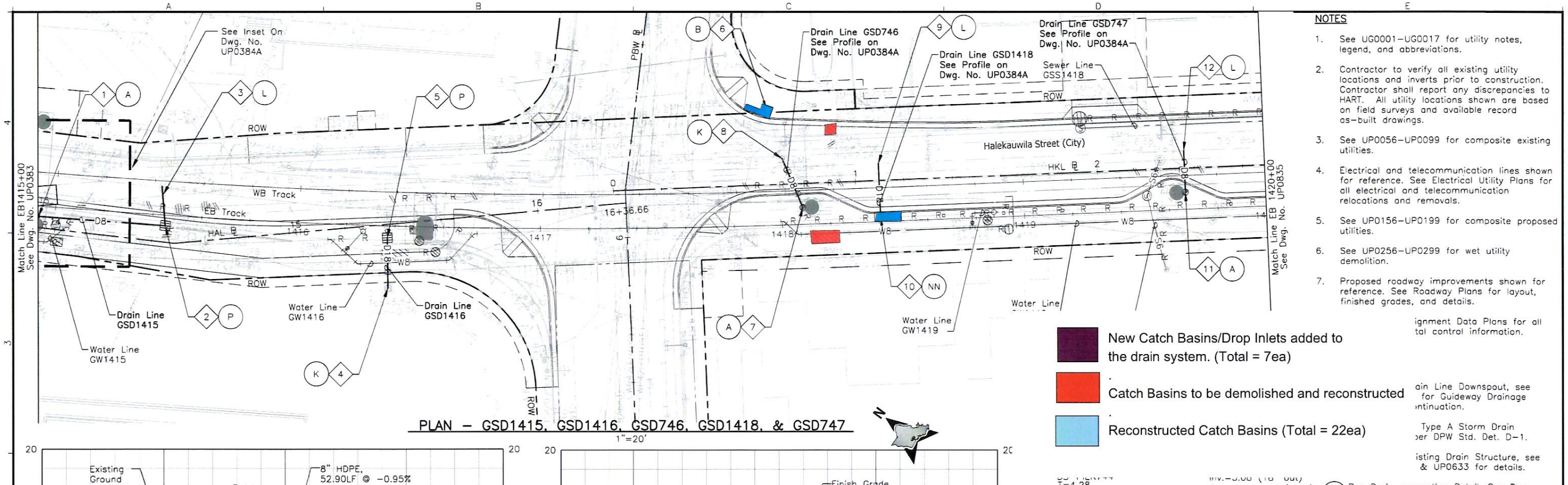
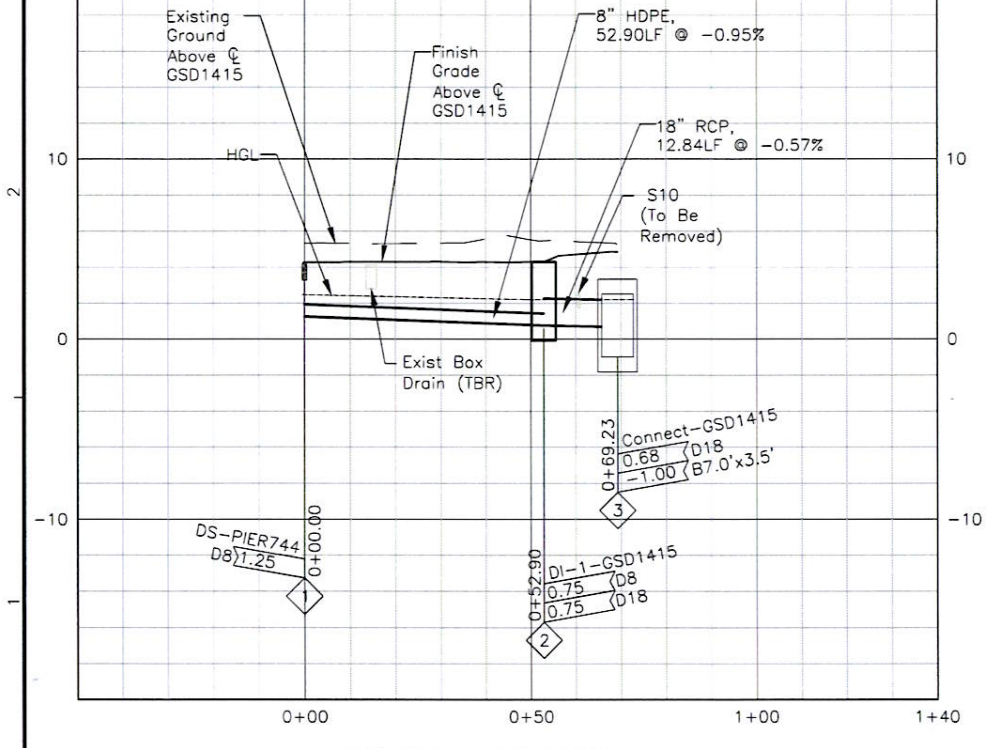


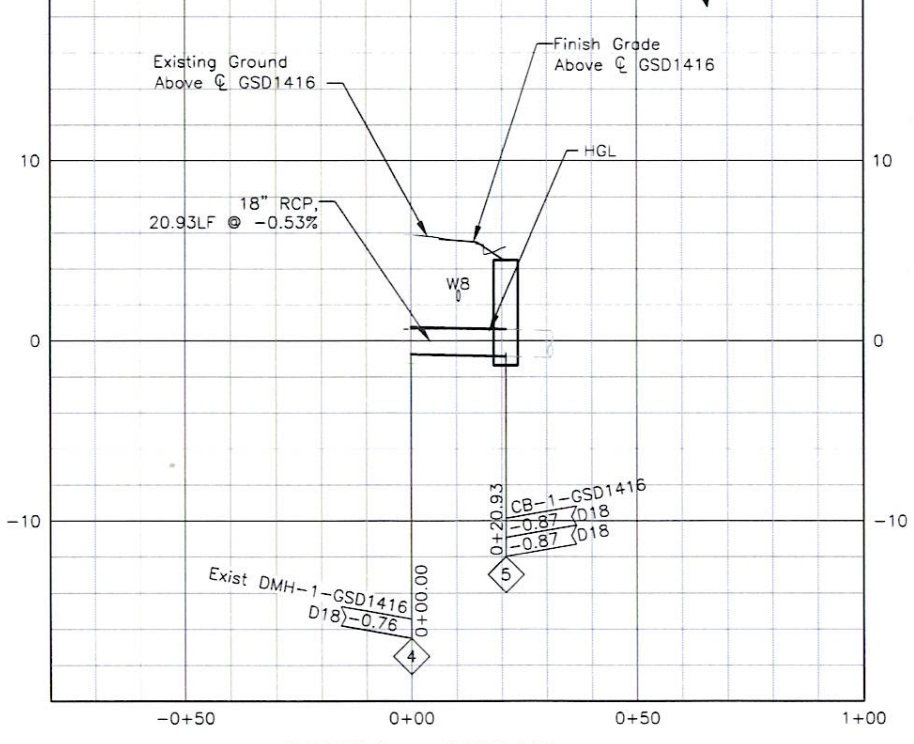
PLAN – GSD1415, GSD1416, GSD746, GSD1418, & GSD747

1"=20'



PROFILE – GSD1415

H 1"=20', V 1"=5'



PROFILE – GSD1416

H 1"=20', V 1"=5'

NOTES

1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as-built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.

ignment Data Plans for all tal control information.

New Catch Basins/Drop Inlets added to the drain system. (Total = 7ea)

Catch Basins to be demolished and reconstructed

Reconstructed Catch Basins (Total = 22ea)

ain Line Downspout, see for Guideway Drainage ntinuation.

Type A Storm Drain per DPW Std. Det. D-1.

isting Drain Structure, see & UP0633 for details.

(L) Box Drain connection Detail, See Dwg. No. UP0701.

(P) Construct New Type 61614P Grated Drop Inlet with Type 61614P Steel Grate, per HDOT Std. Plan No. H-12 & H-16.

(NN) Construct New Type C Storm Drain Catch Basin, per DPW Std. Det. D-9.

1 (A) STA 14+44.76 HAL ℄, O/S 6.81' LT =0+52.90 GSD1415 DI-1-GSD1415 T=4.29 Inv.=1.25 (8" out)

2 (P) STA 14+44.76 HAL ℄, O/S 6.81' LT =0+52.90 GSD1415 DI-1-GSD1415 T=4.29 Inv.=0.75 (8" in) Inv.=0.75 (18" out)

3 (L) STA 14+41.58 HAL ℄, O/S 22.82' LT =0+69.23 GSD1415 Connect-GSD1415 T=4.85 Inv.=0.68 (18" in) Inv.=−1.00 (B7.5'x3.5' in) Inv.=−1.00 (B7.5'x3.5' out) Connect to 7'x3.5' Box Drain (Exist)

4 (K) STA 15+35.44 HAL ℄, O/S 26.33' RT =0+00.00 GSD1416 Exist DMH-1-GSD1416 T=5.89± Inv.=−0.76 (18" out) Connect to DI (Exist)

5 (K) STA 15+37.15 HAL ℄, O/S 5.47' RT =0+20.93 GSD1416 CB-1-GSD1416 T=4.47 Inv.=−0.87 (18" in) Inv.=−0.87 (18" out)

6 (B) STA 0+77.78 HKL ℄, O/S 9.96' RT =0+00.00 GSD746 DS-PIER746 T=5.93 Inv.=0.44 (8" out) Connect to D18(Exist)

7 (A) STA 0+77.78 HKL ℄, O/S 9.96' RT =0+00.00 GSD746 DS-PIER746 T=5.93 Inv.=0.44 (8" out)

8 (K) STA 0+70.07 HKL ℄, O/S 10.70' LT =0+22.05 GSD746 Exist DMH-1-GSD746 T=5.50 Inv.=0.00 (8" in) Inv.=2.87 (18" in) Inv.=−1.58 (7'x3.5' out)

9 (L) STA 1+09.80 HKL ℄, O/S 7.06' LT =0+00.00 GSD1418 Connect-GSD1418 T=5.58 Inv.=0.42 (18" in) Inv.=−1.58 (B7.5'x3.5' in) Inv.=−1.58 (B7.5'x3.5' out) Connect to 7'x3.5' Box Drain (Exist)

10 (NN) STA 1+09.83 HKL ℄, O/S 15.00' RT =0+22.06 GSD1418 CB-2-GSD1418 T=6.08 Inv.=0.86 (18" out)

11 (A) STA 2+35.99 HKL ℄, O/S 10.00' RT =0+00.00 GSD747 DS-PIER747 T=6.37 Inv.=0.34 (8" out)

12 (L) STA 2+35.97 HKL ℄, O/S 7.23' LT =0+17.23 GSD747 Connect-GSD747 T=6.02 Inv.=0.00 (8" in) Inv.=−1.45 (7'x3.5' in) Inv.=−1.45 (7'x3.5' out) Connect to 7'x3.5' Box Drain (Exist)

H 20' 0' 20'

V 5' 0' 5'

Rev	By	Date	Description
0	KO	09-02-14	Final Design – Issued for Bid

BARRY K. MURANAKA ★ LICENSED PROFESSIONAL ENGINEER No.8418-C ★ HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09-02-14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

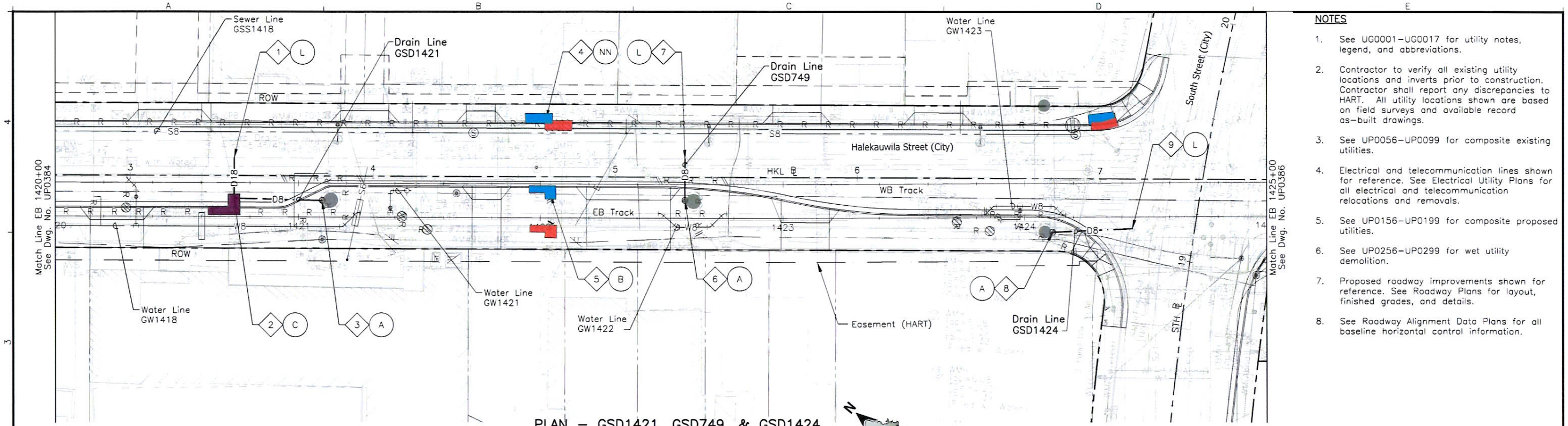
AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1415+00 TO EB 1420+00

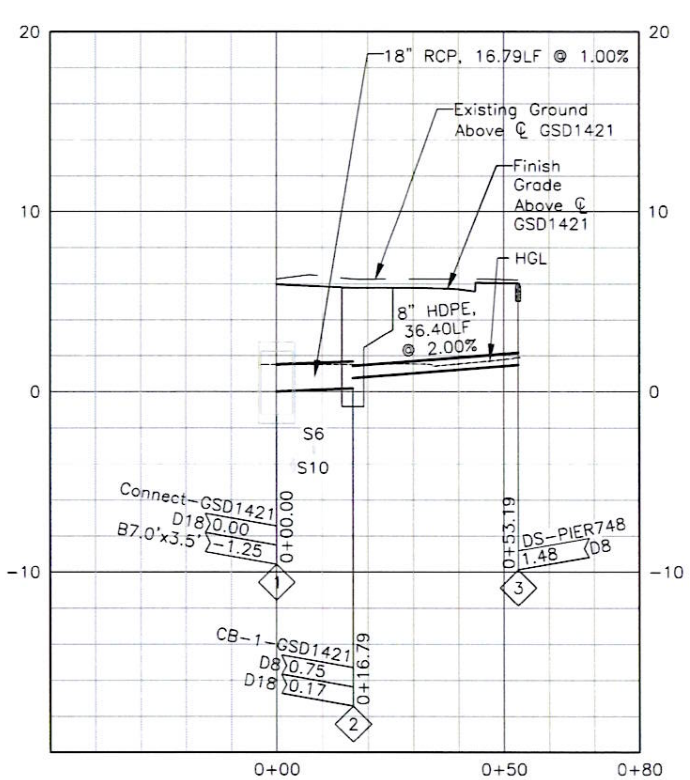
Contract No.: RFB-HRT-767302
File: ACG-D03-UP0384
Drawing No.: UP0384 Rev. 0
Scale: AS SHOWN
Page No. 357 of 1275

8/24/2014 12:08 AM P:\US\G\Civil\Oahu\60272002 HRTP CC\400 Technical Information_DWG\Sheets\Volume 2\D03-Utility Relocation Plan and Profiles\ACG-D03-UP0384.dwg



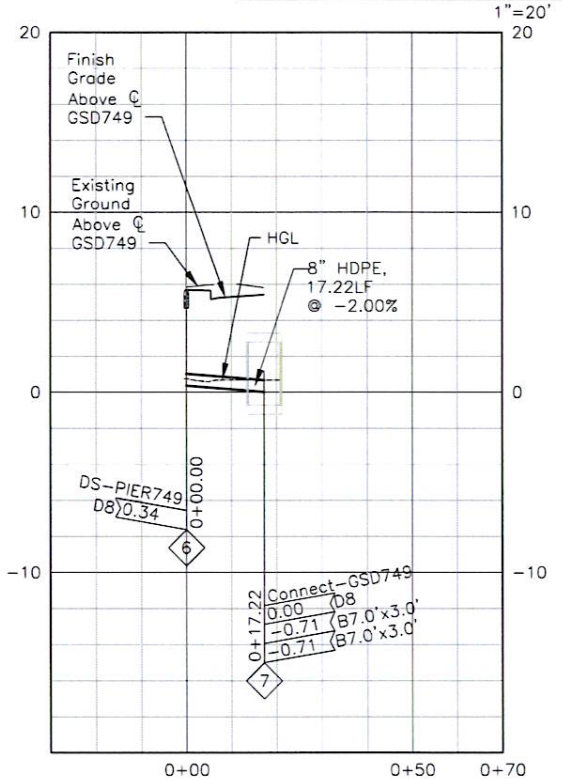
PLAN – GSD1421, GSD749, & GSD1424

1"=20'



PROFILE – GSD1421

H 1"=20', V 1"=5'



PROFILE – GSD749

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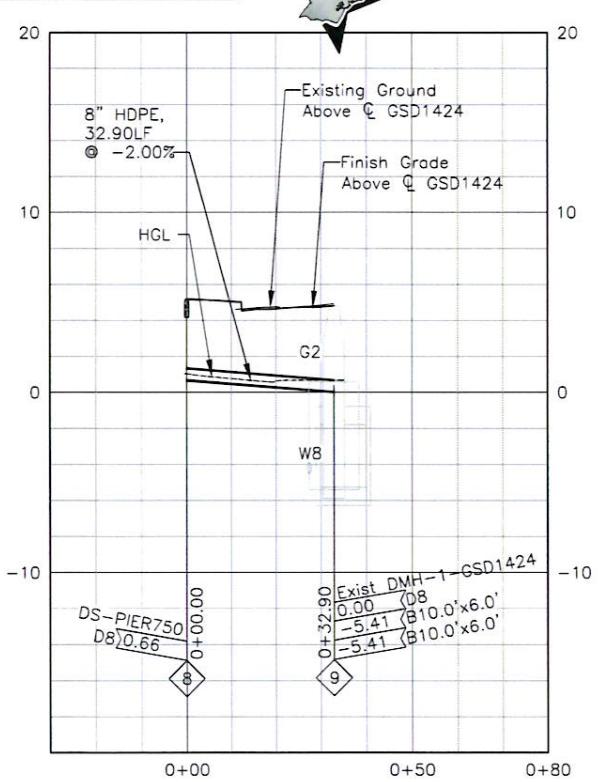

PROFILE – GSD1424

H 1"=20', V 1"=5'

CONSTRUCTION NOTES

1. STA 3+42.51 HKL ℄, O/S 7.37' LT
   =0+00.00 GSD1421
   Connect-GSD1421
   T=5.95
   Inv.=0.00 (18" in)
   Inv.=-1.25 (B7.0'x3.5' out)
   Connect to 7'x3.5'
   Box Drain (Exist)
2. STA 3+42.54 HKL ℄, O/S 9.42' RT
   =0+16.79 GSD1421
   CB-1-GSD1421
   T=5.77
   Inv.=0.75 (8" in)
   Inv.=0.17 (18" out)
3. STA 3+78.93 HKL ℄, O/S 10.17' RT
   =0+53.19 GSD1421
   DS-PIER748
   T=6.02
   Inv.=1.48 (8" out)
4. STA 4+71.53 HKL ℄, O/S 24.00' LT
   CB-2-GSD1422
   T=5.87
   Inv.=2.40 (18" Out)
   Connect to D18 (Exist)
5. STA 4+73.35 HKL ℄, O/S 7.51' RT
   CB-1-GSD1422
   T=5.81
   Inv.=0.47 (18" out)
   Connect to D18 (Exist)
6. STA 5+28.94 HKL ℄, O/S 9.60' RT
   =0+00.00 GSD749
   DS-PIER749
   T=5.67
   Inv.=0.34 (8" out)
7. STA 5+28.91 HKL ℄, O/S 7.62' LT
   =0+17.22 GSD749
   Connect-GSD749
   T=5.42
   Inv.=0.00 (8" in)
   Inv.=-0.71 (B7.0'x3.5' in)
   Inv.=-0.71 (B7.0'x3.5' out)
   Connect to 7.0'x3.5'
   Box Drain (Exist)
8. STA 6+80.62 HKL ℄, O/S 22.13' RT
   =0+00.00 GSD1424
   DS-PIER750
   T=5.18
   Inv.=0.66 (8" out)
9. STA 7+13.47 HKL ℄, O/S 20.48' RT
   =0+32.90 GSD1424
   Exist DMH-1-GSD1424
   T=4.82
   Inv.=0.00 (8" in)
   Inv.=-5.41 (B10'x6' in)
   Inv.=-5.41 (B10'x6' out)
   Connect to 10'x6'
   Box Drain (Exist)

DRAIN NOTES

- (A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.
- (B) Construct New Type A Storm Drain Catch Basin, per DPW Std. Det. D-1.
- (C) Construct New Type B Storm Drain Catch Basin, per DPW Std. Det. D-5.
- (L) Box Drain connection Detail, See Dwg. No. UP0701.
- (NN) Construct New Type C Storm Drain Catch Basin, per DPW Std. Det. D-9.

NOTES

1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as-built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

20' 0' 20' (H)

5' 0' 5' (V)

Rev	By	Date	Description
0	KO	09-02-14	Final Design – Issued for Bid

BARRY K. MURANAKA ★ LICENSED PROFESSIONAL ENGINEER No.8418-C ★ HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09-02-14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1420+00 TO EB 1425+00

Contract No.: RFB-HRT-767302
File: ACG-D03-UP0385
Drawing No.: UP0385 Rev. 0
Scale: AS SHOWN
Page No.: 359 of 1275

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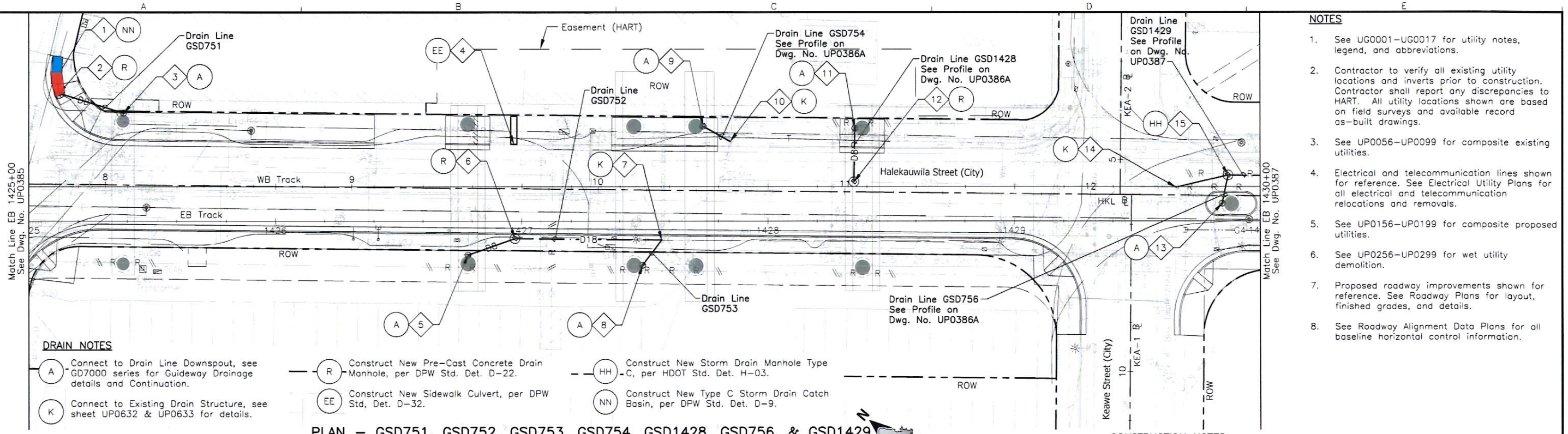

NOTES

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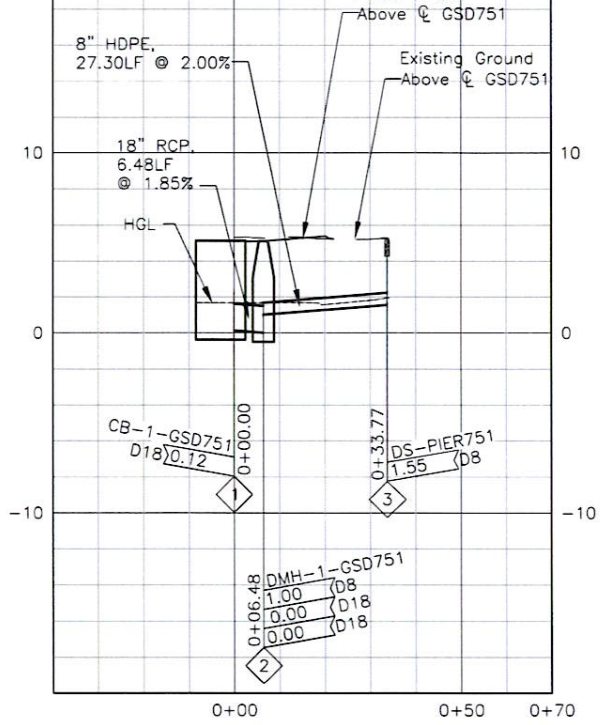
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

DRAIN NOTES

- (A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.
- (K) Connect to Existing Drain Structure, see sheet UP0632 & UP0633 for details.
- (R) Construct New Pre–Cast Concrete Drain Manhole, per DPW Std. Det. D–22.
- (EE) Construct New Sidewalk Culvert, per DPW Std, Det. D–32.
- (HH) Construct New Storm Drain Manhole Type C, per HDOT Std. Det. H–03.
- (NN) Construct New Type C Storm Drain Catch Basin, per DPW Std. Det. D–9.

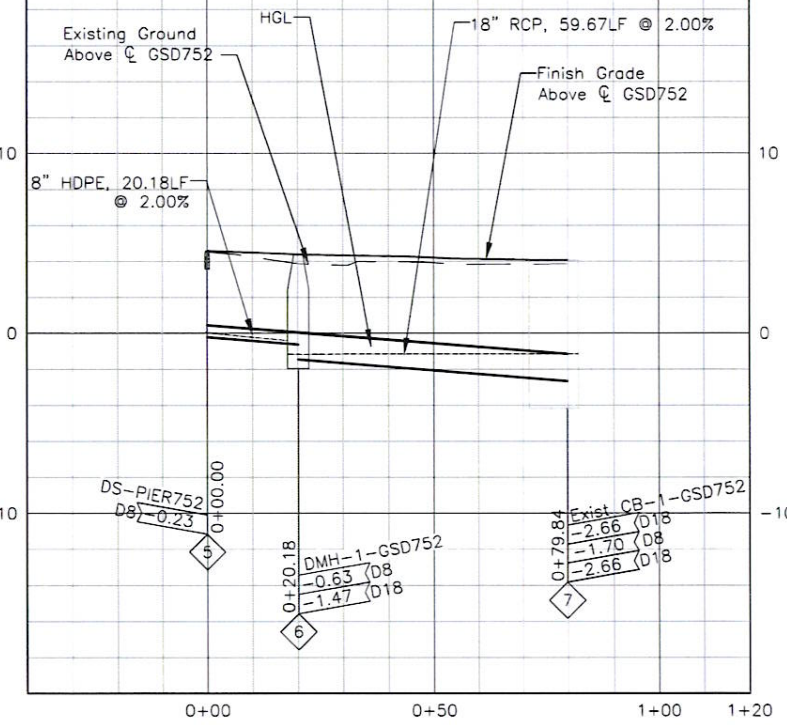
PLAN – GSD751, GSD752, GSD753, GSD754, GSD1428, GSD756, & GSD1429

1"=20'



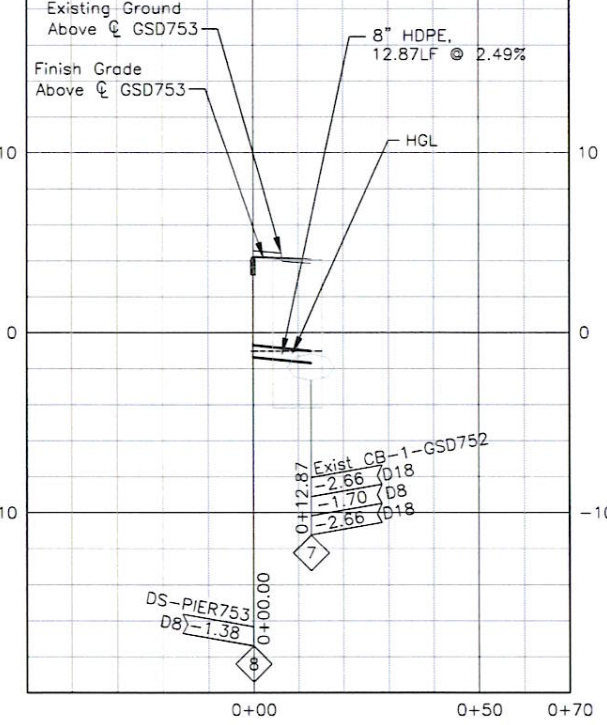
PROFILE – GSD751

H 1"=20', V 1"=5'



PROFILE – GSD752

H 1"=20', V 1"=5'



PROFILE – GSD753

H 1"=20', V 1"=5'

CONSTRUCTION NOTES

1. STA 7+79.96 HKL ℄, O/S 43.43' LT
   =0+00.00 GSD751
   CB–1–GSD751
   T=5.12
   Inv.=0.12 (18" out)
2. STA 7+81.01 HKL ℄, O/S 37.03' LT
   =0+06.48 GSD751
   DMH–1–GSD751
   T=5.10
   Inv.=1.00 (8" in)
   Inv.=0.00 (18" in)
   Inv.=0.00 (18" out)
   Connect to D18 (Exist)
3. STA 8+07.15 HKL ℄, O/S 29.15' LT
   =0+33.77 GSD751
   DS–PIER751
   T=5.25
   Inv.=1.55 (8" out)
4. STA 9+65.76 HKL ℄, O/S 18.12' LT
   New Sidewalk Culvert
   Inv.=±4.2
5. STA 9+47.53 HKL ℄, O/S 27.17' RT
   =0+00.00 GSD752
   DS–PIER752
   T=4.58
   Inv.=–0.23 (8" out)
6. STA 9+66.49 HKL ℄, O/S 20.27' RT
   =0+20.18 GSD752
   DMH–1–GSD752
   T=4.38
   Inv.=–0.63 (8" in)
   Inv.=–1.47 (18" out)
7. STA 10+26.16 HKL ℄, O/S 20.27' RT
   =0+12.87 GSD753
   Exist CB–1–GSD752
   T=4.07
   Inv.=–2.66 (18" in)
   Inv.=–1.70 (8" in)
   Inv.=–2.66 (18" out)
   Connect to CB (Exist)
8. STA 10+18.57 HKL ℄, O/S 30.66' RT
   =0+00.00 GSD753
   DS–PIER753
   T=4.21
   Inv.=–1.38 (8" out)
9. STA 10+42.55 HKL ℄, O/S 26.14' LT
   =0+00.00 GSD754
   DS–PIER754
   T=4.39
   Inv.=0.08 (8" out)
10. STA 10+53.57 HKL ℄, O/S 20.07' LT
    =0+12.59 GSD754
    Exist CB–1–GSD754
    T=4.26
    Inv.=–0.17 (8" in)
    Inv.=–0.17 (18" out)
    Connect to D18 (Exist)
11. STA 11+03.98 HKL ℄, O/S 25.89' LT
    =0+00.00 GSD1428
    DS–PIER755
    T=4.47
    Inv.=0.03 (8" out)
12. STA 11+03.81 HKL ℄, O/S 4.14' LT
    =0+21.75 GSD1428
    DMH–1–GSD1428
    T=4.12
    Inv.=–0.40 (8" in)
    Inv.=–3.09 (36" out)
    Connect to D36 (Exist)
13. STA 12+53.61 HKL ℄, O/S 3.19' RT
    =0+00.00 GSD756
    DS–PIER756
    T=4.63
    Inv.=0.03 (8" out)
14. STA 12+34.77 HKL ℄, O/S 3.20' LT
    =0+00.00 GSD1429
    Exist DMH–1–GSD1429
    T=4.80
    Inv.=–3.92 (36" in)
    Inv.=–3.92 (42" out)
    Connect to DMH (Exist)
15. STA 12+55.82 HKL ℄, O/S 8.35' LT
    =0+21.68 GSD1429
    =0+11.75 GSD756
    DMH–1–GSD1429
    T=4.49±
    Inv.=–4.02 (42" in)
    Inv.=–0.20 (8" in)
    Inv.=–4.02 (42" out)

H 20' 0' 20' V 5' 0' 5'

Rev	By	Date	Description
0	KO	09–02–14	Final Design – Issued for Bid

BARRY K. MURANAKA LICENSED PROFESSIONAL ENGINEER No.8418–C HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09–02–14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1425+00 TO EB 1430+00

Contract No.: RFB–HRT–767302
File: ACG–D03–UP0386
Drawing No.: UP0386 Rev. 0
Scale: AS SHOWN
Page No. 360 of 1275

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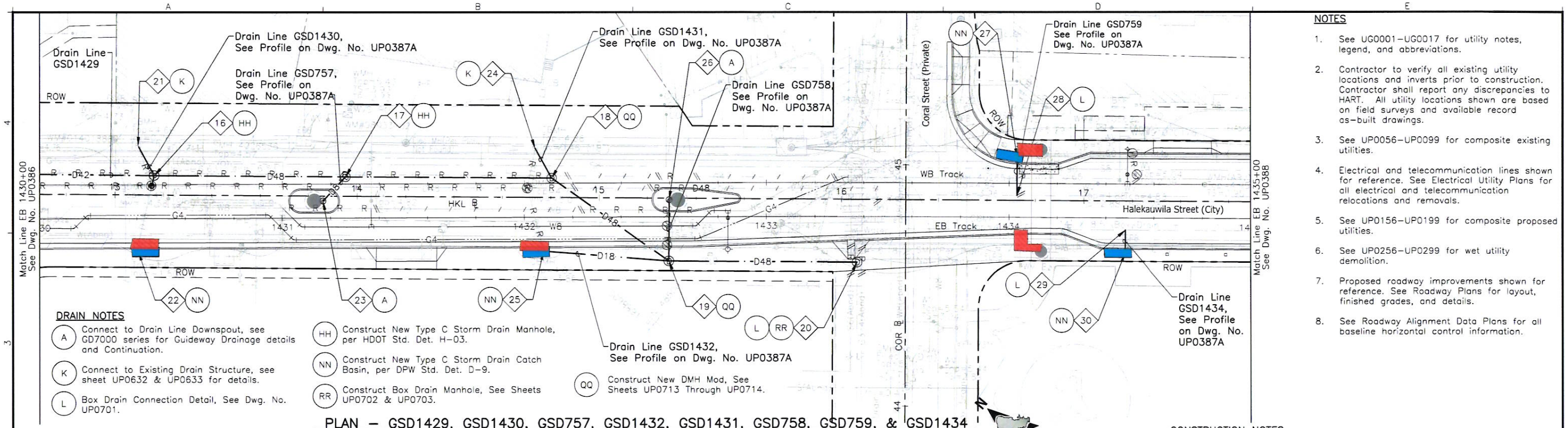

PLAN – GSD1429, GSD1430, GSD757, GSD1432, GSD1431, GSD758, GSD759, & GSD1434

1"=20'

DRAIN NOTES

- (A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.
- (K) Connect to Existing Drain Structure, see sheet UP0632 & UP0633 for details.
- (L) Box Drain Connection Detail, See Dwg. No. UP0701.
- (HH) Construct New Type C Storm Drain Manhole, per HDOT Std. Det. H-03.
- (NN) Construct New Type C Storm Drain Catch Basin, per DPW Std. Det. D-9.
- (RR) Construct Box Drain Manhole, See Sheets UP0702 & UP0703.
- (QQ) Construct New DMH Mod, See Sheets UP0713 Through UP0714.

NOTES

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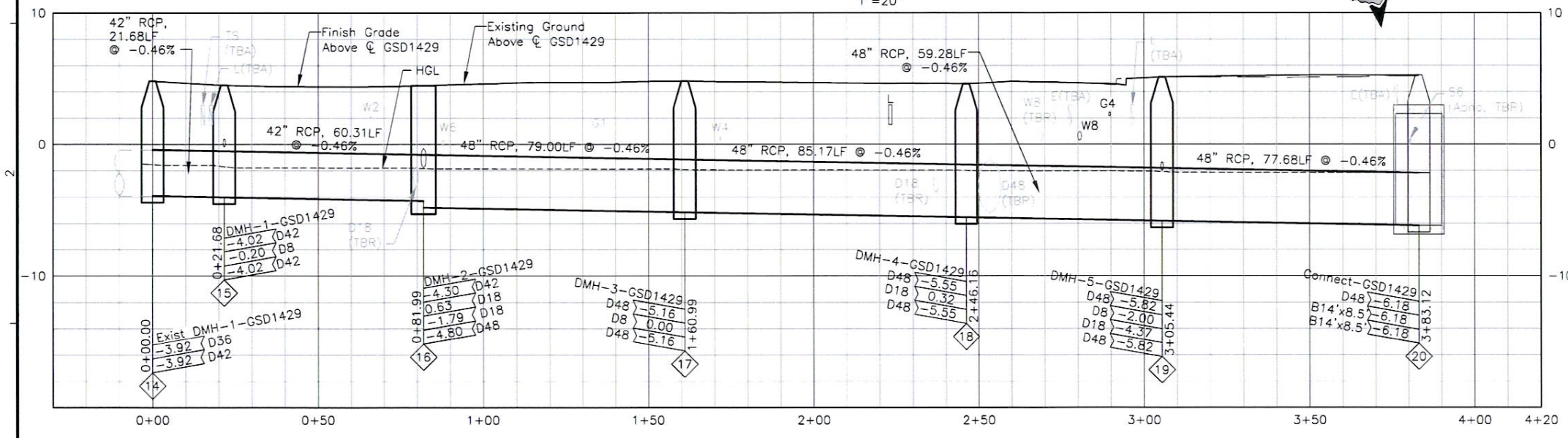
8. See Roadway Alignment Data Plans for all baseline horizontal control information.



PROFILE – GSD1429

H 1"=20', V 1"=5'

CONSTRUCTION NOTES

(14) STA 12+34.77 HKL ℄, O/S 3.20' LT
=0+00.00 GSD1429
Exist DMH-1-GSD1429
T=4.80
Inv.=-3.92 (36" in)
Inv.=-3.92 (42" out)
Connect to DMH (Exist)

(15) STA 12+55.82 HKL ℄, O/S 8.35' LT
=0+21.68 GSD1429
DMH-1-GSD1429
T=4.49
Inv.=-4.02 (42" in)
Inv.=-0.20 (8" in)
Inv.=-4.02 (42" out)

(16) STA 13+16.13 HKL ℄, O/S 8.05' LT
=0+81.99 GSD1429
DMH-2-GSD1429
T=4.46
Inv.=-4.30 (42" in)
Inv.=0.63 (18" in)
Inv.=-1.79 (18" in)
Inv.=-4.80 (48" out)

(17) STA 13+95.13 HKL ℄, O/S 8.04' LT
=1+60.99 GSD1429
DMH-3-GSD1429
T=4.80
Inv.=-5.16 (48" in)
Inv.=0.00 (8" in)
Inv.=-5.16 (48" out)

(18) STA 14+80.30 HKL ℄, O/S 8.02' LT
=2+46.16 GSD1429
DMH-4-GSD1429
T=4.60
Inv.=-5.55 (48" in)
Inv.=0.32 (18" in)
Inv.=-5.55 (48" out)

(19) STA 15+28.85 HKL ℄, O/S 26.00' RT
=3+05.44 GSD1429
DMH-5-GSD1429
T=5.11
Inv.=-5.82 (48" in)
Inv.=-2.00 (8" in)
Inv.=-4.37 (18" in)
Inv.=-5.82 (48" out)

CONSTRUCTION NOTES

(20) STA 16+06.53 HKL ℄, O/S 26.00' RT
=3+83.12 GSD1429
Connect-GSD1429
T=5.26
Inv.=-6.18(18" in)
Inv.=-6.18(14'x8.5' in)
Inv.=-6.18(14'x8.5' out)

(21) STA 13+09.68 HKL ℄, O/S 19.84' LT
=0+00.00 GSD1430
CB-1-GSD1430
T=4.79
Inv.=0.76 (18" out)
Connect to CB (Exist)

(22) STA 13+09.84 HKL ℄, O/S 23.62' RT
CB-1-GSD1431
T=4.81
Connect to D18 (Exist)

(23) STA 13+85.94 HKL ℄, O/S 2.06' RT
=0+00.00 GSD757
DS-PIER757
T=4.83
Inv.=0.27 (8" out)

(24) STA 14+73.40 HKL ℄, O/S 20.34' LT
=0+00.00 GSD1431
Exist CB-1-GSD1431
T=4.89
Inv.=0.46 (18" out)
Connect to CB (Exist)

(25) STA 14+77.06 HKL ℄, O/S 22.23' RT
=0+00.00 GSD1432
CB-1-GSD1432
T=4.83
Inv.=-3.85 (18" out)

(26) STA 15+28.86 HKL ℄, O/S 0.67' RT
=0+00.00 GSD758
DS-PIER758
T=4.77
Inv.=-1.49 (8" out)

(27) STA 16+72.37 HKL ℄, O/S 17.92' LT
=0+00.00 GSD759
CB-1-GSD759
T=4.72
Inv.=-0.75 (18" out)

(28) STA 16+72.37 HKL ℄, O/S 2.00' LT
=0+15.92 GSD759
Connect-GSD759
T=6.14
Inv.=-1.00 (18" in)
Inv.=-4.25 (14'x8.5' in)
Inv.=-4.25 (14'x8.5'out)
Connect to 14'x8.5' Box Drain (Exist)

(29) STA 17+17.09 HKL ℄, O/S 12.00' RT
=0+00.00 GSD1434
Connect-GSD1434
T=4.57
Inv.=-1.09 (18" in)
Inv.=-6.00 (14'x8.5' in)
Inv.=-6.00 (14'x8.5'out)
Connect to 14'x8.5' Box Drain (Exist)

(30) STA 17+17.09 HKL ℄, O/S 21.46' RT
=0+09.45 GSD1434
CB-1-GSD1434
T=4.99
Inv.=-1.00 (18" out)

20' 0' 20' H

5' 0' 5' V

Rev	By	Date	Description
0	KO	09-02-14	Final Design – Issued for Bid

BARRY K. MURANAKA ★ LICENSED PROFESSIONAL ENGINEER No.8418-C ★ HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09-02-14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1430+00 TO EB 1435+00

Contract No.: RFB-HRT-767302
File: ACG-D03-UP0387
Drawing No.: UP0387 Rev.: 0
Scale: AS SHOWN
Page No.: 362 of 1275

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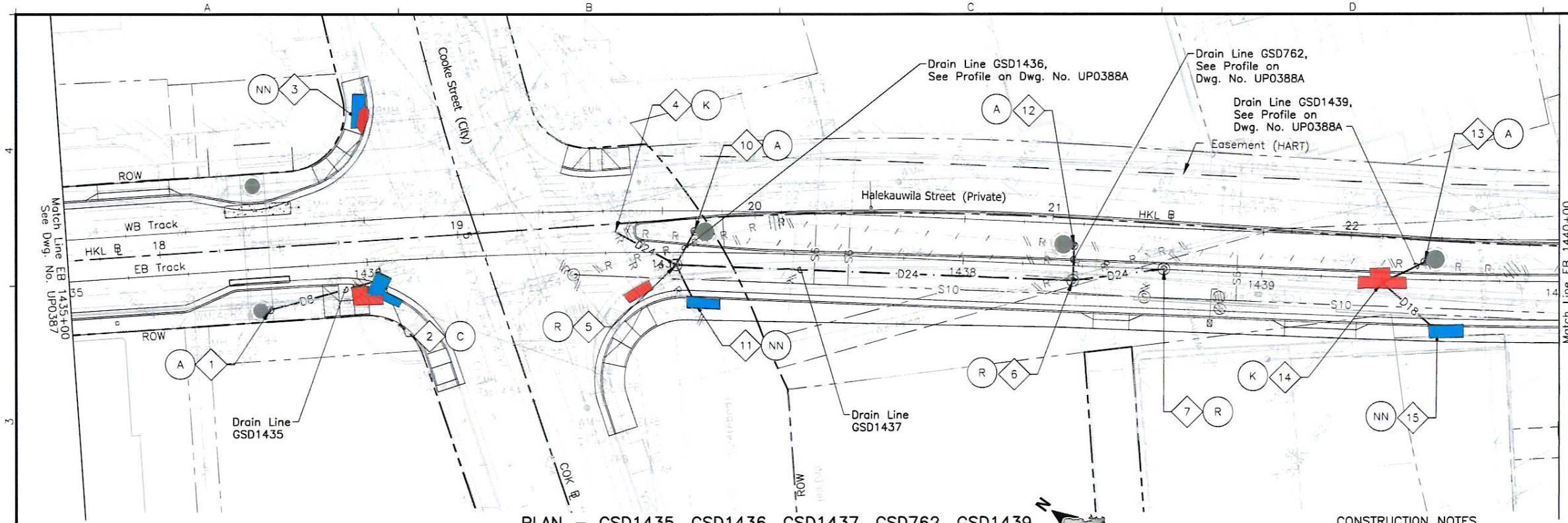
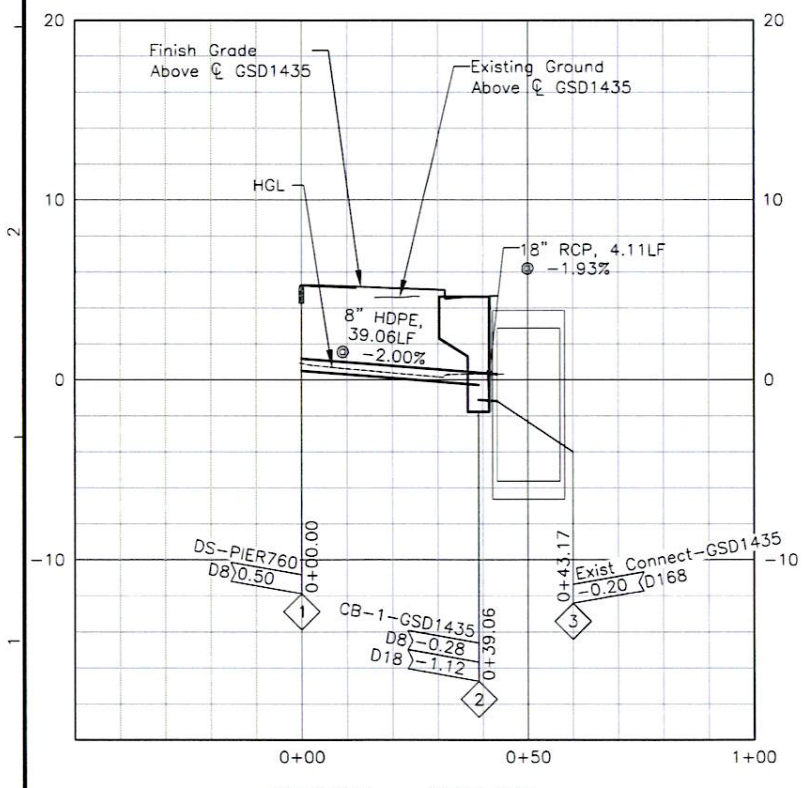


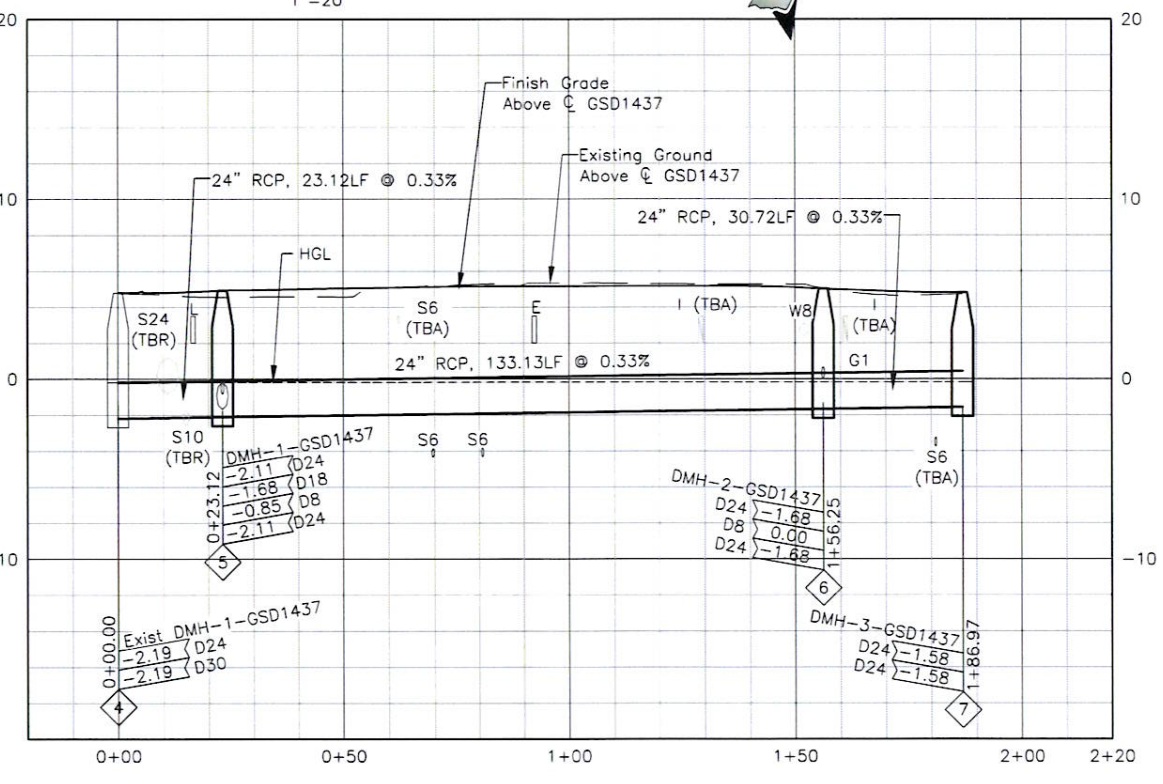
PLAN – GSD1435, GSD1436, GSD1437, GSD762, GSD1439

1"=20'



PROFILE – GSD1435

H 1"=20', V 1"=5'



PROFILE – GSD1437

H 1"=20', V 1"=5'

NOTES

1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as-built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

CONSTRUCTION NOTES

1. STA 18+35.48 HKL ℄, O/S 20.99' RT =0+00.00 GSD1435 DS-PIER760 T=5.27 Inv.=0.50 (8" out)
2. STA 18+73.76 HKL ℄, O/S 13.23' RT =0+39.06 GSD1435 CB-1-GSD1435 T=4.62 Inv.=-0.28 (8" in) Inv.=-1.12 (18" out) Connect to D18 (Exist)
3. STA 18+69.37 HKL ℄, O/S 40.86' LT CB-1-GSD1436 T=4.98 Inv.=-0.53 (18" out) Connect to D18 (Exist)
4. STA 19+52.81 HKL ℄, O/S 2.71' RT =0+00.00 GSD1437 Exist DMH-1-GSD1437 T=4.79 Inv.=-2.19 (24" in) Inv.=-2.19 (30" out)
5. STA 19+72.34 HKL ℄, O/S 15.10' RT =0+23.12 GSD1437 =0+14.07 GSD1436 DMH-1-GSD1437 T=4.91 Inv.=-2.11 (24" in) Inv.=-1.68 (18" in) Inv.=-0.85 (8" in) Inv.=-2.11 (24" out)
6. STA 21+07.71 HKL ℄, O/S 20.93' RT =1+56.25 GSD1437 =0+11.59 GSD762 DMH-2-GSD1437 T=5.01 Inv.=-1.68 (24" in) Inv.=0.00 (8" in) Inv.=-1.68 (24" out)
7. STA 21+37.96 HKL ℄, O/S 15.13' RT =1+86.97 GSD1437 DMH-3-GSD1437 T=4.81 Inv.=-1.58 (24" in) Inv.=-1.58 (24" out) Connect to D24 (Exist)
8. STA 19+79.26 HKL ℄, O/S 4.31' RT =0+26.86 GSD1436 DS-PIER761 T=4.98 Inv.=-0.59 (8" out)
9. STA 19+77.83 HKL ℄, O/S 28.11' RT =0+00.00 GSD1436 CB-3-GSD1436 T=4.65 Inv.=-1.26 (18" out)
10. STA 21+07.48 HKL ℄, O/S 9.34' RT =0+00.00 GSD762 DS-PIER762 T=5.13 Inv.=0.23 (8" out)
11. STA 22+25.24 HKL ℄, O/S 7.39' RT =0+00.00 GSD1439 DS-PIER763 T=4.85 Inv.=0.32 (8" out)
12. STA 22+11.08 HKL ℄, O/S 15.18' RT =0+16.16 GSD1439 Exist DMH-1-GSD1439 T=4.85 Inv.=-0.60 (18" in) Inv.=0.00 (8" in) Inv.=-1.35 (18" in) Inv.=-1.35 (24" out) Connect to D24 (Exist)
13. STA 22+30.59 HKL ℄, O/S 30.23' RT =0+40.88 GSD1439 CB-1-GSD1439 T=5.06 Inv.=-0.35 (18" out)

DRAIN NOTES

- (A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.
- (C) Construct New Type B Storm Drain Catch Basin, per DPW Std. Det. D-5.
- (K) Connect to Existing Drain Structure, see sheet UP0632 & UP0633 for details.
- (R) Construct New Pre-Cast Concrete Drain Mannhole, per DPW Std. Det. D-22.
- (NN) Construct New Type C Storm Drain Catch Basin, per DPW Std. Det. D-9.

H 20' 0' 20'

V 5' 0' 5'

Rev	By	Date	Description
0	KO	09-02-14	Final Design – Issued for Bid

BARRY K. MURANAKA ★ LICENSED PROFESSIONAL ENGINEER No.8418-C ★ HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09-02-14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1435+00 TO EB 1440+00

Contract No.: RFB-HRT-767302
File: ACG-D03-UP0388
Drawing No.: UP0388 Rev. 0
Scale: AS SHOWN
Page No. 364 of 1275

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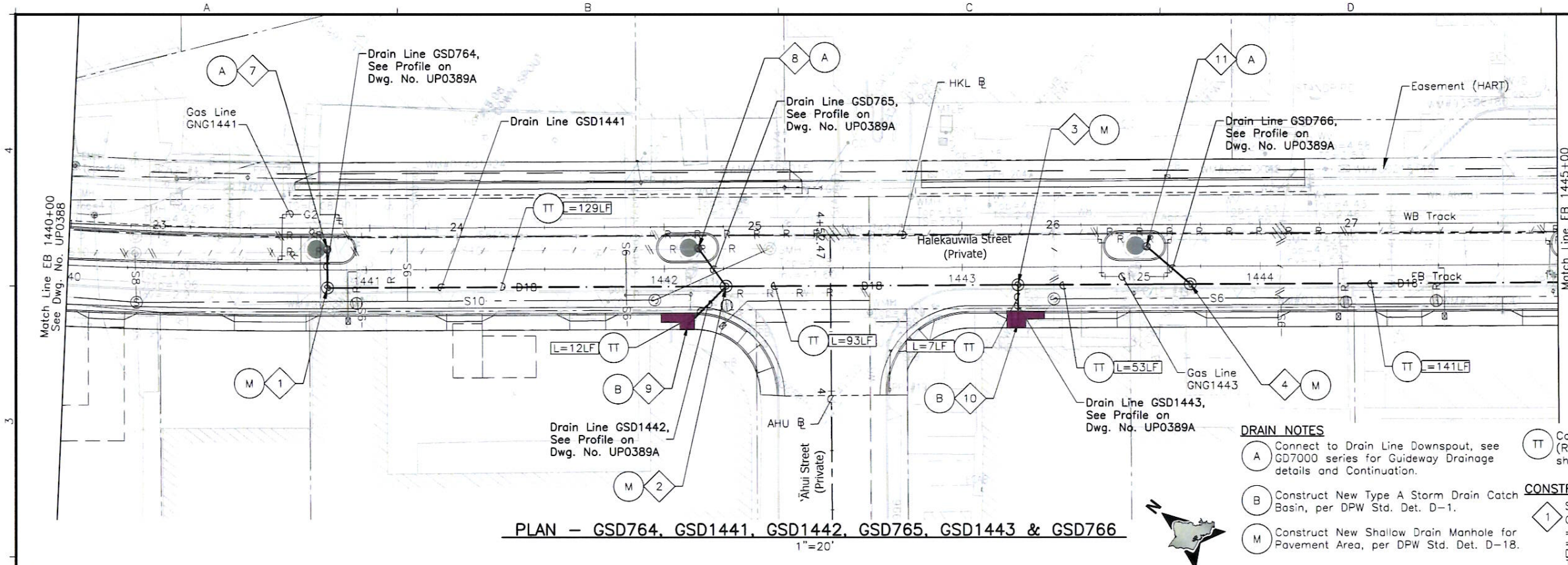
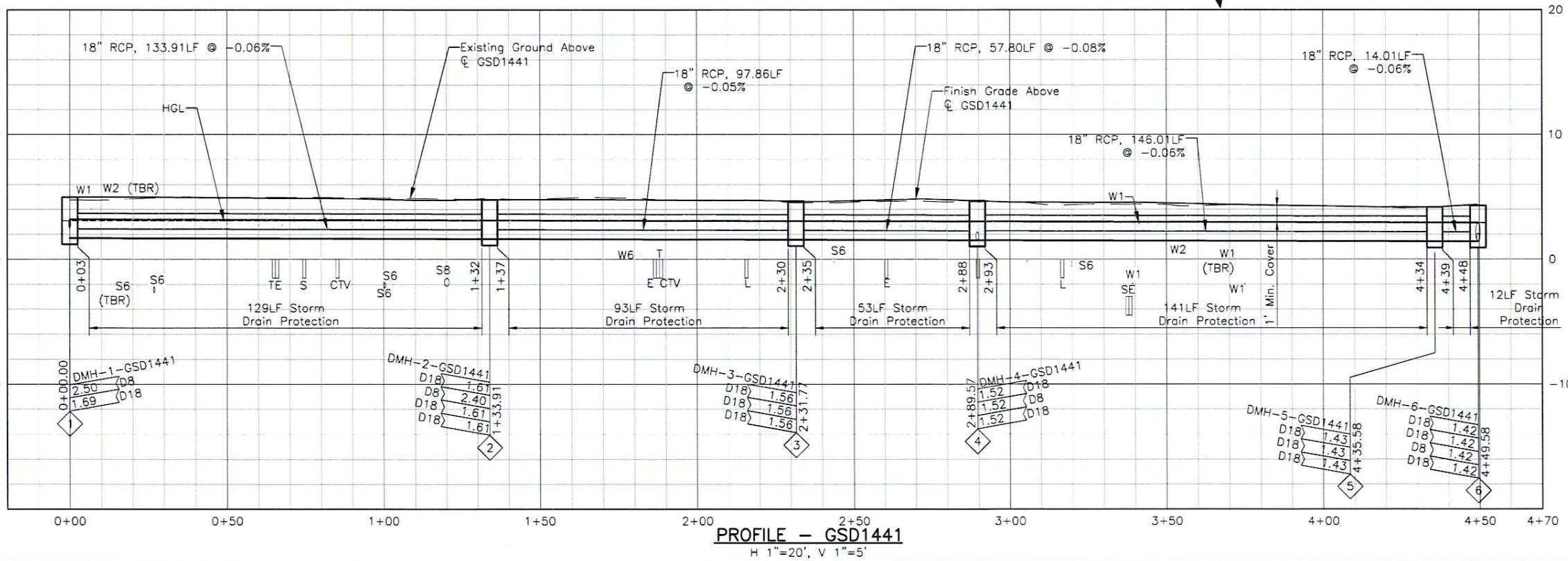


PLAN – GSD764, GSD1441, GSD1442, GSD765, GSD1443 & GSD766

1"=20'



PROFILE – GSD1441

H 1"=20', V 1"=5'

NOTES

1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as–built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

DRAIN NOTES

(A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.

(B) Construct New Type A Storm Drain Catch Basin, per DPW Std. Det. D–1.

(M) Construct New Shallow Drain Manhole for Pavement Area, per DPW Std. Det. D–18.

(TT) Construct Storm Drain Protection Detail (Reinforced Concrete Protection), see sheet UP0604.

CONSTRUCTION NOTES

1. STA 23+56.37 HKL ℄, O/S 17.01' RT =0+00.00 GSD1441 =0+12.88 GSD764 DMH–1–GSD1441 T=4.97± Inv.=2.50 (8" in) Inv.=1.69 (18" out)
2. STA 24+90.27 HKL ℄, O/S 17.04' RT =1+33.91 GSD1441 =0+18.47 GSD1442 =0+15.82 GSD765 DMH–2–GSD1441 T=4.76± Inv.=1.61 (18" in) Inv.=2.40 (8" in) Inv.=1.61 (18" in) Inv.=1.61 (18" out)
3. STA 25+88.13 HKL ℄, O/S 17.02' RT =2+31.77 GSD1441 DMH–3–GSD1441 T=4.64 Inv.=1.56 (18" in) Inv.=1.56 (18" in) Inv.=1.56 (18" out)
4. STA 26+45.93 HKL ℄, O/S 17.01' RT =2+89.57 GSD1441 =0+19.28 GSD766 DMH–4–GSD1441 T=4.66± Inv.=1.52 (18" in) Inv.=1.52 (8" in) Inv.=1.52 (18" out)
5. STA 27+91.94 HKL ℄, O/S 17.01' RT =4+35.58 GSD1441 DMH–5–GSD1441 T=4.16 Inv.=1.43 (18" in) Inv.=1.43 (18" in) Inv.=1.43 (18" out)
6. STA 28+00.29 HKL ℄, O/S 5.76' RT =4+49.58 GSD1441 DMH–6–GSD1441 T=4.29 Inv.=1.42 (18" in) Inv.=1.42 (18" in) Inv.=1.42 (8" in) Inv.=1.42 (18" out) Connect to D18 (Exist) End Storm Drain Protection
7. STA 23+56.37 HKL ℄, O/S 4.13' RT =0+00.00 GSD764 DS–PIER764 T=3.38 Inv.=2.63 (8" out)
8. STA 24+80.93 HKL ℄, O/S 4.27' RT =1+24.56 GSD1441 =0+00.00 GSD765 DS–PIER765 T=5.08± Inv.=2.56 (8" out)
9. STA 24+77.19 HKL ℄, O/S 30.07' RT =0+00.00 GSD1442 CB–1–GSD1442 T=5.05 Inv.=1.70 (18" out)
10. STA 25+88.14 HKL ℄, O/S 29.51' RT =0+00.00 GSD1443 CB–1–GSD1443 T=4.96 Inv.=1.62 (18" out)
11. STA 26+31.41 HKL ℄, O/S 4.32' RT =0+00.00 GSD766 DS–PIER766 T=4.87 Inv.=1.69 (8" out)

20' 0' 20 H

5' 0' 5' V

Rev	By	Date	Description
0	KO	09–02–14	Final Design – Issued for Bid

BARRY K. MURANAKA LICENSED PROFESSIONAL ENGINEER No.8418–C HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09–02–14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM, 1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1440+00 TO EB 1445+00

Contract No.: RFB–HRT–767302
File: ACG–D03–UP0389
Drawing No.: UP0389 Rev.: 0
Scale: AS SHOWN
Page No.: 366 of 1275

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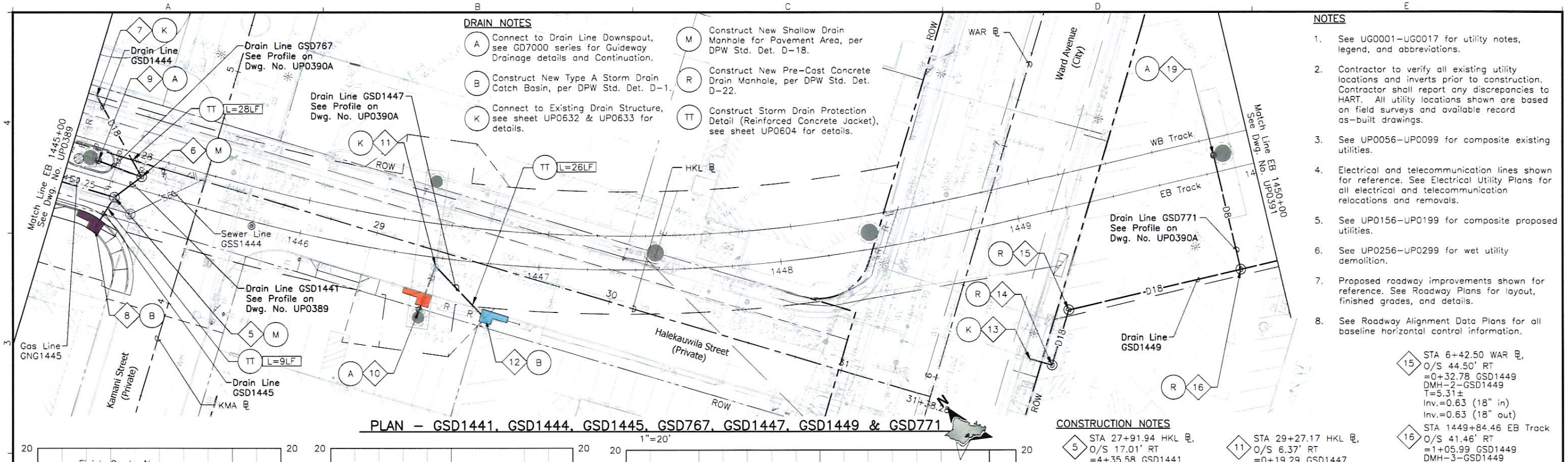
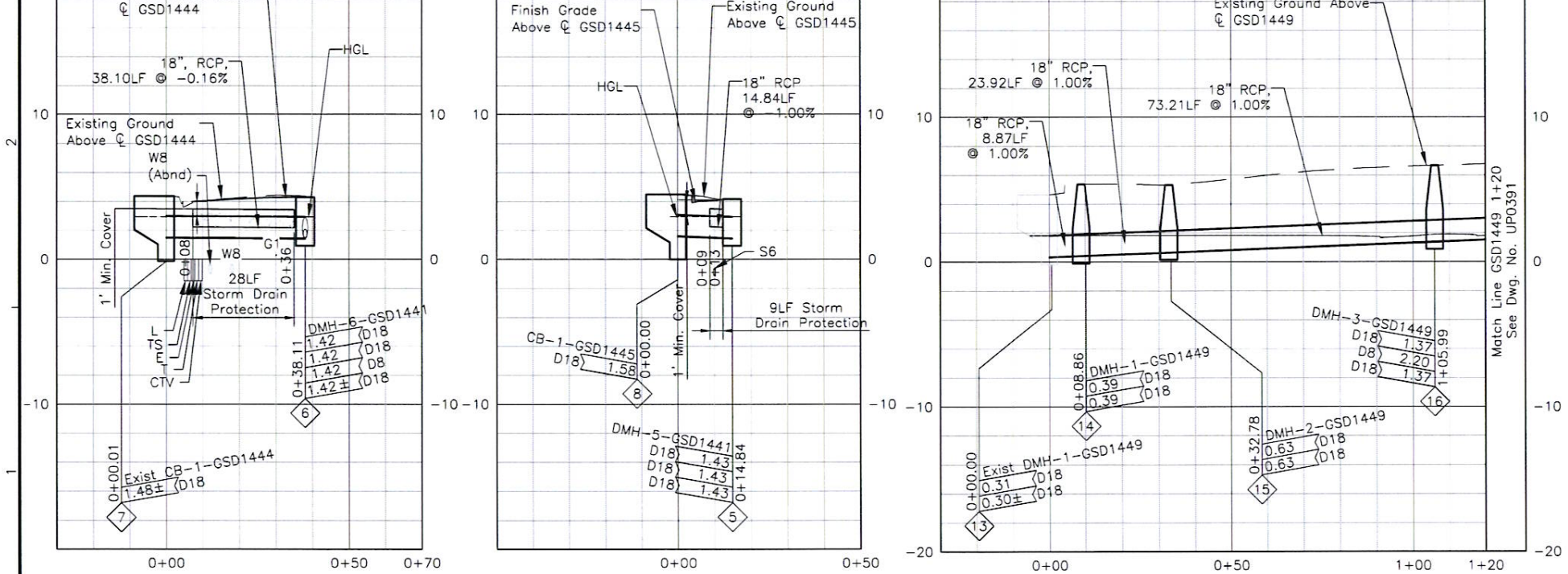


PLAN – GSD1441, GSD1444, GSD1445, GSD767, GSD1447, GSD1449 & GSD771

1"=20'



PROFILE – GSD1444
H 1"=20', V 1"=5'

PROFILE – GSD1445
H 1"=20', V 1"=5'

PROFILE – GSD1449
H 1"=20', V 1"=5'

NOTES

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8. See Roadway Alignment Data Plans for all baseline horizontal control information.

CONSTRUCTION NOTES

5 STA 27+91.94 HKL ℄, O/S 17.01' RT
=4+35.58 GSD1441
DMH–5–GSD1441
T=4.16
Inv.=1.43 (18" in)
Inv.=1.43 (18" in)
Inv.=1.43 (18" out)

6 STA 28+00.29 HKL ℄, O/S 5.76' RT
=4+49.58 GSD1441
DMH–5–GSD1441
T=4.29±
Inv.=1.42 (18" in)
Inv.=1.42 (18" in)
Inv.=1.42 (8" in)
Inv.=1.42 (18" out)
Connect to D18(Exist)

7 STA 27+73.16 HKL ℄, O/S 20.99' LT
=0+00.01 GSD1444
Exist CB–1–GSD1444
T=4.36
Inv.=1.48±(18" out)

8 STA 27+87.95 HKL ℄, O/S 31.30' RT
=0+00.00 GSD1445
CB–1–GSD1445
T=4.49±
Inv.=1.58 (18" out)

9 STA 27+81.36 HKL ℄, O/S 4.36' RT
=0+00.00 GSD767
DS–PIER767
T=4.32±
Inv.=1.61 (8" out)

10 STA 29+25.74 HKL ℄, O/S 25.61' RT
=0+00.00 GSD1447
DS–PIER768
T=4.19±
Inv.=1.49 (8" out)

11 STA 29+27.17 HKL ℄, O/S 6.37' RT
=0+19.29 GSD1447
Exist DMH–1–GSD1447
T=3.95±
Inv.=1.15 ± (18" in)
Inv.=1.15 (8" in)
Inv.=1.15 ± (18" in)
Inv.=1.15 (18" out)
Connect to DMH (Exist)

12 STA 29+53.06 HKL ℄, O/S 21.44' RT
=0+49.25 GSD1447
CB–1–GSD1447
T=4.03±
Inv.=0.93 (18" in)
Inv.=0.93 (18" out)
Connect to D18 (Exist)

13 STA 6+18.55 WAR ℄, O/S 35.62' RT
=0+00.00 GSD1449
Exist DMH–1–GSD1449
T=4.64±
Inv.=0.31 (18" in)
Inv.=0.30±(18" out)

14 STA 6+18.58 WAR ℄, O/S 44.48' RT
=0+08.86 GSD1449
DMH–1–GSD1449
T=5.36±
Inv.=0.39 (18" in)
Inv.=0.39 (18" out)

15 STA 6+42.50 WAR ℄, O/S 44.50' RT
=0+32.78 GSD1449
DMH–2–GSD1449
T=5.31±
Inv.=0.63 (18" in)
Inv.=0.63 (18" out)

16 STA 1449+84.46 EB Track O/S 41.46' RT
=1+05.99 GSD1449
DMH–3–GSD1449
T=6.65±
Inv.=1.37 (18" in)
Inv.=2.20 (8" in)
Inv.=1.37 (18" out)

17 STA 1450+94.46 EB Track O/S 41.45' RT
=2+15.99 GSD1449
DMH–4–GSD1449
T=7.15±
Inv.=2.47 (18" in)
Inv.=3.30 (8" in)
Inv.=2.47 (18" out)

18 STA 1452+04.46 EB Track O/S 41.45' RT
=3+25.99 GSD1449
DMH–5–GSD1449
T=7.24±
Inv.=3.29 (8" in)
Inv.=3.29 (18" out)

19 STA 1449+84.46 EB Track O/S 7.04' LT
=0+00.00 GSD771
DS–PIER771
T=6.33±
Inv.=3.17 (8" out)

20 STA 1450+94.46 EB Track O/S 7.05' LT
=0+00.00 GSD772
DS–PIER772
T=7.42±
Inv.=4.27 (8" out)

21 STA 1452+04.46 EB Track O/S 7.05' LT
=0+00.00 GSD773
DS–PIER773
T=7.13±
Inv.=4.26 (8" out)

H 20' 0' 20' 5' 0' 5' V

Rev	By	Date	Description
0	KO	09–02–14	Final Design – Issued for Bid

BARRY K. MURANAKA LICENSED PROFESSIONAL ENGINEER No.8418–C HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
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Checked: T Cho
Approved: B Muranaka
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HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1445+00 TO EB 1450+00

Contract No.: RFB–HRT–767302
File: ACG–D03–UP0390
Drawing No.: UP0390 Rev. 0
Scale: AS SHOWN
Page No. 368 of 1275

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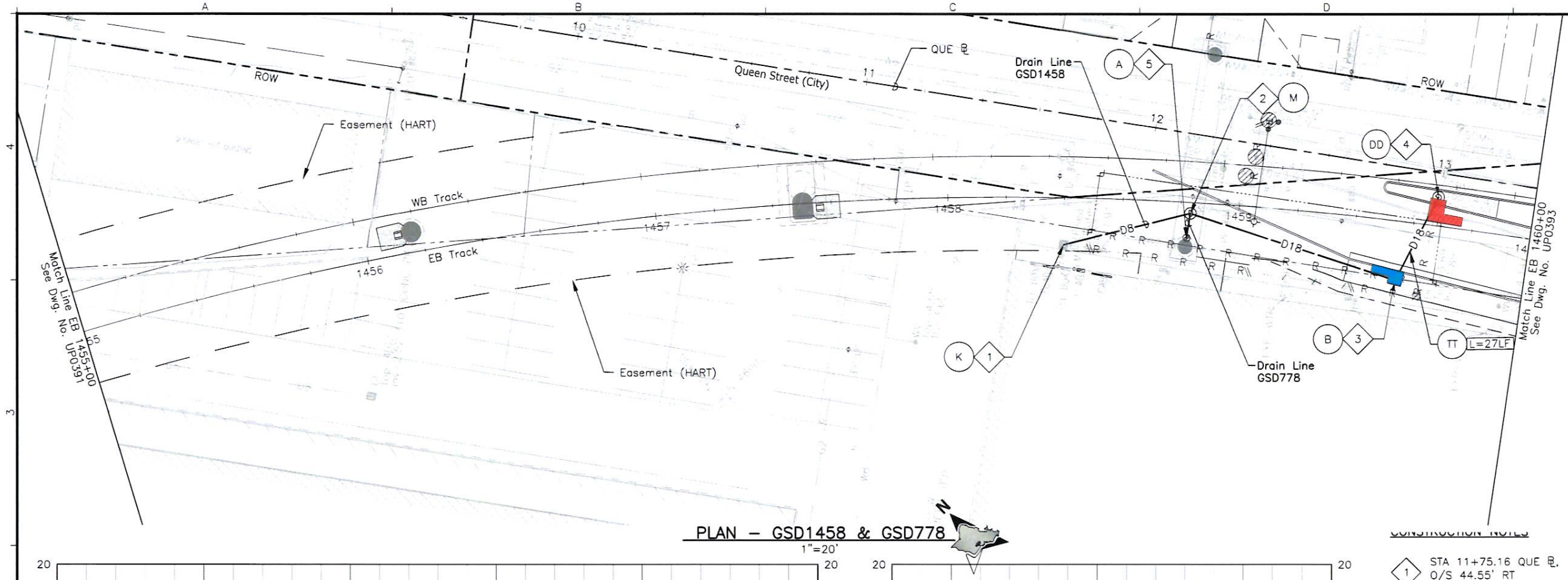

PLAN – GSD1458 & GSD778
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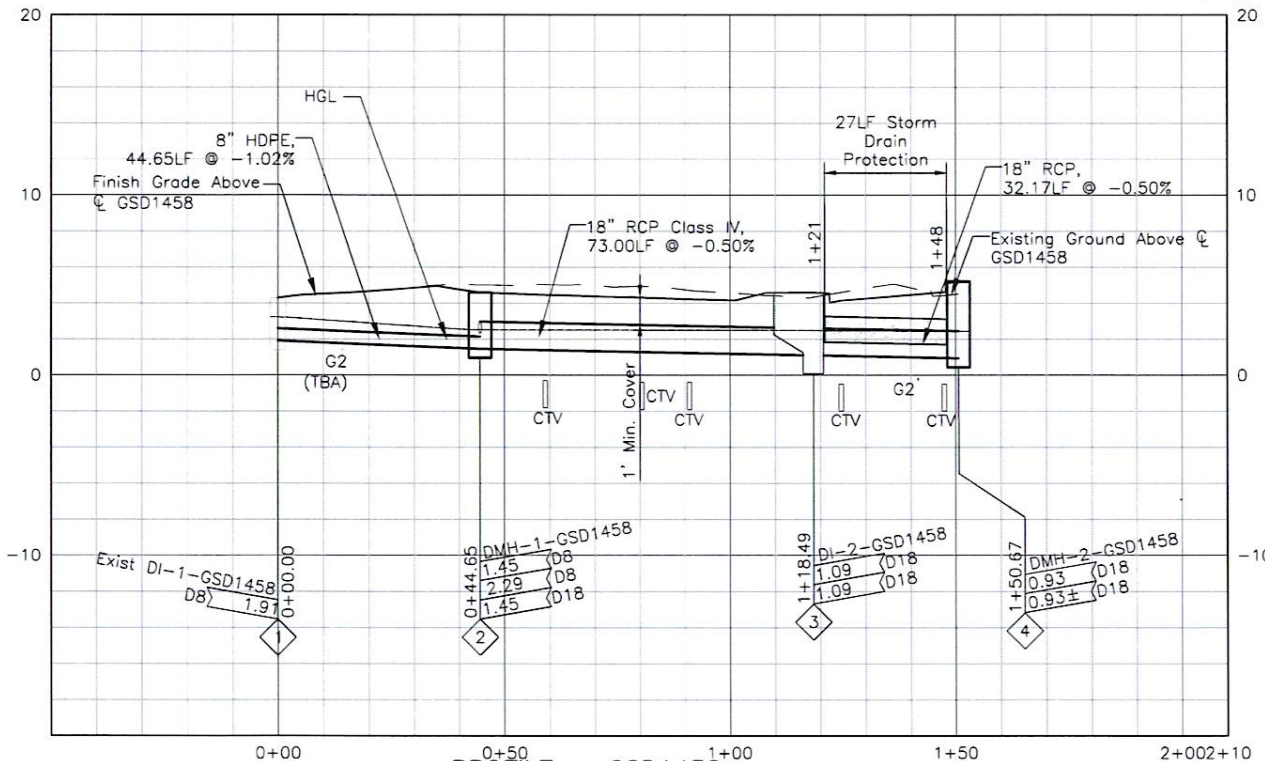
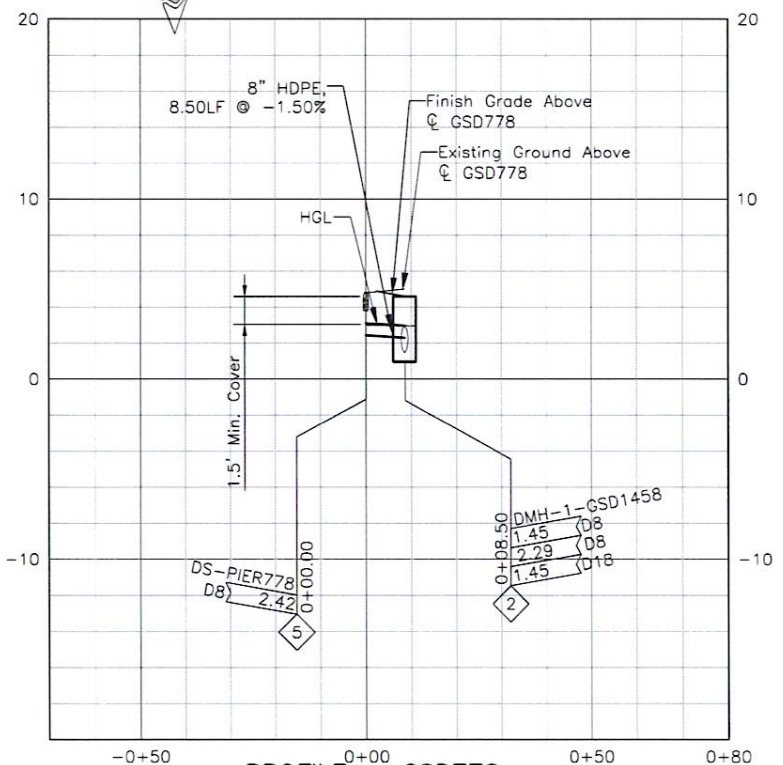


PROFILE – GSD1458
H 1"=20', V 1"=5'



PROFILE – GSD778
H 1"=20', V 1"=5'

CONSTRUCTION NOTES

1. STA 11+75.16 QUE ℄, O/S 44.55' RT =0+00.00 GSD1458 Exist DI−1−GSD1458 T=4.28± Inv.=1.91 (8" out) Connect to DI (Exist)
2. STA 12+16.28 QUE ℄, O/S 27.14' RT =0+44.65 GSD1458 =0+08.50 GSD778 DMH−1−GSD1458 T=4.57± Inv.=1.45 (8" in) Inv.=2.29 (8" in) Inv.=1.45 (18" out)
3. STA 12+89.20 QUE ℄, O/S 38.78' RT =1+18.49 GSD1458 DI−2−GSD1458 T=4.58± Inv.=1.09 (18" in) Inv.=1.09 (18" out)
4. STA 12+99.48 QUE ℄, O/S 8.29' RT =1+50.67 GSD1458 DMH−2−GSD1458 T=5.21± Inv.=0.93 (18" in) Inv.=0.93±(18" out) Connect to D18 (Exist)
5. STA 12+16.27 QUE ℄, O/S 35.64' RT =0+00.00 GSD778 DS−PIER778 T=4.80± Inv.=2.42 (8" out)

NOTES

1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as–built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

DRAIN NOTES

- (A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.
- (B) Construct New Type A Storm Drain Catch Basin, per DPW Std. Det. D–1.
- (K) Connect to Existing Drain Structure, see sheet UP0632 & UP0633 for details.
- (M) Construct New Shallow Drain Manhole for Pavement Area, per DPW Std. Det. D–18.
- (DD) Construct New Shallow Drain Manhole for Sidewalk Area, per DPW Std. Det. D–17.
- (TT) Construct Storm Drain Protection Detail (Reinforced Concrete Jacket), see sheet UP0604 for details.

H 20' 0' 20'
V 5' 0' 5'

Rev	By	Date	Description
0	KO	09–02–14	Final Design – Issued for Bid

BARRY K. MURANAKA LICENSED PROFESSIONAL ENGINEER No.8418–C HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09–02–14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

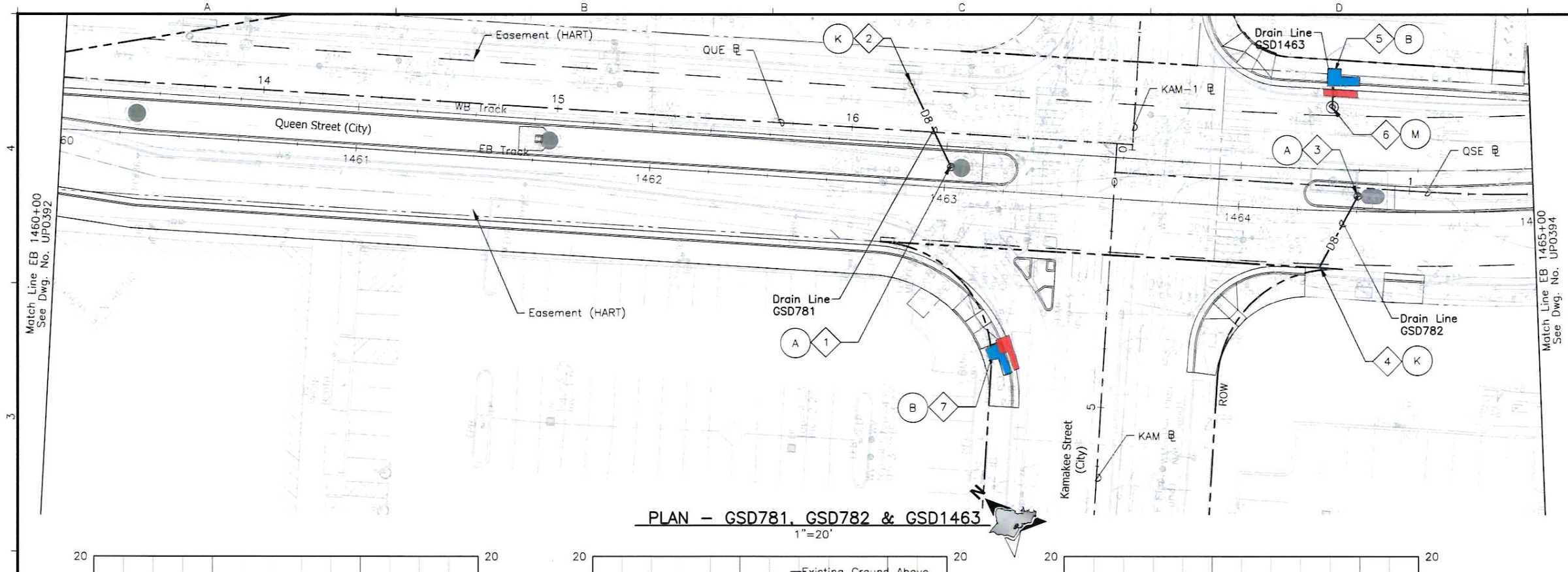
AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

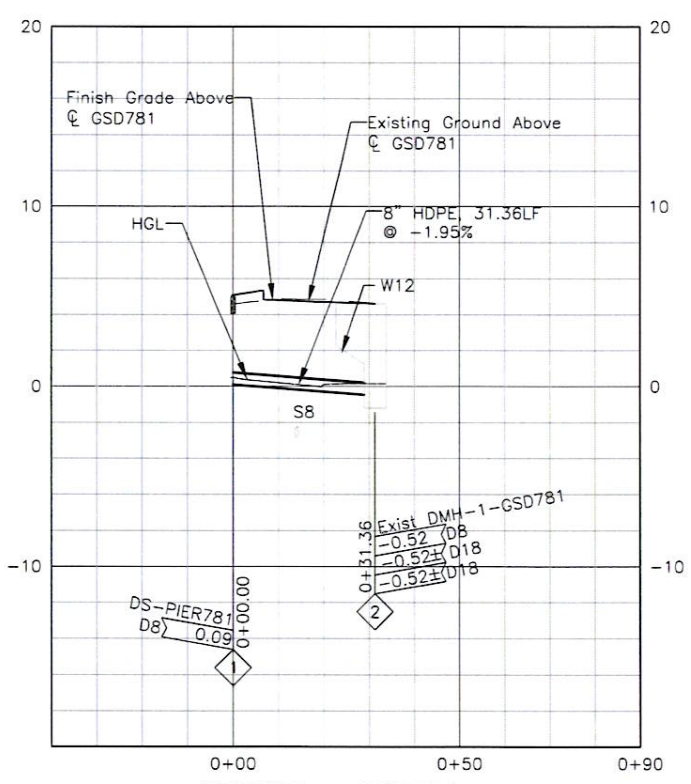
EB 1455+00 TO EB 1460+00

Contract No.: RFB–HRT–767302
File: ACG–D03–UP0392
Drawing No: UP0392 Rev. 0
Scale: AS SHOWN
Page No. 370 of 1275

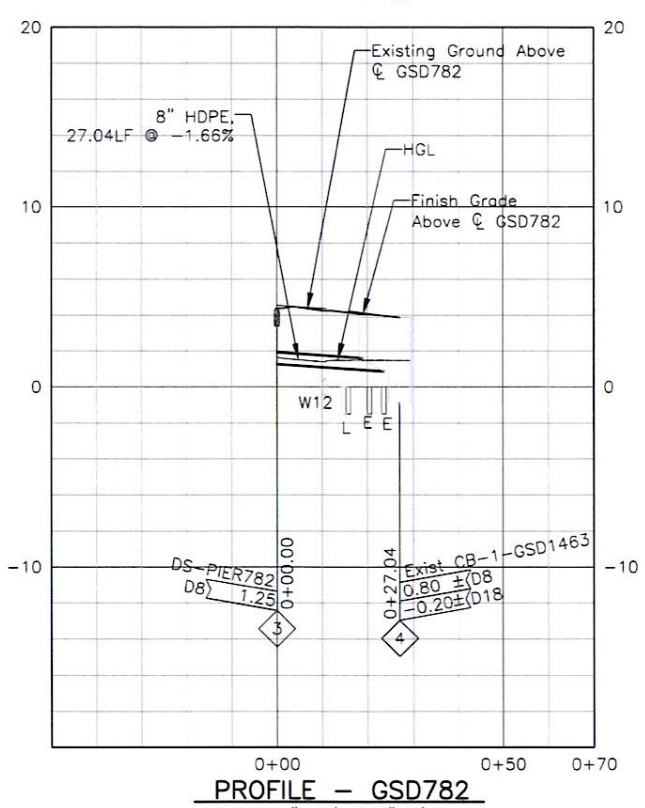
8/23/2014 6:13 AM P:\USIG\Civil\Oahu\60272002 HRTP CC\400 Technical Information_DWG\Sheets\Volume 2\D03–Utility Relocation Plan and Profiles\ACG–D03–UP0392.dwg



PLAN – GSD781, GSD782 & GSD1463
1"=20'



PROFILE – GSD781
H 1"=20', V 1"=5'



PROFILE – GSD782
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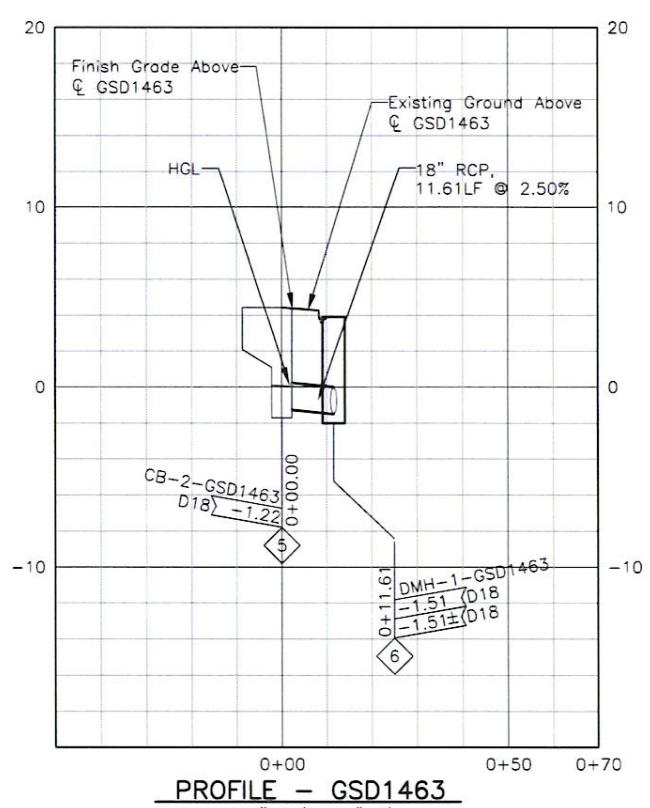

PROFILE – GSD1463
H 1"=20', V 1"=5'

NOTES

1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as–built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

DRAIN NOTES

(A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.

(B) Construct New Type A Storm Drain Catch Basin per DPW Std. Det. D–1

(K) Connect to Existing Drain Structure, see sheet UP0632 & UP0633 for details.

(M) Construct New Shallow Drain Manhole for Pavement Area, per DPW Std. Det. D–18.

CONSTRUCTION NOTES

(1) STA 16+34.26 QUE ℄, O/S 11.47' RT
=0+00.00 GSD781
DS–PIER781
T=5.07±
Inv.=0.09 (8" out)

(2) STA 16+19.20 QUE ℄, O/S 16.03' LT
=0+31.36 GSD781
Exist DMH–1–GSD781
T=4.60±
Inv.=–0.52 (8" in)
Inv.=–0.52±(18" in)
Inv.=–0.52±(18" out)
Connect to CB (Exist)

(3) STA 0+82.54 QSE ℄, O/S 2.89' RT
=0+00.00 GSD782
DS–PIER782
T=4.36±
Inv.=1.25 (8" out)

(4) STA 0+71.25 QSE ℄, O/S 27.45' RT
=0+27.04 GSD782
Exist CB–1–GSD1463
T=3.86±
Inv.=0.80 (8" in)
Inv.=–0.20±(18" out)
Connect to CB (Exist)

(5) STA 0+72.07 QSE ℄, O/S 38.27' LT
=0+00.00 GSD1463
CB–2–GSD1463
T=4.42
Inv.=–1.22 (18" out)

(6) STA 0+72.10 QSE ℄, O/S 26.65' LT
=0+11.61 GSD1463
DMH–1–GSD1463
T=3.88
Inv.=–1.51±(18" in)
Inv.=–1.51 (18" out)
Connect to D24 (Exist)

(7) STA 16+52.43 QUE ℄, O/S 73.03' RT
CB–1–GSD1463
T=3.77
Inv.=0.61± (18" out)
Connect to D18 (Exist)

20' 0' 20'
H

5' 0' 5'
V

Rev	By	Date	Description
0	KO	09–02–14	Final Design – Issued for Bid

BARRY K. MURANAKA LICENSED PROFESSIONAL ENGINEER No.8418–C HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature
April 30, 2016
Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09–02–14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1460+00 TO EB 1465+00

Contract No.: RFB–HRT–767302
File: ACG–D03–UP0393
Drawing No.: UP0393 Rev. 0
Scale: AS SHOWN
Page No. 371 of 1275

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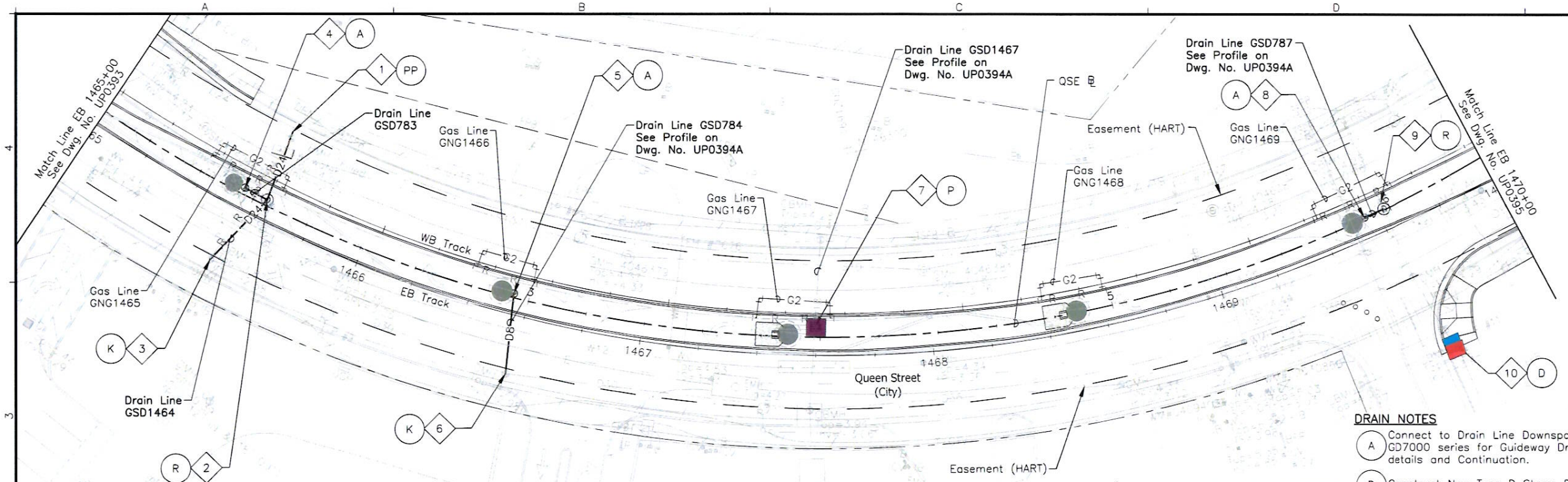
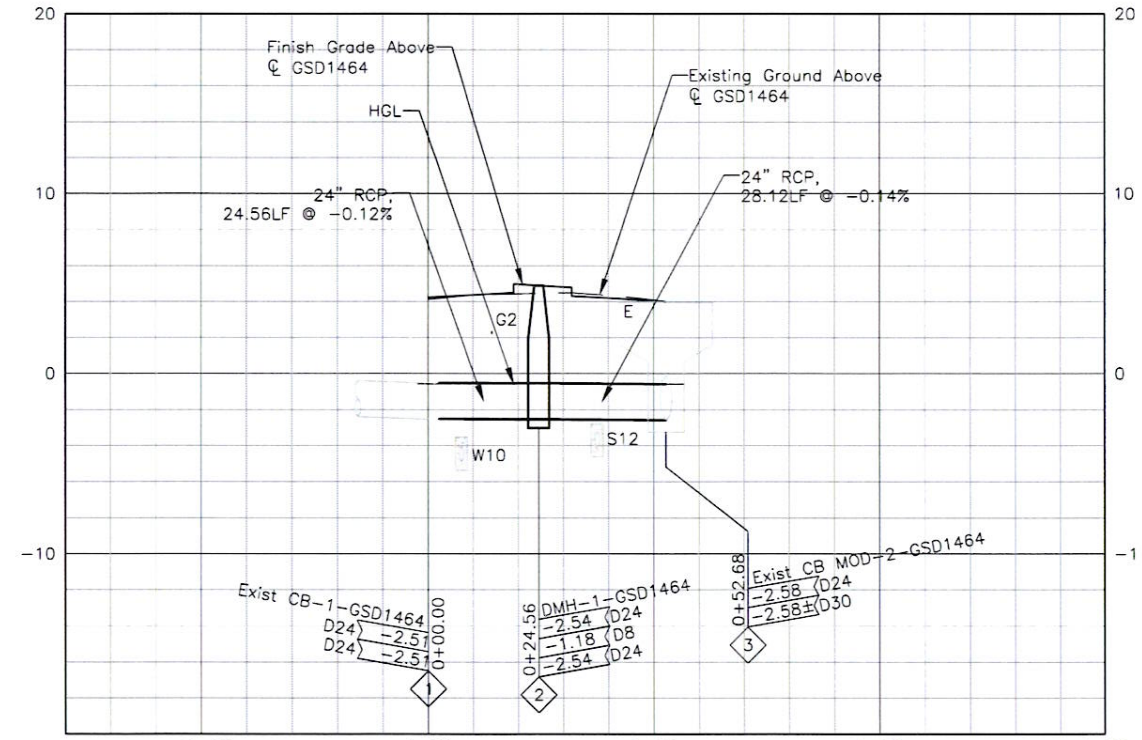


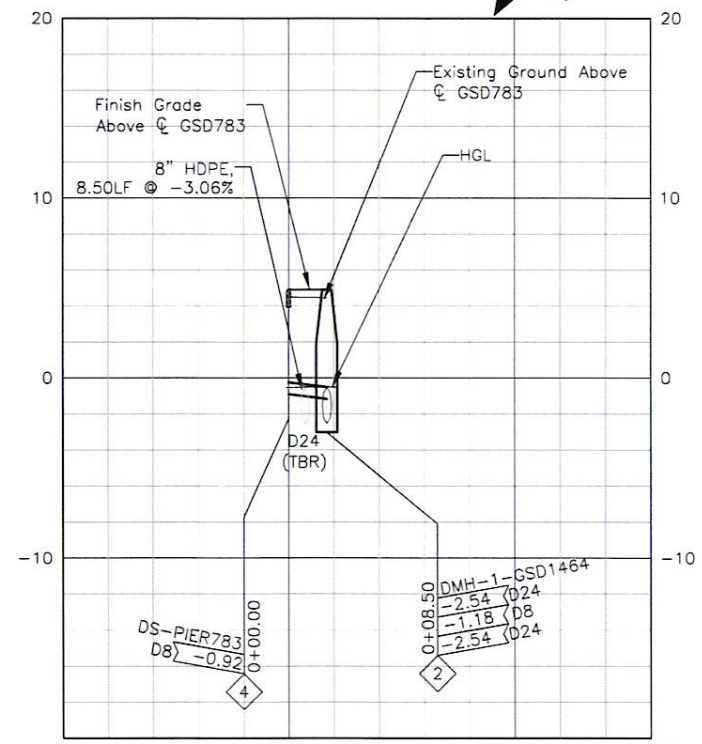
PLAN – GSD1464, GSD783, GSD784, GSD1467, & GSD787

1"=20'



PROFILE – GSD1464

H 1"=20', V 1"=5'



PROFILE – GSD783

H 1"=20', V 1"=5'

NOTES

1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as–built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

DRAIN NOTES

- (A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.
- (D) Construct New Type D Storm Drain Catch Basin, per DPW Std. Det. D–11.
- (E) Construct New Type E Storm Drain Catch Basin, per DPW Std. Det. D–3.
- (K) Connect to Existing Drain Structure, see sheet UP0632 & UP0633 for details.
- (P) Construct New Type 1A–9 Grated Drop Inlet with Type A–9P Steel Grate, per HDOT Std. Plan No. H–08 & H–11.
- (R) Construct New Pre–Cast Concrete Drain Manhole, per DPW Std. Det. D–22.
- (PP) Exist CB MOD See Sheets UP0708 through UP0711.

CONSTRUCTION NOTES

1. STA 2+01.65 QSE ℄, O/S 26.38' LT
   =0+00.00 GSD1464
   Exist CB–1–GSD1464
   T=4.21
   Inv.=−2.51±(24" in)
   Inv.=−2.51 (24" out)
   Connect to CBMH (Exist)
2. STA 2+04.39 QSE ℄, O/S 1.96' LT
   =0+24.56 GSD1464
   DMH–1–GSD1464
   T=4.89
   Inv.=−2.54 (24" in)
   Inv.=−1.18 (8" in)
   Inv.=−2.54 (24" out)
3. STA 1+96.56 QSE ℄, O/S 24.99' RT
   =0+52.68 GSD1464
   Exist CB MOD–2–GSD1464
   T=3.96±
   Inv.=−2.58±(24" in)
   Inv.=−2.58 (30" out)
   Connect to CBMH (Exist)
4. STA 1+95.85 QSE ℄, O/S 2.22' LT
   =0+00.00 GSD783
   DS–PIER783
   T=4.91±
   Inv.=−0.92 (8" out)
5. STA 2+94.60 QSE ℄, O/S 1.37' LT
   =0+00.00 GSD784
   DS–PIER784
   T=5.23
   Inv.=−2.43 (8" out)
6. STA 2+98.30 QSE ℄, O/S 25.75' RT
   =0+27.38 GSD784
   Exist DMH–1–GSD784
   T=4.37
   Inv.=−2.98 (8" in)
   Inv.=−2.98 ± (30" in)
   Inv.=−2.98 ± (30" out)
   Connect to DMH (Exist)
7. STA 3+98.17 QSE ℄, O/S 3.53' LT
   =0+29.81 GSD1467
   DI–1–GSD1467
   T=4.79
   Inv.=−1.79 ± (18" in)
   Inv.=−1.79 ± (18" out)
   Connect to D18 (Exist.)
8. STA 5+90.71 QSE ℄, O/S 0.46' LT
   =0+00.00 GSD787
   DS–PIER787
   T=4.84
   Inv.=−1.53 (8" out)
9. STA 5+97.86 QSE ℄, O/S 0.35' LT
   =0+07.15 GSD787
   DMH–1–GSD787
   T=4.82
   Inv.=−1.71±(18" in)
   Inv.=−1.71 (8" in)
   Inv.=−1.71±(18" out)
   Connect to D18 (Exist)
10. STA 5+99.48 QSE ℄, O/S 51.49' RT
    CB–3–GSD1469
    T=4.06±
    Inv.=−3.45±(18" in)
    Inv.=−3.45±(18" out)
    Connect to D18 (Exist)

H 20' 0' 20' V 5' 0' 5'

Rev	By	Date	Description
0	KO	09–02–14	Final Design – Issued for Bid

BARRY K. MURANAKA LICENSED PROFESSIONAL ENGINEER No.8418–C HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09–02–14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM, 1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1465+00 TO EB 1470+00

Contract No.: RFB–HRT–767302
File: ACG–D03–UP0394
Drawing No.: UP0394 Rev. 0
Scale: AS SHOWN
Page No. 372 of 1275

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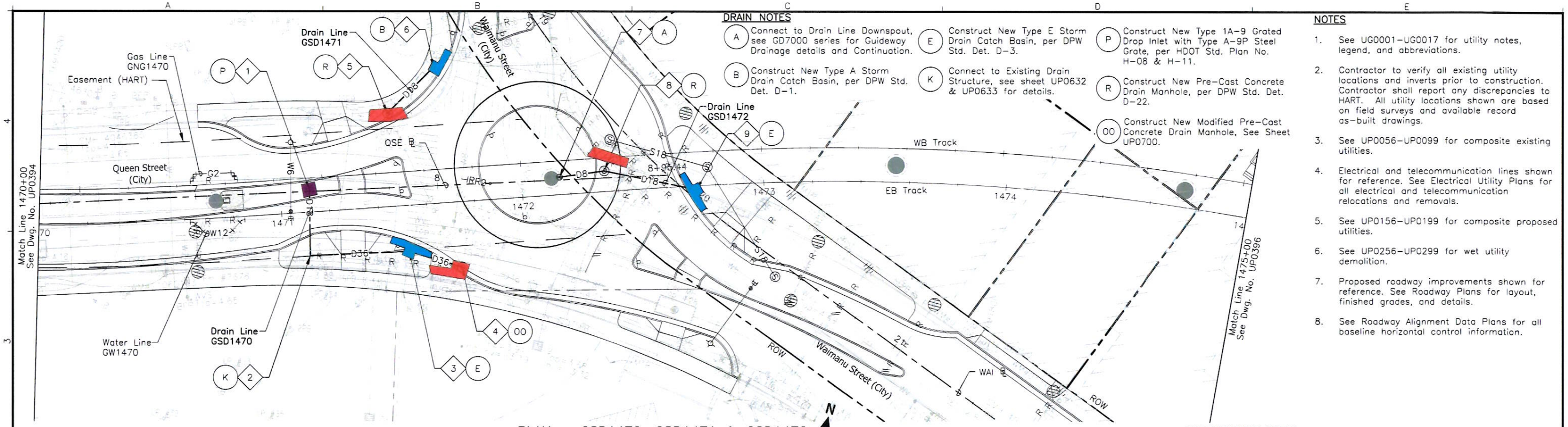
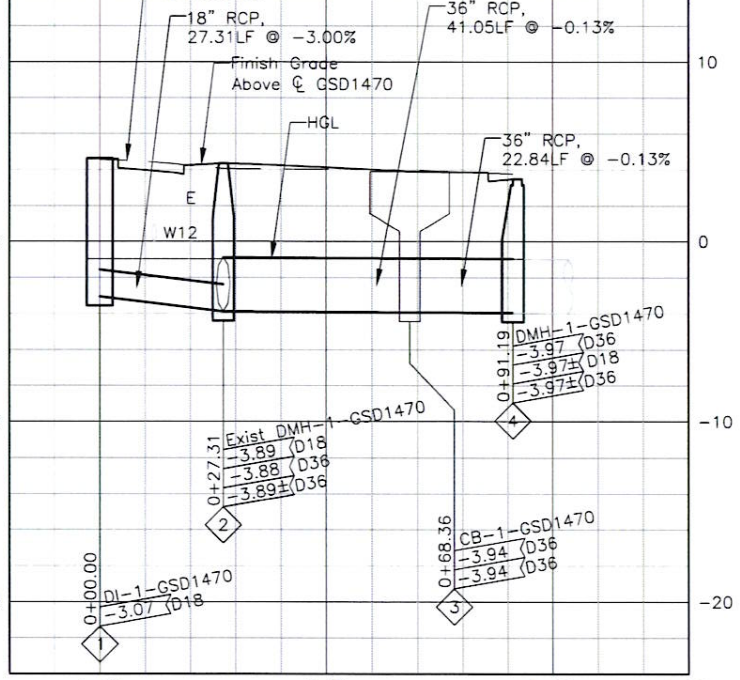


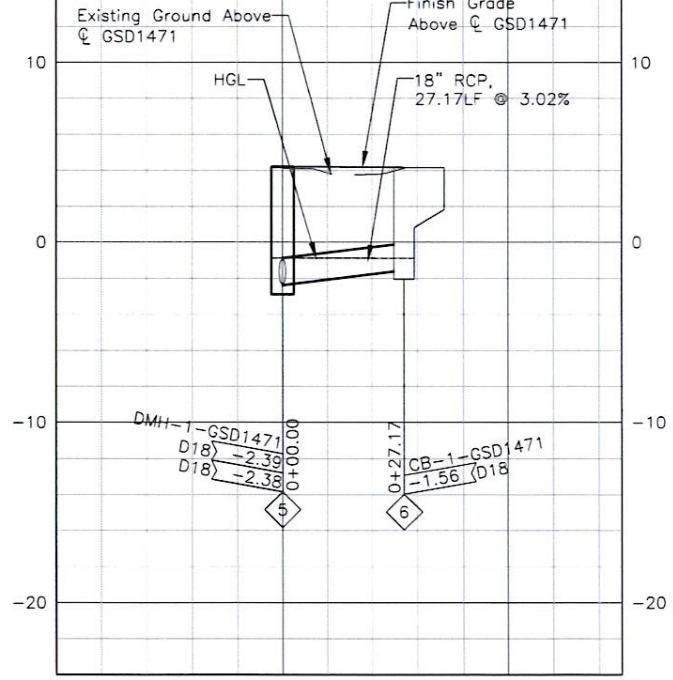
PLAN – GSD1470, GSD1471 & GSD1472

1"=20'



PROFILE – GSD1470

H 1"=20', V 1"=5'



PROFILE – GSD1471

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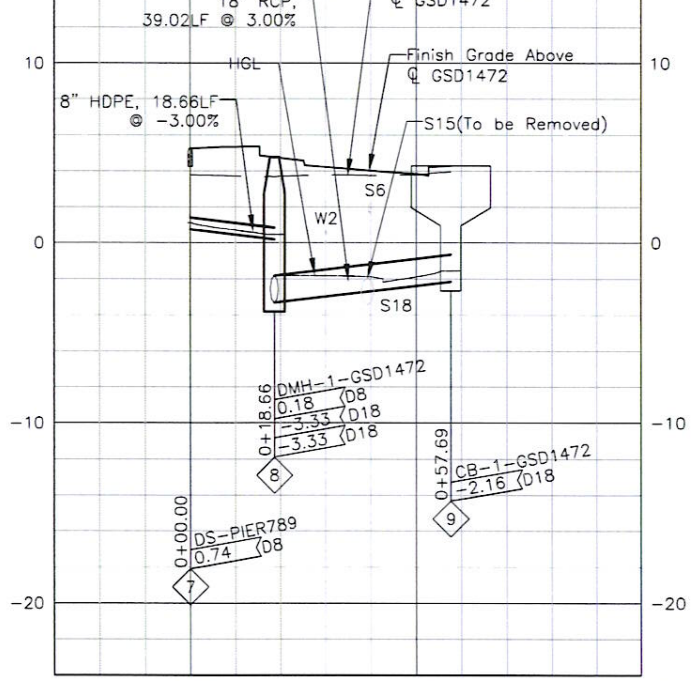

PROFILE – GSD1472

H 1"=20', V 1"=5'

DRAIN NOTES

- (A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.
- (B) Construct New Type A Storm Drain Catch Basin, per DPW Std. Det. D-1.
- (E) Construct New Type E Storm Drain Catch Basin, per DPW Std. Det. D-3.
- (K) Connect to Existing Drain Structure, see sheet UP0632 & UP0633 for details.
- (P) Construct New Type 1A-9 Grated Drop Inlet with Type A-9P Steel Grate, per HDOT Std. Plan No. H-08 & H-11.
- (R) Construct New Pre-Cast Concrete Drain Manhole, per DPW Std. Det. D-22.
- (00) Construct New Modified Pre-Cast Concrete Drain Manhole, See Sheet UP0700.

NOTES

1. See UG0001-UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as-built drawings.
3. See UP0056-UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156-UP0199 for composite proposed utilities.
6. See UP0256-UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

CONSTRUCTION NOTES

1. STA 7+46.98 QSE ℄, O/S 0.71' LT
   =0+00.00 GSD1470
   DI-1-GSD1470
   T=4.62
   Inv.=-3.07 (18" out)
2. STA 7+46.02 QSE ℄, O/S 26.58' RT
   =0+27.31 GSD1470
   Exist DMH-1-GSD1470
   T=4.34
   Inv.=-3.89 (18" in)
   Inv.=-3.88± (36" in)
   Inv.=-3.89 (36" out)
   Connect to DMH (Exist)
3. STA 7+87.08 QSE ℄, O/S 26.67' RT
   =0+68.36 GSD1470
   CB-1-GSD1470
   T=3.89
   Inv.=-3.94 (36" in)
   Inv.=-3.94 (36" out)
4. STA 8+08.66 QSE ℄, O/S 34.13' RT
   =0+91.19 GSD1470
   DMH-1-GSD1470
   T=3.48±
   Inv.=-3.97 (36" in)
   Inv.=-3.97± (18" in)
   Inv.=-3.97± (36" out)
   Connect to D36 (Exist)
5. STA 7+80.64 QSE ℄, O/S 30.91' LT
   =0+00.00 GSD1471
   DMH-1-GSD1471
   T=4.20
   Inv.=-2.39 (18" in)
   Inv.=-2.38± (18" out)
   Connect to D18 (Exist)
6. STA 8+00.76 QSE ℄, O/S 49.17' LT
   =0+27.17 GSD1471
   CB-1-GSD1471
   T=4.16
   Inv.=-1.56 (18" out)
7. STA 8+50.52 QSE ℄, O/S 1.19' LT
   =0+00.00 GSD1472
   DS-PIER789
   T=5.24
   Inv.=0.74 (8" out)
8. STA 8+69.10 QSE ℄, O/S 2.95' LT
   =0+18.66 GSD1472
   DMH-1-GSD1472
   T=4.76
   Inv.=0.18 (8" in)
   Inv.=-3.33 (18" in)
   Inv.=-3.33± (18" out)
   Connect to D18 (Exist)
9. STA 19+95.65 WAI ℄, O/S 3.28' LT
   =0+57.69 GSD1472
   CB-1-GSD1472
   T=4.29
   Inv.=-2.16 (18" out)

H 20' 0' 20' V 5' 0' 5'

Rev	By	Date	Description
0	KO	09-02-14	Final Design - Issued for Bid

BARRY K. MURANAKA ★ LICENSED PROFESSIONAL ENGINEER No.8418-C ★ HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

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Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09-02-14

HONOLULU RAIL TRANSIT PROJECT
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Prime Consultant: AECOM
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Subconsultant:

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AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1470+00 TO EB 1475+00

Contract No.: RFB-HRT-767302
File: ACG-D03-UP0395
Drawing No: UP0395 Rev. 0
Scale: AS SHOWN
Page No. 374 of 1275

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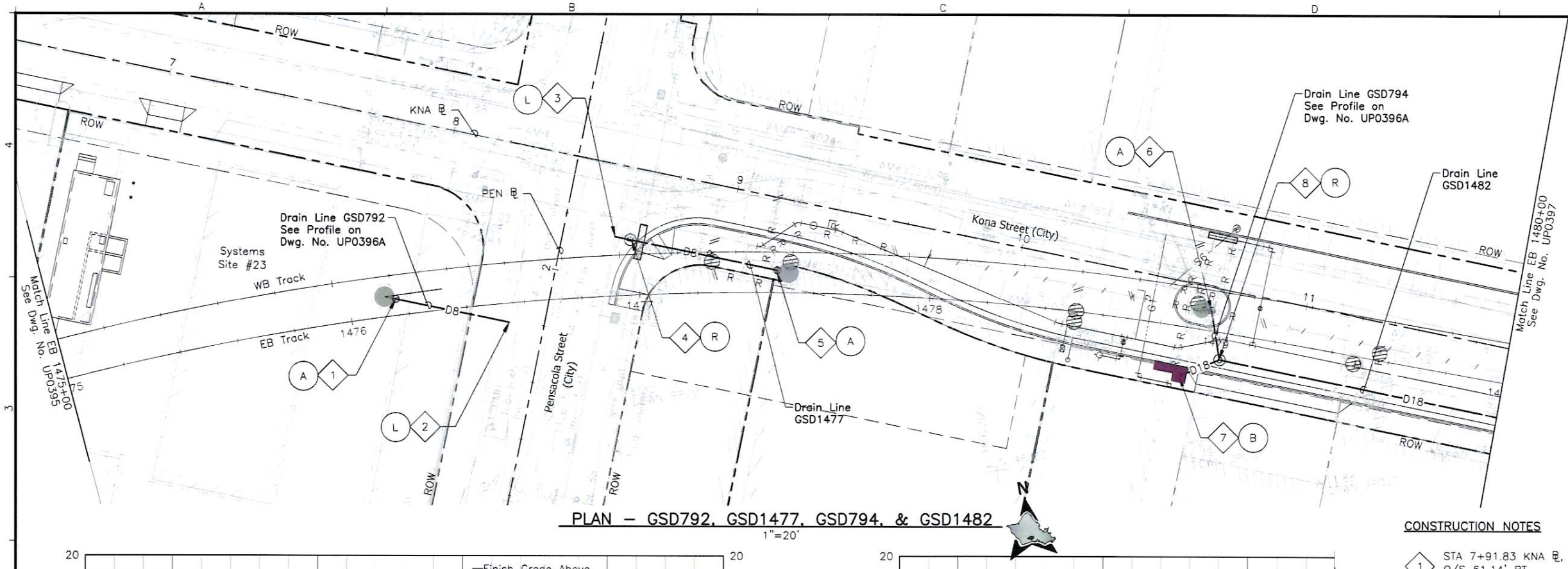

PLAN – GSD792, GSD1477, GSD794, & GSD1482

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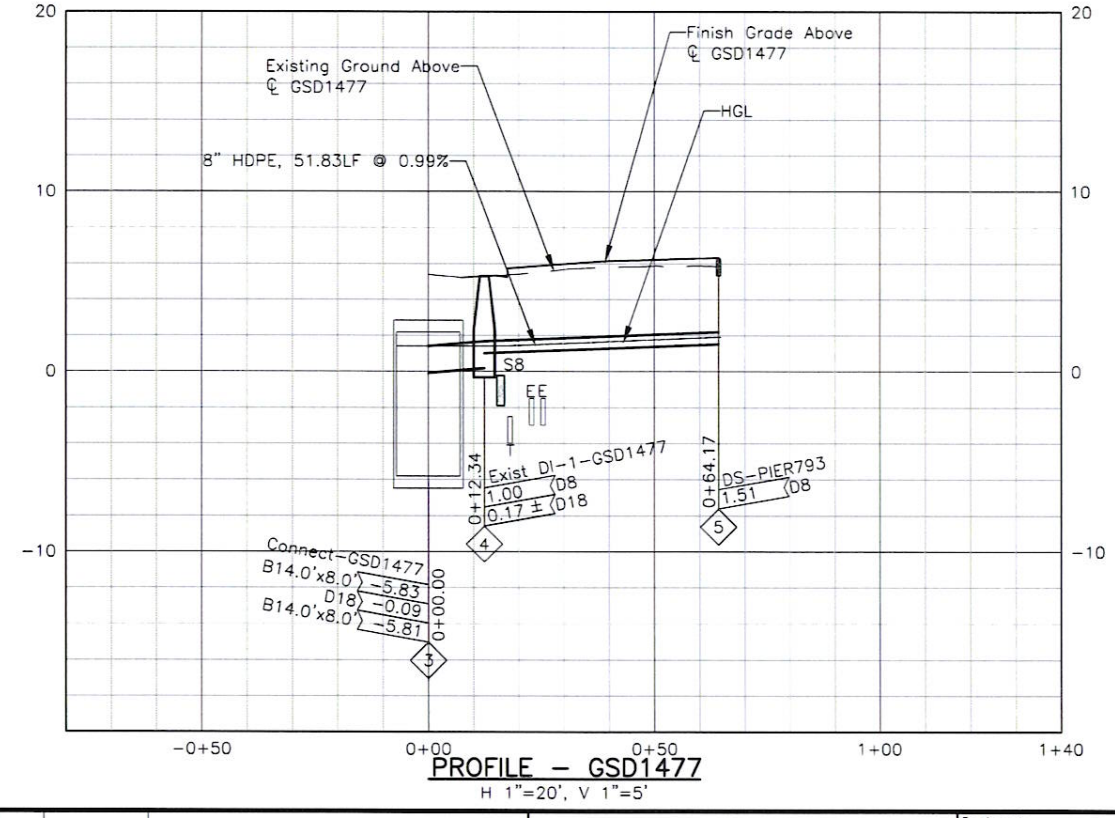
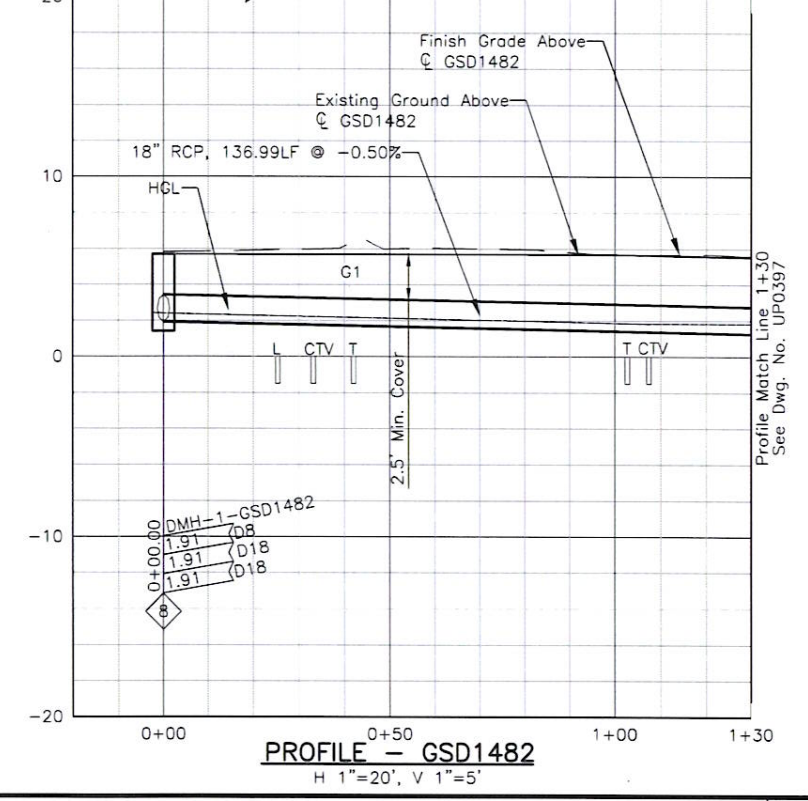


PROFILE – GSD1477

H 1"=20', V 1"=5'



PROFILE – GSD1482

H 1"=20', V 1"=5'

NOTES

1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as–built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

DRAIN NOTES

(A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.

(B) Construct New Type A Storm Drain Catch Basin, per DPW Std. Det. D–1.

(L) Box Drain Connection Detail, See dwg UP0701.

(R) Construct New Pre–cast Concrete Drain Manhole, per DPW Std. Det. D–22.

CONSTRUCTION NOTES

1. STA 7+91.83 KNA ℄, O/S 61.14' RT
   =0+00.00 GSD792
   DS–PIER792
   T=5.20±
   Inv.=1.50 (8" out)
2. STA 8+38.81 KNA ℄, O/S 61.14' RT
   =0+46.97 GSD792
   Connect–GSD792
   T=4.60±
   Inv.=0.70 (8" in)
   Inv.=–4.54 (B14.0'x8.0' i
   Inv.=–4.54 (B14.0'x8.0' o
3. STA 8+54.82 KNA ℄, O/S 24.74' RT
   =0+00.00 GSD1477
   Connect–GSD1477
   T=3.32±
   Inv.=–5.83 (B14.0'x8.0' i
   Inv.=–0.09 (18" in)
   Inv.=–5.81 (B14.0'x8.0' c
4. STA 8+67.16 KNA ℄, O/S 24.74' RT
   =0+12.34 GSD1477
   Exist DI–1–GSD1477
   T=5.29±
   Inv.=1.00 (8" in)
   Inv.=0.17 (18" out)
5. STA 9+18.99 KNA ℄, O/S 24.73' RT
   =0+64.17 GSD1477
   DS–PIER793
   T=6.32±
   Inv.=1.51 (8" out)
6. STA 10+68.33 KNA ℄, O/S 8.11' RT
   =0+00.00 GSD794
   DS–PIER794
   T=6.51±
   Inv.=2.25 (8" out)
7. STA 0+32.30 GSD794 ℄, O/S 0.00'
   =0+32.30 GSD794
   CB–1–GSD795
   T=6.10±
   Inv.=2.30 (18" out)
8. STA 10+74.42 KNA ℄, O/S 24.25' RT
   =0+17.25 GSD794
   DMH–1–GSD1482
   T=5.69±
   Inv.=1.91 (8" in)
   Inv.=1.91 (18" in)
   Inv.=1.91 (18" out)

H 20' 0' 20' V 5' 0' 5'

Rev	By	Date	Description
0	KO	09–02–14	Final Design – Issued for Bid

BARRY K. MURANAKA LICENSED PROFESSIONAL ENGINEER No.8418–C HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09–02–14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

Prime Consultant: AECOM
1001 Bishop Street, Suite 1600 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

AIRPORT & CITY CENTER GUIDEWAY

UTILITY RELOCATION PLAN & PROFILE DRAINAGE

EB 1475+00 TO EB 1480+00

Contract No.: RFB–HRT–767302
File: ACG–D03–UP0396
Drawing No.: UP0396 Rev. 0
Scale: AS SHOWN
Page No. 375 of 1275

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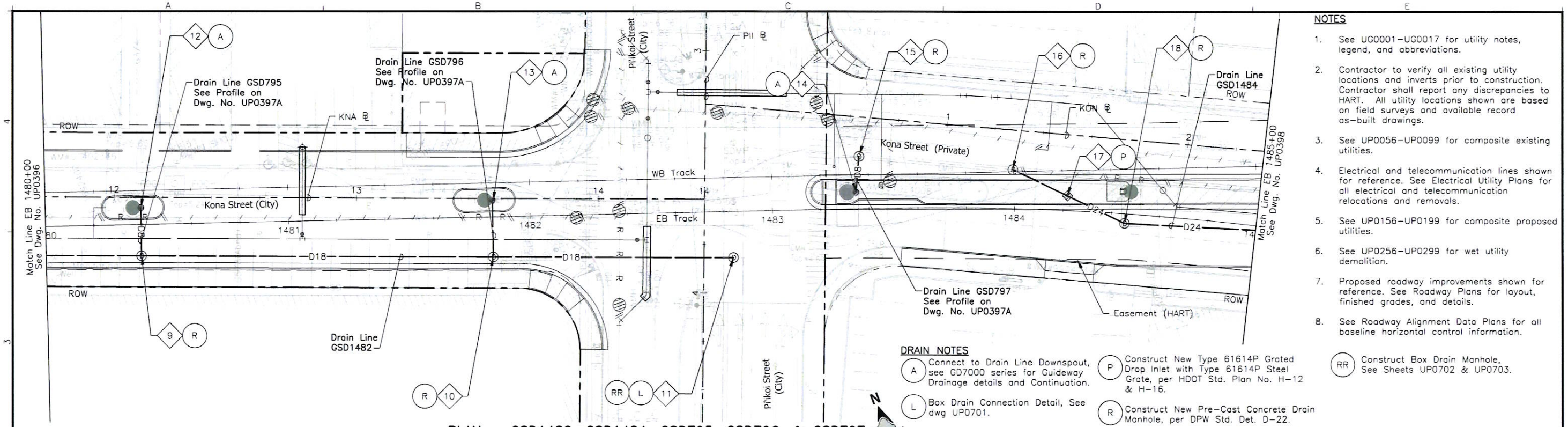


PLAN – GSD1482, GSD1484, GSD795, GSD796, & GSD797

1"=20'

NOTES

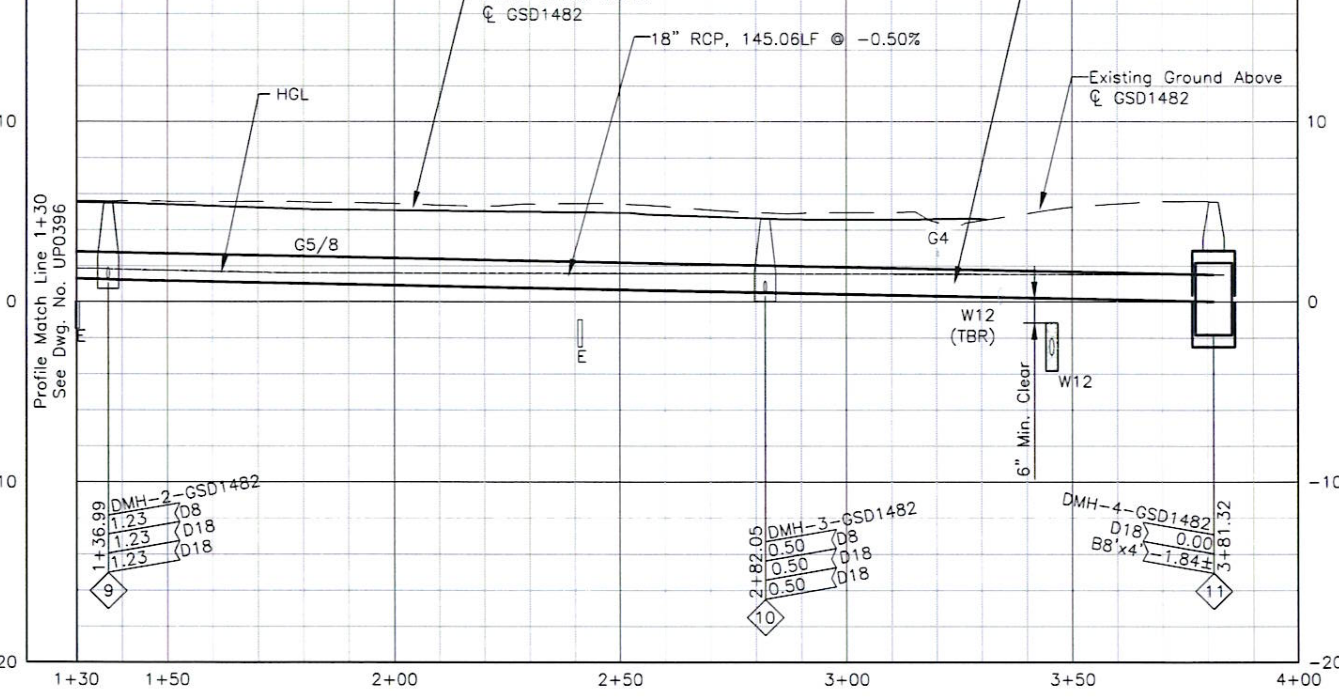
1. See UG0001–UG0017 for utility notes, legend, and abbreviations.
2. Contractor to verify all existing utility locations and inverts prior to construction. Contractor shall report any discrepancies to HART. All utility locations shown are based on field surveys and available record as–built drawings.
3. See UP0056–UP0099 for composite existing utilities.
4. Electrical and telecommunication lines shown for reference. See Electrical Utility Plans for all electrical and telecommunication relocations and removals.
5. See UP0156–UP0199 for composite proposed utilities.
6. See UP0256–UP0299 for wet utility demolition.
7. Proposed roadway improvements shown for reference. See Roadway Plans for layout, finished grades, and details.
8. See Roadway Alignment Data Plans for all baseline horizontal control information.

DRAIN NOTES

- (A) Connect to Drain Line Downspout, see GD7000 series for Guideway Drainage details and Continuation.
- (L) Box Drain Connection Detail, See dwg UP0701.
- (P) Construct New Type 61614P Grated Drop Inlet with Type 61614P Steel Grate, per HDOT Std. Plan No. H–12 & H–16.
- (R) Construct New Pre–Cast Concrete Drain Manhole, per DPW Std. Det. D–22.
- (RR) Construct Box Drain Manhole, See Sheets UP0702 & UP0703.

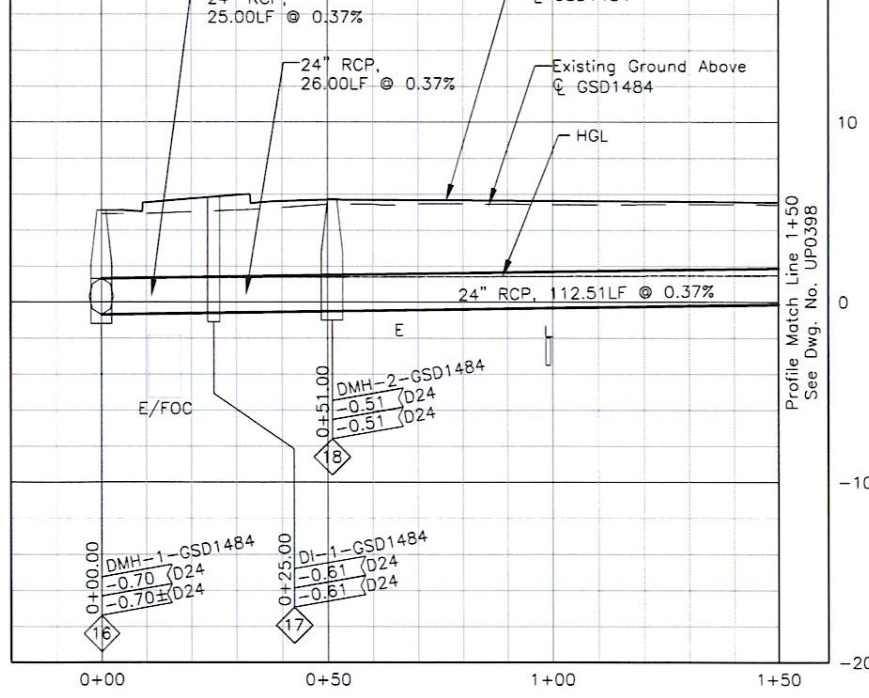
CONSTRUCTION NOTES

- (9) STA 12+11.41 KNA ℄, O/S 24.25' RT =0+19.98 GSD795 =1+36.99 GSD1482 DMH–2–GSD1482 T=5.49 Inv.=1.23 (8" in) Inv.=1.23 (18" in) Inv.=1.23 (18" out)
- (10) STA 13+56.47 KNA ℄, O/S 24.25' RT =2+82.05 GSD1482 DMH–3–GSD1482 T=4.62 Inv.=0.50 (8" in) Inv.=0.50 (18" in) Inv.=0.50 (18" out)
- (11) STA 0+16.76 KON ℄, O/S 62.32' RT =3+81.32 GSD1482 DMH–4–GSD1482 T=5.55± Inv.=0.00±(18" in) Inv.=–1.84 (8'x4' out) Connect to 8.0'x4.0' Box Drain (Exist)
- (12) STA 12+11.09 KNA ℄, O/S 4.27' RT =0+00.00 GSD795 DS–PIER795 T=6.38 Inv.=1.63 (8" out)
- (13) STA 13+56.04 KNA ℄, O/S 0.67' RT =0+00.00 GSD796 DS–PIER796 T=5.52 Inv.=0.97 (8" out)
- (14) STA 0+64.99 KON ℄, O/S 31.03' RT =0+00.00 GSD797 DS–PIER797 T=5.14 Inv.=0.69 (8" out)
- (15) STA 0+65.00 KON ℄, O/S 16.25' RT =0+14.78 GSD797 DMH–1–GSD797 T=4.73 Inv.=0.39 (8" in) Inv.=–0.94 (24" in) Inv.=–0.94 (24" out) Connect to D24 (Exist)
- (16) STA 1+28.69 KON ℄, O/S 16.22' RT =0+00.00 GSD1484 DMH–1–GSD1484 T=5.10± Inv.=–0.70 (24" in) Inv.=–0.70± (24" out) Connect to D24 (Exist)
- (17) STA 1+52.02 KON ℄, O/S 25.21' RT =0+05.91 GSD797 =0+25.00 GSD1484 DI–1–GSD1484 T=5.85± Inv.=–0.61 (24" in) Inv.=–0.61 (24" out)
- (18) STA 1+76.29 KON ℄, O/S 34.55' RT =0+51.00 GSD1484 DMH–2–GSD1484 T=5.73± Inv.=–0.51 (24" in) Inv.=–0.51 (24" out)



PROFILE – GSD1482

H 1"=20', V 1"=5'



PROFILE – GSD1484

H 1"=20', V 1"=5'

Rev	By	Date	Description
0	KO	09–02–14	Final Design – Issued for Bid

BARRY K. MURANAKA LICENSED PROFESSIONAL ENGINEER No.8418–C HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Signature

April 30, 2016

Expiration date of license

Designed: K Oaks
Drawn: A Fujimoto
Checked: T Cho
Approved: B Muranaka
Date: 09–02–14

HONOLULU RAIL TRANSIT PROJECT
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION

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