOT FOR CONSTRUCTION**

**PRELIMINARY 20% DESIGN**

**NOT AN APPROVED DRAWING**

**CBD2-WB**

**LINE SECTION CBD2-WB**

**HORIZONTAL ALIGNMENT DATA**

**CENTERLINE OF WESTBOUND TRACK**

**LINE SECTION CBD2-WB**

**HORIZONTAL ALIGNMENT DATA**

**CENTERLINE OF WESTBOUND TRACK**
**LINE SECTION CBD-2 WB TRACK**

**HORIZONTAL ALIGNMENT DATA**

**CENTERLINE OF WESTBOUND TRACK**

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**NOTES:**

1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOW DESIGN AND ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NRA, r., SURVEY 2010.
3. CURVE RADIUS ARE BASED ON THE CHORD DEFINITION.
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**Notes:**
1. Grid coordinates = surface coordinates x 0.999863513
2. Coordinate data herein are based on the Texas State Plane Coordinate System (State Plane, M.N., Survey Foot).
3. Curve radii are based on the chord definition.
### Curve Name

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- **Line Section**: SE-1 SB Track
- **Horizontal Alignment Data**
- **Centerline of Southbound Track**

#### Notes:
1. Grid coordinates = surface coordinates \( x \times 0.999982013 \)
2. Coordinates shown herein are based on the Texas State Plane Coordinate System, NAD83, Survey 2000.
3. Curve radii are based on the chord definition.
### HORIZONTAL ALIGNMENT DATA

**CENTERLINE OF NORTHBOUND TRACK**

#### NOTES:
1. SURFACE COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM (FtK, UTM, SURVEY). (95)
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

#### CURVE NAME | CURVATURE | RADIUS | TANGENT | ELEMENT | LENGTH | DEGREE OF CURVATURE | ES | EV | Passenger Speed | DEVIATION ANGLE |
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### Horizontal Alignment Data

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#### Notes:
1. Grid coordinates = SURVEY COORDINATES x 0.999863513
2. Coordinates shown herein are based on the Texas State Plane Coordinate System, NAD83, U.S. Survey Foot.
3. Curve radii are based on the chord definition.

**Definitions:**
- $R = 265.50$
- $Dc = 21° 34' 49"$
- $E0 = 21° 34' 49"$
- $E1 = 21° 34' 49"
- $S = 3096$ (in miles)
- $V = 1.01$ (in mph)
- $D = 10$ (in miles)
- $R = 3000$ (in ft)
- $S = 3000$ (in ft)
- $V = 3000$ (in mph)
- $D = 3000$ (in mph)

**Surface Coordinates X 0.999863513**: Grid Coordinates = SURVEY COORDINATES x 0.999863513

**Notes for Construction: Not an Approved Drawing for Preliminary 20% Design**
## Line Section WYE-WB Track
### Horizontal Alignment Data
#### Centerline of Westbound Track

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**WYE-MA**

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<td>6974320.48</td>
<td>2494680.74</td>
<td></td>
<td>SPIRAL</td>
<td>30.96</td>
<td></td>
<td></td>
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<tr>
<td>C3</td>
<td>14+42.56</td>
<td>6974415.10</td>
<td>2494636.90</td>
<td></td>
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<td>30.96</td>
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<tr>
<td>ST</td>
<td>15+12.56</td>
<td>6974464.61</td>
<td>2494530.25</td>
<td></td>
<td></td>
<td>71.59</td>
<td></td>
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<tr>
<td>POE</td>
<td>16+03.39</td>
<td>6974481.83</td>
<td>2494667.40</td>
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<td></td>
<td>20.00</td>
<td></td>
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</tr>
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</table>

**NOTES:**

1. Grid Coordinates = SURFACE COORDINATES X 0.999863513
2. Coordinates shown herein are based on the Texas State Plane Coordinate System (North, NAD83, Survey 2000)
3. Curve Radii are based on the Chord Definition.
NOT TO SCALE

AT GRADE BALLASTED TANGENT TRACK

CBO-2 STA 13+44.17 to CBO-2 STA 13+48.17
SE-1 STA 31+62.42 to SE-1 STA 32+93.41

NOT TO SCALE

AT GRADE BALLASTED SUPERELEVATED TRACK

CBO-2 STA 13+44.17 to CBO-2 STA 13+48.36
SE-1 STA 31+62.42 to SE-1 STA 32+93.41

NOTES:
1. ALL SECTIONS ARE LOOKING UPSTATION. WITH ALL STATIONS BASED ON THE CENTERLINE OF THE EXISTING TRACK FOR CBD-2, EXISTING TRACK FOR SE-1, EASTBOUND TRACK FOR WYE, AND SPOUR TRACK FOR SE-1, SAMPLE CENTERLINE NOTES.

2. SEE TRACKWORK STANDARDS FOR DETAILS OF TRACK ELEMENTS. DETAILS ARE PROVIDED FOR FUTURE DESIGNER/CONTRACTOR INFORMATION ONLY.

3. CABLE TROUGH LOCATION IS TYPICAL AND ONLY SHOWN AS AN ILLUSTRATION. ALL OTHER ELEMENTS SHOWN ARE FOR INFORMATION PURPOSES ONLY. SYSTEMS WILL BE DESIGNED AS PART OF THE FINAL DESIGN.


5. SEE GUIDEWAY PLAN AND PROFILE SHEETS FOR DETAILS AND LIMITS OF HORIZONTAL AND VERTICAL TRACK GEOMETRY AND WALL LOCATIONS.


7. THE BALLAST SHOULDS BE EVEN WITH TOP OF TIE. GEOMETRY AND WALL LOCATIONS.

8. THE BALLAST SHOULDS BE EVEN WITH TOP OF TIE. GEOMETRY AND WALL LOCATIONS.

9. SEE TUNNEL SHEETS FOR TUNNEL, CUT AND COVER AND PORTAL TYPICAL SECTIONS.

10. PROPOSED FENCE AS SHOWN ON PLANS. MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10 FT.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET NO.
42 of 276

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBO-2
GUIDEWAY CBO-2
TYPICAL SECTIONS
SHEET 1 OF 2

SE-1 STA 31+62.42 TO SE-1 STA 32+93.41
CBD-2 STA 13+48.36 TO CBD-2 STA 13+48.17
SE-1 STA 31+62.42 TO SE-1 STA 32+93.41
CBD-2 STA 10+00.00 TO CBD-2 STA 13+48.17

NOTES:
1. ALL SECTIONS ARE LOOKING UPSTATION. WITH ALL STATIONS BASED ON THE CENTERLINE OF THE EXISTING TRACK FOR CBD-2, EXISTING TRACK FOR SE-1, EASTBOUND TRACK FOR WYE, AND SPOUR TRACK FOR SE-1, SAMPLE CENTERLINE NOTES.

2. SEE TRACKWORK STANDARDS FOR DETAILS OF TRACK ELEMENTS. DETAILS ARE PROVIDED FOR FUTURE DESIGNER/CONTRACTOR INFORMATION ONLY.

3. CABLE TROUGH LOCATION IS TYPICAL AND ONLY SHOWN AS AN ILLUSTRATION. ALL OTHER ELEMENTS SHOWN ARE FOR INFORMATION PURPOSES ONLY. SYSTEMS WILL BE DESIGNED AS PART OF THE FINAL DESIGN.


5. SEE GUIDEWAY PLAN AND PROFILE SHEETS FOR DETAILS AND LIMITS OF HORIZONTAL AND VERTICAL TRACK GEOMETRY AND WALL LOCATIONS.


7. THE BALLAST SHOULDS BE EVEN WITH TOP OF TIE. GEOMETRY AND WALL LOCATIONS.

8. THE BALLAST SHOULDS BE EVEN WITH TOP OF TIE. GEOMETRY AND WALL LOCATIONS.

9. SEE TUNNEL SHEETS FOR TUNNEL, CUT AND COVER AND PORTAL TYPICAL SECTIONS.

10. PROPOSED FENCE AS SHOWN ON PLANS. MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10 FT.
NOTES:
1. ALL SECTIONS ARE LOOKING UPSTATION.  WITH ALL STATIONING BASED ON THE CENTERLINE OF THE EXISTING TRACK FOR CBD2 AND SOUTHBOUND TRACK FOR SE-1, UNLESS OTHERWISE NOTED.
2. SEE MICROFORM SHEETS FOR DETAILS OF TRACK ELEMENTS.  DETAILS ARE PROVIDED FOR FINAL DESIGNER/CONTRACTOR INFORMATION ONLY.
3. CATENARY POLE LOCATION IS TYPICAL AND ONLY SHOWN AS AN ILLUSTRATION.  ALL OTHER ELEMENTS SHOWN ARE DESIGNER'S/CONTRACTOR'S INFORMATION ONLY.
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 GEOMETRY AND WALL LOCATIONS.
7. SEE ARCHITECTURAL SHEETS FOR SECTIONS THROUGH STATIONS.
8. PROPOSED FENCE AS SHOWN ON PLANS.  MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10'.
9. PROPOSED FENCE AS SHOWN ON PLANS.  MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10'.
10. SEE TRACKWORK STANDARDS FOR DETAILS OF TRACK FOR SE-1, UNLESS OTHERWISE NOTED.

FROM TRACK CENTERLINE IS 10'.

8. PROPOSED FENCE AS SHOWN ON PLANS.  MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10'.

7. SEE ARCHITECTURAL SHEETS FOR SECTIONS THROUGH STATIONS.

6. SEE TUNNEL SHEETS FOR TUNNEL, CUT AND COVER GEOMETRY AND WALL LOCATIONS.

5. SEE GUIDEWAY PLAN AND PROFILE SHEETS FOR DETAILS AND LIMITS OF HORIZONTAL AND VERTICAL TRACK GEOMETRY AND WALL LOCATIONS.


3. CATENARY POLE LOCATION IS TYPICAL AND ONLY SHOWN AS AN ILLUSTRATION.  ALL OTHER ELEMENTS SHOWN ARE DESIGNER'S/CONTRACTOR'S INFORMATION ONLY.

2. SEE MICROFORM SHEETS FOR DETAILS OF TRACK ELEMENTS.  DETAILS ARE PROVIDED FOR FINAL DESIGNER/CONTRACTOR INFORMATION ONLY.

1. ALL SECTIONS ARE LOOKING UPSTATION.  WITH ALL STATIONING BASED ON THE CENTERLINE OF THE EXISTING TRACK FOR CBD2 AND SOUTHBOUND TRACK FOR SE-1, UNLESS OTHERWISE NOTED.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

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

IN-PROGRESS

DART PROJECT

HDR

NOTES

END OF DRAWING

56 OF 276
**LINE SECTION CBD-2**

**LIGHT RAIL TRANSIT SYSTEM**

**Preliminary 20% Design**

Not an approved drawing. Not for construction, bidding or permit purposes. It is not to be used for construction, civil and track construction.

---

**Proposed Top of Rail Elev**

**Existing Ground Line Elev**

- **Live Oak Street**
- **SE-1 AA**
- **SE-1 A**
- **SE-1 SB**
- **SE-1 NB**

---

**Guideway Plan and Profile**

- **Begin Project to STA 14+00.00**

---

**Contract Sheet No.**

- **Contract No.**
- **Scale (in Feet)**
- **Horiz**
- **Vert**

---

**In-Progress**

**Not for Construction**

**Not an Approved Drawing**

**Preliminary 20% Design**

---

**Light Rail Transit System**

**Line Section CSD-2**

**SE-1 DB**

**HDR Engineering, Inc.**

---

**Authoritative**

**For the purpose of review under the**

**This document is released**

---

**CONTRACT DWG No.**

**REV**

**CR**

**DATE**

**DESCRIPTION**

**APP**

---

**CHECKED**

**DESIGNED**

**DRAWN**

**IN CHARGE**

---

**AMEND**

---

**APP OR LOCATION**

**SPECTRUM**

---

**SCALE (IN FEET)**

**SCALE (IN FEET)**

---

**DATE**

**CONTRACT SHEET No.**

---

**PRELIMINARY 20% DESIGN**

---

**NOT FOR CONSTRUCTION**

---

**NOT AN APPROVED DRAWING**

---

**FOR THE PURPOSE OF REVIEW UNDER THE**

---

**THIS DOCUMENT IS RELEASED**

---

**DANGEL FRIDAY, FEBRUARY 28, 2020 01:14:05 PM**

---

**HDR ENGINEERING, INC.**

---

**AMANDA C. STAHLNECKER, P.E. NO. 124571**

---

**ON 03/06/2020**

---

**AUTHORITY OF:**
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

STA 28+00.00 TO END PROJECT

HORIZ

610
600
590
580
570
560
550
540

610
600
590
580
570
560
550
540

DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

PROPOSED TOP OF RAIL
EXISTING GROUND ELEV
PROPOSED TOP OF RAIL ELEV

CC1-0019
CC1-0019

M O N U M E N T  S T R E E T
EXPRESSWAY
GOOD LATIMER
MONUMENT STREET

1" = 40'

SE-1 SB
STA 32+93.40
TRACK CONSTRUCTION END SITE CIVIL AND STATION EQUATION

SE-1 NB
STA 32+93.41
TRACK CONSTRUCTION END SITE CIVIL AND STATION EQUATION

A. STAHLNECKER
L. GUBLO
D. BROWN

SE E DWG NO. CC1-0018
MATCH LINE SE-1 SB STA 28+00.00
SEE DWG NO. CC1-0018

350.00'
60.00'
473.66'
20 MPH
2.82"
NOT FOR CONSTRUCTION

NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

ynes 300,000

12+00        13+00

12+50        13+50

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES ARE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
AS NOTED
DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

NOTES:

CC8-0003
STA 14+00.00 TO STA 15+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
LINE SECTION CBD-2
LIGHT RAIL TRANSIT SYSTEM
DART PROJECT
DART PROJECT
HDR
PCG
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
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NOTES:

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

A. STAHLNECKER
D. BROWN
L. GUBLO
AS NOTED

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOTES:

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

A. STAHLNECKER
D. BROWN
L. GUBLO
AS NOTED

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020

FOR THE PURPOSE OF REVIEW UNDER THE
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DANGLE

DGN SPECIFICATION

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

CC8-0006
STA 20+00.00 TO STA 21+50.00
GUIDEWAY CROSS SECTIONS
CBD-2

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOTES:
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

NOTES:
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   OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

A. STAHLNECKER
D. BROWN
L. GUBLO
L. GUBLO
AS NOTED

NOTES:
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OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

GUIDEWAY CROSS SECTIONS
STA 26+00.00 TO STA 27+50.00

HDR

NOTES:
72            276
72            276
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

NOTES:
1. Only track features displayed on cross sections. Other features can be referenced from specific discipline sheets.
Lines L1 L2 L3 L4 L5 L6 L7 L8

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

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

- STA 32+00.00 TO STA 33+50.00
- GUIDEWAY CROSS SECTIONS
- CBD-2
- VERT SCALE (IN FEET)
- HORIZ SCALE (IN FEET)
- IN PROGRESS
- DART PROJECT
- LIGHT RAIL TRANSIT SYSTEM
- HIGHLIGHTS:
  - ONLY TRACK FEATURES DISPLAYED IN CROSS SECTIONS.
  - OTHER FEATURES CAN BE REFERENCED FROM DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE IN-PROGRESS AUTHORITY OF:

D. BROWN
L. GUBLO
L. GUBLO

AS NOTED

NOTES:

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

GUIDEWAY CROSS SECTIONS

STA 34+00.00 TO STA 35+00.00

DISCIPLINE SHEETS.

OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
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IN-PROGRESS

D. BROWN

STATIONS 37+50.00 TO 38+50.00

GUIDEWAY CROSS SECTIONS

CBD-2

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
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DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

A. STAHLNECKER
D. BROWN
L. GUBL
L. GUBL
AS NOTED

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 39+00.00 TO STA 40+50.00

GUIDEWAY CROSS SECTIONS

NOTES:

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

GUIDEWAY CROSS SECTIONS
CBD-2

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

NOTES:

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 41+00.00 TO STA 42+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
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DISCIPLINE SHEETS.
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NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

03/06/2020

A. STAHLNECKER, P.E. NO. 124571

D. BROWN
L. GUBLER
L. GUBLER

AS NOTED

STA 46+50.00 TO STA 48+00.00

GUIDEWAY CROSS SECTIONS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

NOTES:
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

03/06/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

GUIDEWAY CROSS SECTIONS
STA 48+50.00 TO STA 49+00.00

NOTES:
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

DISCIPLINE SHEETS.
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NOTES:
STA 50+50.00 TO STA 52+00.00

GUIDEWAY CROSS SECTIONS

NOTES:
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DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

LINE SECTION CBD-2

GUIDEWAY CROSS SECTIONS STA 52+50.00 TO STA 54+00.00

NOTES:
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

GUIDEWAY CROSS SECTIONS
STA 54+50.00 TO STA 56+00.00

NOTES:
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020

IN-PROGRESS
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020

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

NOTES:
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

03/06/2020

BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
OR ANY PURPOSES OUTSIDE OF THOSE
SPECIFIED ABOVE.

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.

NOTES:

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OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.

STA 58+50.00 TO STA 59+50.00
GUIDEWAY CROSS SECTIONS

0200-030

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
COD-2
GUIDEWAY CROSS SECTIONS
STA 58+50,00 TO STA 59+50,00

HDR
DART
GPC
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020

GUIDEWAY CROSS SECTIONS
STA 60+00.00 TO STA 61+50.00

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

03/06/2020

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DISCIPLINE SHEETS.

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 64+00.00 TO STA 64+50.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

BIDDING OR PERMIT PURPOSES.

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DISCIPLINE SHEETS.

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 64+00.00 TO STA 64+50.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

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DISCIPLINE SHEETS.

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 64+00.00 TO STA 64+50.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

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DISCIPLINE SHEETS.

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 64+00.00 TO STA 64+50.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
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DISCIPLINE SHEETS.

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 64+00.00 TO STA 64+50.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

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DISCIPLINE SHEETS.

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 64+00.00 TO STA 64+50.00

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
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IT IS NOT TO BE USED FOR CONSTRUCTION,
DISCIPLINE SHEETS.

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

03/06/2020

HDR ENGINEERING, INC.
AMANDA C. STAHLNECKER, P. E. NO. 124571

IN-PROGRESS

GUIDEWAY CROSS SECTIONS
CBD-2

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
1. Only track features displayed on cross sections. Other features can be referenced from discipline sheets.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020

IN-PROGRESS

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

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

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

HDR
DART PROJECT

NPC
DART

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

03/06/2020

BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.

IN-PROGRESS

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

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.

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

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.

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

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.

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

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.

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

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.

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

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
340
350
360
370
380

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
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
DISCIPLINE SHEETS.

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.

OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

103            276
GUIDEWAY CROSS SECTIONS
STA 75+50.00 TO STA 77+00.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

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  

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

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

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STRA 83+50.00 TO STA 85+00.00
GUIDEWAY CROSS SECTIONS

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

03/06/2020 BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

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

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
420 430 440 450
420 430 440 450
-100 -80 -60 -40 -20 0 20 40 60 80 100
93+00
-100 -80 -60 -40 -20 0 20 40 60 80 100
94+00
-100 -80 -60 -40 -20 0 20 40 60 80 100
92+50
-100 -80 -60 -40 -20 0 20 40 60 80 100
93+50
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
114            276
114            276
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

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

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

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

GUIDEWAY CROSS SECTIONS
CBD-2

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

IN-PROGRESS

STA 106+00.00 TO STA 107+00.00
GUIDEWAY CROSS SECTIONS
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
DART PROJECT

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

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
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
DISCIPLINE SHEETS.

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

NOTES:

124  276
124  276

IN-PROGRESS

DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

HDR

GPC

DART

CONTRACT
DwG No.
CONTRACT SHEET No.

REV
AMEND
CR
APP
CONTRACT
DwG No.
REV
SCALE
DRAWN
DESIGNED
CHECKED
IN CHARGE
DATE

CC8-0061
STA 108+00.00 TO STA 109+50.00
GUIDEWAY CROSS SECTIONS

VER
HORIZ
SCALE (IN FEET)
SCALE (IN FEET)

-20
-40
-60
-80
-100
-20
-40
-60
-80
-100
-20
-40
-60
-80
-100

0
20
40
60
80
100
0
20
40
60
80
100
0
20
40
60
80
100

460
470
480
490
460
470
480
490
460
470
480
490
460
470
480
490

108+00
109+00
108+00
109+00
108+50
109+50
108+50
109+50

P G L
P G L
P G L
P G L
P G L
P G L
P G L
P G L
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
2. NOTES:

- Only track features displayed on cross sections.
- Other features can be referenced from specific discipline sheets.

Guideway Cross Sections
CBD-2
STA 110+00.00 TO STA 111+50.00

- Scale:
  - Vertical (in feet): 0, 5, 7.5, 10, 20, 25, 30
  - Horizontal (in feet): 0, 10, 20, 30, 40

- Legend:
  - Guide rail
  - Track features

- Credits:
  - HDR
  - DGN Specification
  - TBPE Firm No. F-754
  - HDR Engineering, Inc.
  - On 03/06/2020
  - Amanda C. Stahlnecker, P.E. No. 124571

- Design:
  - Preliminary 20% Design
  - Not an approved drawing
  - Not for construction

- Construction:
  - Contract Sheet No.
  - 125 or 276

- In-Progress:
  - Drawn
  - Designed
  - Checked
  - In Charge

- Other:
  - For the purpose of review under the contract.
  - Daggle Friday, February 28, 2020 12:58:04 PM
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
NOTES:

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUDEWAY CROSS SECTIONS
STA 112+00.00 TO STA 113+50.00

DISCERNING IN THE PROJECT ON EACH SHEET,
DRAFTING IS NOT FOR CONSTRUCTION,
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
NOTES:
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
460
470
480
490
-20
-40
-60
-80
-100
114+00
114+50
115+12
115+00

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
STA 9+62.00 TO STA 11+00.00

GUIDEWAY CROSS SECTIONS

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

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

NOTES:

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

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CSD-2

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

DART PROJECT

HDR

PCG

GPC

DART
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

03/06/2020

A. STAHLNECKER, P.E. NO. 124571

GUIDEWAY CROSS SECTIONS
STA 11+50.00 TO STA 13+00.00

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

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

NOTES:

130            276
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

STA 17+50.00 TO STA 19+00.00
GUIDEWAY CROSS SECTIONS

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
STA 19+50.00 TO STA 21+00.00
GUIDEWAY CROSS SECTIONS

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.

STA 25+50.00 TO STA 27+00.00
GUIDEWAY CROSS SECTIONS

DISC Silicon Valley
13633 North吊坏街
San Jose, CA 95134
Phone: 1-408-624-6400
Fax: 1-408-624-6600
www.ccsiliconvalley.com
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
DISCIPLINE SHEETS.

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
1. Only track features displayed on cross sections. Other features can be referenced from discipline sheets.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

IN-PROGRESS LINE SECTION CBD-2
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
STA 29+50.00 TO STA 31+00.00

NOTES:

1. Only track features displayed on cross sections. Other features can be referenced from discipline sheets.
GUIDEWAY CROSS SECTIONS

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CSD-2

STA 31+50.00 TO STA 32+93.00

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

GUIDEWAY CROSS SECTIONS

STA 10+00.00 TO STA 11+50.00

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
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
NOTES:
NOTE 1:

DUE TO VARYING TRACK SPACING WITHIN CURVED SEGMENTS, THE EXISTING CURB MAY NEED TO BE REMOVED AND REPLACED. THE FINAL TRACK ALIGNMENT MAY BE MODIFIED TO ELIMINATE OR MINIMIZE THE LIMITS OF IMPACT BEYOND THE EXISTING CURB.

NOTE 2:

A TRANSITION CURVE BETWEEN THE CURVING TRACKS AND THE STRAIGHT TRACKS MAY REQUIRE THE USE OF TRANSITION CIRCLES TO COORDINATE WITH THE FINAL TRACK ALIGNMENT. CURB AND SIDEWALKS MAY REQUIRE ADJUSTMENTS TO THE LIMITS OF IMPACT BEYOND THE EXISTING CURB.

EXISTING MUSEUM WAY

PROPOSED VICTORY AVENUE

PROPOSED MUSEUM WAY

PROPOSED HOUSTON STREET
PROPOSED BROOM STREET
SHOWING SECTION W/ WALL

EXISTING GROUND

SIDEWALK

PROPOSED

SIDEWALK

3'

FINISHED GRADE

12'

FINISHED GRADE

36' (USUAL)

12'

VAR.

BROOM STREET RAMP

PROPOSED BROOM STREET U-TURN

EXISTING GROUND

EXISTING GROUND

12'

6.5'

520'

BARRIERS

CONCRETE

PROPOSED

SHOWING SECTION W/O WALL

PARKING RAMP OR EXISTING WALL

PROPOSED

RIPRAP

GRADE

FINISHED

PROPOSED

REV.

AMEND.

DATE

DESCRIPTION

APP.

CHK.

ENG.

IN CHARGE

DATE

CONTRACT SHEET No.

DRAWN

DESIGNED

CHECKED

ON 03/06/2020

JENN MA, P.E. No. 83964

FOR THE PURPOSE OF REVIEW UNDER THE

THIS DOCUMENT IS RELEASED

PRELIMINARY 20% DESIGN

NOT AN APPROVED DRAWING

NOT FOR CONSTRUCTION

03/06/2020

TBPE FIRM NO. F-6981

CIVIL ASSOCIATES, INC.

ON 03/06/2020

JENN MA

BIDDING OR PERMIT PURPOSES.

IT IS NOT TO BE USED FOR CONSTRUCTION,
PROPOSED HORD STREET

PROPOSED ROSS AVENUE

PROPOSED SAN JACINTO STREET
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
03/06/2020
TBPE FIRM NO. F-6981
CIVIL ASSOCIATES, INC.
ON 03/06/2020
JENN-HWAN MA, P.E. NO. 83964
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION.
PROPOSED ELM STREET

PROPOSED AKARD STREET

PROPOSED PEARL STREET
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

DIANA FARRAN
JENN MA
JENN MA

PRELIMINARY 20% DESIGN
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CSD-2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 8 OF 11
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
TBPE FIRM NO. F-6981
CIVIL ASSOCIATES, INC.
ON 03/06/2020
JENN-HWAN MA, P.E. NO. 83964
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
WITHDRAWAL OR AMENDMENT.

LEGEND

DIANA FARRAN
TANH CHAU
TO BE REMOVED
PARKING KIOSK
B U I L D I N G

BEGIN OF RECONSTRUCTION
EXISTING HOUSTON STREET ROW
L (73' R.O.W.)
EXISTING HOUSTON STREET ROW
(IN PROGRESS)

BEGIN OF RECONSTRUCTION
EXISTING MUSEUM WAY ROW
L (78' R.O.W.)
EXISTING MUSEUM WAY ROW

BEGIN OF RECONSTRUCTION
EXISTING VICTORY AVENUE ROW
L (94' R.O.W.)
EXISTING VICTORY AVENUE ROW

BEGIN OF RECONSTRUCTION
MUSEUM WAY
L

BEGIN OF RECONSTRUCTION
C VICTORY AVENUE
L

BEGIN OF RECONSTRUCTION
C CBD-2 EB
L

BEGIN OF RECONSTRUCTION
C CBD-2 WB
L

FROM C TRACK
ADA RAMP 7.5'
CONSTR.

FROM CURBLINE TO ROADWAY

TO REMAIN
EXISTING CURB

TO REMAIN
EXISTING CURB

TO REMAIN
EXISTING CURB

TO REMAIN
EXISTING CURB

TO REMAIN
EXISTING CURB

TO REMAIN
EXISTING CURB

TO REMAIN
EXISTING CURB

TO REMAIN
EXISTING CURB

TO REMAIN
EXISTING CURB

TO ADDRESS REVISION IN TRAFFIC MOVEMENTS.

1. SEE DWG No. CC6-0015 FOR PROPOSED TYPICAL SECTIONS:
   VICTORY PARK LANE
   HOUSTON STREET
   VICTORY AVENUE

3. SIGNAGE TO BE ADDED AT VICTORY PARK LANE WITH MUSEUM WAY TO BE SIGNALIZED.

2. VICTORY AVENUE AND HOUSTON STREET INTERSECTIONS TO ADDRESS REVISION IN TRAFFIC MOVEMENTS.

4. DUE TO VARYING TRACK SPACING VERSUS CURVES, DOUBLE TRACK ALIGNMENTS, THE EXISTING CURBS ALONG THE CURVED TRACK ALIGNED MAY NEED TO BE REPLACED.

5. FINAL CIVIL DESIGNER WILL COORDINATE WITH FINAL TRACK DESIGNER TO ELIMINATE OR MINIMIZE THE LIMITS OF IMPACT BEYOND THE EXISTING CURB ALIGNMENT.

6. TRACK ALIGNMENTS, THE EXISTING THICKNESS OF CURB ALONG THE CURved TRACK ALIGNED MAY NEED TO BE REPLACED.

155 OF 276

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
MUSEUM WAY, VICTORY AVENUE
VICTORY PARK LANE, HOUSTON STREET

IN-PROGRESS

REV AMEND DATE DESCRIPTION

APP CHK ENG

CONTRACT SHEET No.

DWG No.

CONTRACT

SCALE DRAWN DESIGNED CHECKED IN CHARGE

D E F A U LT

d f a n
28 - F E B - 2 0 2 0  1 5 :2 4
1. **CONCRETE**
   - a. All notes cover all name works for steel, cut-and-cover, and construction drawings. Final structural drawings will be submitted for approval.
   - b. All structural drawings shall be in accordance with applicable ASTM standards and codes.
   - c. Structural drawings shall be used in conjunction with the specifications and the structural drawings. All structural drawings shall be submitted for approval.

2. **DESIGN STRENGTH**
   - a. All structural drawings shall be reviewed and approved by the engineer.
   - b. The engineer shall review and approve all structural drawings.
   - c. The engineer shall review and approve all structural drawings.

3. **CODES AND REFERENCES**
   - a. The structural drawings shall be used in conjunction with the specifications and the structural drawings.
   - b. The structural drawings shall be used in conjunction with the specifications and the structural drawings.
   - c. The structural drawings shall be used in conjunction with the specifications and the structural drawings.

4. **CONSTRUCTION LOADS**
   - a. The structures are designed to resist design loads only as completed structures.
   - b. The structures are designed to resist design loads only as completed structures.
   - c. The structures are designed to resist design loads only as completed structures.

5. **CONSTRUCTION JOINTS**
   - a. All construction and connection joints shall be in accordance with the specifications and the structural drawings.
   - b. All construction and connection joints shall be in accordance with the specifications and the structural drawings.
   - c. All construction and connection joints shall be in accordance with the specifications and the structural drawings.

6. **CONSTRUCTION SECTIONS**
   - a. All construction and connection joints shall be in accordance with the specifications and the structural drawings.
   - b. All construction and connection joints shall be in accordance with the specifications and the structural drawings.
   - c. All construction and connection joints shall be in accordance with the specifications and the structural drawings.

7. **CONSTRUCTION STRENGTH**
   - a. All construction and connection joints shall be in accordance with the specifications and the structural drawings.
   - b. All construction and connection joints shall be in accordance with the specifications and the structural drawings.
   - c. All construction and connection joints shall be in accordance with the specifications and the structural drawings.
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0002.
3. SYMBOLS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN IN THIS CROSS-SECTION IS CONCEPTUAL DESIGN ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR SPECIFIC DETAILS.
4. TUNNEL ROW AND MANDATORY PILLAR BETWEEN TUNNELS TO BE FURTHER INVESTIGATED.
5. TYPICAL SECTION SHOWN FOR TBM TUNNEL WITH TUNNEL ROW AND PILLAR BETWEEN TUNNELS. FOR CONSTRUCTION, SEE RELEVANT DISCIPLINE DRAWINGS FOR ADDITIONAL SITE SPECIFIC DATA.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
CROSS PASSAGE WITH GROUND SUPPORT - SECTION 1

CROSS PASSAGE IN ROCK CLASS I - SECTION 2

CROSS PASSAGE IN ROCK CLASS I - SECTION 3

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0002.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0003.
3. ALL INITIAL AND FINAL SUPPORTS SHOWN IN DRAFT DRAWINGS 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).

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 DRAFT DRAWINGS 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).
LATERALPressures DUE TO Weight Of soil and water

**Flexible wall with multiple level braced support and no excavation:**

<table>
<thead>
<tr>
<th>N°</th>
<th>Location</th>
<th>P'</th>
<th>P''</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>2</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>3</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Rigid wall with multiple level braced support and no excavation:**

<table>
<thead>
<tr>
<th>N°</th>
<th>Location</th>
<th>P'</th>
<th>P''</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>2</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Additional lateral pressure due to surcharge loads:**

**Building or construction loads (where applicable):**

<table>
<thead>
<tr>
<th>Additional traffic and construction equipment loads</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building or construction loads</strong></td>
</tr>
<tr>
<td><strong>Distribution of additional pressure on vertical plane</strong></td>
</tr>
<tr>
<td><strong>Distribution of additional pressure on plan</strong></td>
</tr>
</tbody>
</table>

**Definitions of symbols:**

- **P':** Hydrostatic pressure (psf)
- **P'** Calculated average lateral pressure to be used in design of retaining structure (psf)
- **L':** Length of area load in direction parallel to side of excavation (ft)
- **W':** Distribution of horizontal pressure in plan and direction of excavation (ft)
- **W':** Calculated horizontal pressure due to surcharge (psf)
- **L':** Total load per ft of length parallel to excavation
- **W':** Total footing load (isolated or continuous) to retaining structure (psf)
- **W':** Distance from retaining structure to moving load in parallel line load or perpendicular line load
- **W':** Consideration of x for horizontal system

NOT FOR CONSTRUCTION

END OF SHEET NO. 276
SECTION FROM STA 72+00.0 TO STA 74+66.1

SECTION FROM STA 68+05.0 TO STA 72+00.0
AND FROM STA 74+66.1 TO STA 75+26.1

SECTION FROM STA 72+00.0 TO STA 74+66.1

WEB RUNNING TUNNEL
(CAST-IN-PLACE LINING)

SEW RUNNING TUNNEL

RUNNING TUNNEL AND COMMERCE STATION CAVERN INITIAL SUPPORT - TYPICAL SECTIONS

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0002.
2. FOR STRUCTURAL SYMBOLS ANDABBREVIATIONS, 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 DWG No. SC8-0012.
5. FOR TUNNEL/VVENTILATION INPUT, RAIL/FACILITY SYSTEMS AND CONCEPTUAL DESIGN PENDING.

IN-PROGRESS DRAFT

SECTION FROM STA 72+00.0 TO STA 74+66.1

SECTION FROM STA 68+05.0 TO STA 72+00.0
AND FROM STA 74+66.1 TO STA 75+26.1

RUNNING TUNNEL AND COMMERCE STATION CAVERN INITIAL SUPPORT - TYPICAL SECTIONS

SCALE: "= 1'-0"
PRE-CONSTRUCTION CONDITION

STAGE 1
TBM MINING

STAGE 2
FIRST SIDE DRIFT EXCAVATION AND SUPPORT

STAGE 3
SECOND SIDE DRIFT EXCAVATION AND SUPPORT

STAGE 4
CENTER DRIFT EXCAVATION AND SUPPORT

1. EXCAVATE FIRST SIDE DRIFT.
2. INSTALL ROCK BOLTS.
3. INSTALL INITIAL LINER.
4. INSTALL TEMPORARY WALL (IF NECESSARY).

1. EXCAVATE SECOND SIDE DRIFT.
2. INSTALL ROCK BOLTS.
3. INSTALL INITIAL LINER.
4. INSTALL TEMPORARY WALL (IF NECESSARY).

1. EXCAVATE CENTER SIDE DRIFT.
2. INSTALL ROCK BOLTS.
3. COMPLETE INSTALLATION OF INITIAL LINER.
4. INSTALL TEMPORARY WALL (IF NECESSARY).

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0002.
3. ALL STAGES SHOWN ON THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION ONLY AND ARE SUBJECT TO CHANGE PERIODICALLY.不要使用this drawing for construction.
4. ESTABLISH INSTRUMENTATION, MONITORING, PRE-CONSTRUCTION AND POST-CONSTRUCTION INSPECTION PROGRAMS TO DETERMINE FUNCTIONAL AND CONCEPTUAL DESIGN PENDING.
   STRUCTURAL AND POST-CONSTRUCTION INSPECTION.

NOTES:
1. INCLUDE FIRST SIDE DRIFT EXCAVATION AND SUPPORT REVISIONS TO THE DRAWING.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0002.
3. ALL STAGES SHOWN ON THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION ONLY AND ARE SUBJECT TO CHANGE PERIODICALLY.不要使用this drawing for construction.
4. ESTABLISH INSTRUMENTATION, MONITORING, PRE-CONSTRUCTION AND POST-CONSTRUCTION INSPECTION PROGRAMS TO DETERMINE FUNCTIONAL AND CONCEPTUAL DESIGN PENDING.
CUT-AND-COVER TUNNEL DIMENSIONS

<table>
<thead>
<tr>
<th>PORTAL LOCATION</th>
<th>TYPE</th>
<th>STATION LIMITS</th>
<th>TRACK SPACING (FT)</th>
<th>MINIMUM OVERALL HEIGHT (FT)</th>
<th>INVERT THICKNESS (FT)</th>
<th>ROOF THICKNESS (FT)</th>
<th>WALL THICKNESSES</th>
<th>OVERALL WIDTH (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEST A</td>
<td>45+00.00 TO 45+07.00</td>
<td>15'-0&quot; TO 21'-0&quot;</td>
<td>25'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>N/A</td>
<td>38'-2&quot; TO 43'-0&quot;</td>
</tr>
<tr>
<td>WEST B</td>
<td>46+00.00 TO 46+07.00</td>
<td>21'-0&quot; TO 28'-11&quot;</td>
<td>25'</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>1'-6&quot;</td>
<td>44'-0&quot; TO 52'-7&quot;</td>
<td></td>
</tr>
<tr>
<td>WEST C</td>
<td>47+00.00 TO 47+07.00</td>
<td>28'-11&quot; TO 40'-0&quot;</td>
<td>25'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>N/A</td>
<td>52'-7&quot; TO 63'-0&quot;</td>
</tr>
<tr>
<td>EAST A</td>
<td>86+29.61 TO 86+50.00</td>
<td>36'-2&quot; TO 45'-0&quot;</td>
<td>25'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>59'-0&quot; TO 68'-4&quot;</td>
<td></td>
</tr>
<tr>
<td>EAST B</td>
<td>86+35.00 TO 86+37.00</td>
<td>45'-0&quot; TO 21'-10&quot;</td>
<td>24'-6&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>1'-6&quot;</td>
<td>68'-0&quot; TO 74'-8&quot;</td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING 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 IN 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)
### CUT-AND-COVER TUNNEL DIMENSIONS

<table>
<thead>
<tr>
<th>PORTAL LOCATION</th>
<th>TYPE</th>
<th>STATION LIMITS</th>
<th>TRACK SPACING (FT)</th>
<th>MINIMUM OVERALL HEIGHT (FT)</th>
<th>INVERT THICKNESS (FT)</th>
<th>ROOF THICKNESS (FT)</th>
<th>WALL THICKNESSES</th>
<th>OVERALL WIDTH (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEST A</td>
<td>45+00.00</td>
<td>45+50.00</td>
<td>15'-0&quot; to 21'-0&quot;</td>
<td>25'-0&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>36'-04&quot;</td>
</tr>
<tr>
<td>WEST B</td>
<td>46+07.00</td>
<td>46+55.00</td>
<td>21'-0&quot; to 28'-11&quot;</td>
<td>25'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>44'-02&quot;</td>
</tr>
<tr>
<td>WEST C</td>
<td>47+00.00</td>
<td>47+50.00</td>
<td>28'-11&quot; to 40'-0&quot;</td>
<td>25'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>52'-03&quot;</td>
</tr>
<tr>
<td>EAST A</td>
<td>60+29.81</td>
<td>60+84.50</td>
<td>36'-0&quot; to 45'-0&quot;</td>
<td>25'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>59'-10&quot;</td>
</tr>
<tr>
<td>EAST B</td>
<td>99+35.00</td>
<td>101+70.00</td>
<td>45'-0&quot; to 52'-0&quot;</td>
<td>24'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>68'-04&quot;</td>
</tr>
<tr>
<td>EAST C</td>
<td>103+57.00</td>
<td>105+50.00</td>
<td>52'-0&quot; to 60'-0&quot;</td>
<td>24'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>73'-10&quot;</td>
</tr>
</tbody>
</table>

### NOTES

1. For structural general notes, see drawing No. SC8-0001.
2. For structural symbols and abbreviations, see drawing No. SC8-0002.
3. Support of excavation not shown in this cross-section.
4. Overall width (H) to be increased as necessary, if required for the installation of jet fans.
5. Structures, power supply, rail, and facilities shown are for illustration only. Refer to relevant discipline drawings for details.

---

**WEST PORTAL:** STA 45+07.00 to STA 46+50.00 (SECTION LOOKING WEST)

**EAST PORTAL:** STA 60+29.81 to STA 93+13.09 (SECTION LOOKING EAST)

**EAST PORTAL:** STA 98+05.17 to STA 101+65.00 (SECTION LOOKING WEST)
U-WALL CROSS-SECTION

EGRESS WALKWAYS AT OUTSIDE OF TRACKWAY

SCALE: 1/1" = 5'-0"

U-WALL DIMENSIONS

<table>
<thead>
<tr>
<th>STRUCTURE LOCATION</th>
<th>STATION LIMITS</th>
<th>MAXIMUM DESIGN HEIGHT (ft)</th>
<th>INVERT SLAB THICKNESS (ft)</th>
<th>WALL THICKNESS (ft)</th>
<th>WIDTH (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEST PORTAL</td>
<td>35+00.77</td>
<td>12'-0&quot;</td>
<td>2'-6&quot;</td>
<td>1'-6&quot;</td>
<td>37'-6&quot;</td>
</tr>
<tr>
<td>WEST PORTAL</td>
<td>38+00.00</td>
<td>18'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-6&quot;</td>
<td>39'-6&quot;</td>
</tr>
<tr>
<td>WEST PORTAL</td>
<td>40+00.00</td>
<td>24'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-6&quot;</td>
<td>40'-6&quot;</td>
</tr>
<tr>
<td>EAST PORTAL</td>
<td>100+00.00</td>
<td>12'-0&quot;</td>
<td>2'-6&quot;</td>
<td>1'-6&quot;</td>
<td>37'-6&quot;</td>
</tr>
</tbody>
</table>

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. SYMBOLS, SYSTEM EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SCTIONS ARE INCOMPLETE AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
EAST/WEST PORTAL SECTION U-WALL

DRAFT

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING

REV 6.2.2
DWG No. GC3-0002

HNTB Corporation
Engineers Architects Planners
TBPE Firm Registration No. 420
Engineers Architects Planners
The HNTB Companies

186 OF 276
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. GC2-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

PLATFORM LEVEL PLAN C
SHEET N°7 OF 8
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

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.

MATCHLINE
SEE DWG No. SC6-2101

MATCHLINE
SEE DWG No. SC6-2102

MATCHLINE
SEE DWG No. SC6-2106

PLATFORM LEVEL PLAN E
SEE DWG No. SC6-2105

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.

MATCHLINE
SEE DWG No. SC6-2101

MATCHLINE
SEE DWG No. SC6-2102

MATCHLINE
SEE DWG No. SC6-2106

PLATFORM LEVEL PLAN E
SEE DWG No. SC6-2105

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.
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.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PREFINAL 20% DESIGN
AND ADDITIONAL SITE SPECIFIC DATA
TUNNEL/STATION VENTILATION INPUT,
RAIL/FACILITY SYSTEMS AND
CONCEPTUAL DESIGN PENDING
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
CONCOURSE LEVEL PLAN C

SCALE: = 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.
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.

SCALE: "=1'-0"
**TABLE 1 - ELIPTICAL ROOF OPENING PARAMETERS**

<table>
<thead>
<tr>
<th>MAJOR AXIS</th>
<th>38'-0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINOR AXIS</td>
<td>48'-0&quot;</td>
</tr>
<tr>
<td>FOCUS</td>
<td>3'-0&quot;</td>
</tr>
<tr>
<td>COORDINATES</td>
<td>(98'-6&quot; (TYP) EAST OF GL, 1'-6&quot;) ALONG GL, 3'-3&quot;)</td>
</tr>
</tbody>
</table>

**TABLE 2 - ELIPTICAL ROOF OPENING PARAMETERS**

<table>
<thead>
<tr>
<th>MAJOR AXIS</th>
<th>38'-0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINOR AXIS</td>
<td>19'-0&quot;</td>
</tr>
<tr>
<td>FOCUS</td>
<td>1'-0&quot;</td>
</tr>
<tr>
<td>COORDINATES</td>
<td>(98'-6&quot; (TYP) EAST OF GL, 1'-6&quot;) ALONG GL, 1'-6&quot;)</td>
</tr>
</tbody>
</table>

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0002.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING NO. SC6-2401.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4.Stub-10-7-wall and beam-10-7-wall launches 1'-0" X 1'-0" AS SHOWN.

---

**MATCHLINE**

**ROOF LEVEL PLAN E**

**SEE DWG NO. SC6-2401**

---

**SEE DWG NO. SC6-2402**

---

**SEE DWG NO. SC6-2406**
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. SC6-2401.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. SC6-2402.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 3'-0" x 3'-0" NOT SHOWN.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. SC6-2401.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. SC6-2402.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 3'-0" x 3'-0" NOT SHOWN.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. SC6-2401.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. SC6-2402.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SLAB-TO-WALL AND BEAM-TO-WALL HAUNCHES 3'-0" x 3'-0" NOT SHOWN.
NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING 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 KIND OF CONSTRUCTION AND DEPTH OF EXCAVATION OR 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 ALTERNATE GROUND MOVEMENTS AND EXISTING BUILDINGS.
   (C) BASED ON THE CONDITIONS OF THE EXISTING BUILDING, EXISTING 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.
   (D) PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
      (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
      (B) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
      (C) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
      (D) PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
         (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
         (B) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
         (C) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
         (D) PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
            (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
            (B) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
            (C) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
            (D) PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
               (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
               (B) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
               (C) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
               (D) PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
                  (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                  (B) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                  (C) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                  (D) PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
                     (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                     (B) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                     (C) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                     (D) PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
                        (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                        (B) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                        (C) BASED ON INFORMATION ON EXISTING BUILDING BASEMENT, DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
                        (D) PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
                           (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION SEQUENCE AND 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.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
DRAFT
AND ADDITIONAL SITE SPECIFIC DATA
TUNNEL/STATION VENTILATION INPUT,
RAIL/FACILITY SYSTEMS AND
CONCEPTUAL DESIGN PENDING

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING 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 MEASUREMENTS THE SHOVEL POINT OF CONSTRUCTION AND DEPTH OF EXCAVATION OR EXISTING BUILDING.
   (B) BASED ON INFORMATION ON EXISTING BUILDING SURVEYS, DETERMINE THE EXCAVATION SEQUENCE AND GEOTECHNICAL INFORMATION FROM GDM, DEVELOP AN EXCAVATION SEQUENCE AND AN UNDERPINNING DESIGN IN ACCORDANCE WITH DART SPECIFICATIONS SECTION 314800.
   (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 APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
   (D) BASED ON INFORMATION ON EXISTING BUILDING SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF FOUNDATION OF EXISTING BUILDING.
5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXPOSED FACE OF EXISTING BUILDINGS FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE STRUCTURE.
6. DESIGN FOR RESISTANCE TO ELAVATION MAY BE DETERMINED FROM THE CONDITIONS OF THE SITE AS SHOWN ON DART SPECIFICATIONS SECTION 31 48 00.

HNTB
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
COMMERCE STATION HEADHOUSE
PLATFORM PLAN
SHEET 2 OF 2

CONTACT SHEET No. 220 OF 276

2002-0320
NOTES
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING NO. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN.
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 FOUNDATION OF EXISTING BUILDING.
5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXPOSED SIDE OF EXISTING BUILDING FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, TO PROTECT EXISTING BUILDING AND BUILDING SETTLEMENTS THAT WOULD BE REACHED.
6. ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.

5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDINGS FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE STRUCTURE.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
Preliminary 20% Design

DRAFT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
COMMERCe STATION HEADHOUSE
LOWER MEZZANINE PLAN
SHEET 1 OF 2

HNTB
DART PROJECT

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

3'-0"
4'-0"

12'-11"
13' (+/-) EXISTING BUILDING APPROX LIMIT OF""221     OF     276

BELOW WALL

2'-0"  SLAB (TYP)
2'-6" DIA COL
BEAM (BELOW)

1'-6"

PASSENGER CUT-AND-COVER APPROX LIMIT OF EXISTING BUILDING

APPROX LIMIT OF EXISTING BUILDING

INVERT SLAB
3'-0"
1. For structural general notes, see drawing No. SC6-3201.

2. For structural symbols and abbreviations, see drawing No. SC6-3202.

3. Support of excavation not shown in this plan.

4. Prior to excavating for headhouse construction, develop an excavation sequence and depth of excavation for existing building.

5. Contractor shall undertake appropriate measures to protect existing buildings from damage that may occur during excavation, construction and backfilling for the headhouse.

6. Prior to excavating for headhouse construction:
   a. Determine from as-built drawings and field surveys the type of construction and depth of excavation for 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 30.10.05 (g) "Underpinning, support and restoration of structures" to mitigate ground movements and exceed allowable limits.
   c. Monitor 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.

7. 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.
5. Contractor shall undertake appropriate measures to protect exposed sides of existing buildings from damage that may occur during excavation, construction, and backfilling for the headhouse structure.

4. Prior to excavating for headhouse construction:
   - (A) Determine from as-built drawings and field surveys the limits of construction and depth of foundation of existing buildings.
   - (B) Based on information on existing buildings and geotechnical information from GDM, develop an excavation sequence and an underpinning design in accordance with DART specifications section 314800 "Underpinning, Support and Restoration of Structures" to mitigate ground movements and avoid exceeding limits.
   - (C) Based on the conditions of the existing buildings, establish an instrumentation and monitoring plan to document ground movements and to alert for appropriate action to be taken when preset threshold limits are reached.

3. Support of excavation not shown in this plan.

2. For structural symbols and abbreviations, see drawing no. GC3-0001.

1. For structural general notes, see drawing no. GC3-0002.
NOTES

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. SC6-3401.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. SC6-3402.
3. SUPPORTS OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (C) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (D) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (E) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.

5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDING FOUNDATION OF EXISTING BUILDING.
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (C) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (D) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (E) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.

6. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (C) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (D) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (E) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (F) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (G) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (H) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (I) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (J) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (K) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (L) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (M) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.

7. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDING FOUNDATION OF EXISTING BUILDING.
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (C) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (D) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (E) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (F) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (G) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (H) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (I) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (J) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (K) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (L) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
   (M) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DECOLO, MONTEY, ON 03/06/2020,
   DETERMINE FROM AS-BUILT DATA AND FIELD SURVEYS THE TYPE OF FOUNDATION AND DESIGN OF EXISTING BUILDINGS.
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. SC6-3401.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. SC6-3403.
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 GEOLOGY, INFORMATION FROM GDM, DEVELOP AN EXCAVATION MOME AND AN UNDERPINNING DESIGN IN ACCORDANCE WITH DART SPECIFICATIONS SECTION 314800 "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, EXISTING AND SURROUNDING INSTRUMENTATION AND MONITORING PLAN TO RECORD THE STRUCTURES BEHAVIOR DURING INSTRUMENTATION AND MONITORING PLAN TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.

5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROJECT EXCAVATION FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, TO PROTECT EXISTING BUILDING AND RESTORATION OF STRUCTURES' TO MITIGATE GROUND MOVEMENTS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.

NOT FOR CONSTRUCTION
PRELIMINARY 20% DESIGN
CONTRACT SHEET No. SC6-3403
NOTES

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING 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 the type of construction and depth of foundation of existing buildings.
   b. Based on information on existing buildings and geotechnical information from GDM, develop an excavation sequence and an underpinning design in accordance with DART Specifications Section 3-65-35 "Underpinning, Support and Restoration of Structures" to mitigate ground movements and foundation limit exceedance.
5. CONSTRUCTION SHOWN APPROXIMATE LIMITS TO PROJECT EXPANSION LINE OF EXISTING BUILDINGS.

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING 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 the type of construction and depth of foundation of existing buildings.
   b. Based on information on existing buildings and geotechnical information from GDM, develop an excavation sequence and an underpinning design in accordance with DART Specifications Section 3-65-35 "Underpinning, Support and Restoration of Structures" to mitigate ground movements and foundation limit exceedance.
   c. Necessary on the condition of the existing buildings, excavation and support, 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.
   d. Excavation shall be based on the condition of the existing buildings, excavation and support, 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 EXISTING BUILDINGS FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE STRUCTURE.
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, an inspection of existing structures and field survey of construction and depth of excavation of existing buildings, as specified in Design and Engineering Information from GDM, should be made to ensure that the excavation is safe and that appropriate action is taken when necessary to avoid damage.
5. Contractor shall undertake appropriate measures to protect exposed face of existing buildings from damage that may occur during excavation.
6. Use of tie-down anchors is required.
7. For station cavern and passenger adit see drawing No. GC3-0002.
8. For structural general notes, see drawing No. GC3-0001.
NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING DWG No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORTS 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 FOUNDATION, WILDCAT EXCAVATION SEQUENCE AND AN INSTRUMENTATION AND MONITORING PLAN TO RECORD THE STRUCTURES BEHAVIOR DURING CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, TO PROTECT EXPOSED SIDE OF EXISTING BUILDING.
   (C) BASED ON THE CONDITIONS OF THE EXISTING STRUCTURES TO MITIGATE GROUND MOVEMENTS.
NOT FOR CONSTRUCTION

NOT AN APPROVED DRAWING

DRAFT

PRELIMINARY 20% DESIGN

NOT AN APPROVED DRAWING

NOT FOR CONSTRUCTION
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. SC6-4102.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE Dwg No. SC6-4102.
3. SUPPORTS OF EXCAVATION NOT SHOWN IN THIS PLAN.

MATCHLINE

LIMIT OF PLATFORM

SEE DWG No. SC6-4105
Notes:
1. For structural general notes, see drawing no. GC3-0001.
2. For structural symbols and abbreviations, see drawing no. GC3-0002.
3. Supports of excavation not shown in this plan.
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. SC6-002.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. SC6-002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
DRAINAGE AREA MAP
SHEET 5 OF 13
### DRAINAGE AREA CALCULATIONS

1. **DRAINAGE AREA CALCULATIONS**

   **DISTRICT:** CA-1(A), CENTRAL AREA

   **PRELIMINARY 20% DESIGN**

   **NOTES:**

   - All drainage areas are calculated for the 100-year frequency storm.
   - DRAINAGE设计 (DRAINAGE AREA CALCULATIONS) are to be used for the project.
   - Intensity were determined using the Rainfall Intensity-Duration table located on page 1 of the appendix.
   - Runoff coefficients are taken from the tables provided in the appendix.

   **NOT FOR CONSTRUCTION**

   **NOT AN APPROVED DRAWING**

   **PRELIMINARY 20% DESIGN**

   **APPENDIX**

   **IN-PROGRESS**

   **LIGHT RAIL TRANSIT SYSTEM**

   **LINE SECTION CSD-2**

   **DRAINAGE AREA CALCULATIONS**

   **SHEET 1 OF 3**

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**AREA (ACRES)**

- "C"
### DRAINAGE AREA SUMMARY TABLE

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### DRAINAGE DESIGN CRITERIA (FREQUENCY, INTENSITY, AND RUNOFF COEFFICIENTS)

- **Runoff Coefficients**: Taken from the table: Runoff Coefficients and Maximum Inlet Times located on page 1 of the Appendix.
- **Rainfall Intensity Duration Table**: Located on page 2 of the Appendix.
- **DRAINAGE AREA CALCULATIONS**: Preliminary 20% Design.

**NOTES**

1. DRAINAGE AREA CALCULATIONS ARE BASED ON THE CITY OF DALLAS DRAINAGE DESIGN MANUAL, DATED MAY 2003.
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. Design criteria (frequency, intensity, and runoff coefficients) are based on the City of Dallas DRAINAGE DESIGN MANUAL, DATED MAY 2003.
5. Distribution of runoff coefficients is taken from the tables: Runoff Coefficients and Maximum Inlet Times located on page 1 of the Appendix.

**CONTRACT SHEET No.**

**R-080**

**LINE SECTION CBD-2**

**LIGHT RAIL TRANSIT SYSTEM**

**DRAINAGE AREA CALCULATIONS**

**SHEET 2 OF 3**

**NOT AN APPROVED DRAWING**
### DRAINAGE AREA SUMMARY TABLE

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**NOTES:**

1. DRAINAGE DESIGN CRITERIA (FREQUENCY, INTENSITY, AND DRAINAGE AREA DESIGN) BASED ON THE CITY OF DALLAS DRAINAGE AREA DESIGN MANUAL. DESIGN MAY BE CHANGED AT ANY TIME.
2. RUNOFF DATA ARE DETERMINED USING THE TABLE: RUNOFF COEFFICIENTS AND MAXIMUM INTENSITY WERE DETERMINED USING THE DRAINAGE DESIGN MANUAL. NOTES LOCATED ON PAGE 2 OF THE APPENDIX.
3. RUNOFF COEFFICIENTS ARE TAKEN FROM THE TABLE: RUNOFF COEFFICIENTS AND MAXIMUM INTENSITY WERE DETERMINED USING THE DRAINAGE DESIGN MANUAL. NOTES LOCATED ON PAGE 2 OF THE APPENDIX.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
BEGIN PROJECT TO STA 14+00.00

NOTES:
1. FOR ADDITIONAL AND MEDITAL GEOMETRY, SEE
   HORIZONTAL ALIGNMENT DATA SHEETS AND PROFILE SHEETS.
2. FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
   RELATED TO UTILITY CONSTRUCTION, SEE DWG No. UC1-0001
   AND UC2-0002.
3. UTILITY INFORMATION IS BASED UPON EXISTING UTILITY
   PLANS PROVIDED BY CITY OF DALLAS AND DALLAS WATER
   UTILITIES. HENCE, NOT DEPENDING ON THE EXISTENCE OF
   OTHER UNDERGROUND FACILITIES. THIS INFORMATION IS
   BASED UPON DATA COLLECTED FROM BOTH PUBLIC AND
   PRIVATE SOURCES. THE EXACT SIZE OF EXISTING WATER AND
   WASTEWATER SYSTEMS IN THE AREA AND SHALL HAVE THEIR FACILITIES
   PHYSICALLY LOCATED.
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 THE FOR ALL HIGH
   VOLTAGE 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. EXISTING UTILITY PLANS ARE NOT SHOWN ON THESE DRAWINGS.
9. FOR PROPOSED STATIONS, SEE ARCHITECTURAL SHEETS.

For more information, please refer to DWG No. UC2-0001.

H. RAZA
F. SYED

BEGIN PROJECT TO STA 14+00.00
EXISTING UTILITY COMPOSITE

NOTES:
1. FOR ADDITIONAL AND MEDITAL GEOMETRY, SEE
   HORIZONTAL ALIGNMENT DATA SHEETS AND PROFILE SHEETS.
2. FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
   RELATED TO UTILITY CONSTRUCTION, SEE DWG No. UC1-0001
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7. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING
   THE EXACT SIZE OF EXISTING WATER AND WASTEWATER
   SERVICES.
8. EXISTING UTILITY PLANS ARE NOT SHOWN ON THESE DRAWINGS.
9. FOR PROPOSED STATIONS, SEE ARCHITECTURAL SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES. IT IS NOT TO BE USED FOR CONSTRUCTION, IT IS NOT AN APPROVED DRAWING.

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOTES:

EXISTING UTILITY COMPOSITE
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STA 21+00.00 TO STA 28+00.00

NOTES:

SEE DWG No. UC2-002
MATCH LINE CBD-2 EB STA. 21+00.00

SEE DWG No. UC2-003
MATCH LINE CBD-2 EB STA. 28+00.00

EXISTING UTILITY COMPOSITE
LINE SECTION CBD-2
STA 21+00.00 TO STA 28+00.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES. IT IS NOT TO BE USED FOR CONSTRUCTION, IT IS NOT AN APPROVED DRAWING.

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOTES:

EXISTING UTILITY COMPOSITE
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PROVISIONAL 20% DESIGN

MATCH LINE CBD-2 EB STA. 28+00.00
SEE Dwg No. UC2-0005

MATCH LINE CBD-2 EB STA. 34+69.00
SEE Dwg No. UC2-0003

NOTES:
1. SEE Dwg No. UC2-000 FOR ADDITIONAL NOTES.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PROGRESSIVE 20% DESIGN

EXISTING UTILITY COMPOSITE
STA 36+00.00 TO STA 44+00.00

NOTES:
1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
2. FOR PORTAL U-WALLS, SEE STRUCTURAL SHEETS.

FOR THE PURPOSE OF REVIEW UNDER THE
THIS DOCUMENT IS RELEASED

TBD PE FIRM NO. F-5332
URBAN ENGINEERS GROUP, INC.
ON 03/06/2020
FAISAL S. SYED, P.E. NO. 84833

H asa n  R az a
Friday, February 28, 2020 01:47:05 PM

Light Rail Transit System
Line Section CBD-2

In-progress

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

NOTES:
1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PROVISIONARY 20% DESIGN

NOTES:
1. SEE DWG NO. UC2-001 FOR ADDITIONAL NOTES.
2. FOR PORTAL U-WALL, SEE STRUCTURAL SHEETS.

SCALE (IN FEET)
0 20 40 60

STA 96+00.00 TO STA 103+00.00
1" = 40'

ELM STREET
CEasar CHAVEZ BLVD
Pacific Ave

SEE DWG NO. UC2-0012
MATCH LINE CBD-2 EB STA 96+00.00
SEE DWG NO. UC2-0014
MATCH LINE CBD-2 EB STA 103+00.00

14.29 74.29
76.20 98+00
96+00 98+00
100+00 102+00
16.20 26.61
30.61 38.61
51.36 76.04 (BK)
65 76.04 (BK)
16.04 51.36 (AHD)
65 76.04 (BK)

NOT IN PROGRESS
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:

TBPE FIRM NO. F-5332
FAISAL S. SYED, P.E. NO. 84833
ONCOR UGE APPROX LOCATION
6" GAS APPROX LOCATION
SWB UGT DUCT 16" GAS APPROX LOCATION
ONCOR UGE APPROX LOCATION
SPECTRUM DUCT APPROX LOCATION

H A S A N A R A Z A
F R I D A Y , F E B R U A R Y 2 8 , 2 0 2 0 0 1 : 4 8 : 4 9 P M

REVISION HISTORY
REVISION DATE DESCRIPTION APP CHK ENG BY

CONTRACT SHEET No.

IN PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 96+00.00 TO STA 103+00.00

DART PROJECT

UEG

GPC

DART

CONTRACT NO.

UC2-0013

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

03/06/2020

BEGIN PROJECT TO STA 14+00.00

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOTES:
EXISTING UTILITY COMPOSITE
LIVE OAK STATION
MATCH LINE SE-1 SB STA 14+00.00

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PRELIMINARY 20% DESIGN

273 Of 276
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PRELIMINARY 20% DESIGN

03/06/2020
FAISAL S. SYED, P.E. NO. 84833

H a s a n  R a z a
F rid a y , F e b ru a r y  2 8 , 2 0 2 0  0 1 :5 0 :1 5  P M

LINE SECTION CBD-2
LIGHT RAIL TRANSIT SYSTEM

NOTES:
1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

EXISTING UTILITY COMPOSITE
MATCH LINE SE-1 SB STA. 14+00.00
MATCH LINE SE-1 SB STA. 22+00.00

SCALE (IN FEET)
1" = 40'

STA 14+00.00 TO STA 22+00.00

SECTION ABCD-2 W
SE-1 SB STA. 14+00.00
SE-1 SB STA. 22+00.00

SE-1 SB STA. 14+00.00
SE-1 SB STA. 22+00.00

NOTES:
1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
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PROVISIONAL 20% DESIGN
03/06/2020
BIDDING OR PERMIT PURPOSES.
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

EXISTING UTILITY COMPOSITE
L. WYANDON

H. RAZA
F. SYED

1. SEE DWG No. UC2-001 FOR ADITIONAL NOTES.

NOTES:
EXISTING GREEN LINE
MATCH LINE SE-1 SB STA 28+00.00
MATCH LINE SE-1 SB STA 30+00.00
MATCH LINE SE-1 SB STA 32+93.00

EXISTING GIS DATA
MATCH LINE SE-1 SB STA 28+00.00 TO END PROJECT
MATCH LINE SE-1 SB STA 30+00.00 TO END PROJECT
MATCH LINE SE-1 SB STA 32+93.00 TO END PROJECT

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 20% DESIGN

CONTRACT SHEET No. 276 OF 276

Light Rail Transit System
Line Section CBD-2
SE-1 SB
Existing Utility Composite
STA 28+00.00 TO END PROJECT

NOTES:
1. SEE DWG No. UC2-001 FOR ADITIONAL NOTES.