30% DESIGN SUBMITTAL

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

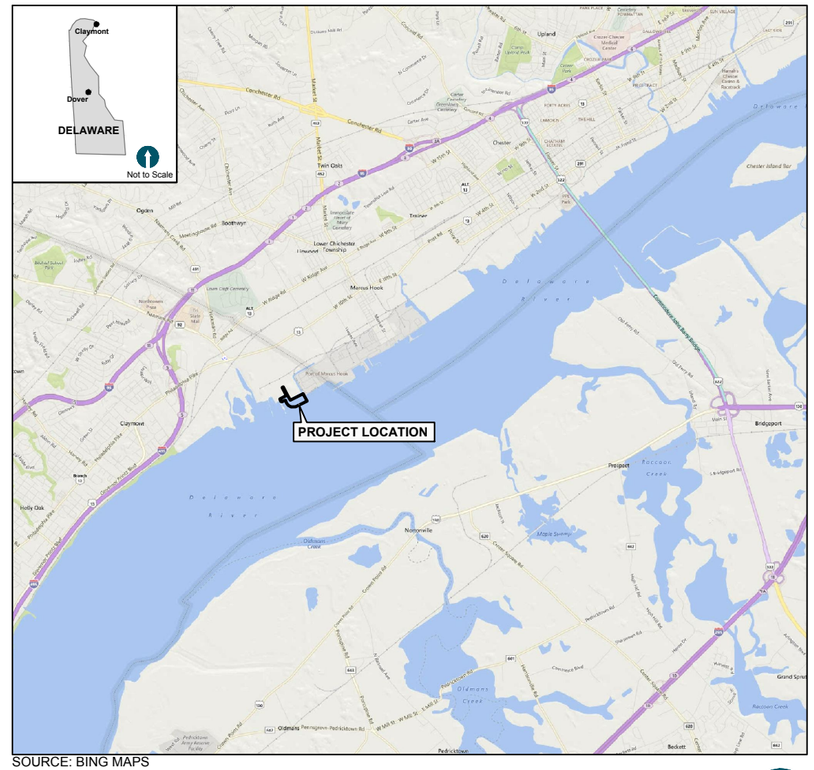
CLAYMONT, DELAWARE

PROJECT LOCATION

SOURCE: BING MAPS

0 500 1000
SCALE IN FEET

VICINITY MAP



SOURCE: BING MAPS

0 4000 8000
SCALE IN FEET

DRAWING INDEX		
SHT NO.	DWG NO.	TITLE
1	T-1	TITLE SHEET
2	G-1	GENERAL NOTES
3	G-2	SHEET LAYOUT
4	G-3	CONCEPTUAL REMEDIATION SUPPORT AREA PLAN
5	G-4	CONCEPTUAL REMEDIATION SUPPORT AREA DETAILS
6	EC-1	EXISTING CONDITIONS PLAN - LOWER SLUICEWAY LOWER WEIR BOX, ROAD CROSSING, AND SEGMENT 1
7	EC-2	EXISTING CONDITIONS PLAN - SEGMENT 2, SEGMENT 3
8	EC-3	EXISTING CONDITIONS - NEARSHORE AND SHORELINE
9	EC-4	EXISTING SOIL AND SEDIMENT SAMPLES
10	~~H-1~~	~~DEMOLITION PLAN~~ (NOT INCLUDED)
11	D-1	SEDIMENT EXCAVATION PLAN AND PROFILE - LOWER SLUICEWAY LOWER WEIR BOX AND SEGMENT 1
12	D-2	SEDIMENT EXCAVATION PLAN AND PROFILE - LOWER SLUICEWAY SEGMENT 2 AND 3
13	D-3	SEDIMENT EXCAVATION CROSS SECTIONS
14	C-1	SEDIMENT COVER PLAN AND PROFILE - LOWER SLUICEWAY LOWER WEIR BOX AND SEGMENT 1
15	C-2	SEDIMENT COVER PLAN AND PROFILE - LOWER SLUICEWAY SEGMENT 2 AND 3
16	C-3	SEDIMENT COVER CROSS SECTIONS
17	C-4	TYPICAL SEDIMENT COVER DETAILS
18	C-5	SEDIMENT AND SHORELINE CAPPING PLAN
19	C-6	SEDIMENT AND SHORELINE CAPPING PLAN SECTIONS A AND B
20	C-7	SEDIMENT SHORELINE CAPPING PLAN SECTIONS C AND D
21	C-8	SEDIMENT SHORELINE CAPPING PLAN SECTIONS E AND F
22	C-9	TYPICAL CAPPING DETAILS

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

TITLE SHEET

T-1

SHEET NO. 1 OF 22

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Aug 11, 2016 8:51am tgriga

SURVEY NOTES:

1. BATHYMETRIC DATA BASED ON CLE ENGINEERING SURVEYS DATED 01-19-11, 09-13-11 & 05-14-15.
2. RESULTS OF TOPOGRAPHIC SURVEY FROM LANDMARK-JCI, INC. ON 01-17-2011, 01-19-11, 01-20-11, 01-21-2011, 09-01-11, 09-02-11, 09-12-11 & 10-07-11.
3. DATUM ADJUSTMENT APPLIED TO TOPOGRAPHY ELEVATIONS ON SURVEY DATED 01-19-11 & 01-20-11.
4. TOPOGRAPHY AS SHOWN SHALL SUPERCEDE ALL PLANS DATED 1/28/11, SUBMITTED TO ANCHOR QEA ON 1-31-11. REVISED TOPOGRAPHIC CONTOURS PROVIDED 09-13-11.
5. BENCHMARK IS SITE BENCHMARK MAG NAIL SET BY LANDMARK-JCI, INC. EL. 4.99' NAVD88. TIDAL BENCHMARK PK SET BY CLE ENGINEERING ON 01-19-11 EL. 5.44' NAVD88.
6. HYDROGRAPHIC CONTOURS GENERATED FROM 1' RADIUS SORTED DATA.
7. COORDINATES ARE BASED ON NAD 83 STATE PLANE DELAWARE.
8. SEDIMENT CORE SAMPLES TAKEN BY CLE ENGINEERING ON 01-19-11.
9. PROBING AND VANE SHEAR TESTS PERFORMED BY CLE ENGINEERING ON 01-20-11.
10. OUTBOARD TIMBER BULKHEAD/PILE LINE LOCATED BY CLE ENGINEERING ON 01-20-11 WITH DIFFERENTIAL GPS SYSTEM.
11. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN, AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THAT TIME. INTERPOLATED INFORMATION FROM BETWEEN SOUNDING RUNS IS NOT GUARANTEED TO BE ACCURATE. SHOALS, OBSTRUCTIONS OR OTHER DIFFERING CONDITIONS MAY EXIST BETWEEN THESE RUNS. CONSULT WITH CLE ENGINEERING FOR MORE DETAILED INFORMATION.

SEQUENCE OF CONSTRUCTION:

SPECIFIC ACTIVITIES CONDUCTED BY THE CONTRACTOR TO COMPLETE THE WORK INCLUDE, BUT ARE NOT LIMITED TO:

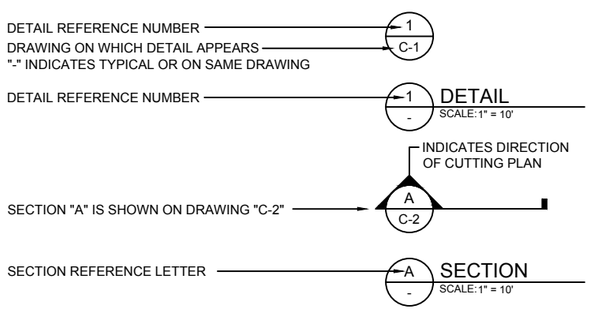
1. PREPARE AND SUBMIT FINAL WORK PLANS AND ALL OTHER REQUIRED PRE-CONSTRUCTION SUBMITTALS.
2. ATTEND A PRE-CONSTRUCTION MEETING WITH THE OWNER.
3. PERFORM AND SUBMIT A PRE-CONSTRUCTION SURVEY.
4. MOBILIZE CREWS, FACILITIES, EQUIPMENT, AND MATERIALS REQUIRED TO COMPLETE THE WORK.
5. INSTALL AND MAINTAIN ENVIRONMENTAL CONTROLS.
6. PERFORM CLEARING AND GRUBBING OF SHORELINE ACCESS AND CONTRACTOR STAGING AREAS.
7. EXCAVATE APPROXIMATELY 880 CY OF POTENTIALLY CONTAMINATED SEDIMENTS TO THE LIMITS SPECIFIED ON DRAWINGS.
   A. MANAGE AND DEWATER SEDIMENTS
   B. LOAD OUT DEWATERED SEDIMENTS ONCE APPROVED BY THE OWNER'S REPRESENTATIVE FOR OFF-SITE TRANSPORT
   C. TRANSPORT AND DISPOSE OF SEDIMENT AT APPROVED DISPOSAL FACILITY
8. CONDUCT SITE DEMOLITION IN ACCORDANCE WITH THE SPECIFICATIONS.
9. INSTALL LOWER SLUICEWAY SEDIMENT COVER.
10. GRADE SHORELINE AREAS.
11. INSTALL COVE SHORELINE, SWMU 9 SHORELINE AND SEDIMENT CAPS TO THE LIMITS SPECIFIED ON THE DRAWINGS.
12. COMPLETE POST-CAP CONSTRUCTION SURVEY.
13. SITE RESTORATION AND DEMOBILIZATION IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.

GENERAL NOTES:

1. POSSESSION AND USE OF THE MATERIAL CONTAINED ON THESE DRAWINGS IS GRANTED ONLY IN CONNECTION WITH ITS USE AS IT RELATES TO THE TITLED PROJECT, ANY OTHER USE, REPRODUCTION OR DISCLOSURE OF THE INFORMATION CONTAINED HEREON IS EXPRESSLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CLE ENGINEERING.
2. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE DRAWINGS WITHOUT WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
3. CONTRACTOR SHALL FIELD VERIFY SEDIMENT PHYSICAL PROPERTIES, LOCATIONS OF SITE STRUCTURES, LOCATION OF IDENTIFIED DEBRIS, SHORELINE, AND OTHER SITE FEATURES.
4. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS AND OTHER APPLICABLE REGULATORY REQUIREMENTS.
6. THE CONTRACTOR SHALL ADEQUATELY PROTECT ALL EXISTING STRUCTURES, SURFACES, AND UTILITIES. ANY DAMAGE TO EXISTING STRUCTURES, SURFACES, OR UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL UTILITY MARKOUTS AND FORWARDING CONFIRMATION OF NOTIFICATION TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY AND ALL NECESSARY PERMITS FROM THE AFFECTED UTILITY COMPANIES AND FOR SCHEDULING OF INSPECTIONS BY UTILITY COMPANY PERSONEEL, IF REQUIRED, DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL MEASURES DURING THE CONSTRUCTION PERIOD, AS REQUIRED BY THE PERMIS, LOCAL ORDINANCES, PLANS, AND SPECIFICATIONS.
9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A NEAT AND ORDERLY SITE, YARD, AND GROUNDS. REMOVE AND DISPOSE OFF SITE ALL RUBBISH, WASTE MATERIALS, AND LITTER.
10. NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE APPROVAL BY THE OWNER'S REPRESENTATIVE.
11. THE CONTRACTOR SHALL ABIDE BY THE REQUIREMENTS OF THEIR CORPORATE HEALTH AND SAFETY PLAN (HASP) AND TECHNICAL SPECIFICATIONS, AS APPROPRIATE, AS WELL AS APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS.

LEGEND:

- PARCEL
- PIERHEAD LINE
- EXISTING CONTOURS (1-FT INTERVALS)
- EXCAVATION LIMIT



DETAIL AND SECTION REFERENCING

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

GENERAL NOTES

G-1

SHEET NO. 2 OF 22

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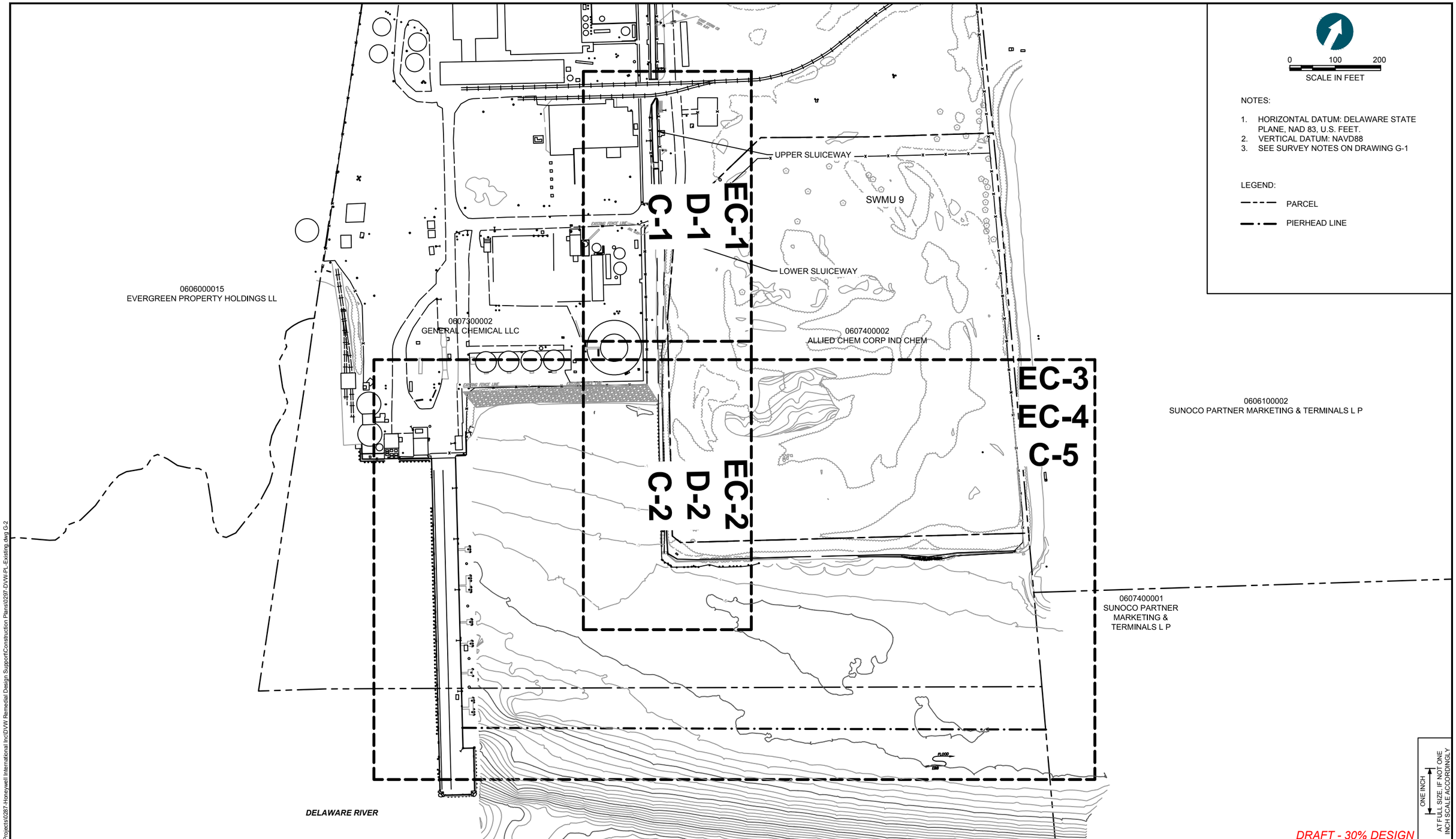
Aug 11, 2016 8:51am tgriga



NOTES:

1. HORIZONTAL DATUM: DELAWARE STATE PLANE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: NAVD88
3. SEE SURVEY NOTES ON DRAWING G-1

LEGEND:

PARCEL

PIERHEAD LINE

ONE INCH

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

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CHEMTRADE

Honeywell

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DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

SHEET LAYOUT

G-2

SHEET NO. 3 OF 22

Aug 11, 2016 8:52am Igriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Existing.dwg G-2

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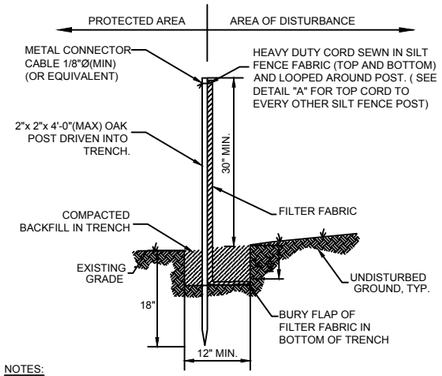
DATE: AUGUST 2016

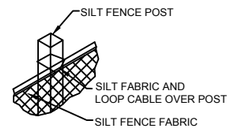
DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

CONCEPTUAL REMEDIATION SUPPORT AREA PLAN

G-3

SHEET NO. 4 OF 22



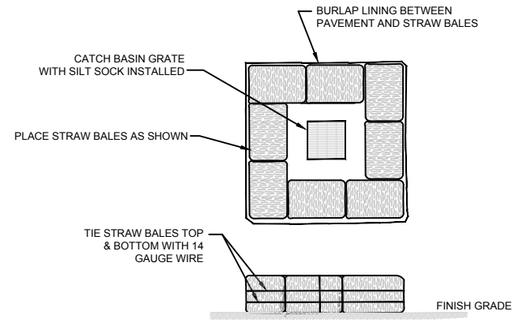


DETAIL A

NOTES:

1. POST FOR SILT FENCE SHALL BE LOCATED 8'-0"(MAX) O.C. AS SHOWN ON PLANS.
2. SILT FENCE SHALL BE INSTALLED PRIOR TO CONSTRUCTION.
3. INSPECTION SHALL BE DAILY AND REPAIR / REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED. ACCUMULATED SEDIMENT SHALL BE REMOVED AND APPROPRIATELY DISPOSED OF BY THE CONTRACTOR.
4. SILT FENCE SHALL BE REMOVED ONLY AS DIRECTED BY OWNER'S REPRESENTATIVE.

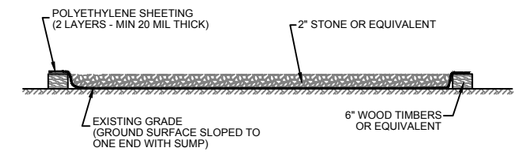
1 / - SILT FENCE DETAIL (UNPAVED AREAS)
SCALE:NOT TO SCALE



NOTES

1. INSERT SILT SOCK AND SURROUND DRAINAGE STRUCTURE INLET WITH STRAW BALES PRIOR TO CONSTRUCTION AND MAINTAIN UNTIL CONSTRUCTION IS COMPLETED. ACCUMULATED SEDIMENTS SHALL BE REMOVED.
2. STRAW BALES SHALL BE USED ON PAVED SURFACES AND SHALL BE PLACED DIRECTLY ON BURLAP.
3. INSPECTION SHALL BE DAILY AND REPAIR/REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
4. STRAW BALES SHALL BE REMOVED ONLY AS DIRECTED BY ENGINEER.

2 / - CATCH BASIN INLET PROTECTION WITH STRAW BALES
SCALE:NTS



3 / - TYPICAL DECONTAMINATION PAD
SCALE:NTS

DRAFT - 30% DESIGN

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

ANCHOR QEA

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DATE: AUGUST 2016

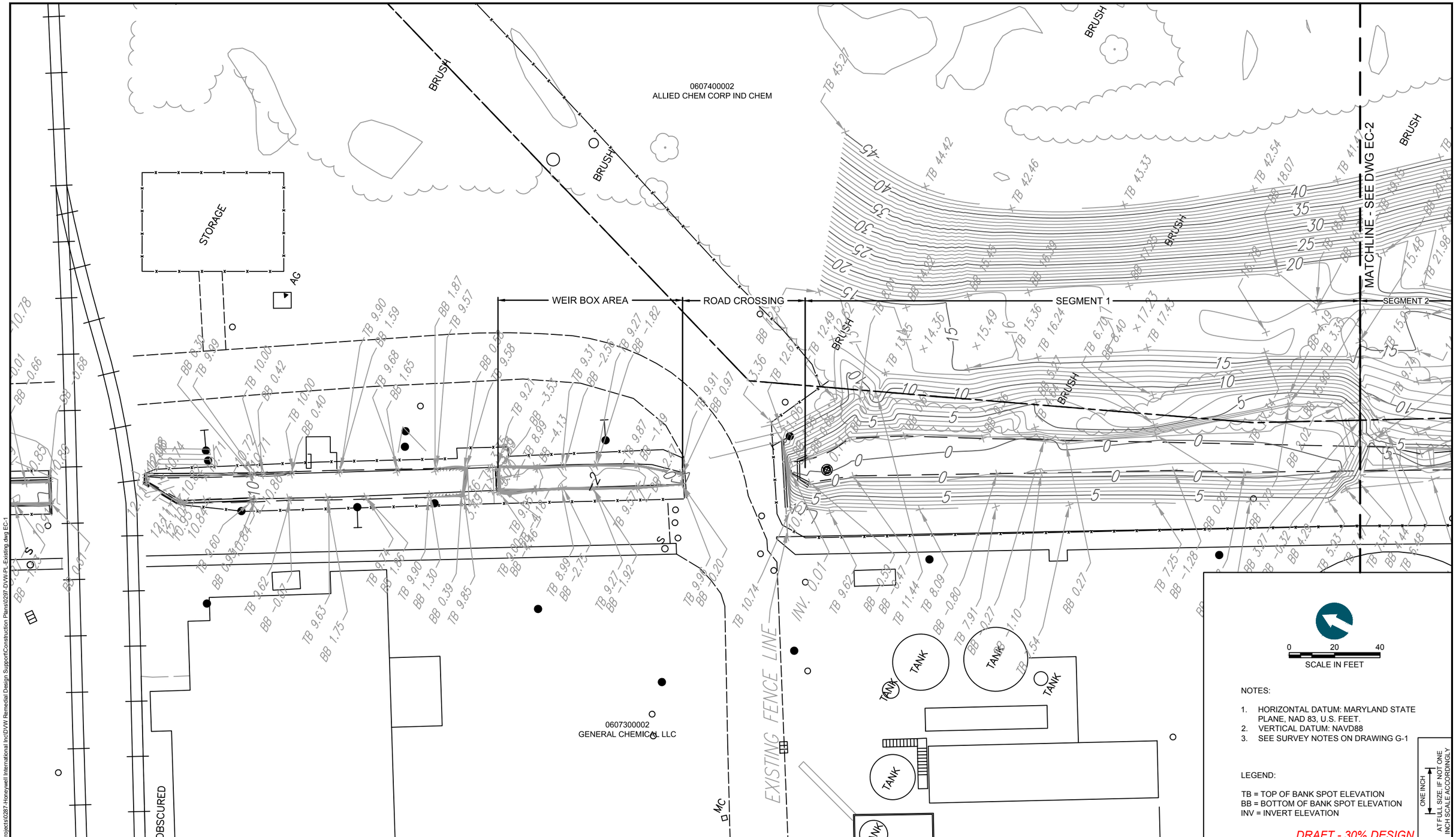
DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

CONCEPTUAL REMEDIATION SUPPORT AREA DETAILS

G-4

SHEET NO. 5 OF 22

Aug 11, 2016 8:52am tgriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Staging.dwg G-4



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SCALE IN FEET

NOTES:

1. HORIZONTAL DATUM: MARYLAND STATE PLANE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: NAVD88
3. SEE SURVEY NOTES ON DRAWING G-1

LEGEND:

TB = TOP OF BANK SPOT ELEVATION
BB = BOTTOM OF BANK SPOT ELEVATION
INV = INVERT ELEVATION

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

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REVISIONS

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DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

EXISTING CONDITIONS PLAN - LOWER SLUICEWAY LOWER WEIR BOX, ROAD CROSSING, AND SEGMENT 1

EC-1

SHEET NO. 6 OF 22

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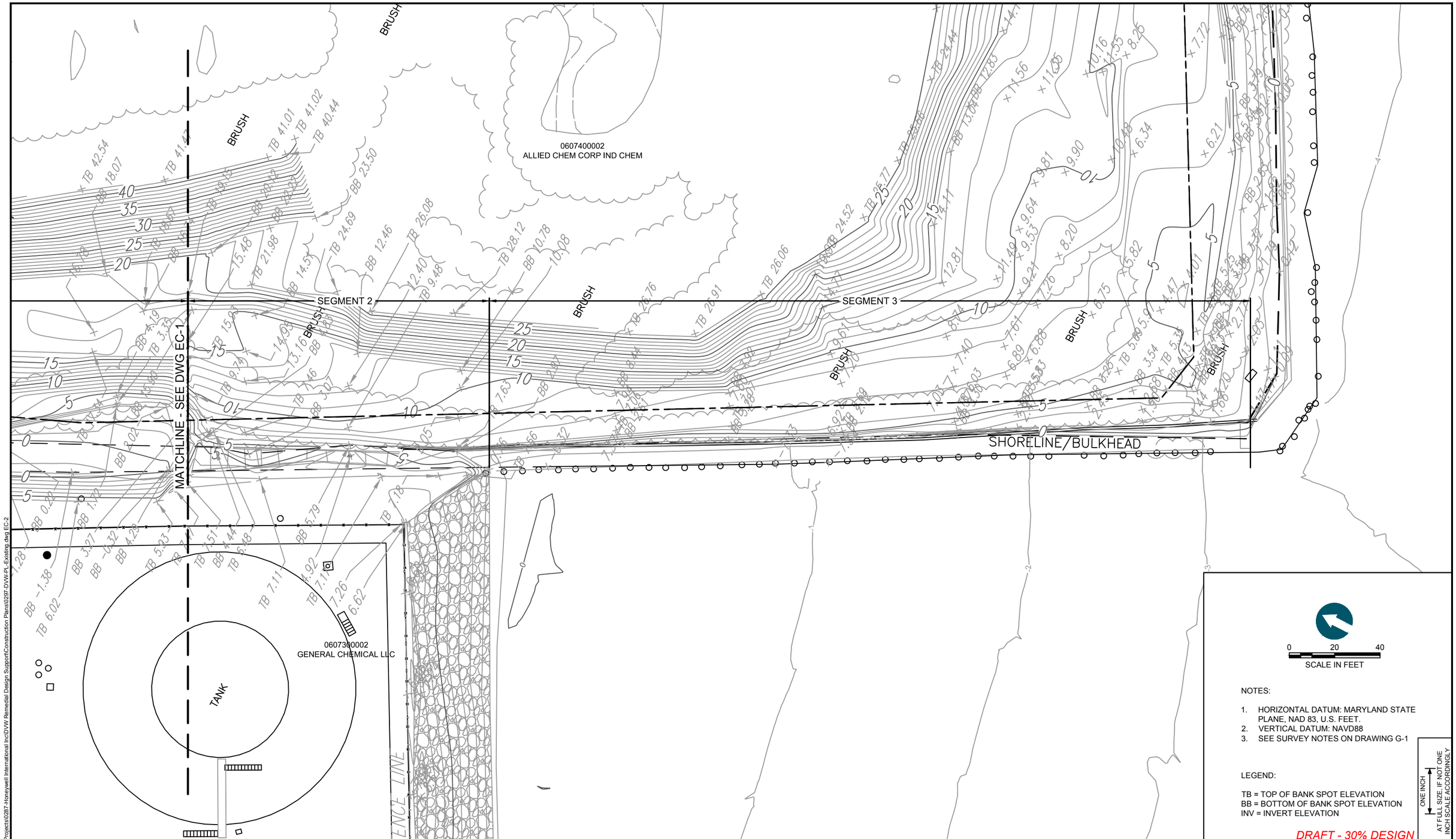
Aug 11, 2016 8:53am tgriga



0 20 40
SCALE IN FEET

NOTES:

1. HORIZONTAL DATUM: MARYLAND STATE PLANE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: NAVD88
3. SEE SURVEY NOTES ON DRAWING G-1

LEGEND:

TB = TOP OF BANK SPOT ELEVATION
BB = BOTTOM OF BANK SPOT ELEVATION
INV = INVERT ELEVATION

ONE INCH
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DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

EXISTING CONDITIONS PLAN - SEGMENT 2, SEGMENT 3

EC-2

SHEET NO. 7 OF 22

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Aug 11, 2016 8:53am tgriga

NOTES:

1. HORIZONTAL DATUM: DELAWARE STATE PLANE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: NAVD88
3. SEE SURVEY NOTES ON DRAWING G-1

LEGEND:

PARCEL

PIERHEAD LINE

ONE INCH

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

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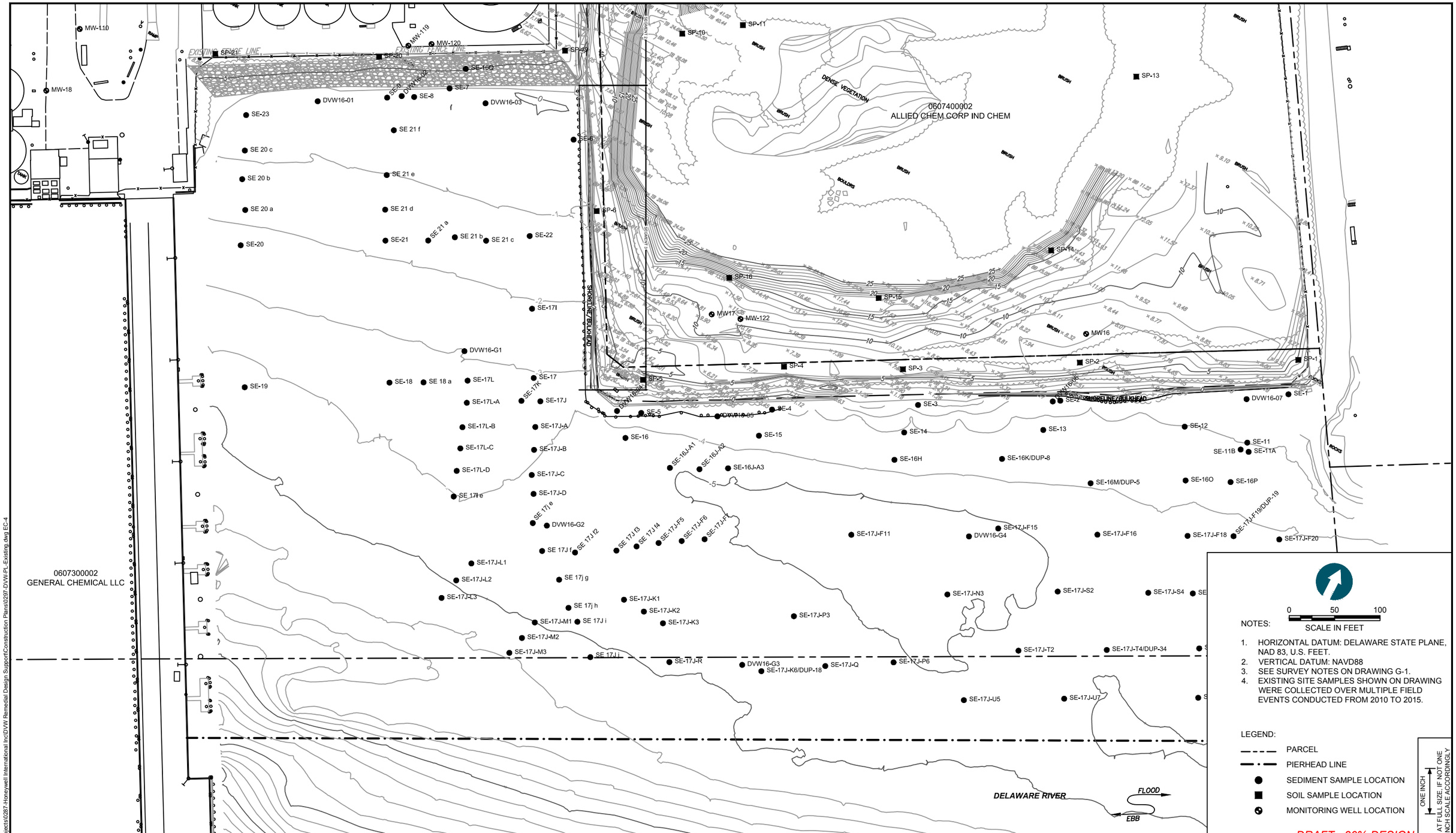
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

EXISTING CONDITIONS - NEARSHORE AND SHORELINE

EC-3

SHEET NO. 8 OF 22



NOTES:

0 50 100
SCALE IN FEET

1. HORIZONTAL DATUM: DELAWARE STATE PLANE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: NAVD88
3. SEE SURVEY NOTES ON DRAWING G-1.
4. EXISTING SITE SAMPLES SHOWN ON DRAWING WERE COLLECTED OVER MULTIPLE FIELD EVENTS CONDUCTED FROM 2010 TO 2015.

LEGEND:

- PARCEL
- PIERHEAD LINE
- SEDIMENT SAMPLE LOCATION
- SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

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Honeywell

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DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

EXISTING SOIL AND SEDIMENT SAMPLES

EC-4

SHEET NO. 9 OF 22

K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Existing.dwg EC-4

Aug 11, 2016 8:53am tgriga

THIS DRAWING WILL BE DEVELOPED AS PART OF THE 90% DESIGN

DRAFT

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

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Honeywell

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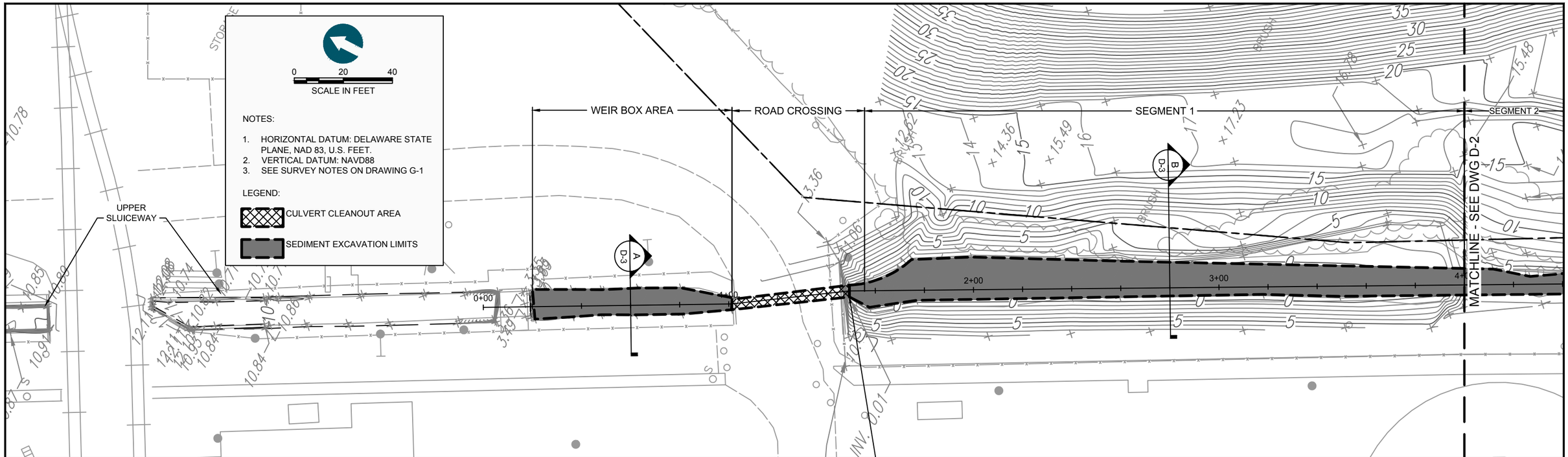
DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

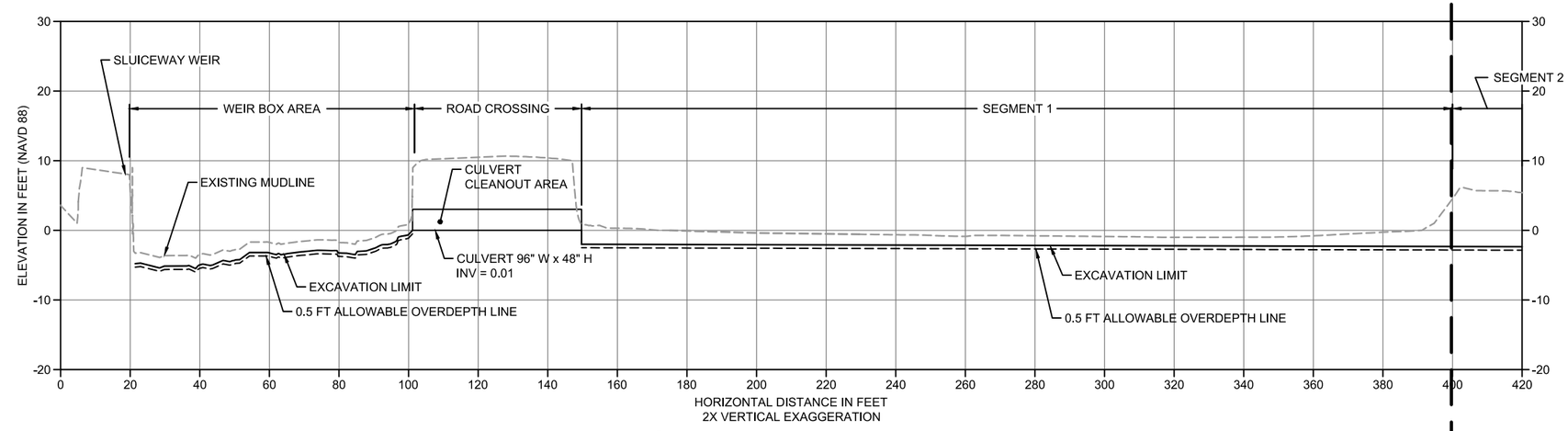
DEMOLITION PLAN

H-1

SHEET NO. **10** OF **22**

Aug 11, 2016 8:53am tgriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Existing.dwg H-1





1 / - CHANNEL PROFILE - EXCAVATION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

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DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

SEDIMENT EXCAVATION PLAN AND PROFILE - LOWER SLUICEWAY LOWER WEIR BOX AND SEGMENT 1

D-1

SHEET NO. 11 OF 22

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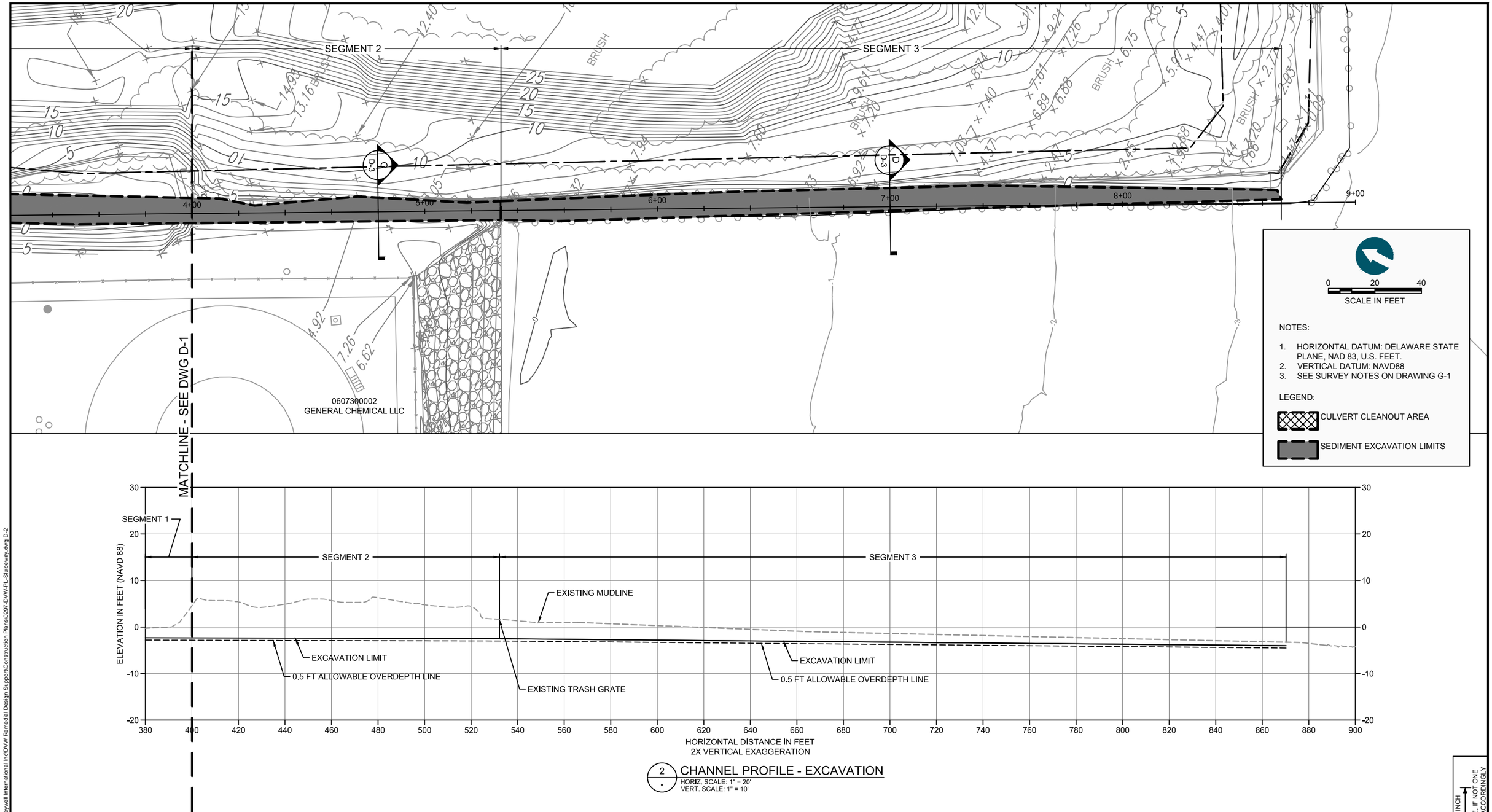
Aug 11, 2016 8:54am tgriga



2 / - CHANNEL PROFILE - EXCAVATION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

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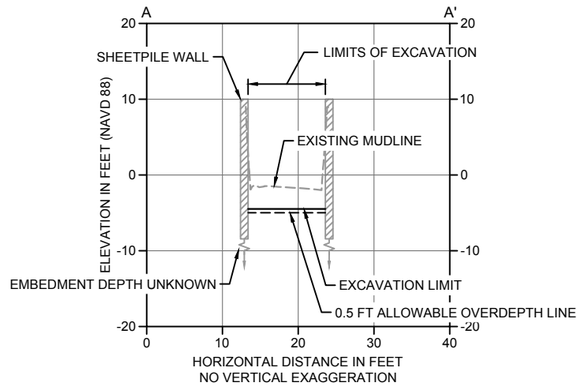
DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

SEDIMENT EXCAVATION PLAN AND PROFILE - LOWER SLUICEWAY SEGMENT 2 AND 3

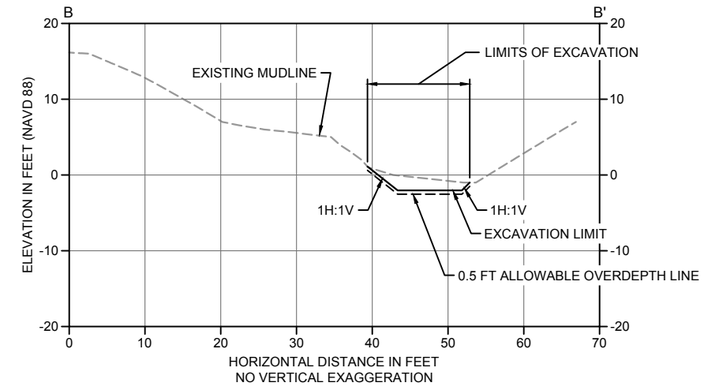
D-2

SHEET NO. 12 OF 22

Aug 11, 2016 8:54am lgriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Sluiceway.dwg D-2



A / - CHANNEL SECTION - EXCAVATION - LOWER WEIR BOX
SCALE:1" = 10'



B / - CHANNEL SECTION - EXCAVATION - SEGMENT 1
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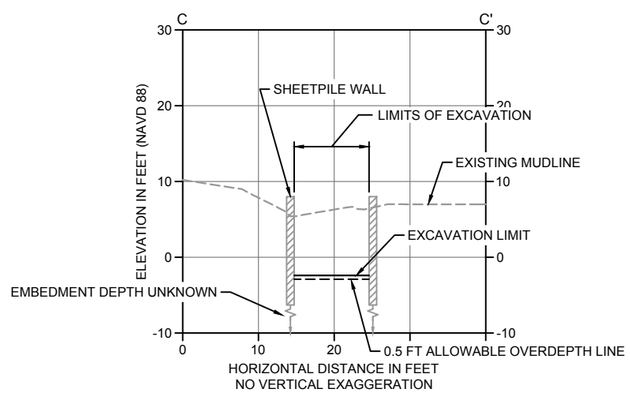
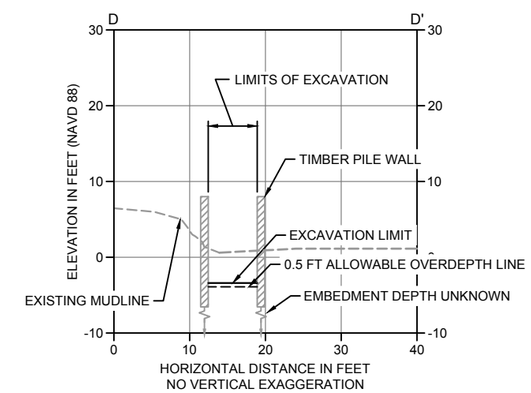


C / - CHANNEL SECTION - EXCAVATION - SEGMENT 2
SCALE:1" = 10'



D / - CHANNEL SECTION - EXCAVATION - SEGMENT 3
SCALE:1" = 10'

NOTES:

1. VERTICAL DATUM: NAVD88
2. SEE SURVEY NOTES ON DRAWING G-1

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

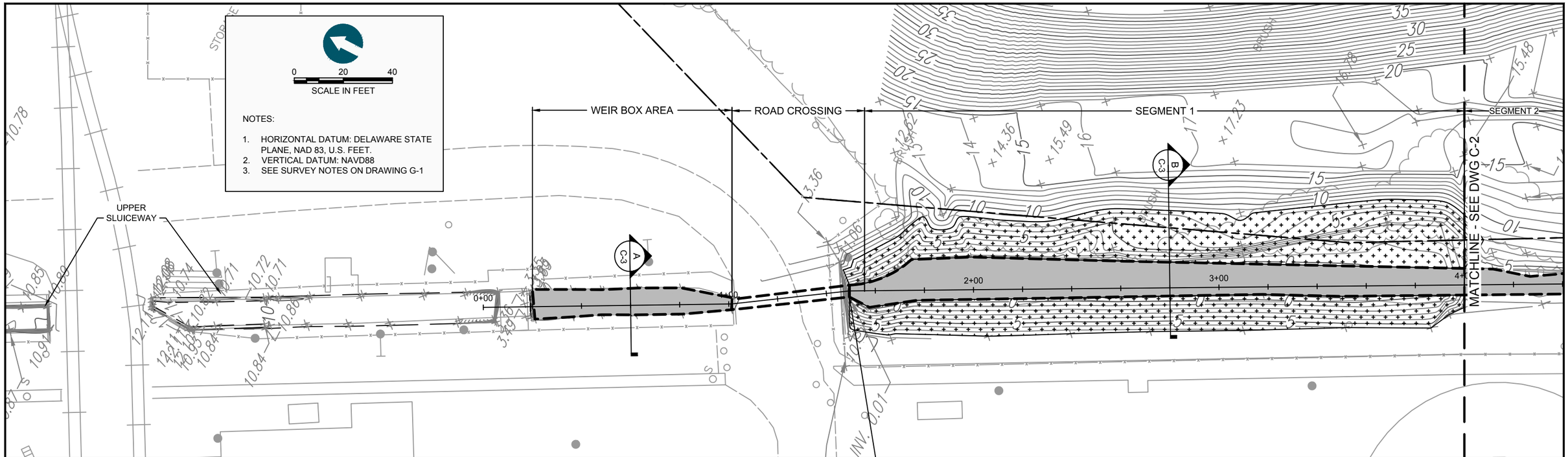
DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

SEDIMENT EXCAVATION CROSS SECTIONS

D-3

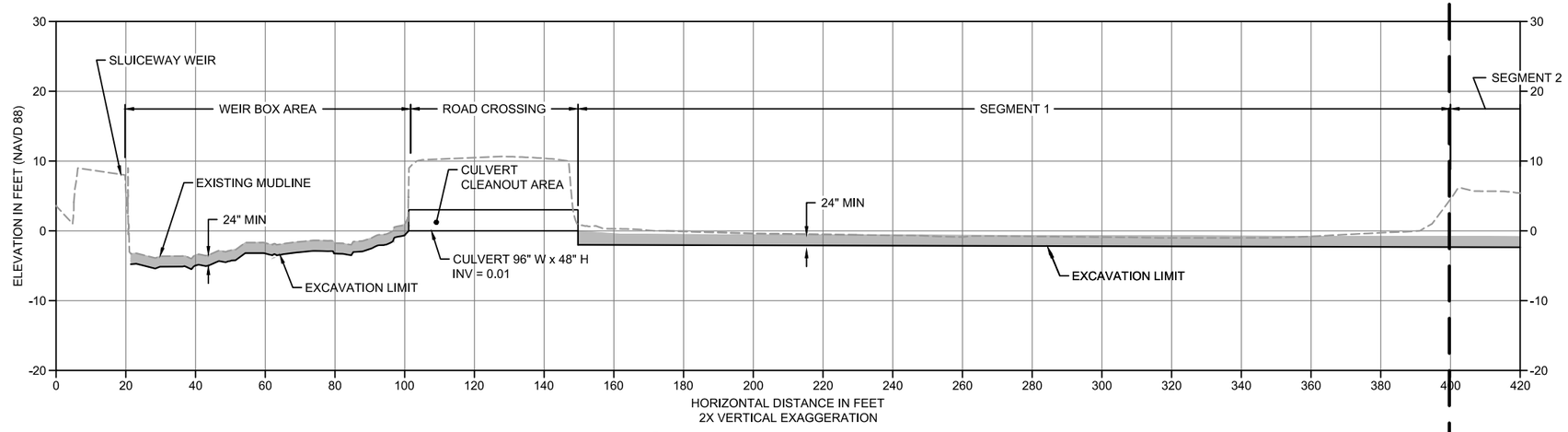
SHEET NO. **13** OF **22**

Aug 11, 2016 8:54am lgriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Sluiceway.dwg D-3



LEGEND:

- EXISTING MUDLINE
- EXCAVATION LIMIT
- LOWER SLUICEWAY WEIR BOX AREA, SEGMENT 1, AND SEGMENT 2 COVER
  GEOTEXTILE
  + 6" AQUABLOCK LAYER
  + GEOTEXTILE
  + 18" ARMOR LAYER
- OPEN CHANNEL BANK AREA COVER
  GEOTEXTILE
  + 12" SAND LAYER
  + GEOTEXTILE
  + 18"ARMOR LAYER"



1 / - CHANNEL PROFILE - SEDIMENT COVER
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

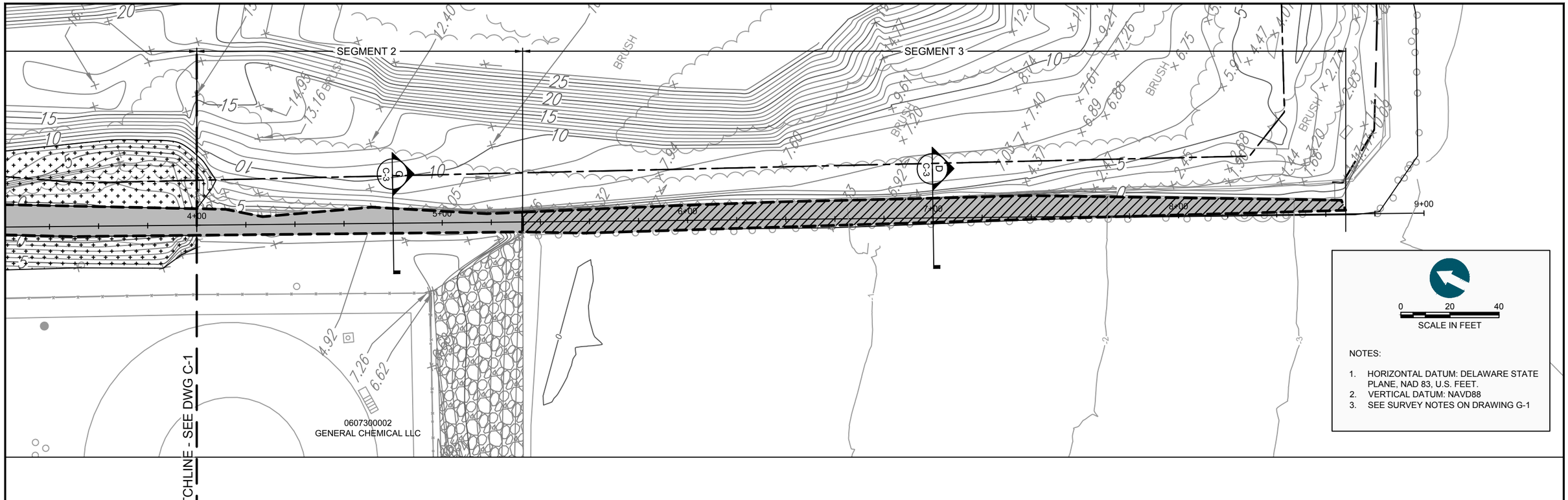
SEDIMENT COVER PLAN AND PROFILE - LOWER SLUICEWAY LOWER WEIR BOX AND SEGMENT 1

C-1

SHEET NO. 14 OF 22

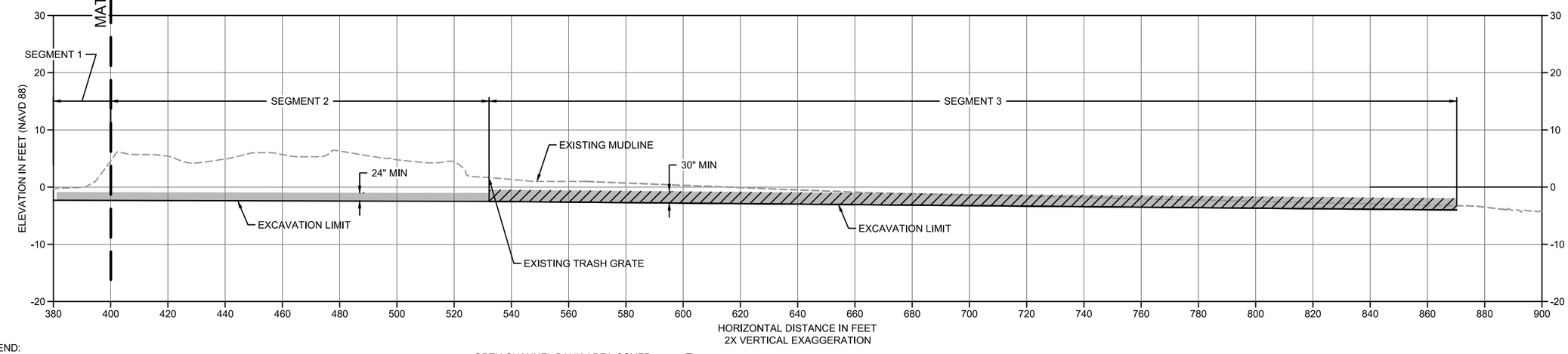
K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Sluiceway.dwg C-1

Aug 11, 2016 8:54am tgriga



NOTES:

1. HORIZONTAL DATUM: DELAWARE STATE PLANE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: NAVD88
3. SEE SURVEY NOTES ON DRAWING G-1



LEGEND:

- EXISTING MUDLINE
- EXCAVATION LIMIT
- LOWER SLUICEWAY WEIR BOX AREA, SEGMENT 1, AND SEGMENT 2 COVER
  GEOTEXTILE
  + 6" AQUABLOCK LAYER
  + GEOTEXTILE
  + 18" ARMOR LAYER
- OPEN CHANNEL BANK AREA COVER
  GEOTEXTILE
  +12" SAND LAYER
  + GEOTEXTILE
  + 18"ARMOR LAYER"
- LOWER SLUICEWAY SEGMENT 3 COVER
  12" SAND LAYER
  + 18" ARMOR LAYER

2 / - CHANNEL PROFILE - SEDIMENT COVER
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

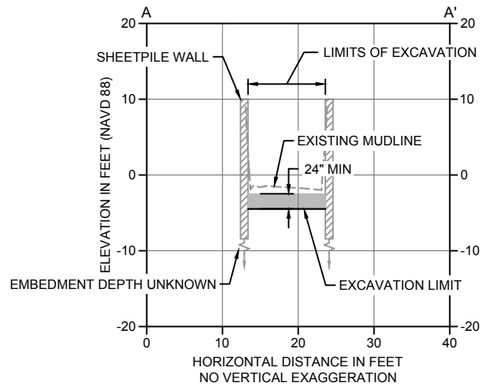
DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

SEDIMENT COVER PLAN AND PROFILE - LOWER SLUICEWAY SEGMENT 2 AND 3

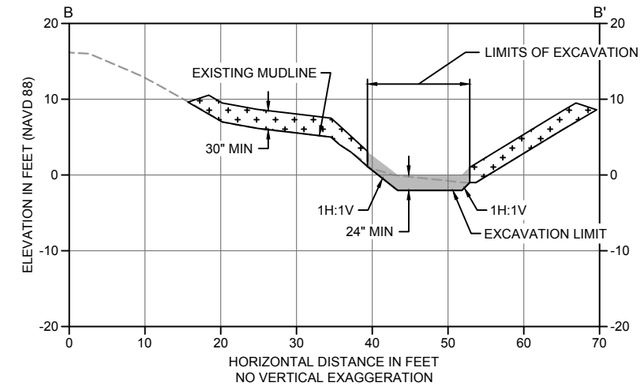
C-2

SHEET NO. 15 OF 22

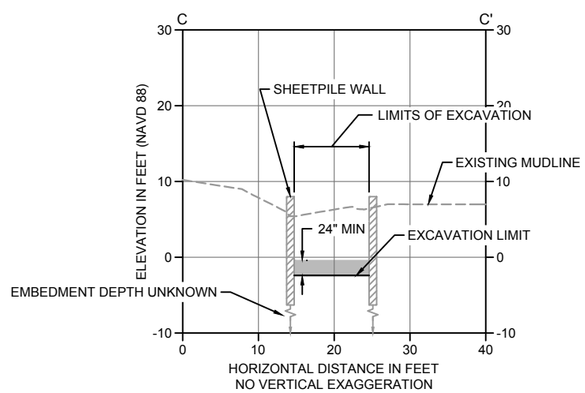
Aug 11, 2016 8:54am lgriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Sluiceway.dwg C-2



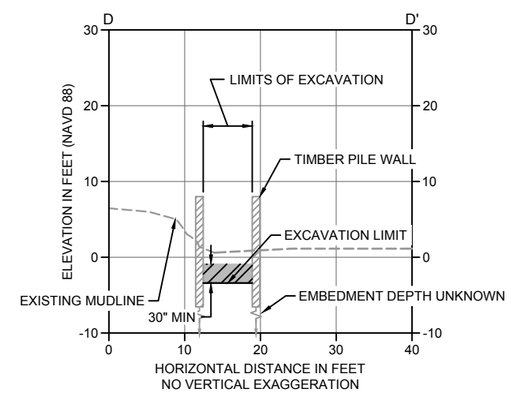
A / - CHANNEL SECTION - SEDIMENT COVER - LOWER WEIR BOX
SCALE:1" = 10'



B / - CHANNEL SECTION - SEDIMENT COVER - SEGMENT 1
SCALE:1" = 10'



C / - CHANNEL SECTION - SEDIMENT COVER - SEGMENT 2
SCALE:1" = 10'



D / - CHANNEL SECTION - SEDIMENT COVER - SEGMENT 3
SCALE:1" = 10'

NOTES:

1. VERTICAL DATUM: NAVD88
2. SEE SURVEY NOTES ON DRAWING G-1

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

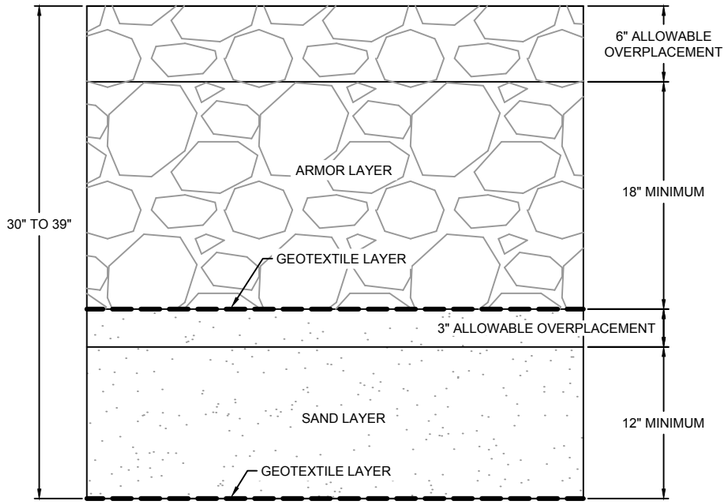
DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

SEDIMENT COVER CROSS SECTIONS

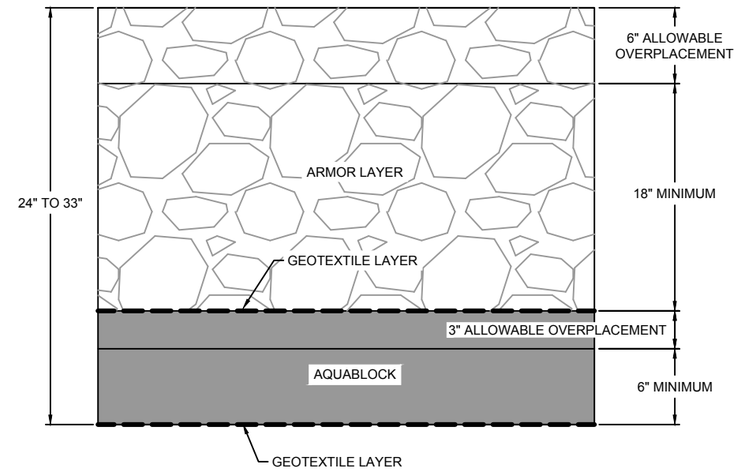
C-3

SHEET NO. **16** OF **22**

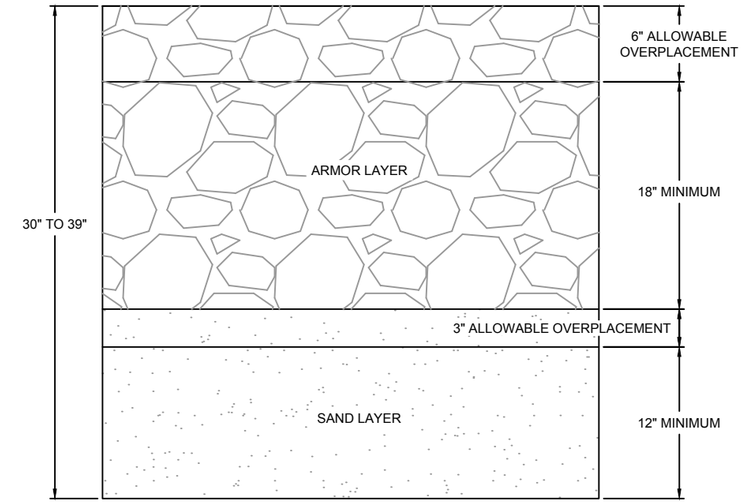
Aug 11, 2016 8:54am lgriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Sluiceway.dwg C-3



1 - TYPICAL DETAIL - OPEN CHANNEL BANK AREA COVER
SCALE:NTS



2 - TYPICAL DETAIL - LOWER SLUICEWAY WEIR, BOX AREA, SEGMENT 1, AND SEGMENT 2 COVER
SCALE:NTS



3 - TYPICAL DETAIL - LOWER SLUICEWAY SEGMENT 3 COVER
SCALE:NTS

DRAFT - 30% DESIGN

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

TYPICAL SEDIMENT COVER DETAILS

C-4

SHEET NO. 17 OF 22

Aug 11, 2016 8:54am tgriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Sluiceway.dwg C-4

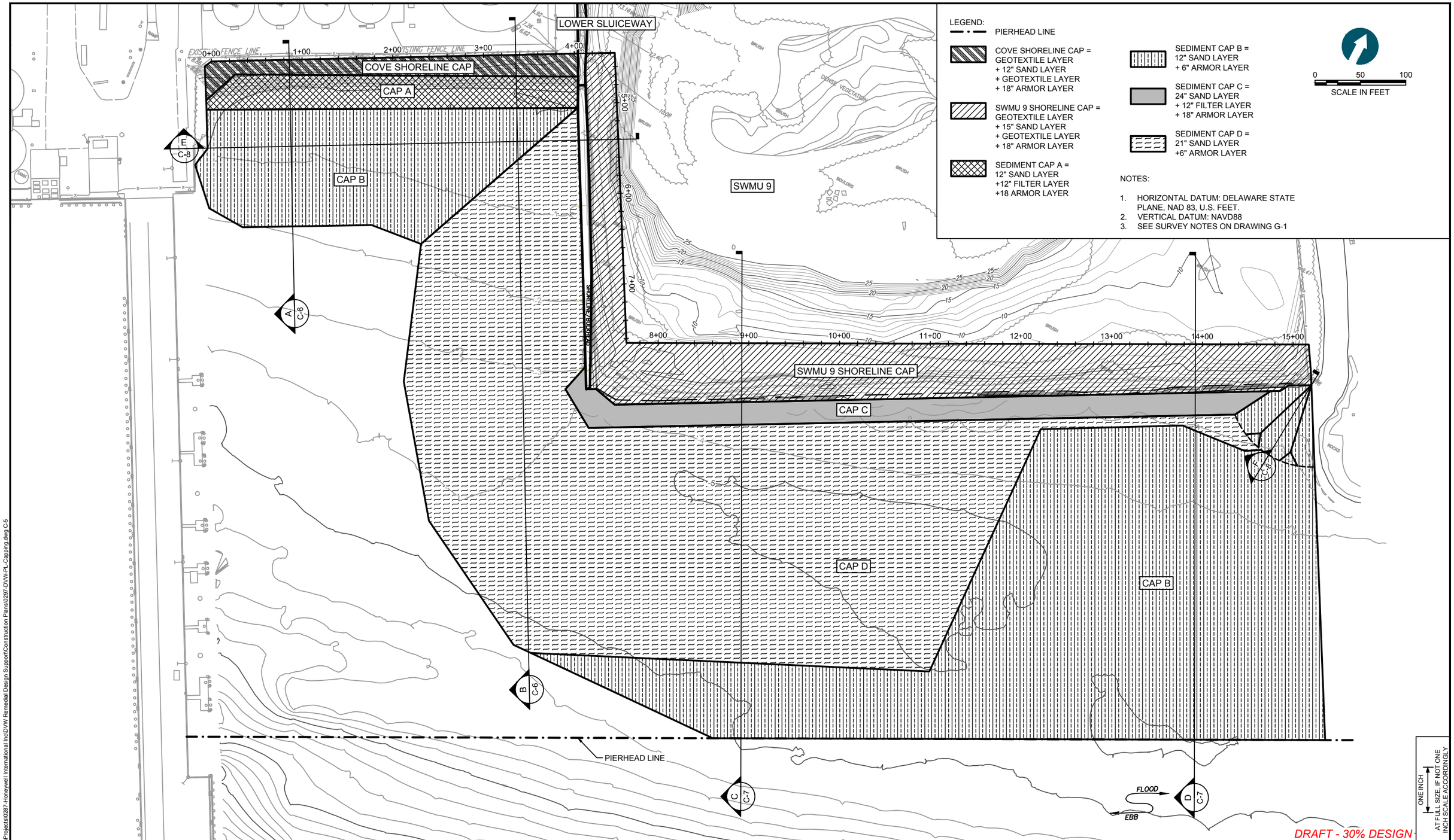
LEGEND:

- PIERHEAD LINE
- COVE SHORELINE CAP = GEOTEXTILE LAYER + 12" SAND LAYER + GEOTEXTILE LAYER + 18" ARMOR LAYER
- SWMU 9 SHORELINE CAP = GEOTEXTILE LAYER + 15" SAND LAYER + GEOTEXTILE LAYER + 18" ARMOR LAYER
- SEDIMENT CAP A = 12" SAND LAYER +12" FILTER LAYER +18 ARMOR LAYER
- SEDIMENT CAP B = 12" SAND LAYER + 6" ARMOR LAYER
- SEDIMENT CAP C = 24" SAND LAYER + 12" FILTER LAYER + 18" ARMOR LAYER
- SEDIMENT CAP D = 21" SAND LAYER +6" ARMOR LAYER

NOTES:

1. HORIZONTAL DATUM: DELAWARE STATE PLANE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: NAVD88
3. SEE SURVEY NOTES ON DRAWING G-1

0 50 100
SCALE IN FEET



DRAFT - 30% DESIGN

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Capping.dwg C-5

Aug 11, 2016 8:54am tgriga

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

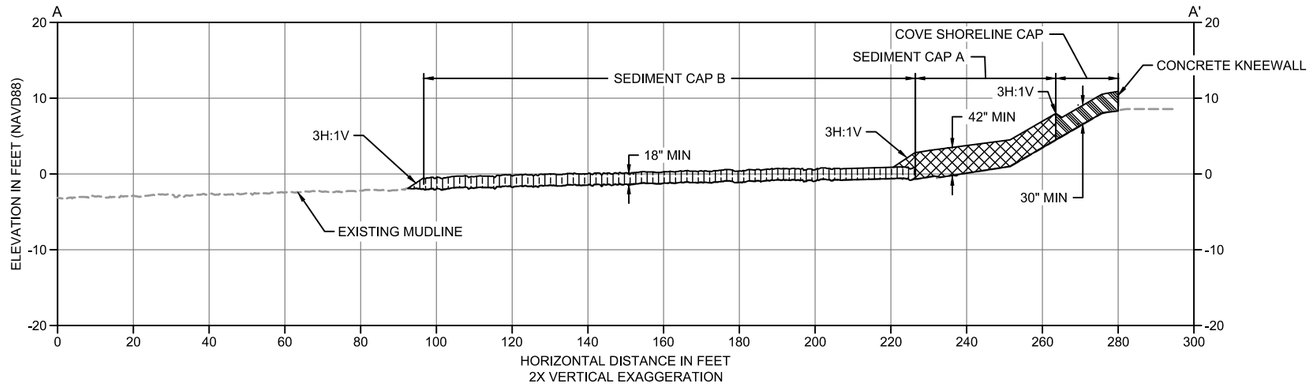
DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

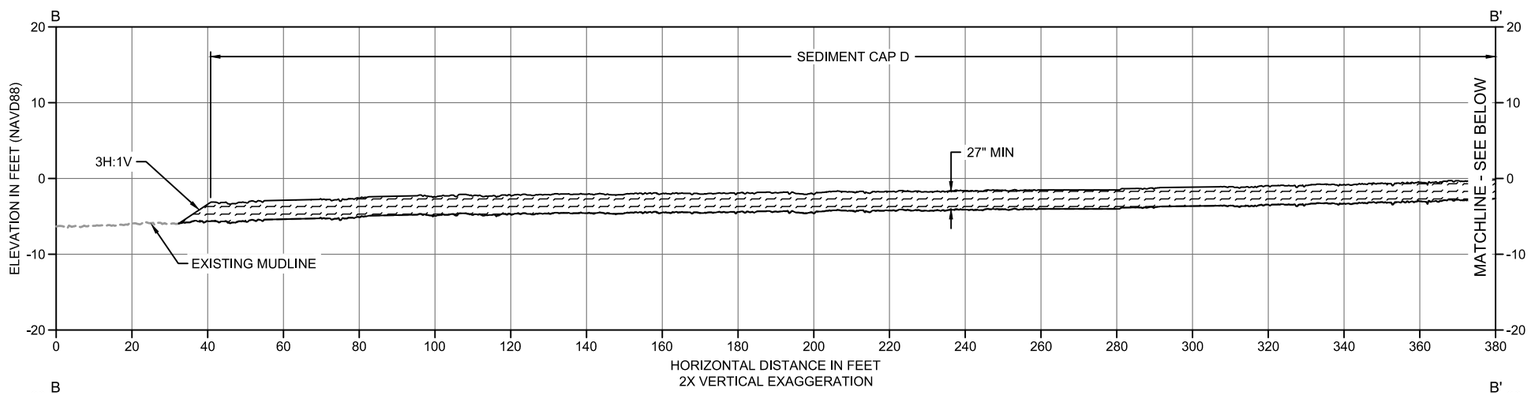
SEDIMENT AND SHORELINE CAPPING PLAN

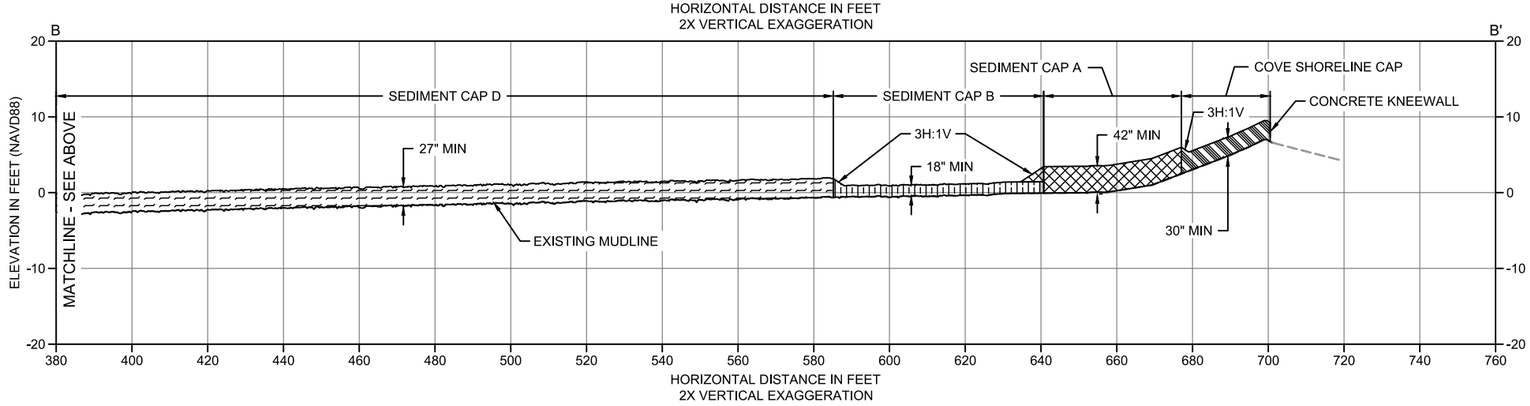
C-5

SHEET NO. 18 OF 22



A / - CAPPING SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'





B / - CAPPING SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'

LEGEND:
2015 BATHYMETRY (CLE)
2011 UPLAND (LANDMARK)

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

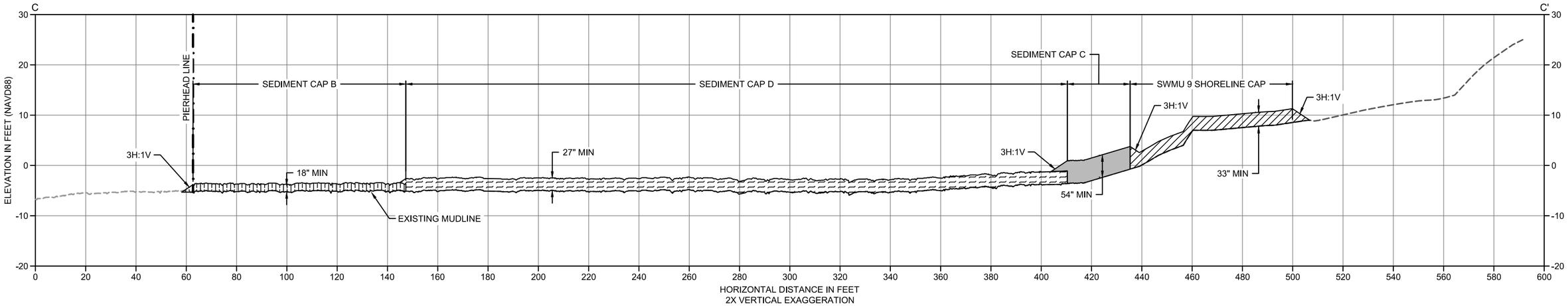
SEDIMENT AND SHORELINE CAPPING PLAN SECTIONS A AND B

C-6

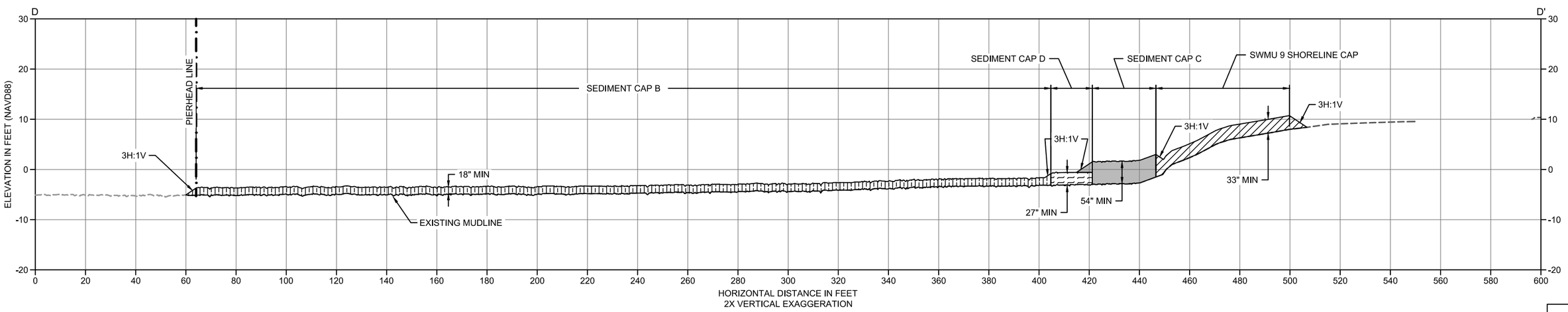
SHEET NO. 19 OF 22

K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Capping.dwg C-6

Aug 11, 2016 8:54am tgriga



C / - CAPPING SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'



D / - CAPPING SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'

LEGEND:
2015 BATHYMETRY (CLE)
2011 UPLAND (LANDMARK)

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

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Aug 11, 2016 8:54am lgriga

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

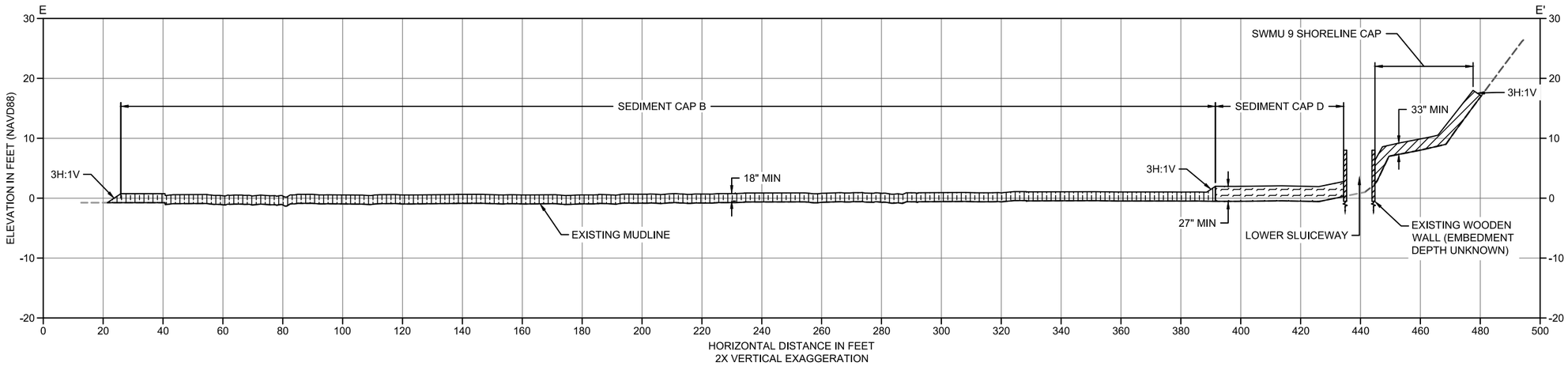
DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

SEDIMENT SHORELINE CAPPING PLAN SECTIONS C AND D

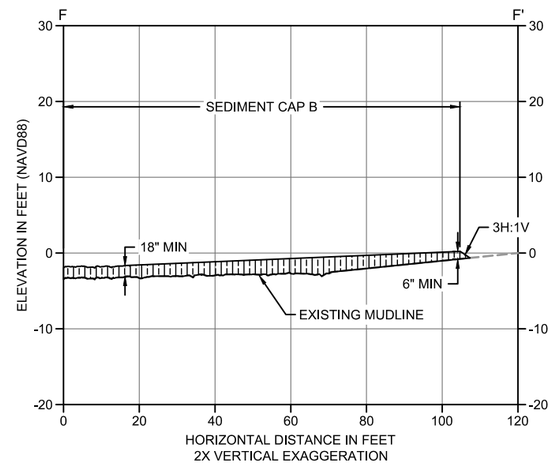
C-7

SHEET NO. **20** OF **22**



E / - CAPPING SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'

LEGEND:
2015 BATHYMETRY (CLE)
2011 UPLAND (LANDMARK)



F / - CAPPING SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 10'

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

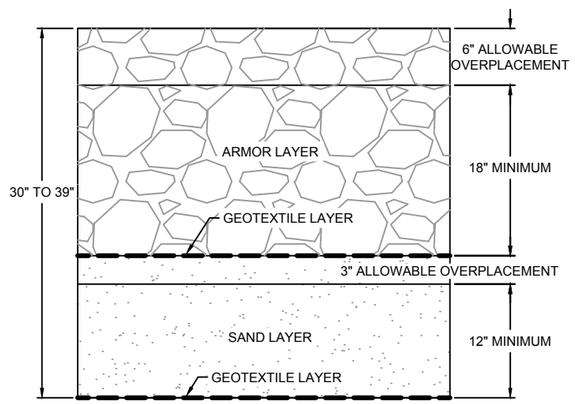
DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

SEDIMENT SHORELINE CAPPING PLAN SECTIONS E AND F

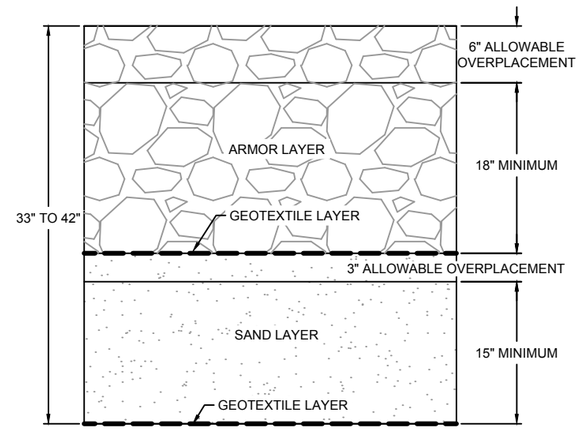
C-8

SHEET NO. 21 OF 22

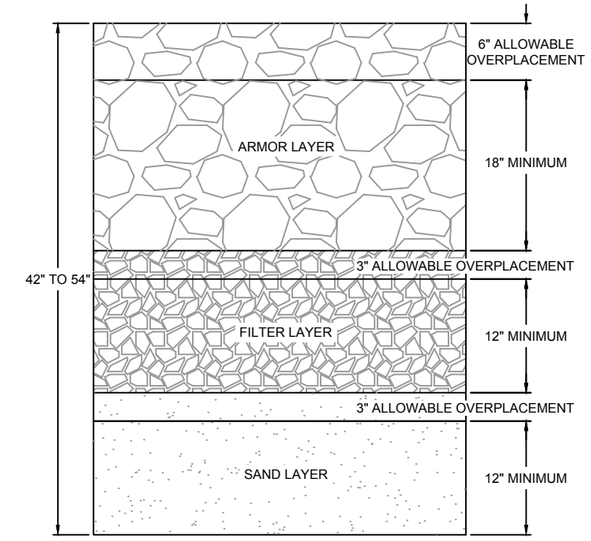
Aug 11, 2016 8:55am tgriga K:\Projects\0287-Honeywell International Inc\DVW Remedial Design Support\Construction Plans\0297-DVW-PL-Capping.dwg C-8



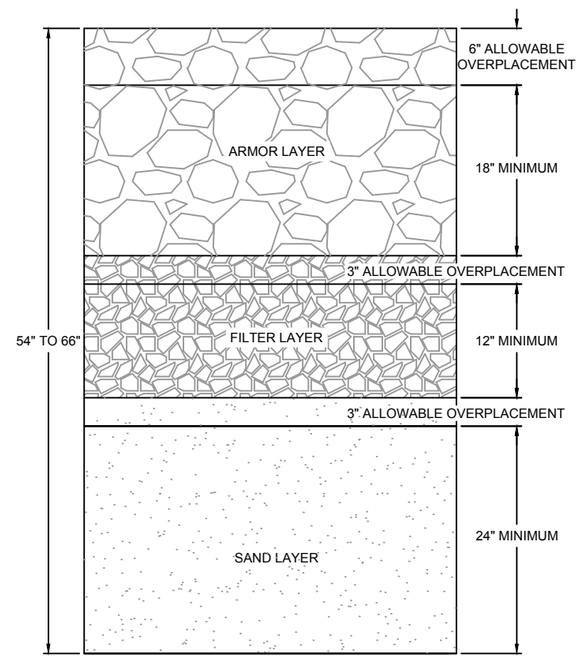
1 - TYPICAL DETAIL - SHORELINE COVE CAP
SCALE:NTS



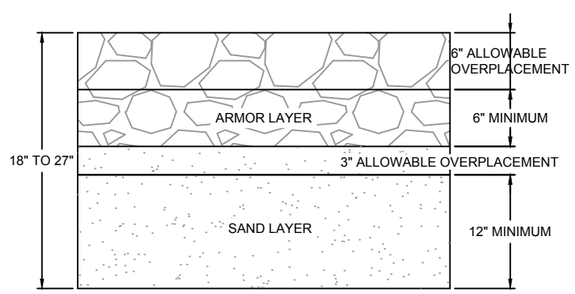
2 - TYPICAL DETAIL - SHORELINE SWMU 9 CAP
SCALE:NTS



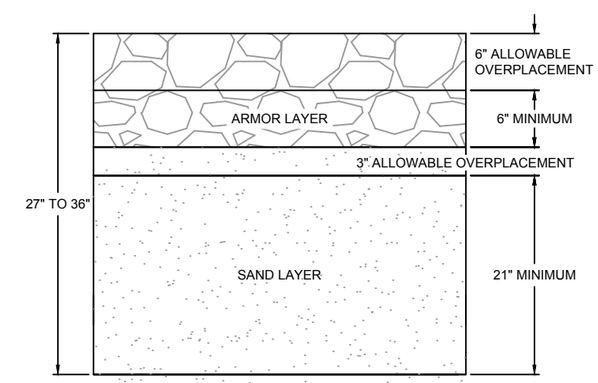
3 - TYPICAL DETAIL - SEDIMENT CAP A
SCALE:NTS



5 - TYPICAL DETAIL - SEDIMENT CAP C
SCALE:NTS



4 - TYPICAL DETAIL - SEDIMENT CAP B
SCALE:NTS



6 - TYPICAL DETAIL - SEDIMENT CAP D
SCALE:NTS

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT - 30% DESIGN

ANCHOR QEA

CHEMTRADE
Honeywell

REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: S. BAGNULL
DRAWN BY: T. GRIGA
CHECKED BY: T. MERRITTS
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: AUGUST 2016

DELAWARE VALLEY WORKS FACILITY - LOWER SLUICEWAY, SHORELINE, AND SEDIMENT INTERIM MEASURE

TYPICAL CAPPING DETAILS

C-9

SHEET NO. **22** OF **22**

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Aug 11, 2016 8:55am tgriga