

Addendum 1: Updates to contract drawings

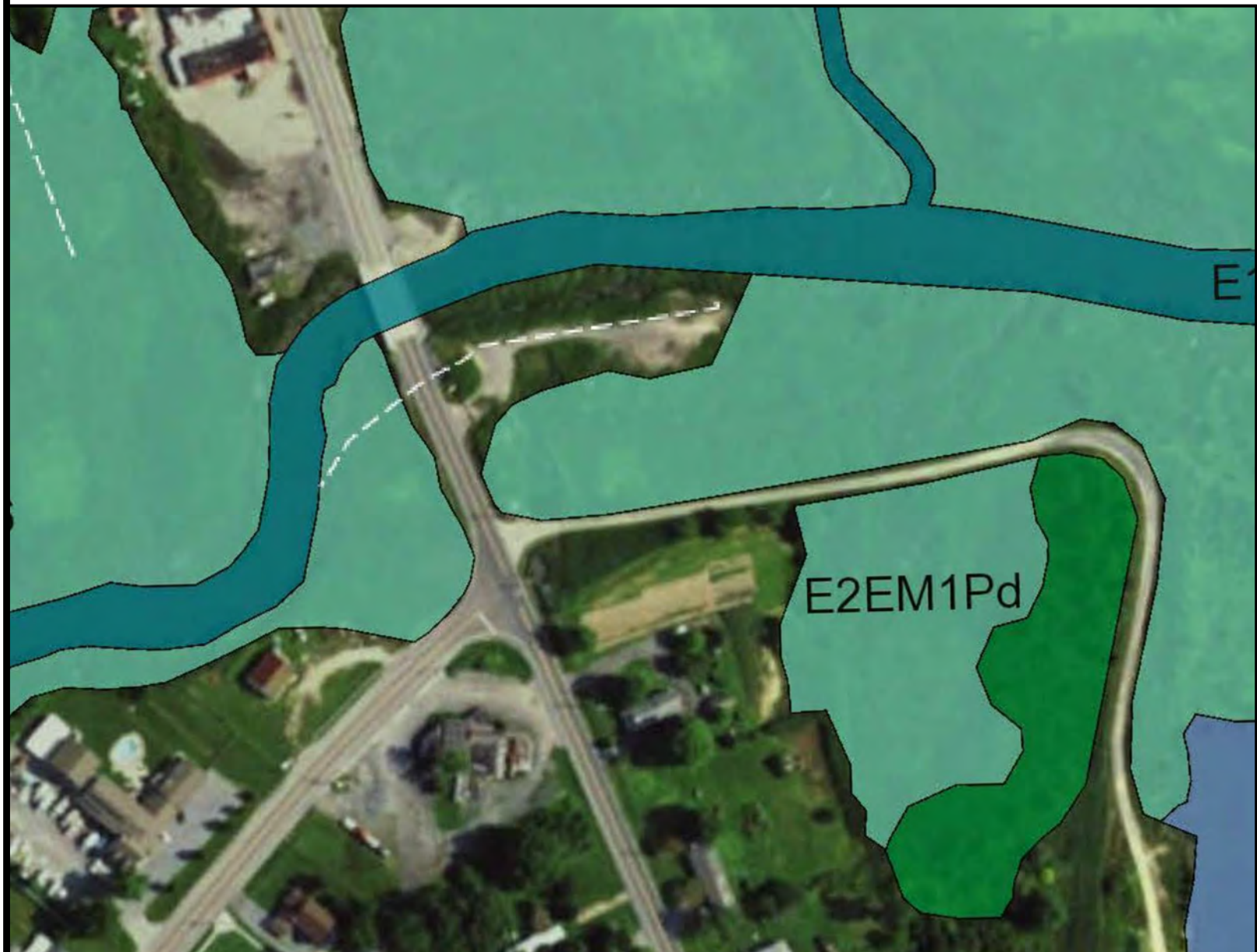


SOIL MAP

SCALE: 1" = 100'

SOIL LEGEND

- Ba BROADKILL-APPOQUINIMINK COMPLEX, SOIL GROUP D
Uia UNICORN LOAM, SOIL GROUP C



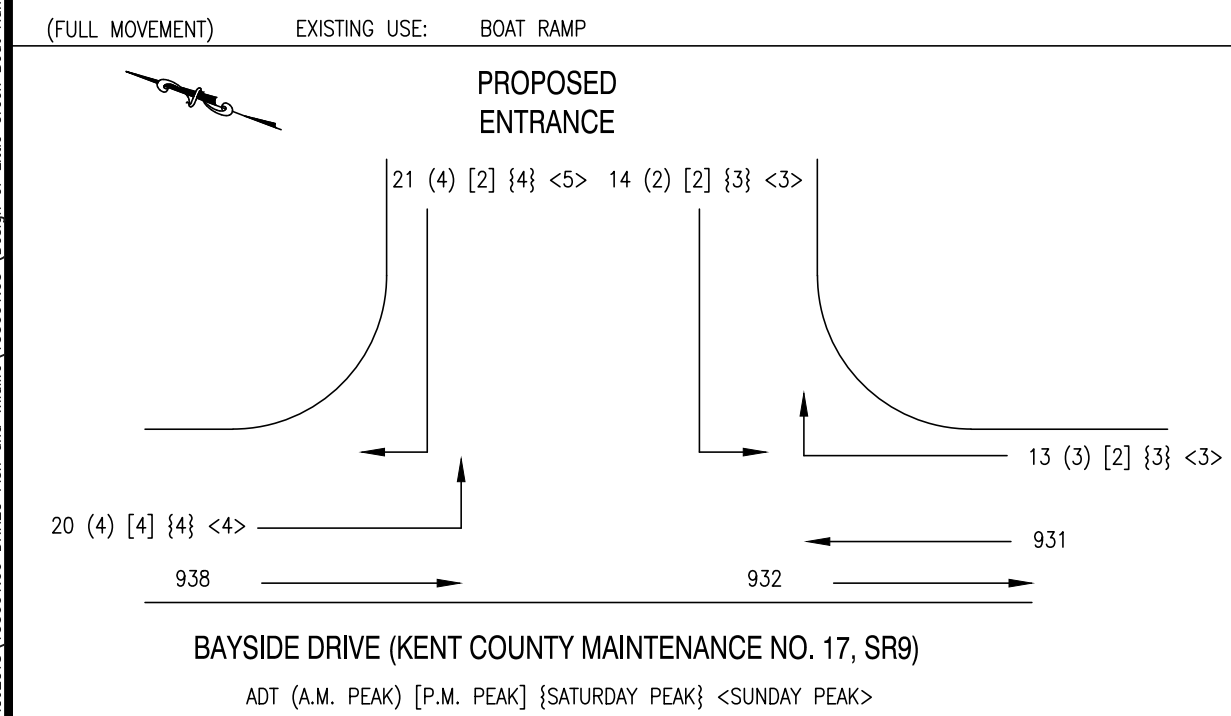
WETLAND MAP

SCALE: 1" = 200'

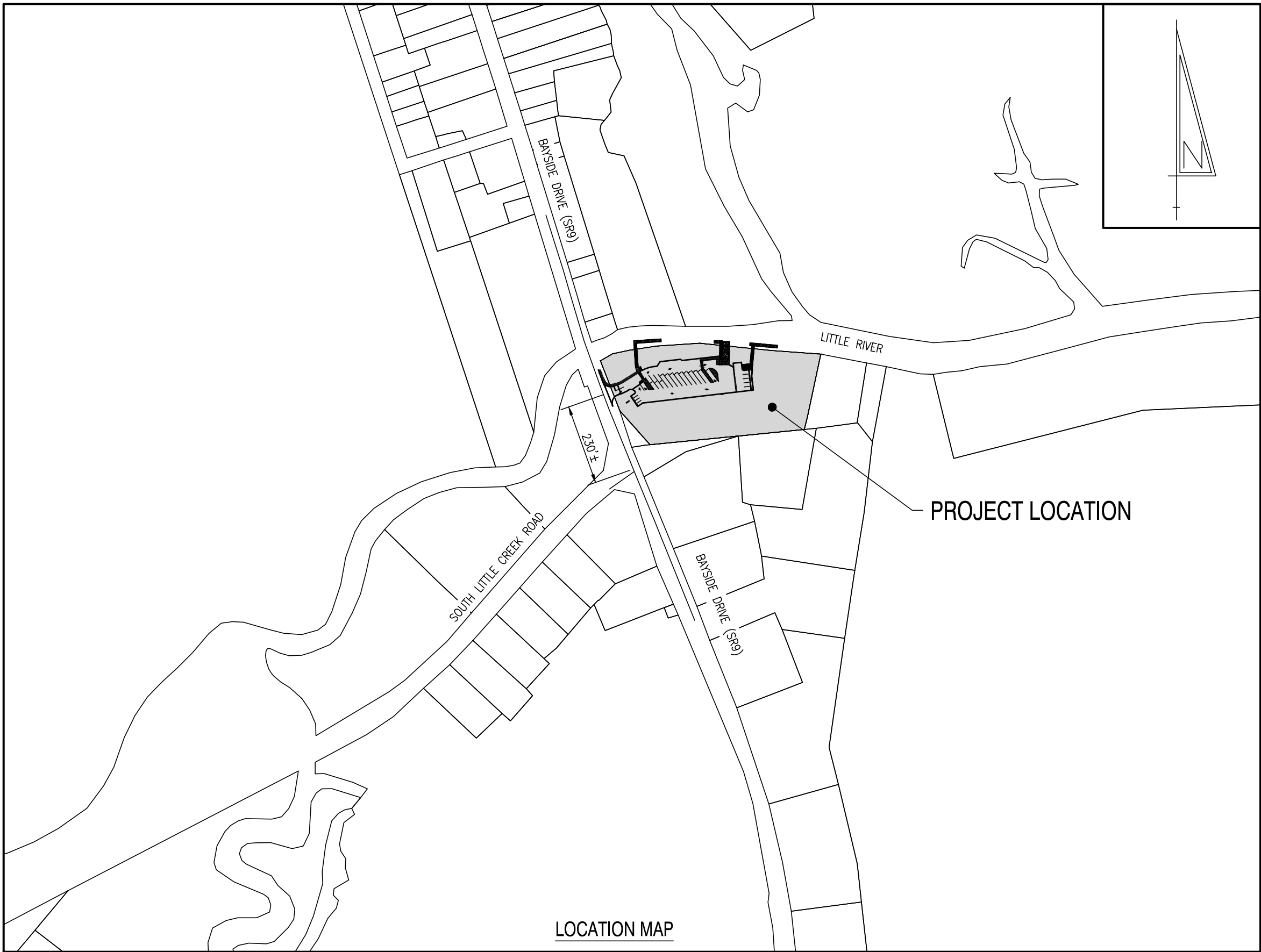
WETLAND LEGEND

- E2EM1Pd ESTUARINE INTERTIDAL EMERGENT PERSISTENT (IRREGULARLY FLOODED PARTIALLY DRAINED/DITCHED WETLAND)

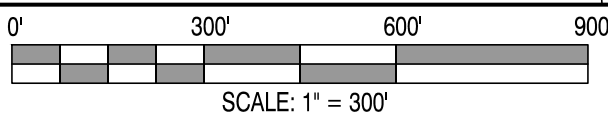
TRIP GENERATION - BAYSIDE DRIVE (SR9) K17



| | |
|--|--|
| ROAD TRAFFIC DATA -- BAYSIDE DRIVE, SR9 (K17) | |
| FUNCTIONAL CLASSIFICATION | MAJOR COLLECTOR |
| POSTED SPEED LIMIT = | 25 MPH |
| 2015 ROADWAY EXISTING ADT = | 1,583 VEH/DAY (FROM 2015 DELDOT TRAFFIC SUMMARY) |
| 2025 ROADWAY 10-YEAR PROJECTED ADT = | 1,16 X 1,583 = 1,836 VEH/DAY |
| DESIGN VEHICLE -- P/T | 1,836 + 68 = 1,904 VEH/DAY |
| CROSS FLOOR AREA= 225 S.F. ENFORCEMENT STORAGE BUILDING | 6 (FROM 2015 DELDOT TRAFFIC SUMMARY) |
| TRAFFIC PATTERN GROUP | 224 VEH/DAY |
| 10-YR PROJECTED PEAK HOUR TRAFFIC = 11.77% X 1,904 = | |
| SITE TRAFFIC DATA | |
| SOURCE: ITE TRIP GENERATION MANUAL 9TH EDITION (LUC 411 CITY PARK)* | |
| ONE PROPOSED ENTRANCE -- FULL MOVEMENT | |
| DESIGN VEHICLE -- P/T | |
| CROSS FLOOR AREA= 225 S.F. ENFORCEMENT STORAGE BUILDING | |
| 2,973 ACRE BOAT ACCESS FACILITY | |
| TOTAL ADT = 22.75 x 2,973= 68 VEH/DAY (SINCE THIS TYPE OF RECREATIONAL FACILITY IS TYPICALLY A WEEKEND TRAFFIC GENERATOR, THE SITE ADT WAS GENERATED USING THE GENERATION RATE FOR SATURDAY) | |
| DIRECTIONAL DISTRIBUTION | |
| PROPOSED ENTRANCE (FULL MOVEMENT) | |
| 60% TO AND FROM NORTH | ADT 41 A.M. PEAK 8 P.M. PEAK 6 SATURDAY PEAK 8 SUNDAY PEAK 9 |
| 40% TO AND FROM SOUTH | ADT 27 A.M. PEAK 5 P.M. PEAK 4 SATURDAY PEAK 6 SUNDAY PEAK 6 |
| 6.45% TRUCKS & BUSES AT ENTRANCE = 9 | |
| * THE CURRENT ITE MANUAL HAS NO DATA FOR A BOAT RAMP FACILITY. THE LAND USES AVAILABLE UNDER RECREATIONAL FACILITIES THAT WOULD BE REASONABLY REPRESENTATIVE BASED ON OWNERSHIP AND USE WOULD BE THE PUBLIC PARK LAND USES. FROM AMONG THOSE, CITY PARK WAS THE BEST FIT BASED ON THE SIZE/ACERAGE OF THE PROPOSED FACILITY EVEN THOUGH THE SITE IS STATE OWNED. | |



LOCATION MAP



INDEX OF SHEETS

| | |
|---------------|--|
| C100-C118 | CONSTRUCTION PLANS |
| EP200-EP207 | ENTRANCE PLANS |
| SWM400-SWM410 | SEDIMENT AND STORMWATER MANAGEMENT PLANS |

WAIVER REQUEST

THIS PLAN HAS BEEN GRANTED CONDITIONAL APPROVAL (DATED MAY 15, 2017) ON A WAIVER FROM CHAPTER 187, SUBSECTION 205-221 ITEM B, DRIVE AISLE WIDTH:

REMOVE BUFFER REQUIREMENTS TO ALLOW CONSTRUCTION WITHIN THE SHORELINE BUFFERS AND REMOVE RIPARIAN BUFFER REQUIREMENTS.

VARIANCE REQUEST

THIS PLAN HAS OBTAINED APPROVAL (DATED MARCH 14, 2017) FOR A VARIANCE FROM CHAPTER 205, SUBSECTION 205-221 ITEM B, DRIVE AISLE WIDTH:

THE SITE PLAN PROPOSES 12 FEET WIDE DRIVE AISLE FOR THE ENFORCEMENT PARKING AND FOR ACCESS TO THE ENFORCEMENT DOCK. THE STAFF HAS APPROVED THIS VARIANCE REQUEST TO REDUCE DRIVE AISLE WIDTH TO 12 FEET WIDE.

THIS PLAN HAS OBTAINED CONDITIONAL APPROVAL (DATED MAY 15, 2017) FOR A VARIANCE FROM CHAPTER 205, SUBSECTION 205-224 ITEM B, INTERIOR PLANTING AREAS:

THIS SITE PLAN PROPOSES THE ELIMINATION OF INTERIOR PLANTING AREAS WITHIN THE OFF-STREET PARKING AREA. THE CONDITIONS OF THE MODIFIED APPROVAL STATE TO RELOCATE LANDSCAPING TO ALTERNATIVE AREAS ON THE SITE. LANDSCAPING HAS BEEN RELOCATED TO THE WEST SIDE OF THE SITE, NEAR THE ENTRANCE ALONG SR9 AND ON THE NORTH SIDE OF THE SITE ALONG THE SOUTHERN BANK OF THE LITTLE RIVER AS SHOWN ON THE LANDSCAPING PLAN.

WETLANDS PERMITTING

THIS PLAN IS PURSUING A SECTION 404 INDIVIDUAL PERMIT FROM THE UNITED STATES ARMY CORPS OF ENGINEERS TO PERMIT THE DISTURBANCES TO EXISTING FEDERALLY REGULATED WETLANDS. THIS PLAN ALSO IS PURSUING A WETLANDS AND SUBAQUEOUS LANDS PERMIT FROM THE DNREC WETLANDS AND SUBAQUEOUS LANDS SECTION FOR IMPACTS TO THE EXISTING STATE REGULATED WETLANDS.

WETLAND CERTIFICATION

THIS PROPERTY, TAX MAP #ED-00-078.00-01-08.00, HAS BEEN EXAMINED BY COASTAL & ESTUARINE RESEARCH, INC. FOR THE PRESENCE OF WATERS OF THE UNITED STATES, INCLUDING WETLANDS (SECTION 404 AND SECTION 10), STATE SUBAQUEOUS LANDS AND STATE REGULATED WETLANDS AS ESTABLISHED BY THE REVIEWING AGENCIES IN THE FORM OF MANUALS, POLICIES AND PROCEDURES IN PLACE AT THE TIME THAT THE INVESTIGATION WAS CONDUCTED. THE WETLAND INFORMATION CONTAINED IN THIS PLAN SET IS IN ACCORDANCE WITH THIS CRITERIA. THE WETLAND DELINEATION FOR THIS PROJECT WAS COMPLETED BY COASTAL & ESTUARINE RESEARCH, INC.

EVELYN MAURMEYER
COASTAL & ESTUARINE RESEARCH, INC. -- MARINE STUDIES COMPLEX
P.O. BOX 674
LEWES, DELAWARE 19958
PHONE: (302) 645-9610

CERTIFICATION OF OWNERSHIP

I, JOHN CLARK, CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION AND DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED PLAN AND THAT RESPONSIBLE PERSONNEL (I.E. BLUE CARD HOLDER) INVOLVED IN THE LAND DISTURBANCE WILL HAVE A CERTIFICATION OF TRAINING PRIOR TO INITIATION OF THE PROJECT, AT A DNREC SPONSORED OR APPROVED TRAINING COURSE FOR THE CONTROL OF EROSION AND SEDIMENT DURING CONSTRUCTION. IN ADDITION, I GRANT THE DNREC SEDIMENT AND STORMWATER PROGRAM THE RIGHT TO CONDUCT ON-SITE REVIEWS, AND I UNDERSTAND MY RESPONSIBILITIES UNDER THE NPDES CONSTRUCTION GENERAL PERMIT, AS REFERENCED ON THIS COVERSHEET.

JOHN CLARK -- FISHERIES SECTION ADMINISTRATOR
DELAWARE DIVISION OF FISH & WILDLIFE
89 KINGS HIGHWAY
DOVER, DE 19901
PHONE: (302) 739-9914

CERTIFICATION OF PLAN ACCURACY

I, HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE COMPLIES WITH THE APPLICABLE STATE AND LOCAL REGULATIONS AND ORDINANCES.

ALEXANDER E. SCHMIDT, P.E., DE NO. 16139
CENTURY ENGINEERING, INC.
4134 NORTH DUPONT HIGHWAY
DOVER, DELAWARE 19901
PHONE: (302) 734-9188 / FAX: (302) 734-4589

DATA COLUMN

| | |
|---|--|
| 1. TAX PARCEL NUMBER: | ED-00-078.00-01-08.00 |
| 2. KENT COUNTY FILE NUMBER: | S-17-05 |
| 3. ADDRESS OF SITE: | BAYSIDE DRIVE DOVER, DE 19901 |
| 4. ZONING: | BG: GENERAL BUSINESS AC: AGRICULTURAL CONSERVATION |
| 5. LOT AREA: | 3.125± ACRES (BASED UPON PLAN PREPARED BY MILLER LEWIS, INC., DATED JUNE 13, 2016) |
| 6. SOURCE OF TITLE: | D.B. 7173-327 |
| 7. EXISTING USE: | FISHING AREA |
| 8. PROPOSED USE: | BOAT RAMP/FISHING PIER/PARKING LOT |
| 9. TOTAL NUMBER OF LOTS: | 1 (NO NEW BUILDING LOTS OR DWELLINGS PROPOSED BY THIS PLAN) |
| 10. ACTIVE RECREATION AREA: | N/A |
| 11. PASSIVE RECREATION AREA: | N/A |
| 12. PROPOSED BUILDING SQUARE FOOTAGE: | 0 SF |
| 13. MONUMENTS: | |
| EXISTING: | 4 (IRON ROD) |
| PROPOSED: | 0 (MONUMENTS) |
| 14. SEWER PROVIDER: | NO SEWER PROPOSED FOR SITE |
| 15. WATER PROVIDER: | ON-SITE WELL |
| 16. REQUIRED PARKING: | |
| REQUIRED: | N/A |
| PROPOSED: | 26 SPACES (INCLUDES 2 ACCESSIBLE SPACES) |
| 17. SITE BREAKDOWN: | |
| EXISTING SITE | BG ZONING AC ZONING: |
| GRAVEL : | 10,274± S.F. 174± S.F. |
| WETLAND: | 48,388± S.F. 45,718± S.F. |
| OPEN SPACE: | 27,017± S.F. 4,739± S.F. |
| OVERALL TOTAL: | 85,659± S.F. 50,474± S.F. |
| LOT TOTAL: | 85,659± + 50,474± = 136,133± (3.125± ACRES) |
| PROPOSED SITE | BG ZONING AC ZONING: |
| CONCRETE: | 722± S.F. 7,749± S.F. |
| PAVEMENT: | 28,708± S.F. 1,809± S.F. |
| OPEN SPACE: | 56,229± S.F. 40,916± S.F. |
| OVERALL TOTAL: | 85,659± S.F. 50,474± S.F. |
| LOT TOTAL: | 85,659± + 50,474± = 136,133± (3.125± ACRES) |
| PROPOSED IMPERVIOUS | BG ZONING AC ZONING: |
| PAVEMENT: | 28,708± S.F. 7,749± S.F. |
| CONCRETE: | 722± S.F. 1,809± S.F. |
| GARAGE: | 471± S.F. 474± S.F. |
| OVERALL TOTAL: | 29,901± S.F. (0.686± ACRES) 10,032± S.F. (0.230± ACRES) |
| % IMPERVIOUS COVERAGE PROVIDED (ALLOWABLE): | |
| BG ZONING: 0.686 ACRES/1.966 ACRES = 34.9% (75% ALLOWABLE PER KENT COUNTY CODE 205-173) | |
| AC ZONING: 0.230 ACRES/1.159 ACRES = 19.8% (20% ALLOWABLE PER KENT COUNTY CODE 205-51) | |
| WOODLAND PRESERVATION AREAS EXISTING ON SITE: | 0.00 ACRES |
| REQUIRED PRESERVATION PER KENT COUNTY CODE 187-73: | 0.00 ACRES (70% OF EXISTING) |
| WOODLAND PRESERVATION AREAS PROVIDED: | 0.00 ACRES |
| TOTAL AREA WITHIN STORMWATER MANAGEMENT AREA: | 0.00 ACRES |
| % SLOPE: AVERAGE 2.50% | |
| 15. WETLANDS (2.159± ACRES): | |
| A WETLANDS INVESTIGATION WAS PERFORMED BY COASTAL & ESTUARINE RESEARCH, INC. AND WETLANDS WERE FOUND ON SUBJECT PROPERTY. SEE REPORT DATED JUNE 2016. | |
| 16. FLOODPLAIN: | |
| PER FEMA MAP NO.10001C01874, DATED JULY 7, 2014, THE SUBJECT PARCEL IS DETERMINED TO BE WITHIN ZONE AE (BASE FLOOD ELEVATION DETERMINED: ELEV: 11). | |
| 17. GROWTH ZONE: | |
| THE SUBJECT PARCEL LIES OUTSIDE THE DESIGNATED GROWTH ZONE. | |
| 18. TOPOGRAPHY: | |
| TOPOGRAPHY TAKEN FROM SITE SURVEY PERFORMED BY MILLER LEWIS, INC. AND CENTURY ENGINEERING, INC. | |
| 19. DATUM: NAD83 (PER MILLER LEWIS, INC.) | |
| 20. OWNER: | |
| STATE OF DELAWARE DIVISION OF FISH & WILDLIFE (DEPARTMENT OF FISH & WILDLIFE--PER KENT COUNTY RECORDS) 89 KINGS HIGHWAY DOVER, DE 19901 (302) 739-9914 | |
| 21. APPLICANT: | |
| STATE OF DELAWARE DIVISION OF FISH & WILDLIFE 89 KINGS HIGHWAY DOVER, DE 19901 JOHN CLARK (302) 739-9914 | |
| 22. ENGINEER: | |
| CENTURY ENGINEERING, INC. 4134 N. DUPONT HIGHWAY DOVER, DE 19901 ALEXANDER SCHMIDT, P.E. (302) 734-9188 | |

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CENTURY
ENGINEERING
CONSULTING ENGINEERS ■ SURVEYORS

ADDRESS: 4134 NORTH DUPONT HIGHWAY
DOVER, DE 19901
P: (302) 734-9188 F: (302) 734-4589
EMAIL: ce@centuryeng.com
WEBSITE: www.centuryeng.com

REVISIONS

| DATE | DESCRIPTION |
|----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

ADDENDUM

| DATE | DESCRIPTION |
|------------|---|
| 02/01/2018 | REVISED PER GATORCROCK SHOP DRAWINGS. SEE DETAILS ON SHEETS C111-C116 |

CONSTRUCTION PLANS

FOR

DELAWARE DIVISION OF FISH & WILDLIFE

LITTLE CREEK BOAT RAMP

BAYSIDE DRIVE (SR9, KCR17)

LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

COVER SHEET

KENT COUNTY - FINAL

DESIGN

JANUARY 2ND, 2018

DRAWN CHK'D/DISIGNER

DLD / MDS AES

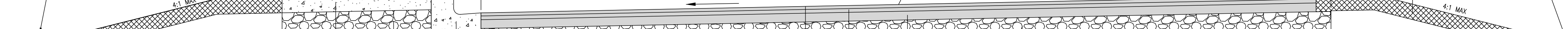
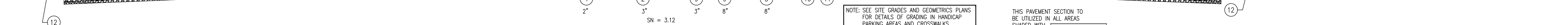
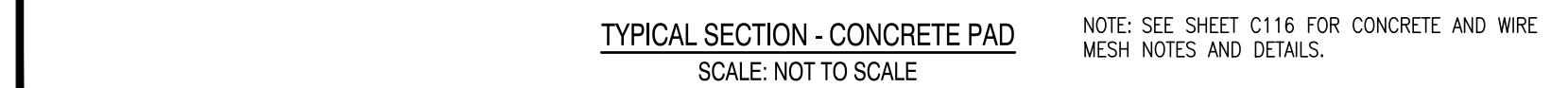
SCALE SHEET NO.

AS NOTED

PROJECT NO.

155001.03

C100



15. THESE DRAWINGS DO NOT INCLUDE NECESSARY ELEMENTS OF CONSTRUCTION SAFETY. ALL CONSTRUCTION, INCLUDING EXCAVATION, MUST BE COMPLETED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, CFR §1926.652(b)(2), AND ALL FEDERAL, STATE AND LOCAL REQUIREMENTS. CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SITE SAFETY.

| | |
|------|----------------------------------|
| C111 | CROSS SECTION - FLOORING FLOOR |
| C112 | CROSS SECTION - ENFORCEMENT DOCK |
| C113 | CROSS SECTION - COURTESY DOCK |
| C114 | CROSS SECTION - BOAT RAMP |
| C115 | STRUCTURAL DETAILS - GANGWAY |
| C116 | STRUCTURAL DETAILS - BOAT RAMP |
| C117 | CONSTRUCTION DETAILS |
| C118 | CONSTRUCTION DETAILS |

| REVISIONS | |
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| ADDENDUM | |
|--|------------|
| DESCRIPTION | DATE |
| REVISED PER GATORDOCK SHOP DRAWINGS. SEE DETAILS ON SHEETS C111-C116 | 02/01/2018 |

CONSTRUCTION PLANS
FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SF9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

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| ADDENDUM | |
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| DESCRIPTION | DATE |
| 1 REVISED PER GATORDOCK SHOP DRAWINGS, SEE DETAILS ON SHEETS C111-C116 | 02/01/2018 |

CONSTRUCTION PLANS
FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

| | |
|--|---|
| PROJECT | I |
| | |
| SHEET TITLE | |
| EXISTING CONDITIONS & DEMOLITION PLAN | |

KENT COUNTY - FINAL
DESIGN
 JANUARY 2ND, 2018

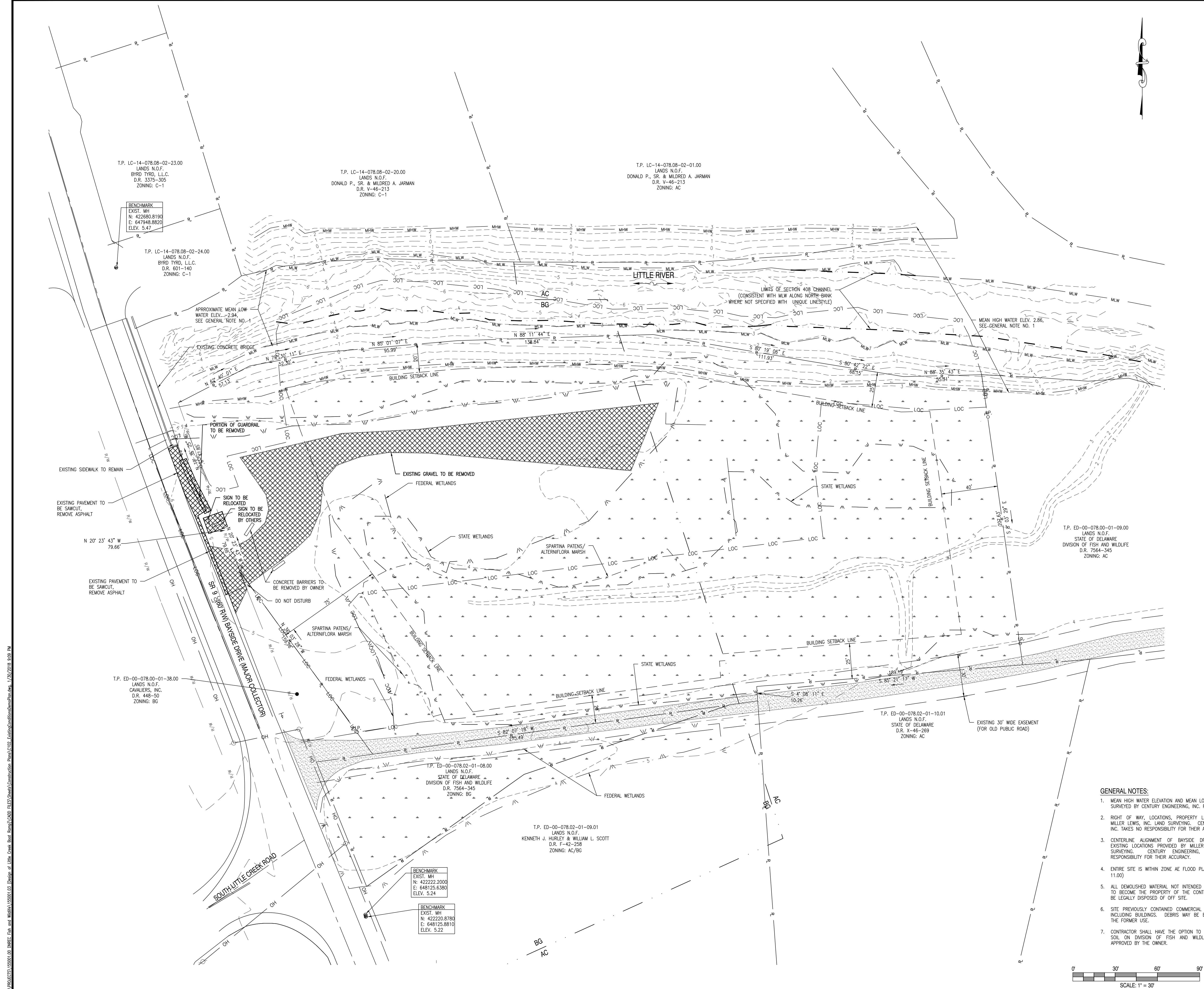
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DLD / MDS **AES**

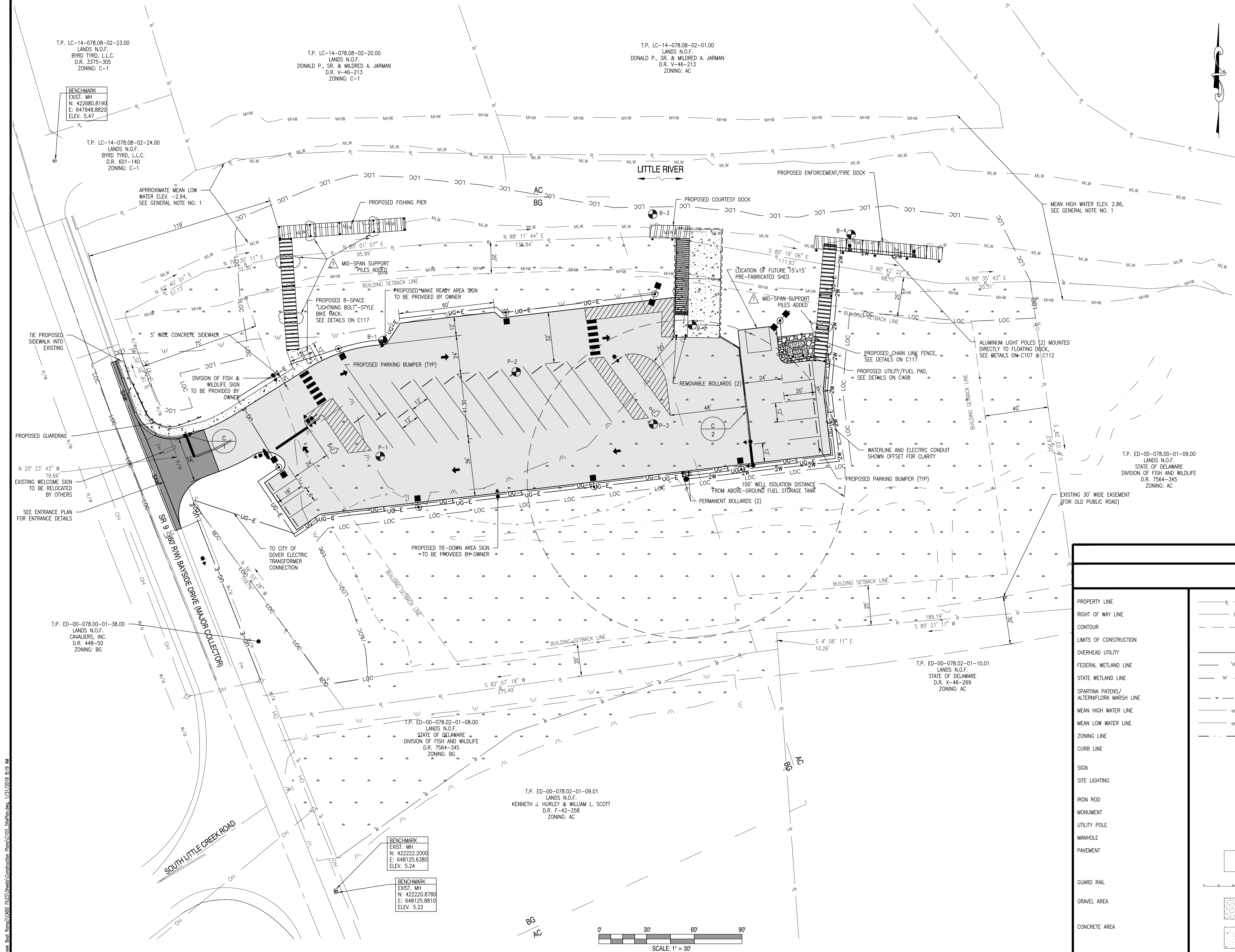
SCALE SHEET NO.

1" = 30'

PROJECT NO. **C102**
 155001.03



C:\WORK\DESIGN\55551.03 DWG: Fish and Wildlife\55551.03 Design of Little Creek Boat Ramp\55551.03 Sheet\Construction Plans\CL15_Signals.dwg, 1/21/2016, 8:19 AM



| CURB SCHEDULE | | |
|---------------|--------------------------------|--------|
| CURB NO. | TYPE | LENGTH |
| 1 | P.C.C. CURB & GUTTER, TYPE 3-8 | 73' |
| 2* | P.C.C. CURB, TYPE 1-8 | 75' |

* NOTE: CURB 2 SHALL HAVE 8" REVEAL ON EACH SIDE.

GENERAL NOTES:

1. MEAN HIGH WATER ELEVATION AND MEAN LOW WATER ELEVATION SURVEYED BY CENTURY ENGINEERING, INC. FEBRUARY 2017.
2. RIGHT OF WAY, LOCATIONS, PROPERTY LINES PROVIDED BY MILLER LEWIS, INC. LAND SURVEYING. CENTURY ENGINEERING, INC. TAKES NO RESPONSIBILITY FOR THEIR ACCURACY.
3. CENTERLINE ALIGNMENT OF BAYSIDE DRIVE BASED UPON EXISTING LOCATIONS PROVIDED BY MILLER LEWIS, INC. LAND SURVEYING. CENTURY ENGINEERING, INC. TAKES NO RESPONSIBILITY FOR THEIR ACCURACY.
4. ENTIRE SITE IS WITHIN ZONE AE FLOOD PLAN (B.F.E. = ELEV. 11.00)
5. ALL DEMOLISHED MATERIAL NOT INTENDED FOR RECYCLING. IS TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF OFF SITE.
6. BEARING AND DISTANCES SHOWN ON PLAN TAKEN FROM A SURVEY PLAN PREPARED BY MILLER LEWIS, INC. LAND SURVEYING, DATED JUNE 13, 2016, DRAWING NO. ED-2-78-01-08.
7. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING SIGN BASES AND POLES FOR SIGNS DESIGNATED AS "TO BE PROVIDED BY OWNER". CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING SIGN ONCE PROVIDED BY OWNER.

LEGEND

| | EXISTING | PROPOSED |
|---|----------|----------|
| PROPERTY LINE | RL | N/A |
| RIGHT OF WAY LINE | R/W | N/A |
| CONTOUR | | LOC |
| LIMITS OF CONSTRUCTION | N/A | N/A |
| OVERHEAD UTILITY | OH | N/A |
| FEDERAL WETLAND LINE | W | N/A |
| STATE WETLAND LINE | W | N/A |
| SPARTINA PATENS/ ALTERNIFLORA MARSH LINE | W | N/A |
| MEAN HIGH WATER LINE | MHW | N/A |
| MEAN LOW WATER LINE | MLW | N/A |
| ZONING LINE | | N/A |
| CURB LINE | N/A | |
| SIGN | T | |
| SITE LIGHTING | N/A | |
| IRON ROD | IR | N/A |
| MONUMENT | N/A | C.M. |
| UTILITY POLE | U | N/A |
| MANHOLE | MH | N/A |
| PAVEMENT | | |
| GUARD RAIL | | |
| GRAVEL AREA | | N/A |
| CONCRETE AREA | | |
| SIDEWALK | N/A | |
| GANGWAY | N/A | |
| DOCK/PIER | N/A | |
| WELL | N/A | WELL |
| UNDERGROUND ELECTRIC | UG-E | UG-E |
| 2" WATERLINE | N/A | 2W |
| 8" WATERLINE | N/A | 8W |
| PILES | N/A | |
| BOLLARD | N/A | |

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CONSTRUCTION PLANS

FOR

DELAWARE DIVISION OF FISH & WILDLIFE

LITTLE CREEK BOAT RAMP

BAYSIDE DRIVE (SR9, KCR17)

LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE

CONSTRUCTION LAYOUT PLAN

KENT COUNTY - FINAL DESIGN

JANUARY 2ND, 2018

DRAWN CHK'D/DISIGNER

DLD / MDS

AES

SCALE SHEET NO.

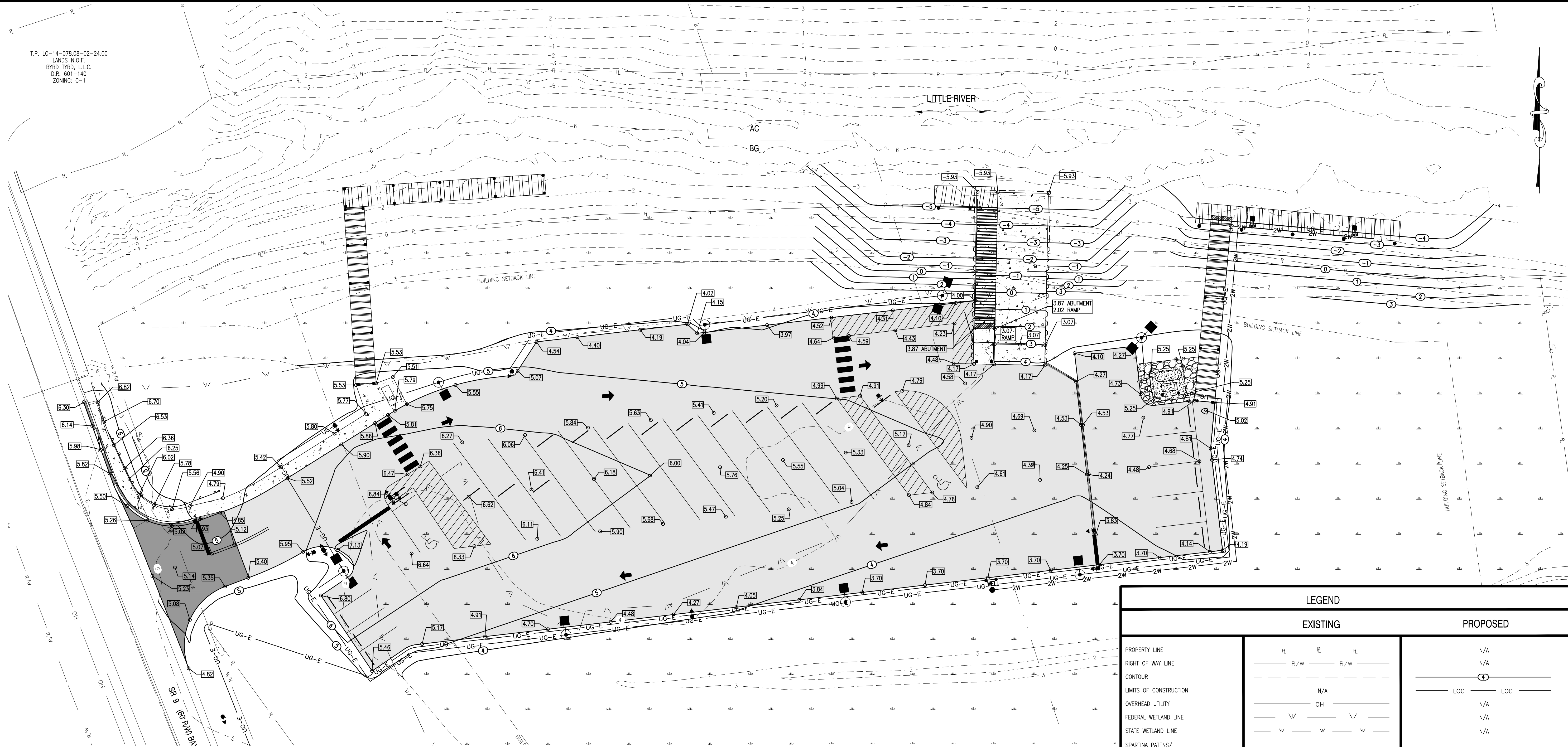
1" = 30'

PROJECT NO.

155001.03

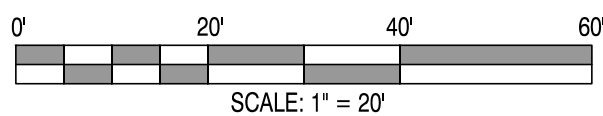
C103

T.P. LC-14-078.08-02-24.00
LANDS N.O.F.
BYRD TYRO, L.L.C.
D.R. 501-140
ZONING: C-1



GENERAL NOTES:

1. MEAN HIGH WATER ELEVATION AND MEAN LOW WATER ELEVATION SURVEYED BY CENTURY ENGINEERING, INC. FEBRUARY 2017.
2. RIGHT OF WAY, LOCATIONS, PROPERTY LINES PROVIDED BY MILLER LEWIS, INC. LAND SURVEYING. CENTURY ENGINEERING, INC. TAKES NO RESPONSIBILITY FOR THEIR ACCURACY.
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6. CURB AT ENFORCEMENT PARKING AREA SHALL HAVE 8" REVEAL ON BOTH SIDES.



LEGEND

| | EXISTING | PROPOSED |
|---|------------------|-------------------|
| PROPERTY LINE | — RL — RL — RL — | N/A |
| RIGHT OF WAY LINE | — R/W — R/W — | N/A |
| CONTOUR | — — — | — 4 — LOC — LOC — |
| LIMITS OF CONSTRUCTION | N/A | N/A |
| OVERHEAD UTILITY | — OH — | N/A |
| FEDERAL WETLAND LINE | — W — W — W — | N/A |
| STATE WETLAND LINE | — w — w — w — | N/A |
| SPARTINA PATENS/ ALTERNIFLORA MARSH LINE | — — — | N/A |
| MEAN HIGH WATER LINE | — MHW — MHW — | N/A |
| MEAN LOW WATER LINE | — MLW — MLW — | N/A |
| ZONING LINE | — — — | N/A |
| CURB LINE | N/A | — — — |
| SIGN | — — — | — — — |
| SITE LIGHTING | N/A | — — — |
| IRON ROD | — — — | N/A |
| MONUMENT | — — — | N/A |
| UTILITY POLE | — — — | N/A |
| MANHOLE | — (MH) — | N/A |
| PAVEMENT | — — — | — — — |
| GUARD RAIL | — — — | — — — |
| GRAVEL AREA | — — — | N/A |
| CONCRETE AREA | — — — | — — — |
| SIDEWALK | N/A | — — — |
| GANGWAY | N/A | — — — |
| DOCK/PIER | N/A | — — — |
| WELL | N/A | — — — |
| UNDERGROUND ELECTRIC | N/A | — — — |
| 2" WATERLINE | N/A | — 2W — 2W — 2W — |
| 8" WATERLINE | N/A | — 8W — 8W — 8W — |
| PILES | N/A | — — — |
| BOLLARD | N/A | — — — |

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the exclusive use of its clients
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other use is authorized or intended.

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ENGINEERING
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ADDRESS: 4134 NORTH DUPONT HIGHWAY
DOVER, DE 19901
P: (302) 734-9188 F: (302) 734-4589
WEBSITE: www.centuryeng.com
EMAIL: ce@centuryeng.com

| REVISIONS | |
|-----------|---|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

| ADDENDUM | |
|--|------------|
| DESCRIPTION | DATE |
| REVISED PER GATORDOCK SHOP DRAWINGS. SEE DETAILS ON SHEETS C111-C116 | 02/01/2018 |

CONSTRUCTION PLANS
FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE
**SITE GRADES AND
GEOMETRICS PLAN**

KENT COUNTY - FINAL
DESIGN
JANUARY 2ND, 2018
DRAWN CHK'D/DISIGNER
DLD / MDS AES
SCALE SHEET NO.
1" = 20'
PROJECT NO.
155001.03
C104

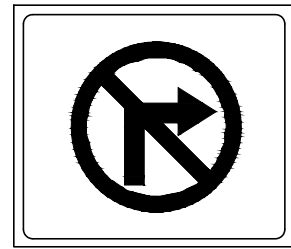
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T.P. LC-14-078.08-02-23.00
LANDS N.O.F.
BYRD THRO, L.L.C.
D.R. 3375-305
ZONING: C-1

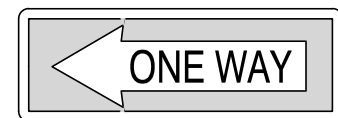
T.P. LC-14-078.08-02-20.00
LANDS N.O.F.
DONALD P., SR. & MILDRED A. JARMAN
D.R. V-46-213
ZONING: C-1

T.P. LC-14-078.08-02-01.00
LANDS N.O.F.
DONALD P., SR. & MILDRED A. JARMAN
D.R. V-46-213
ZONING: AC

T.P. LC-14-078.08-02-24.00
LANDS N.O.F.
BYRD THRO, L.L.C.
D.R. 601-140
ZONING: C-1



1 RIGHT TURN PROHIBITED DETAIL
NOT TO SCALE
• SEE DE MUTCD PART 2, TABLE 2B-1



2 ONE WAY DETAIL
NOT TO SCALE
• SEE DE MUTCD PART 2, TABLE 2B-1



3 STOP SIGN DETAIL
NOT TO SCALE



4 ACCESSIBLE PARKING SIGN DETAIL
NOT TO SCALE



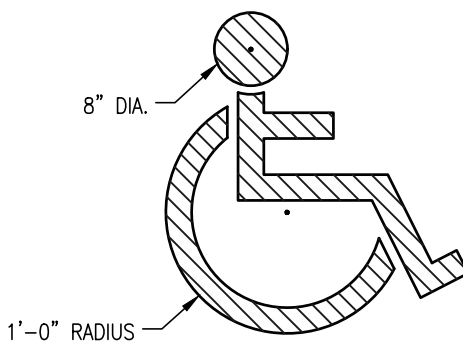
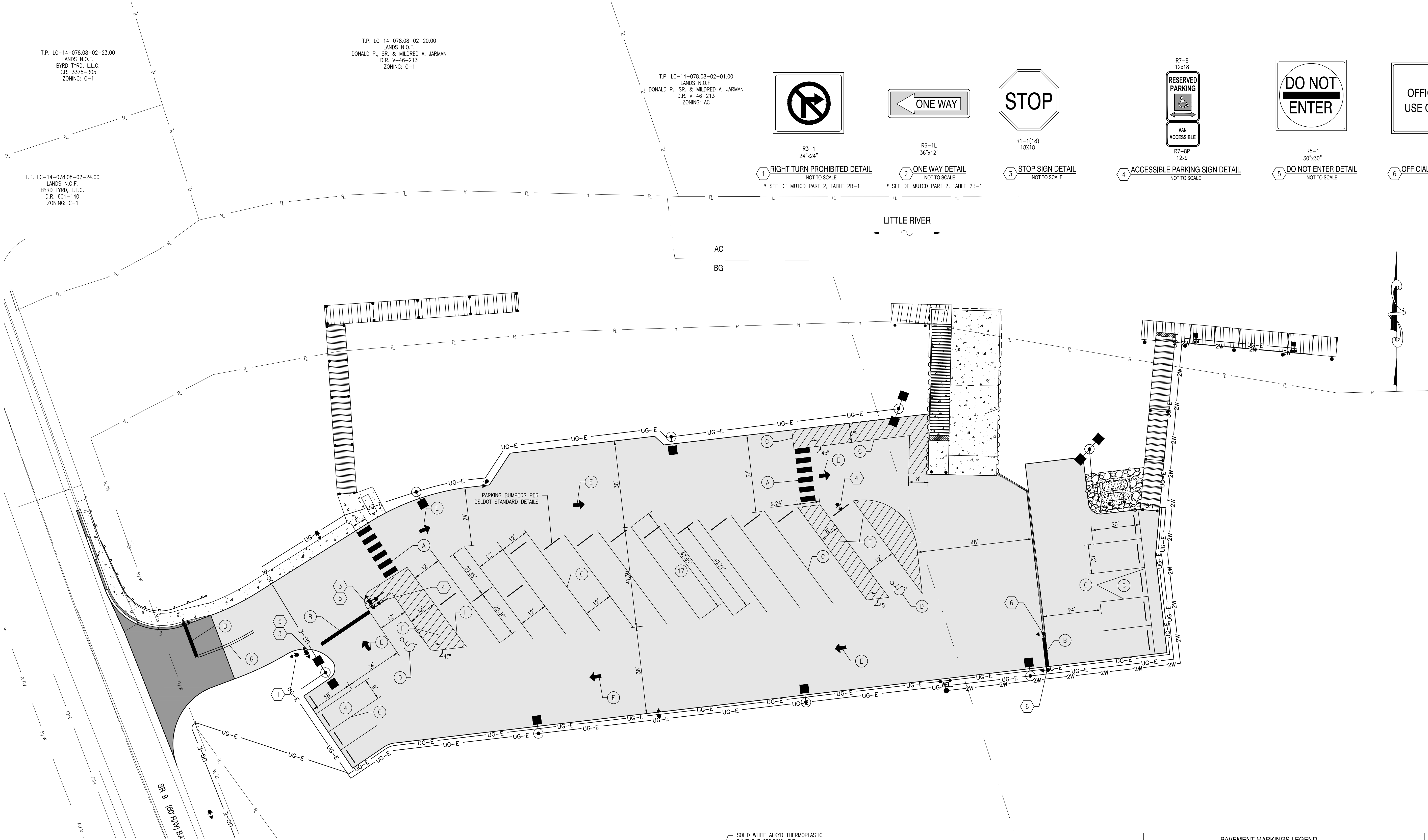
5 DO NOT ENTER DETAIL
NOT TO SCALE



6 OFFICIAL USE ONLY DETAIL
NOT TO SCALE

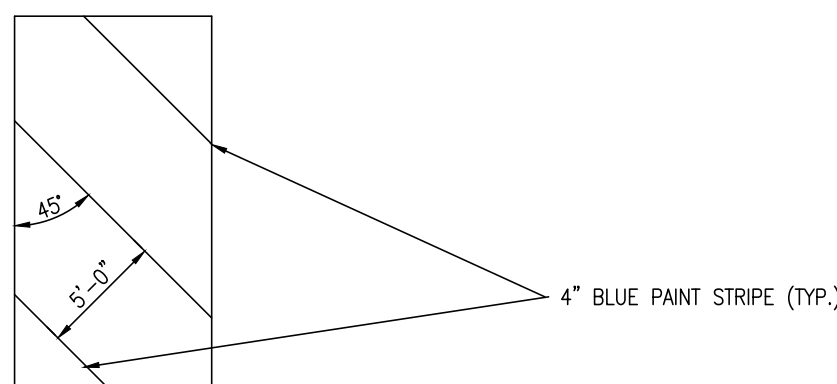
LITTLE RIVER

AC
BG

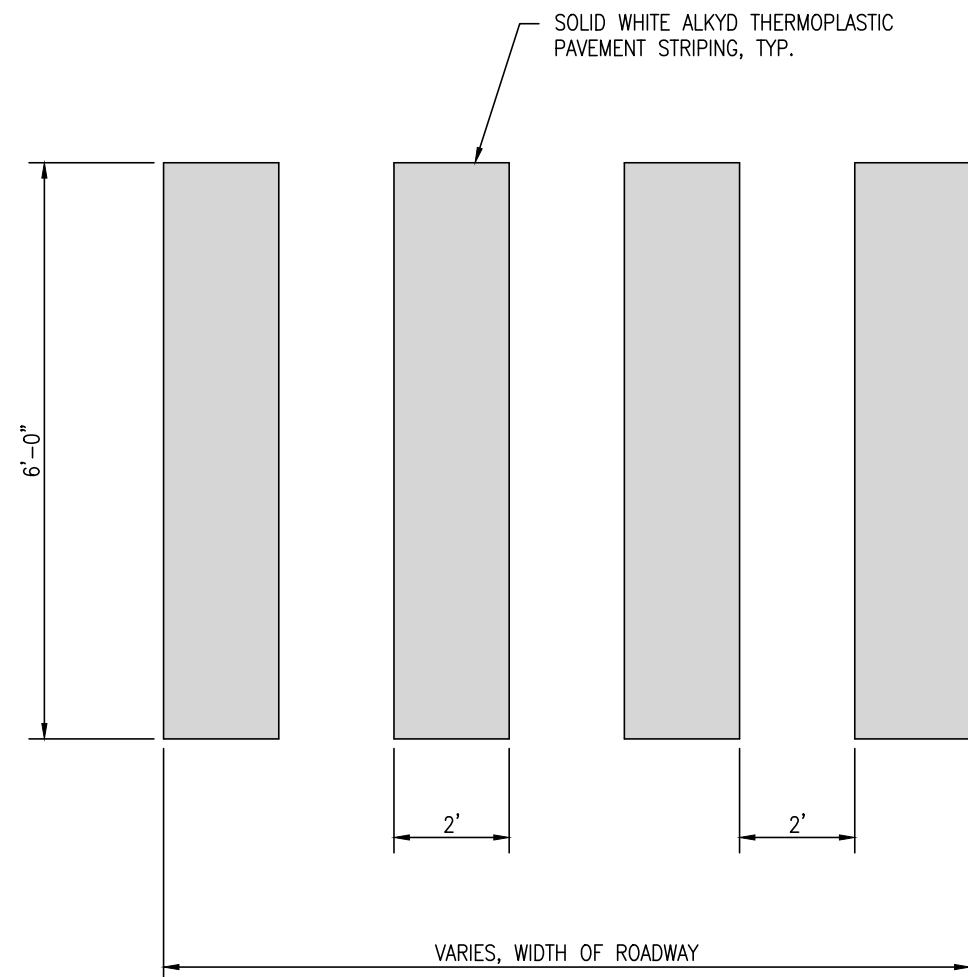


- NOTES:
1. SYMBOL STRIPING SHALL BE 3" WIDE (MIN.) AND PAINTED ON EACH HANDICAPPED SPACE.
 2. HANDICAPPED SPACES SHALL BE 12'-0" WIDE.

HANDICAPPED SYMBOL DETAIL
NOT TO SCALE



TYPICAL ACCESSIBLE PARKING HATCH DETAIL
NOT TO SCALE

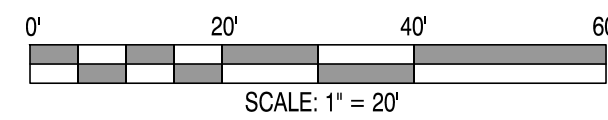


TYPICAL CROSSWALK DETAIL
NOT TO SCALE

| PAVEMENT MARKINGS LEGEND | |
|--------------------------|--|
| SYMBOL | ITEM |
| (A) | 24" SOLID WHITE ALKYD THERMOPLASTIC PAVEMENT STRIPING |
| (B) | 16" SOLID WHITE ALKYD THERMOPLASTIC PAVEMENT STRIPING |
| (C) | 4" WHITE ALKYD THERMOPLASTIC PAINT PAVEMENT STRIPING |
| (D) | BLUE RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, SYMBOL/LEGEND |
| (E) | WHITE ALKYD THERMOPLASTIC SYMBOL |
| (F) | 4" BLUE ALKYD THERMOPLASTIC PAINT PAVEMENT STRIPING |
| (G) | 5" DOUBLE YELLOW ALKYD THERMOPLASTIC (5-6-5) |

GENERAL NOTES:

1. RIGHT OF WAY, LOCATIONS, PROPERTY LINES PROVIDED BY MILLER LEWIS, INC. LAND SURVEYING. CENTURY ENGINEERING, INC. TAKES NO RESPONSIBILITY FOR THEIR ACCURACY.
2. CENTERLINE ALIGNMENT OF BAYSIDE DRIVE (SR 9) BASED UPON EXISTING LOCATIONS PROVIDED BY MILLER LEWIS, INC. LAND SURVEYING. CENTURY ENGINEERING, INC. TAKES NO RESPONSIBILITY FOR THEIR ACCURACY.



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WEBSITE: www.centuryeng.com
EMAIL: ce@centuryeng.com

REVISIONS

| DATE | DESCRIPTION |
|----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

ADDENDUM

| DATE | DESCRIPTION |
|------------|--|
| 02/01/2018 | REVISED PER GATORDOCK SHOP DRAWINGS. SEE DETAILS ON SHEETS C111-C116 |

CONSTRUCTION PLANS

FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE

SIGNING AND
STRIPING PLAN

KENT COUNTY - FINAL
DESIGN

JANUARY 2ND, 2018

DRAWN CHK'D/DISIGNER

DLD / MDS AES

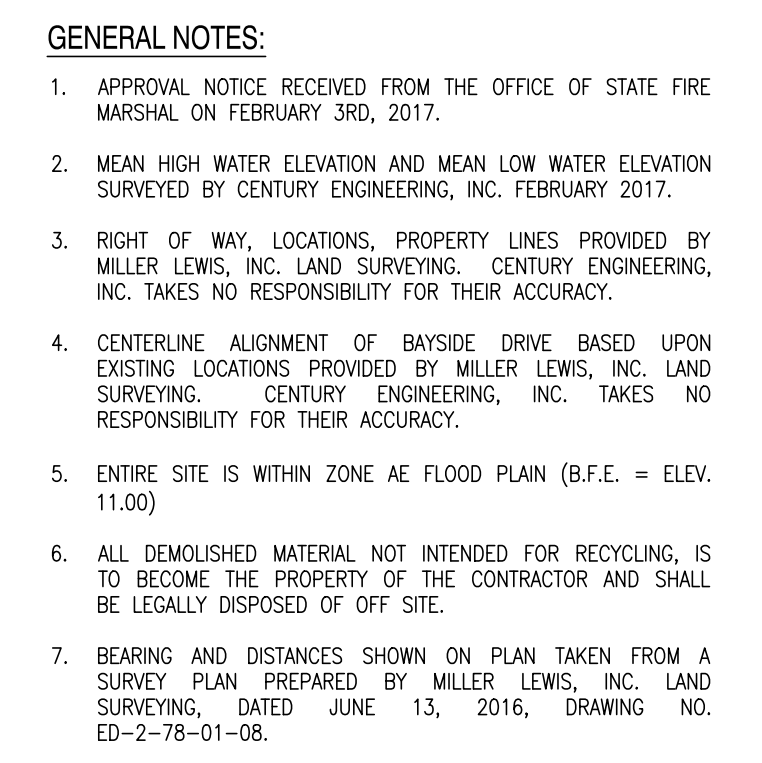
SCALE SHEET NO.

1" = 20'

PROJECT NO.

155001.03



C105

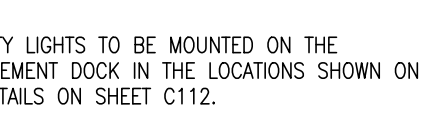


| | |
|--|---|
| PROJECT | <p>CONSTRUCTION PLANS</p> <p>FOR</p> <p>DELAWARE DIVISION OF FISH & WILDLIFE</p> <p>LITTLE CREEK BOAT RAMP</p> <p>BAYSIDE DRIVE (SR9, KCR17)</p> <p>LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE</p> |
| SHEET TITLE | <p>FIRE MARSHAL PLAN</p> |
| <p>KENT COUNTY - FINAL DESIGN</p> <p>JANUARY 2ND, 2018</p> | |
| DRAWN | CHK'D/DESIGNER |
| DLD / MDS | AES |
| SCALE | SHEET NO. |
| 1" = 30' | C106 |
| <p>PROJECT NO.</p> <p>155001.03</p> | |

21. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH SITE CONTRACTOR FOR PLACEMENT OF ALL UNDERGROUND CONDUITS AND WIRING. UNDERGROUND SERVICE SHALL BE PLACED AS SHOWN ON THIS SHEET. ANY REVISIONS OR ALTERATIONS TO THE CONDUIT ALIGNMENT SHALL BE APPROVED BY THE ENGINEER.

ELECTRICAL LEGEND

| | |
|---|------------------------|
| — OH — | OVERHEAD ELECTRIC |
| - UG-E - | UNDERGROUND ELECTRIC |
|  | ELECTRIC UTILITY METER |
|  | ELECTRIC PANEL BOX |



C107

mm **CENTURY**
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ADDRESS:
4134 NORTH DUPONT HIGHWAY
DOVER DE 19901
DU 901 724 0335 E. / 701 724 4500

WEBSITE:
www.centuryeng.com

EMAIL:
info@centuryeng.com

ADDRESS:
4134 NORTH DUPONT HIGHWAY
DOVER, DE 19901
D: (202) 734 0199 E: (202) 734 4591

REVISION

| | |
|----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

ADDENDU

| △ | DESCRIPTION | DATE |
|---|--|----------|
| 1 | REVISED PER GATORDOCK SHOP DRAWINGS, SEE DETAILS ON SHEETS C111-C116 | 02/01/20 |

CONSTRUCTION PLANS

FOR

LITTLE CREEK BOAT RAMP

BAYSIDE DRIVE (SR9, KCR17)

LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

UTILITY PLAN

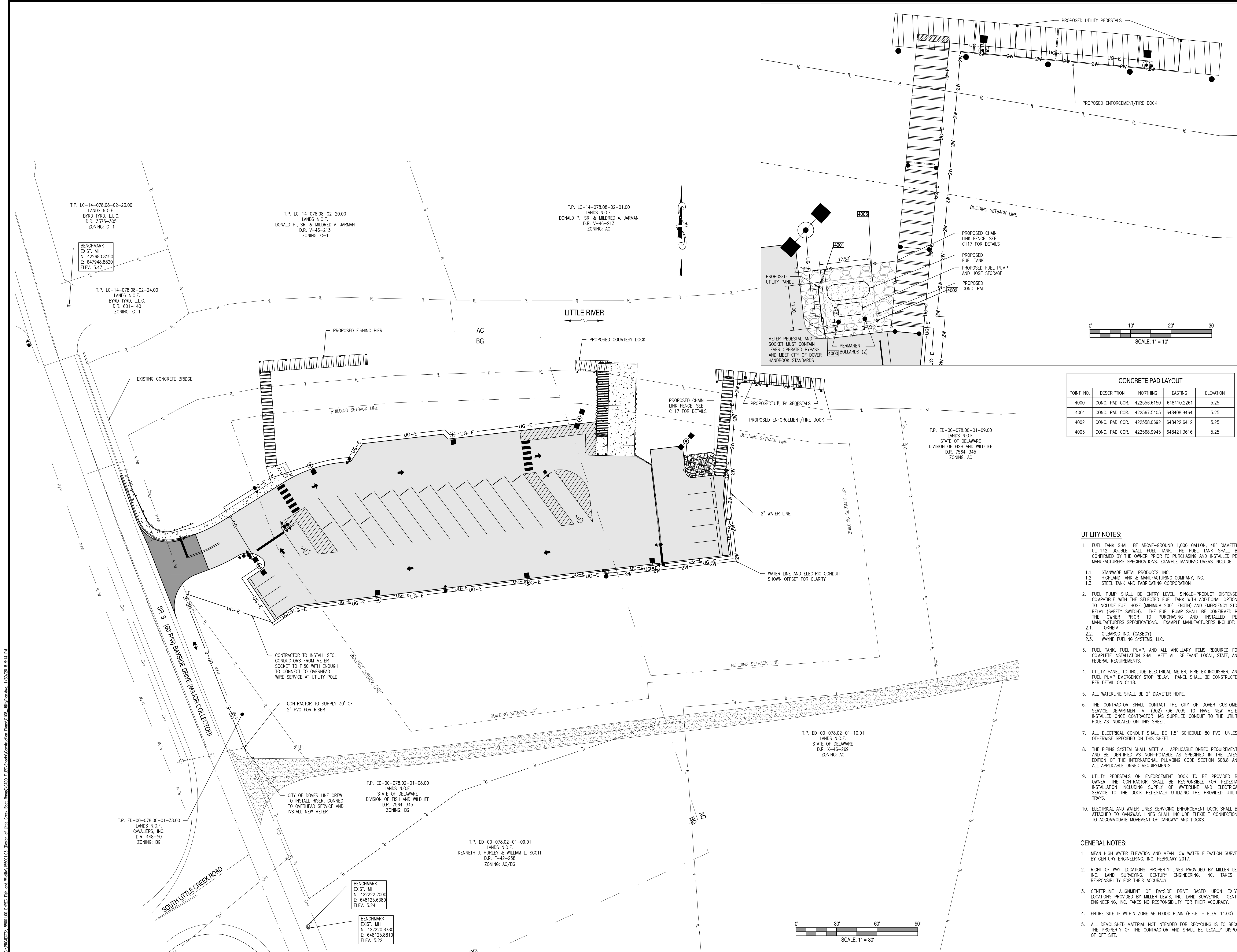
KENT COUNTY - FINAL
DESIGN

| | |
|-------|----------------|
| DRAWN | CHK'D/DESIGNER |
|-------|----------------|

SCALE

AS NOTED

C108



| HYNES & ASSOCIATES | | LOG OF BORING B-1 (Page 1 of 1) | | | | | |
|--|---|--|-------|------------|-------------------|--|--|
| Century Engineering, Inc. 4134 North Dupont Highway Dover, Delaware 19901 Century-Little Creek Boat Ramp Project No.: JCH-10160368 | | Date Completed: January 30, 2017 Logged By: J.L. Lindsey Drawn By: M. Hynes Drilling Method: HSA (Machine B-47 HD) Total Depth: 180.5 feet | | | | | |
| Depth in feet | DESCRIPTION | GS/GH/HC | UC/CS | Sample No. | Blow per 6 inches | Remarks | |
| 0 | Gray, wet, dense, fine to medium SAND, with little silt, trace fine gravel | | | SP-SM 1 | 3-13-16 | Scale 1" = 7.75 feet | |
| 2 | Dark gray, wet, to saturated, medium silt to very soft, organic SILT, with trace fine sand | | | 2 | 5-5-5 | Approximately 3 inches of rounded stone was encountered at the ground surface. | |
| 4 | | | | 3 | 2-5-1 | | |
| 6 | | | | 3 | 2-5-1 | Groundwater was encountered at 5 feet during drilling operations. | |
| 8 | | | | 5 | 1-1-1 | At completion water was at 9.5 feet; boring ceased in at 7 feet. | |
| 10 | | OH | | 4 | 2-5-1 | | |
| 12 | | | | 5 | WOH11" | | |
| 14 | | | | 5 | 1-5-1 | | |
| 16 | | | | 7 | 15-19-24 | | |
| 18 | | | | 5 | 1-2-2 | | |
| 20 | | | | 5 | 15-19-24 | | |
| 22 | Dark gray, saturated, dense, fine to coarse SAND and clayey SILT, with trace organic, etc. little fine gravel | MU/SM | | 7 | 15-19-24 | | |
| 24 | | | | 5 | 15-29-41 | | |
| 26 | Brown, saturated, very dense, fine to medium SAND, with trace silt | | | 5 | 15-29-41 | | |
| 28 | | SP | | 8 | 16-29-41 | | |
| 30 | | | | 5 | 12-19-30 | | |
| 32 | Brown, saturated, medium dense, fine to medium SAND, with some silt, trace clay | SM | | 10 | 7-11-10 | | |
| 34 | | | | 11 | 17-13-15 | | |
| 36 | Gray, saturated, medium dense to dense, fine to medium SAND, with trace silt | SP | | 12 | 11-14-17 | | |
| 38 | | | | 13 | 11-14-17 | | |
| 40 | Boring terminated at 50.5 feet. | | | | | | |

| HYNES & ASSOCIATES | | LOG OF BORING B-2 (Page 1 of 1) | | | | | |
|--|--|--|-------|------------|-------------------|--|--|
| Century Engineering, Inc. 4134 North Dupont Highway Dover, Delaware 19901 Century-Little Creek Boat Ramp Project No.: JCH-10160368 | | Date Completed: January 30, 2017 Logged By: J.L. Lindsey Drawn By: M. Hynes Drilling Method: HSA (Machine B-47 HD) Total Depth: 180.5 feet | | | | | |
| Depth in feet | DESCRIPTION | GS/GH/HC | UC/CS | Sample No. | Blow per 6 inches | Remarks | |
| 0 | Brown, wet, medium dense, fine to medium SAND, with fine silt, trace clay | | | SP-SM 1 | 3-8-8 | Scale 1" = 7.75 feet | |
| 2 | Dark gray, wet, to saturated, medium silt to very soft, organic SILT, with trace fine sand | | | 2 | 2-5-1 | Approximately 3 inches of rounded stone was encountered at the ground surface. | |
| 4 | | | | 3 | 2-5-1 | | |
| 6 | | | | 3 | 2-5-1 | Groundwater was encountered at 5 feet during drilling operations. | |
| 8 | | OH | | 4 | 2-5-1 | At completion water was at 9.5 feet; boring ceased in at 7 feet. | |
| 10 | | | | 5 | WOH11" | | |
| 12 | | | | 5 | WOH11" | | |
| 14 | | | | 5 | WOH11" | | |
| 16 | | | | 5 | WOH11" | | |
| 18 | Light gray, saturated, medium dense, fine to medium SAND, with trace silt | SP | | 6 | 10-15-17 | | |
| 20 | | | | 7 | 9-20-42 | | |
| 22 | Brown, saturated, very dense, fine to coarse SAND and clayey SILT, with trace organic, etc. little fine gravel | MU/SM | | 7 | 9-20-42 | | |
| 24 | | | | 8 | 10-28-35 | | |
| 26 | Brown, saturated, very dense, fine to medium SAND, with trace silt | | | 8 | 10-28-35 | | |
| 28 | | | | 9 | 9-20-42 | | |
| 30 | | | | 10 | 9-20-42 | | |
| 32 | Light gray, saturated, medium dense, fine to medium SAND, with trace silt | SP-SM | | 10 | 10-14-50 | | |
| 34 | | | | 11 | 20-500" | | |
| 36 | Gray, saturated, dense, fine to medium SAND, with some silt, trace clay | SP-SM | | 10 | 10-14-50 | | |
| 38 | | | | 11 | 20-500" | | |
| 40 | Gray, saturated, very dense, fine to medium SAND, with trace silt | | | 12 | 28-600" | | |
| 42 | | | | 13 | 28-600" | | |
| 44 | Gray, saturated, very dense, fine to medium SAND, with some silt, trace clay | SM | | 11 | 13-28-40 | | |
| 46 | | | | 12 | 15-18-17 | | |
| 48 | Gray, saturated, dense, fine to coarse SAND, with trace silt | SP-SM | | 12 | 15-18-17 | | |
| 50 | Boring terminated at 50.5 feet. | | | | | | |

| HYNES & ASSOCIATES | | LOG OF BORING B-3 (Page 1 of 2) | | | | | |
|--|--|--|-------|------------|-------------------|--|--|
| Century Engineering, Inc. 4134 North Dupont Highway Dover, Delaware 19901 Century-Little Creek Boat Ramp Project No.: JCH-10160368 | | Date Completed: January 31, 2017 Logged By: J.L. Lindsey Drawn By: M. Hynes Drilling Method: HSA (Machine B-47 HD) Total Depth: 175.5 feet | | | | | |
| Depth in feet | DESCRIPTION | GS/GH/HC | UC/CS | Sample No. | Blow per 6 inches | Remarks | |
| 0 | Dark gray, saturated, very soft, organic SILT, with trace fine sand | | | 1 | WOH11" | Scale 1" = 7.75 feet | |
| 2 | | | | 2 | WOH11" | Depth to mudline was 6 feet at 12:45 pm. | |
| 4 | | | | 3 | WOH11" | | |
| 6 | | | | 4 | WOH11" | | |
| 8 | | OH | | 5 | WOH11" | | |
| 10 | | | | 5 | WOH11" | | |
| 12 | | | | 5 | WOH11" | | |
| 14 | | | | 5 | WOH11" | | |
| 16 | | | | 5 | WOH11" | | |
| 18 | Light gray, saturated, medium dense, fine to coarse SAND, with trace silt, trace fine gravel | SP | | 6 | 10-15-17 | | |
| 20 | | | | 7 | 19-30-39 | | |
| 22 | Brown, saturated, very dense, fine to medium SAND, with trace silt, trace fine gravel | | | 8 | 11-40-50 | | |
| 24 | | SP | | 9 | 15-16-30 | | |
| 26 | | | | 10 | 10-14-50 | | |
| 28 | | | | 11 | 20-500" | | |
| 30 | | | | 12 | 28-600" | | |
| 32 | Light gray, saturated, medium dense, fine to medium SAND, with trace silt | SP-SM | | 10 | 10-14-50 | | |
| 34 | | | | 11 | 20-500" | | |
| 36 | Gray, saturated, dense, fine to medium SAND, with some silt, trace clay | SP-SM | | 10 | 10-14-50 | | |
| 38 | | | | 11 | 20-500" | | |
| 40 | Gray, saturated, very dense, fine to medium SAND, with trace silt | | | 12 | 28-600" | | |
| 42 | | | | 13 | 28-600" | | |
| 44 | Gray, saturated, very dense, fine to medium SAND, with trace silt | | | 14 | 28-600" | | |
| 46 | | | | 15 | 28-600" | | |
| 48 | | | | 16 | 28-600" | | |
| 50 | | | | 17 | 16-20-35 | | |
| 52 | Boring terminated at 75.5 feet. | | | | | | |

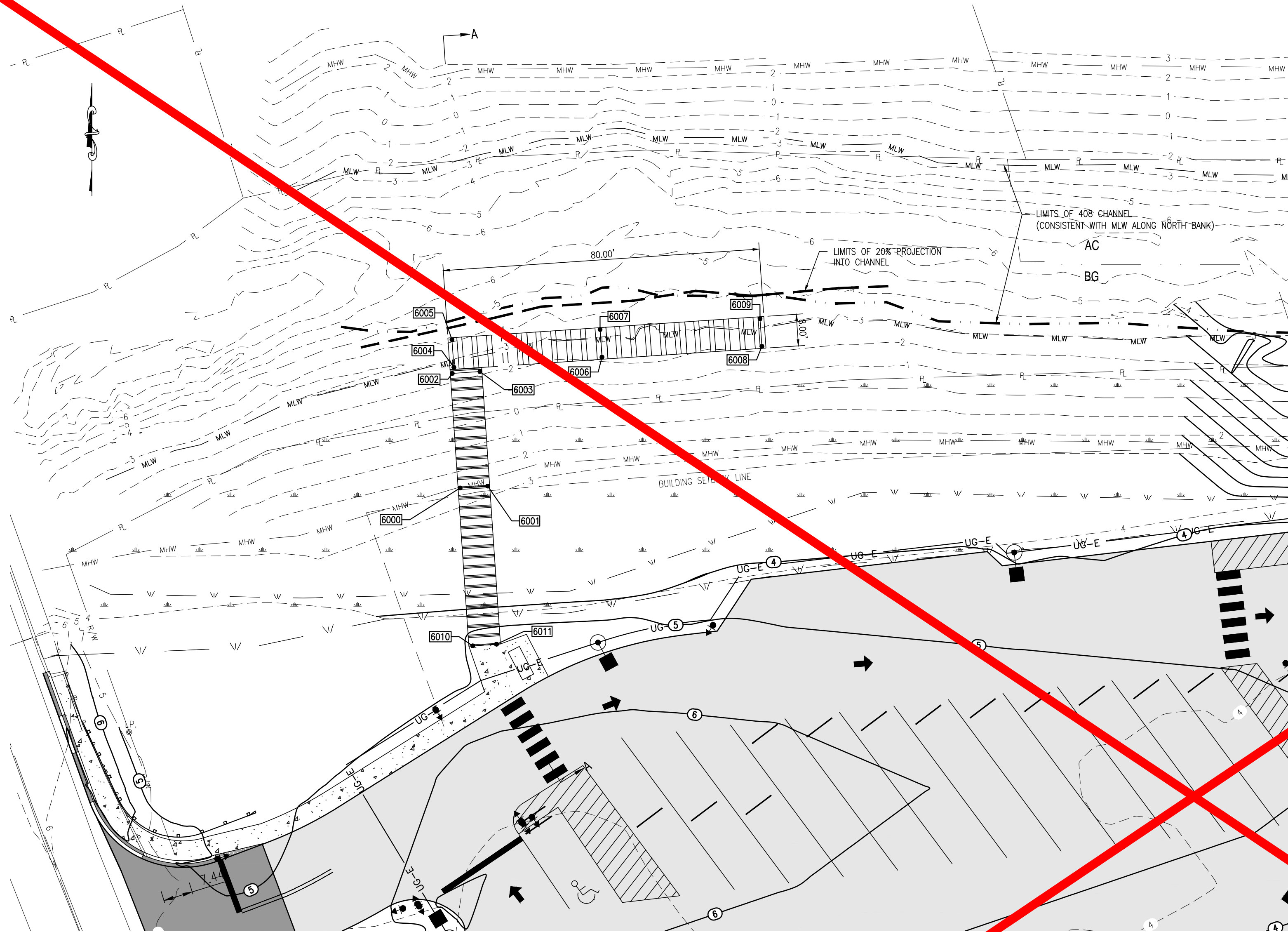
| HYNES & ASSOCIATES | | LOG OF BORING B-3 (Page 2 of 2) | | | | | |
|--|---|--|-------|------------|-------------------|---------|--|
| Century Engineering, Inc. 4134 North Dupont Highway Dover, Delaware 19901 Century-Little Creek Boat Ramp Project No.: JCH-10160368 | | Date Completed: January 31, 2017 Logged By: J.L. Lindsey Drawn By: M. Hynes Drilling Method: HSA (Machine B-47 HD) Total Depth: 175.5 feet | | | | | |
| Depth in feet | DESCRIPTION | GS/GH/HC | UC/CS | Sample No. | Blow per 6 inches | Remarks | |
| 52 | Gray, saturated, very dense, fine to medium SAND, with trace silt | | | SP 13 | 20-500" | | |
| 54 | | | | 2 | WOH11" | | |
| 56 | | | | 3 | WOH11" | | |
| 58 | | | | 5 | WOH11" | | |
| 60 | | | | 5 | WOH11" | | |
| 62 | | | | 5 | WOH11" | | |
| 64 | Gray, saturated, hard, clayey SILT, with trace fine sand | | | 5 | 12-14-32 | | |
| 66 | | | | 5 | 12-14-32 | | |
| 68 | | | | 5 | 12-14-32 | | |
| 70 | | | | 5 | 12-14-32 | | |
| 72 | | | | 5 | 12-14-32 | | |
| 74 | | | | 5 | 12-14-32 | | |
| 76 | | | | 5 | 12-14-32 | | |
| 78 | | | | 5 | 12-14-32 | | |
| 80 | | | | 5 | 12-14-32 | | |
| 82 | | | | 5 | 12-14-32 | | |
| 84 | | | | 5 | 12-14-32 | | |
| 86 | | | | 5 | 12-14-32 | | |
| 88 | | | | 5 | 12-14-32 | | |
| 90 | | | | 5 | 12-14-32 | | |
| 92 | | | | 5 | 12-14-32 | | |
| 94 | | | | 5 | 12-14-32 | | |
| 96 | | | | 5 | 12-14-32 | | |
| 98 | | | | 5 | 12-14-32 | | |
| 100 | | | | 5 | 12-14-32 | | |
| 102 | | | | 5 | 12-14-32 | | |
| 104 | | | | 5 | 12-14-32 | | |

| HYNES & ASSOCIATES | | LOG OF BORING B-4 (Page 1 of 2) | | | | | |
|--|--|--|-------|------------|-------------------|---|--|
| Century Engineering, Inc. 4134 North Dupont Highway Dover, Delaware 19901 Century-Little Creek Boat Ramp Project No.: JCH-10160368 | | Date Completed: February 1, 2017 Logged By: J.L. Lindsey Drawn By: M. Hynes Drilling Method: HSA (Machine B-47 HD) Total Depth: 175.5 feet | | | | | |
| Depth in feet | DESCRIPTION | GS/GH/HC | UC/CS | Sample No. | Blow per 6 inches | Remarks | |
| 0 | Dark gray, saturated, very soft, organic SILT, with trace fine sand | | | 1 | WOH11" | Scale 1" = 7.75 feet | |
| 2 | | | | 2 | WOH11" | Depth to mudline was 4 feet at 8:00 am. | |
| 4 | | | | 3 | WOH11" | | |
| 6 | | | | 5 | WOH11" | | |
| 8 | | OH | | 4 | WOH11" | | |
| 10 | | | | 5 | WOH11" | | |
| 12 | | | | 5 | WOH11" | | |
| 14 | | | | 5 | WOH11" | | |
| 16 | | | | 5 | WOH11" | | |
| 18 | Light gray, saturated, medium dense, fine to coarse SAND, with trace silt, trace fine gravel | | | 5 | 6-9-15 | | |
| 20 | | SP | | 6 | 6-9-15 | | |
| 22 | | | | 7 | 18-30-42 | | |
| 24 | Gray, saturated, very dense, fine to medium SAND, with trace silt | | | 7 | 18-30-42 | | |
| 26 | | | | 8 | 14-41-62 | | |
| 28 | Brown, saturated, very dense, fine to medium SAND, with trace silt | | | 8 | 14-41-62 | | |
| 30 | | SP | | 9 | 9-30-48 | | |
| 32 | | | | 10 | 9-30-48 | | |
| 34 | | | | 11 | 9-30-48 | | |
| 36 | | | | 12 | 9-30-48 | | |
| 38 | Gray, saturated, hard, clayey SILT, with some fine to medium sand | | | 13 | 9-16-54 | | |
| 40 | | | | 14 | 9-16-54 | | |
| 42 | Gray, saturated, very dense, fine to medium SAND, with trace silt | | | 15 | 9-16-54 | | |
| 44 | | | | 16 | 9-16-54 | | |
| 46 | | | | 17 | 9-16-54 | | |
| 48 | | | | 18 | 9-16-54 | | |
| 50 | | | | 19 | 9-16-54 | | |
| 52 | | | | 20 | 9-16-54 | | |

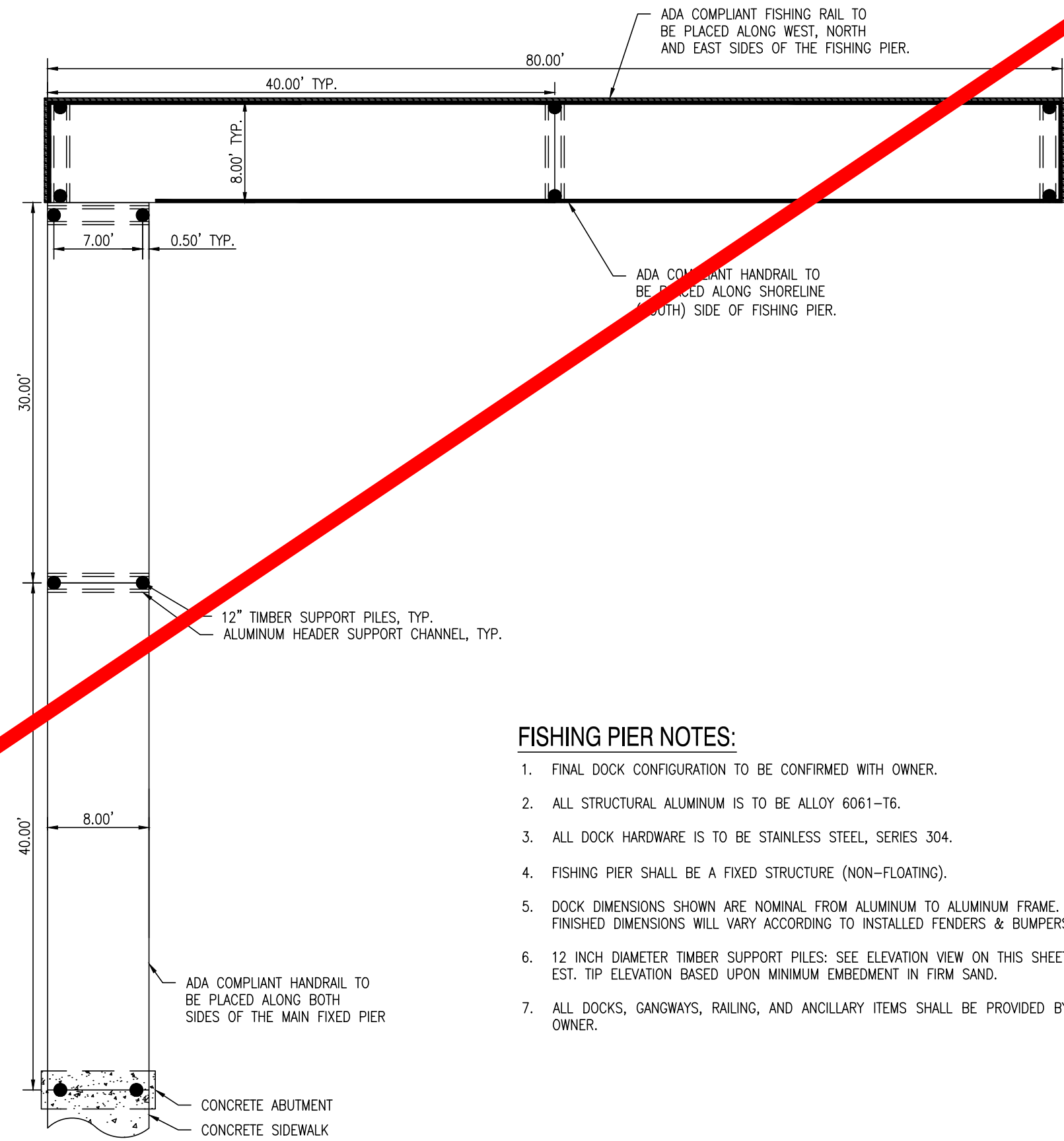
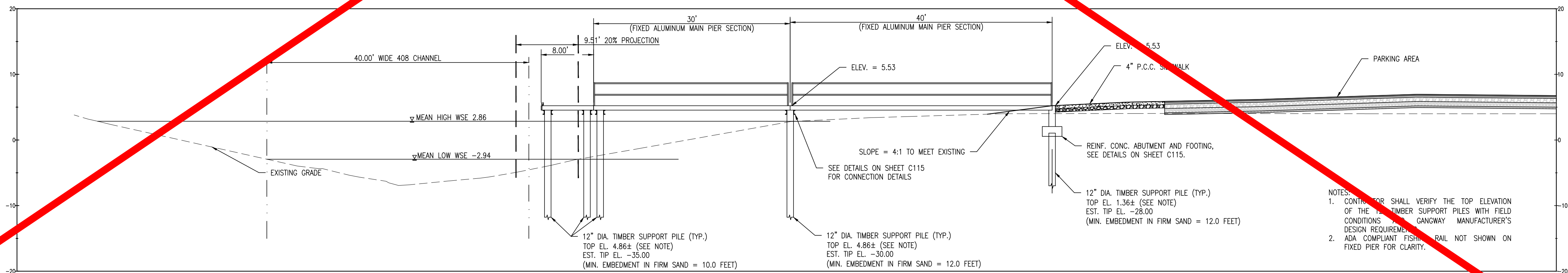
| HYNES & ASSOCIATES | | LOG OF BORING B-4 (Page 2 of 2) | | | | | |
|--|---|--|-------|------------|-------------------|---------|--|
| Century Engineering, Inc. 4134 North Dupont Highway Dover, Delaware 19901 Century-Little Creek Boat Ramp Project No.: JCH-10160368 | | Date Completed: February 1, 2017 Logged By: J.L. Lindsey Drawn By: M. Hynes Drilling Method: HSA (Machine B-47 HD) Total Depth: 175.5 feet | | | | | |
| Depth in feet | DESCRIPTION | GS/GH/HC | UC/CS | Sample No. | Blow per 6 inches | Remarks | |
| 52 | Gray, saturated, very dense, fine to medium SAND, with trace silt | | | SP 13 | 20-500" | | |
| 54 | | | | 2 | WOH11" | | |
| 56 | | | | 3 | WOH11" | | |
| 58 | | | | 5 | WOH11" | | |
| 60 | | | | 5 | WOH11" | | |
| 62 | | | | 5 | WOH11" | | |
| 64 | | | | 5 | WOH11" | | |
| 66 | | | | 5 | WOH11" | | |
| 68 | | | | 5 | WOH11" | | |
| 70 | | | | 5 | WOH11" | | |
| 72 | | | | 5 | WOH11" | | |
| 74 | | | | 5 | WOH11" | | |
| 76 | | | | 5 | WOH11" | | |
| 78 | | | | 5 | WOH11" | | |
| 80 | | | | 5 | WOH11" | | |
| 82 | | | | 5 | WOH11" | | |
| 84 | | | | 5 | WOH11" | | |
| 86 | | | | 5 | WOH11" | | |
| 88 | | | | 5 | WOH11" | | |
| 90 | | | | 5 | WOH11" | | |
| 92 | | | | 5 | WOH11" | | |
| 94 | | | | 5 | WOH11" | | |
| 96 | | | | 5 | WOH11" | | |
| 98 | | | | 5 | WOH11" | | |
| 100 | | | | 5 | WOH11" | | |
| 102 | | | | 5 | WOH11" | | |
| 104 | | | | 5 | WOH11" | | |

| | | | | | | |
|--|---|---|-------|------------|-------------------|---------|
| <div><div><div><div><div></div><div>HYNES & ASSOCIATES</div></div></div><div><div>Century Engineering, Inc.</div><div>4134 North DuPont Highway</div><div>Dover, Delaware 19901</div><div>Century-Little Creek Boat Ramp</div><div>Project No.: JCH-10160368</div></div></div></div> | | <div>LOG OF BORING B-4</div> <div>(Page 2 of 2)</div> | | | | |
| | | <div>Date Completed: 1 February 1, 2017</div> <div>Logged By: J.J. Lindsey</div> <div>Drawn By: M. Hynes</div> <div>Drilling Method: HSA (Machine B-47 HD)</div> <div>Total Depth: 175.5 feet</div> | | | | |
| Depth in Feet | DESCRIPTION | GS/GH/HC | UC/CS | Sample No. | Blow per 6 inches | Remarks |
| 54 | Gray, saturated, very dense, fine to medium SAND, with trace silt | | SP | 13 | 25-34-46 | |
| 56 | | | | 14 | 25-32-46 | |
| 58 | | | | 15 | 25-34-47 | |
| 60 | | | | 16 | 15-19-28 | |
| 62 | | | | 17 | 15-18-35 | |
| 64 | Gray, saturated, hard, clay CLAY, with some fine to medium sand | CL | | 18 | | |
| 66 | | | | 19 | | |
| 68 | | | | 20 | | |
| 70 | | | | 21 | | |
| 72 | | | | 22 | | |
| 74 | | | | | | |
| 76 | Boring terminated at 75.5 feet. | | | | | |
| 78 | | | | | | |
| 80 | | | | | | |
| 82 | | | | | | |
| 84 | | | | | | |
| 86 | | | | | | |
| 88 | | | | | | |
| 90 | | | | | | |
| 92 | | | | | | |
| 94 | | | | | | |
| 96 | | | | | | |
| 98 | | | | | | |
| 100 | | | | | | |
| 102 | | | | | | |
| 104 | | | | | | |

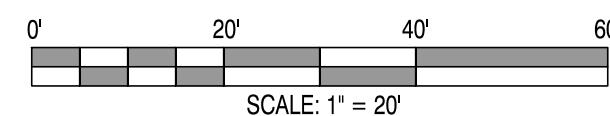
C:\Users\jcs\Documents\155001.03 Kent County Fish and Wildlife\155001.03 Design of Little Creek Boat Ramp\155001.03 Construction Plans\Construction Plans.dwg, 1/5/2018, 3:25 PM



| POINT NO. | DESCRIPTION | NORTHING | EASTING |
|-----------|-------------|-------------|-------------|
| 6000 | PILE | 422601.7031 | 648092.4772 |
| 6001 | PILE | 422602.1803 | 648099.4609 |
| 6002 | PILE | 422630.6378 | 648090.4988 |
| 6003 | PILE | 422631.1151 | 648097.4825 |
| 6004 | PILE | 422632.1679 | 648090.9026 |
| 6005 | PILE | 422639.1516 | 648090.4253 |
| 6006 | PILE | 422634.7513 | 648128.3161 |
| 6007 | PILE | 422641.7350 | 648127.8387 |
| 6008 | PILE | 422637.4705 | 648168.7235 |
| 6009 | PILE | 422644.4542 | 648168.2462 |
| 6010 | PILE | 422561.8310 | 648095.6951 |
| 6011 | PILE | 422562.2403 | 648101.6812 |



- FISHING PIER NOTES:**
1. FINAL DOCK CONFIGURATION TO BE CONFIRMED WITH OWNER.
 2. ALL STRUCTURAL ALUMINUM IS TO BE ALLOY 6061-T6.
 3. ALL DOCK HARDWARE IS TO BE STAINLESS STEEL, SERIES 304.
 4. FISHING PIER SHALL BE A FIXED STRUCTURE (NON-FLOATING).
 5. DOCK DIMENSIONS SHOWN ARE NOMINAL FROM ALUMINUM TO ALUMINUM FRAME. FINAL FINISHED DIMENSIONS WILL VARY ACCORDING TO INSTALLED FENDERS & BUMPERS.
 6. 12 INCH DIAMETER TIMBER SUPPORT PILES: SEE ELEVATION VIEW ON THIS SHEET FOR EST. TIP ELEVATION BASED UPON MINIMUM EMBEDMENT IN FIRM SAND.
 7. ALL DOCKS, GANGWAYS, RAILING, AND ANCILLARY ITEMS SHALL BE PROVIDED BY THE OWNER.



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WEBSITE: www.centuryeng.com
EMAIL: ce@centuryeng.com

REVISIONS

| DATE | DESCRIPTION |
|----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, OFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

ADDENDUM

| DATE | DESCRIPTION |
|------|-------------|
|------|-------------|

CONSTRUCTION PLANS

FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE

CROSS SECTION -
FISHING PIER

KENT COUNTY - FINAL
DESIGN

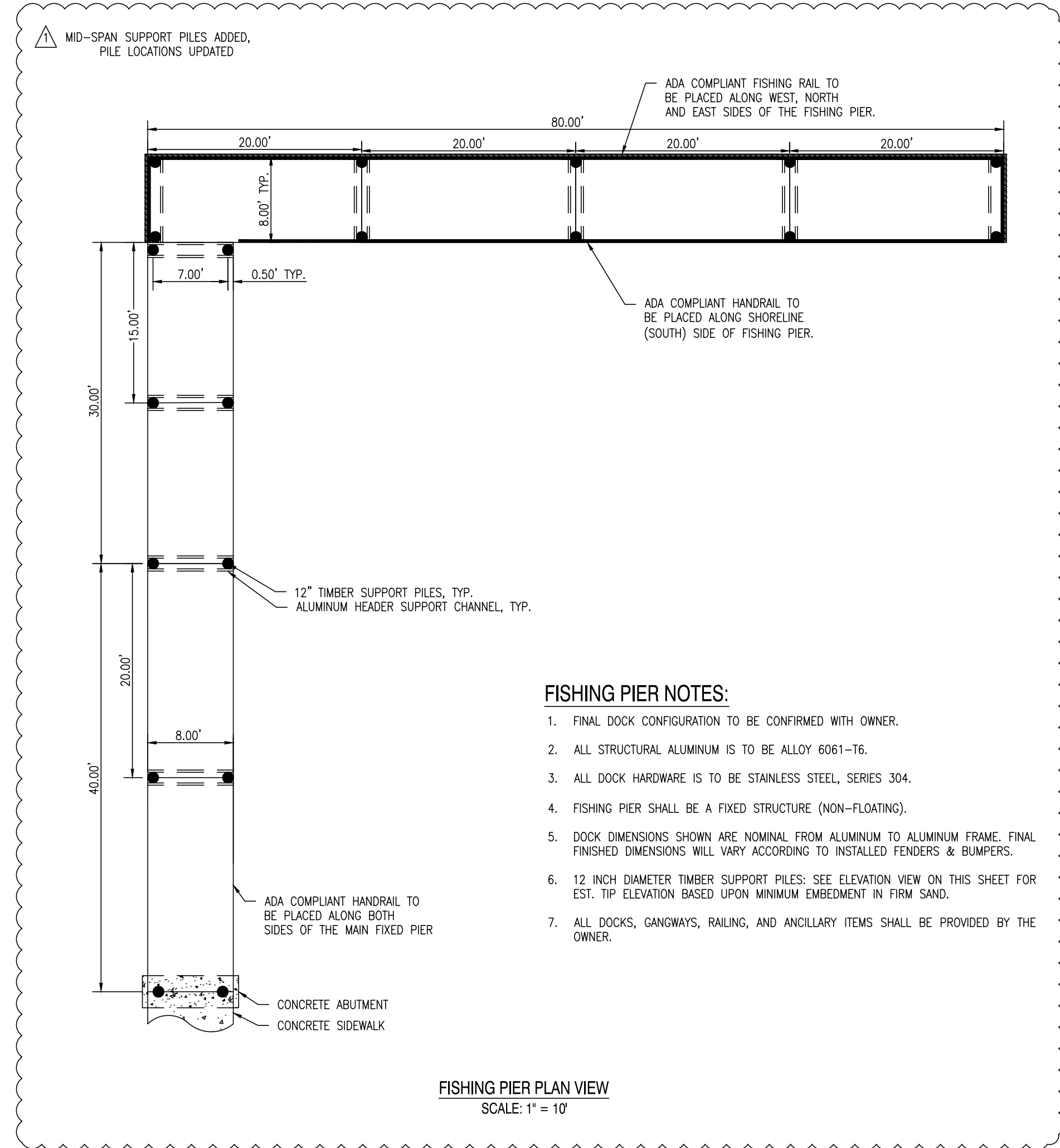
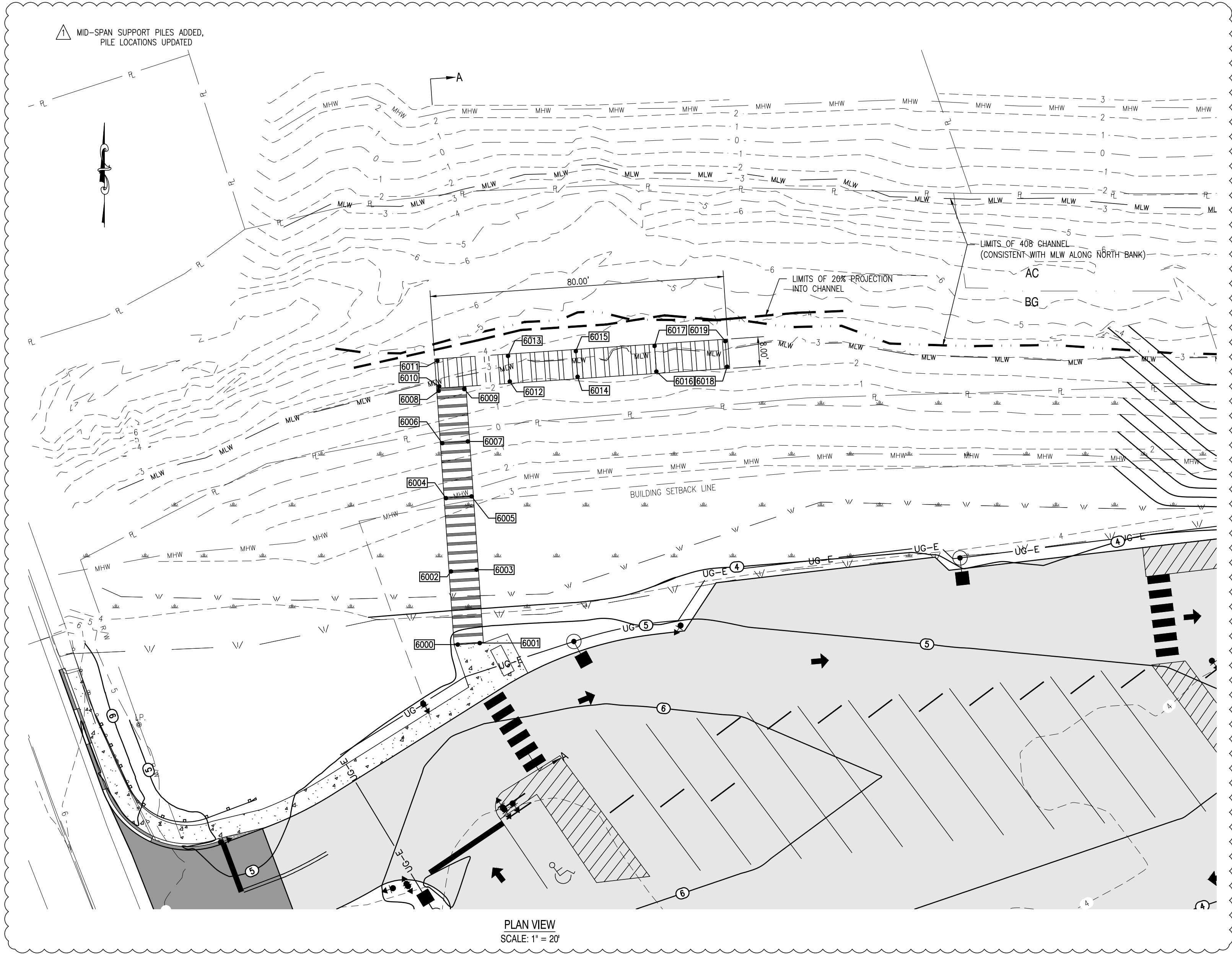
JANUARY 2ND, 2018

DRAWN BY: DLD / MBS CHK'D/DESIGNER: AES

SCALE: AS NOTED SHEET NO. C111

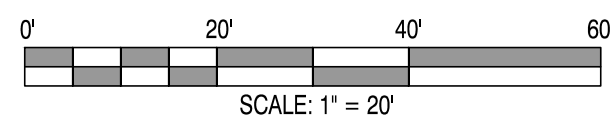
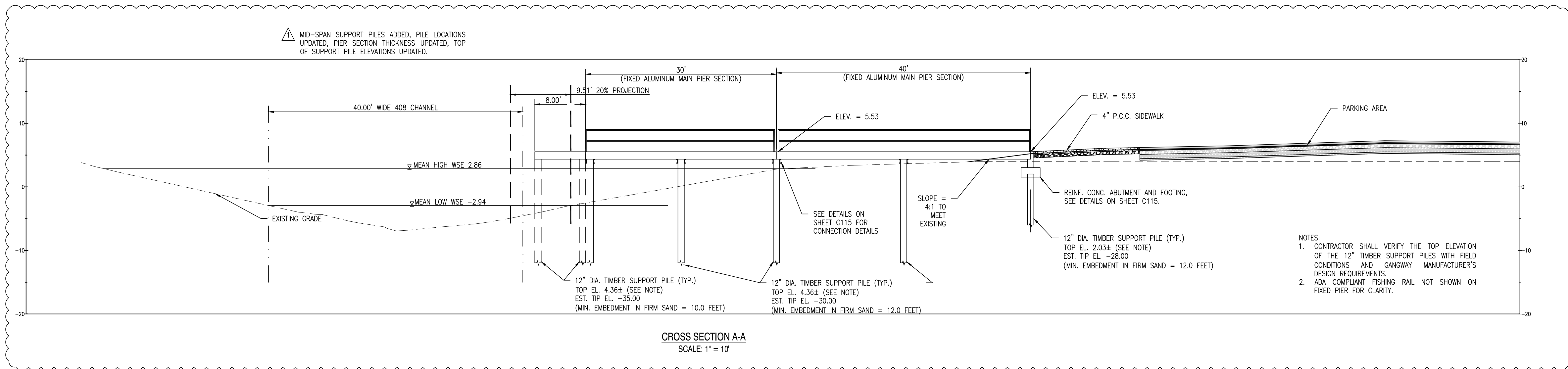
PROJECT NO. 155001.03

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△ MID-SPAN SUPPORT PILES ADDED, PILE LOCATIONS UPDATED

| FISHING PIER PILE LAYOUT | | | |
|--------------------------|-------------|-------------|-------------|
| POINT NO. | DESCRIPTION | NORTHING | EASTING |
| 6000 | PILE | 422561.8310 | 648095.6951 |
| 6001 | PILE | 422562.2386 | 648101.6776 |
| 6002 | PILE | 422581.7465 | 648093.8400 |
| 6003 | PILE | 422582.2235 | 648100.8207 |
| 6004 | PILE | 422601.7031 | 648092.4772 |
| 6005 | PILE | 422602.1803 | 648099.4609 |
| 6006 | PILE | 422616.6705 | 648091.4540 |
| 6007 | PILE | 422617.1477 | 648098.4378 |
| 6008 | PILE | 422630.9269 | 648090.4861 |
| 6009 | PILE | 422631.4042 | 648097.4698 |
| 6010 | PILE | 422632.1487 | 648090.6199 |
| 6011 | PILE | 422639.1319 | 648090.1357 |
| 6012 | PILE | 422633.4595 | 648109.8586 |
| 6013 | PILE | 422640.4660 | 648109.3727 |
| 6014 | PILE | 422634.7513 | 648128.3161 |
| 6015 | PILE | 422641.7350 | 648127.8387 |
| 6016 | PILE | 422636.1787 | 648149.7660 |
| 6017 | PILE | 422643.1620 | 648149.2817 |
| 6018 | PILE | 422637.4903 | 648169.0138 |
| 6019 | PILE | 422644.4740 | 648168.5365 |



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EMAIL: ce@centuryeng.com

REVISIONS

| DATE | DESCRIPTION |
|----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

ADDENDUM

| DATE | DESCRIPTION |
|------------|--|
| 02/01/2018 | REVISED PER GATORDOCK SHOP DRAWINGS. SEE DETAILS ON SHEETS C111-C116 |

CONSTRUCTION PLANS

FOR

DELAWARE DIVISION OF FISH & WILDLIFE

LITTLE CREEK BOAT RAMP

BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE

CROSS SECTION -
FISHING PIER

KENT COUNTY - FINAL
DESIGN

JANUARY 2ND, 2018

DRAWN CHK'D/DESIGNER

DLD / MDS AES

SCALE SHEET NO.

AS NOTED

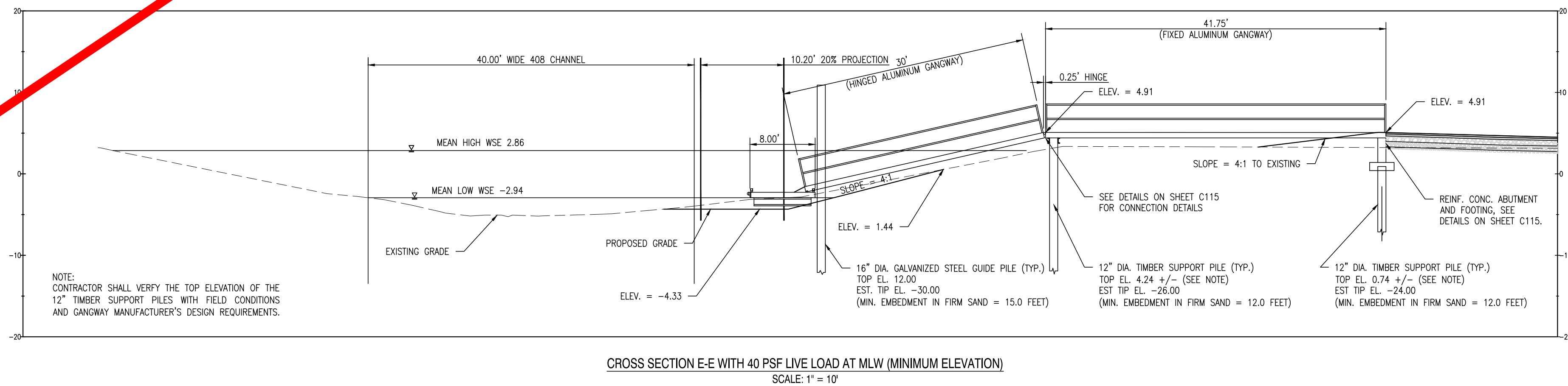
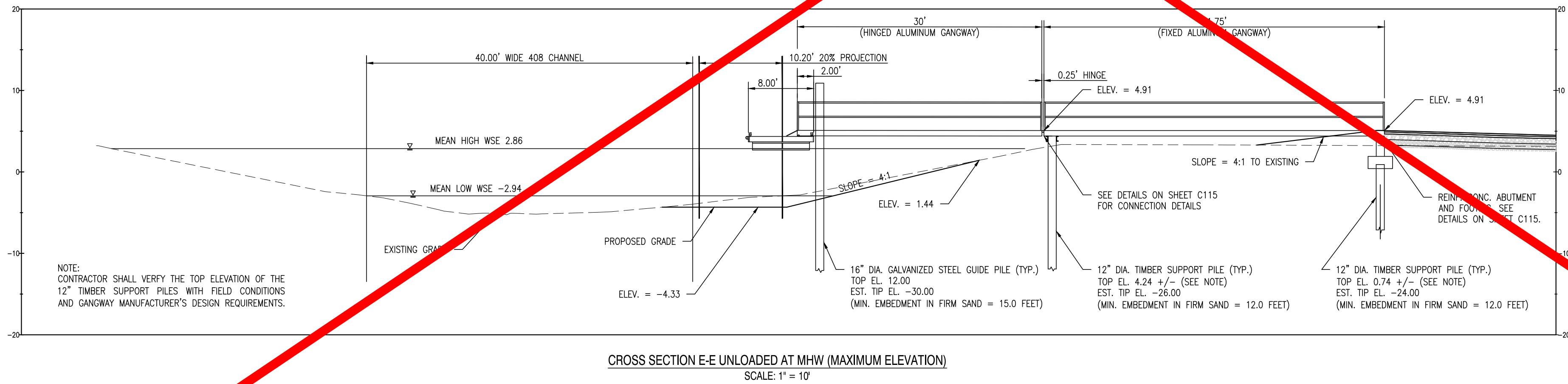
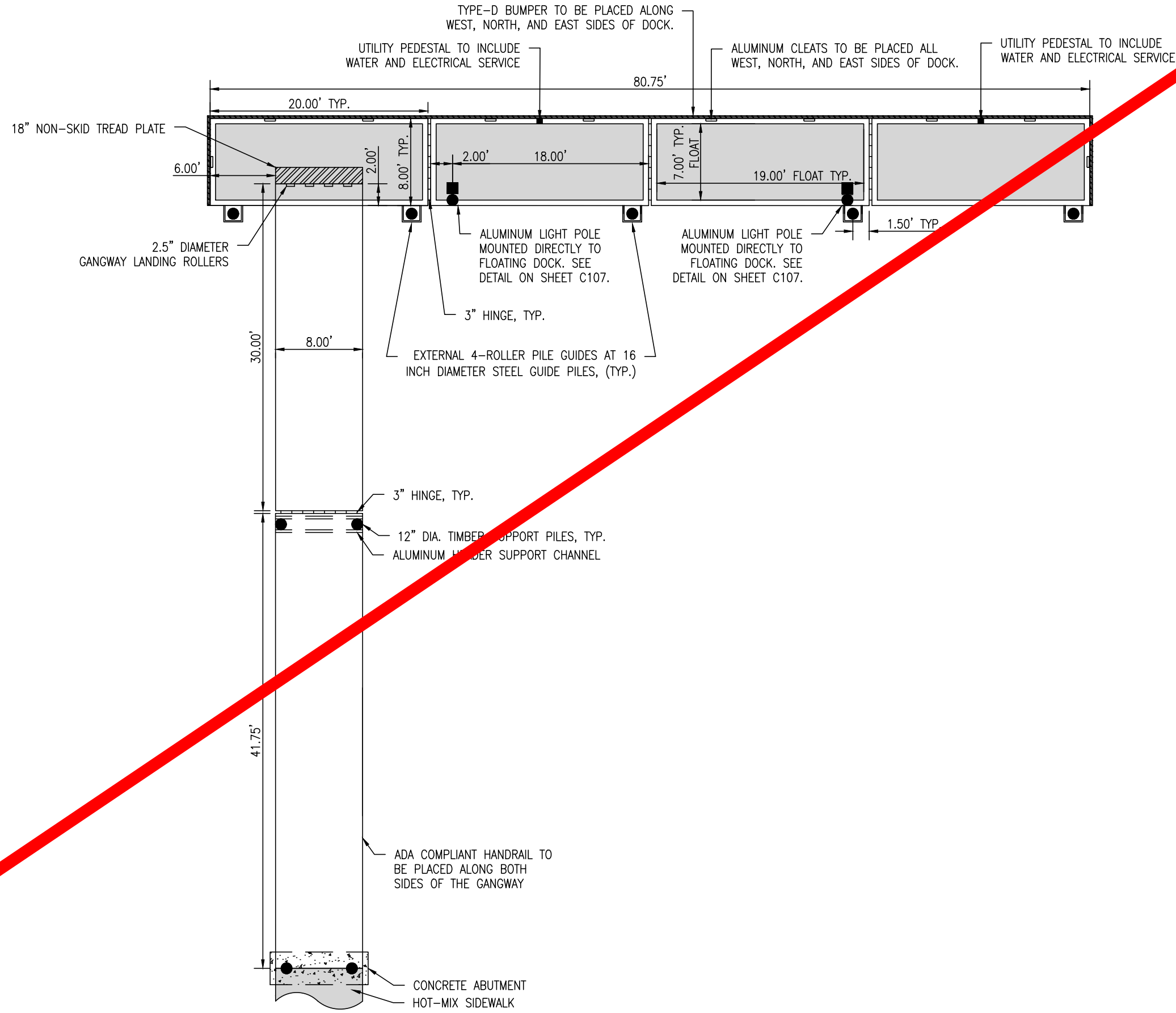
PROJECT NO.

155001.03

C111

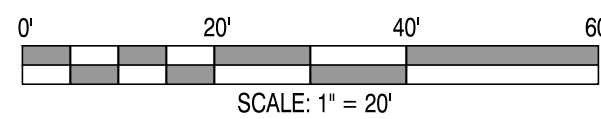
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| ENFORCEMENT DOCK PILE LAYOUT | | | |
|------------------------------|-------------|-------------|-------------|
| POINT NO. | DESCRIPTION | NORTHING | EASTING |
| 7000 | PILE | 422624.8788 | 648426.9575 |
| 7001 | PILE | 422623.2850 | 648444.6470 |
| 7002 | PILE | 422621.4628 | 648464.8148 |
| 7003 | PILE | 422619.6407 | 648484.9827 |
| 7004 | PILE | 422617.8185 | 648505.1506 |
| 7005 | PILE | 422595.3488 | 648437.1046 |
| 7006 | PILE | 422595.9784 | 648430.1330 |
| 7007 | PILE | 422555.3487 | 648426.9658 |
| 7008 | PILE | 422554.8090 | 648432.9415 |



ENFORCEMENT DOCK NOTES:

1. FINAL DOCK CONFIGURATION TO BE CONFIRMED WITH OWNER.
2. ALL STRUCTURAL ALUMINUM IS TO BE ALLOY 6061-T6.
3. ALL DOCK HARDWARE IS TO BE STAINLESS STEEL, SERIES 304.
4. FLOATING DOCKS DESIGNED FOR AN 18" UNLOADED FREEBOARD AND AN 8" LOADED FREEBOARD (MAX. DESIGN LIVE LOAD = 40 PSF).
5. DOCK DIMENSIONS SHOWN ARE NOMINAL FROM ALUMINUM TO ALUMINUM FRAME. FINAL FINISHED DIMENSIONS WILL VARY ACCORDING TO INSTALLED FENDERS & BUMPERS.
6. 16 INCH DIAMETER GALVANIZED STEEL GUIDE PILES AND 12 INCH DIAMETER TIMBER SUPPORT PILE DEPTHS BASED UPON MINIMUM EMBEDMENT IN FIRM SAND. SEE ELEVATION VIEW ON THIS SHEET FOR ESTIMATED TIP ELEVATIONS.
7. ALL DOCKS, GANGWAYS, RAILING, AND ANCILLARY ITEMS SHALL BE PROVIDED BY THE OWNER.



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| REVISIONS | |
|-----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

| ADDENDUM | |
|-------------|------|
| DESCRIPTION | DATE |

CONSTRUCTION PLANS

FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

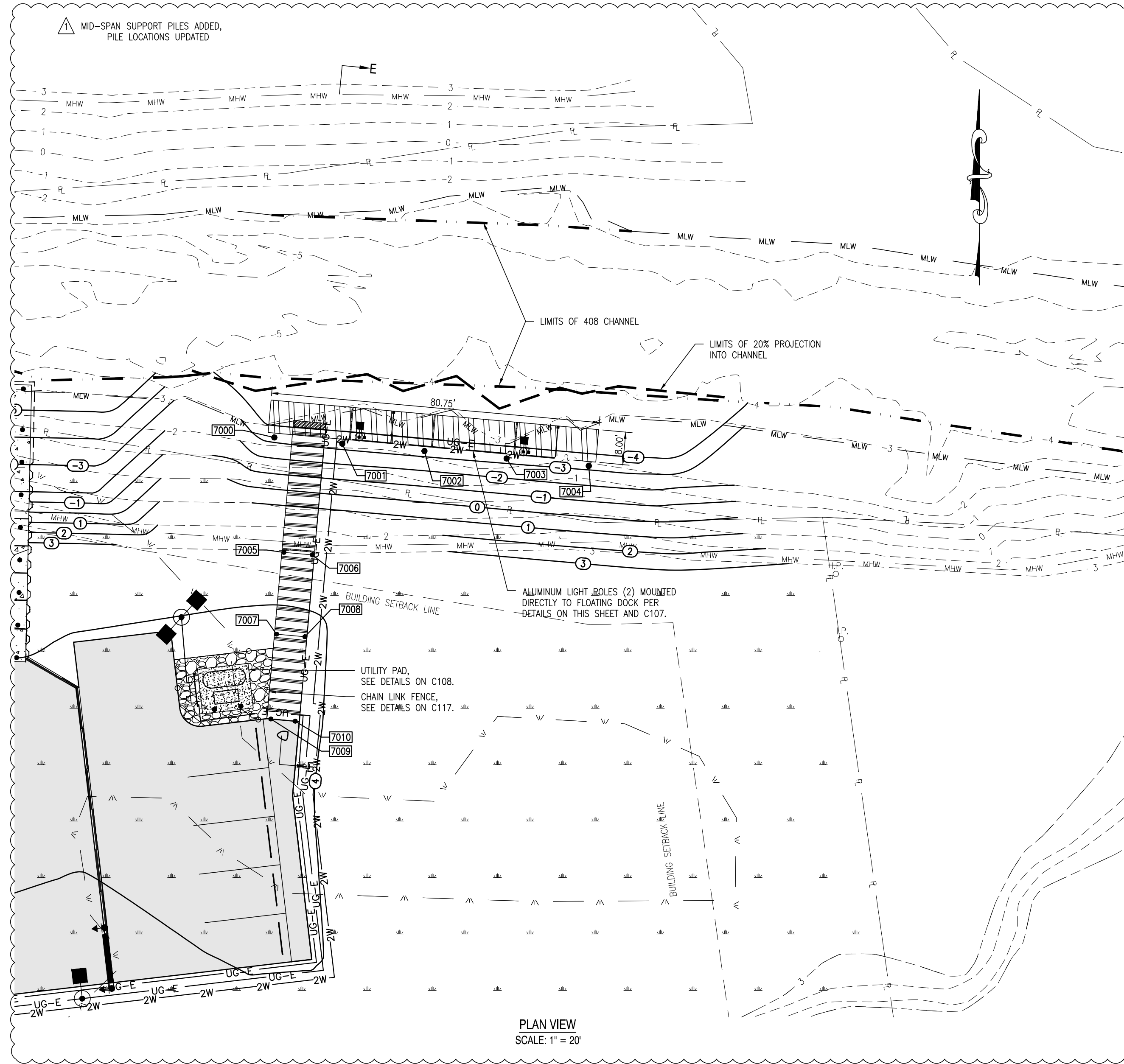
SHEET TITLE
CROSS SECTION - ENFORCEMENT DOCK

KENT COUNTY - FINAL DESIGN
JANUARY 2ND, 2018

DRAWN: **DLD / MDS**
CHK'D/DESIGNER: **AES**
SCALE: **AS NOTED**
PROJECT NO.: **155001.03**

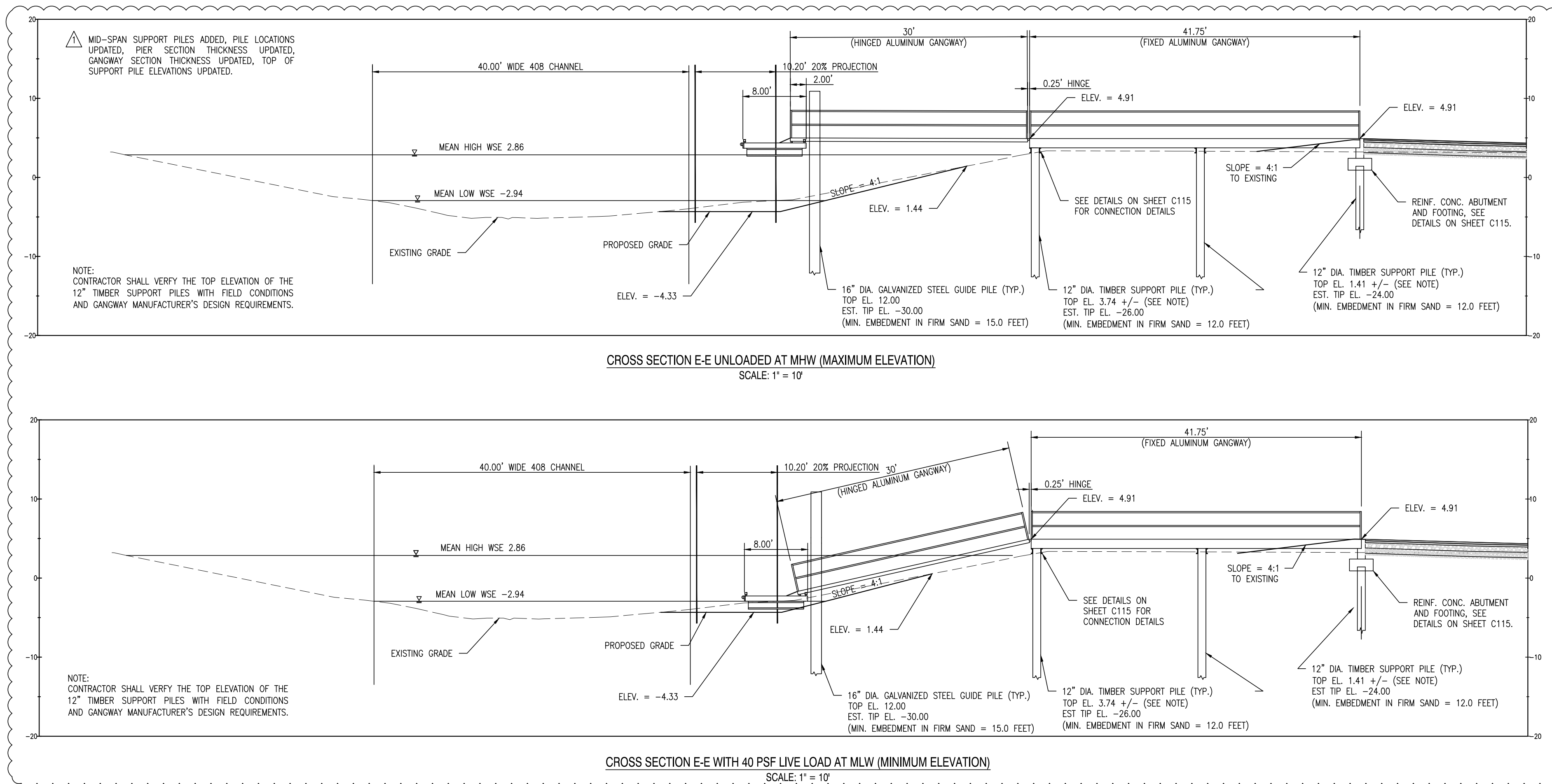
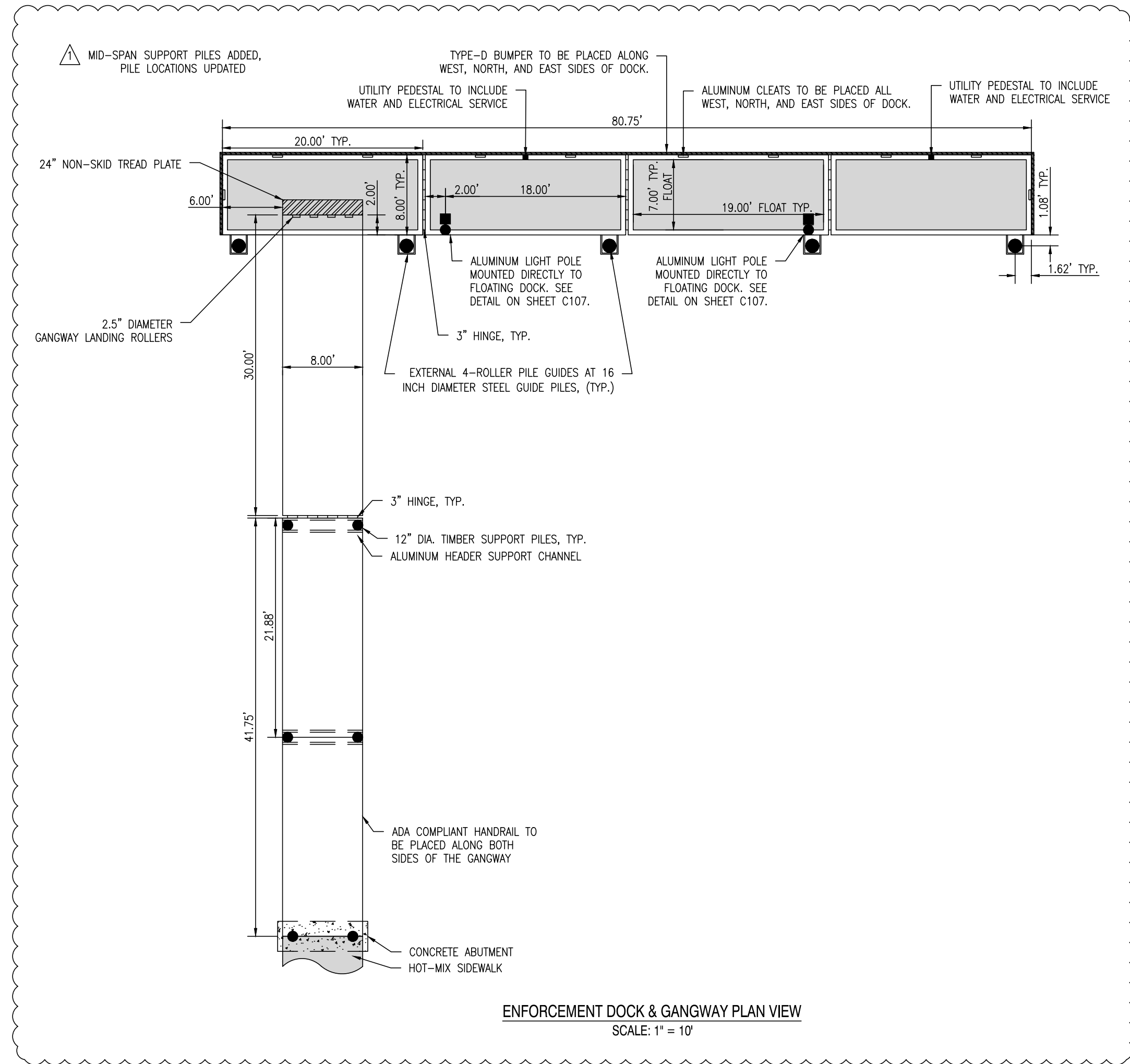
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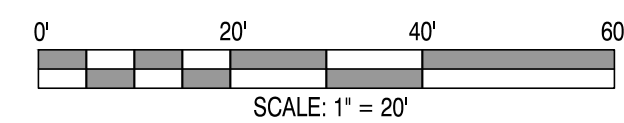
△ MID-SPAN SUPPORT PILES ADDED, PILE LOCATIONS UPDATED

| POINT NO. | DESCRIPTION | NORTHING | EASTING |
|-----------|-------------|-------------|-------------|
| 7000 | PILE | 422624.4714 | 648427.8113 |
| 7001 | PILE | 422622.9642 | 648444.4929 |
| 7002 | PILE | 422621.1421 | 648464.6608 |
| 7003 | PILE | 422619.3199 | 648484.8286 |
| 7004 | PILE | 422617.4978 | 648504.9965 |
| 7005 | PILE | 422596.2689 | 648430.1593 |
| 7006 | PILE | 422595.6393 | 648437.1309 |
| 7007 | PILE | 422576.1840 | 648428.3455 |
| 7008 | PILE | 422575.5544 | 648435.3171 |
| 7009 | PILE | 422555.3487 | 648426.9658 |
| 7010 | PILE | 422554.8090 | 648432.9415 |



ENFORCEMENT DOCK NOTES:

- FINAL DOCK CONFIGURATION TO BE CONFIRMED WITH OWNER.
- ALL STRUCTURAL ALUMINUM IS TO BE ALLOY 6061-T6.
- ALL DOCK HARDWARE IS TO BE STAINLESS STEEL, SERIES 304.
- FLOATING DOCKS DESIGNED FOR AN 18" UNLOADED FREEBOARD AND AN 8" LOADED FREEBOARD (MAX. DESIGN LIVE LOAD = 40 PSF).
- DOCK DIMENSIONS SHOWN ARE NOMINAL FROM ALUMINUM TO ALUMINUM FRAME. FINAL FINISHED DIMENSIONS WILL VARY ACCORDING TO INSTALLED FENDERS & BUMPERS.
- 16 INCH DIAMETER GALVANIZED STEEL GUIDE PILES AND 12 INCH DIAMETER TIMBER SUPPORT PILE DEPTHS BASED UPON MINIMUM EMBEDMENT IN FIRM SAND. SEE ELEVATION VIEW ON THIS SHEET FOR ESTIMATED TIP ELEVATIONS.
- ALL DOCKS, GANGWAYS, RAILING, AND ANCILLARY ITEMS SHALL BE PROVIDED BY THE OWNER.



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REVISIONS

| DATE | DESCRIPTION |
|----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFM, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

ADDENDUM

| DATE | DESCRIPTION |
|------------|--|
| 02/01/2018 | REVISED PER GATORDOCK SHOP DRAWINGS, SEE DETAILS ON SHEETS C111-C116 |

CONSTRUCTION PLANS

FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE

CROSS SECTION -
ENFORCEMENT DOCK

KENT COUNTY - FINAL
DESIGN
JANUARY 2ND, 2018

DRAWN CHK'D/DISIGNER

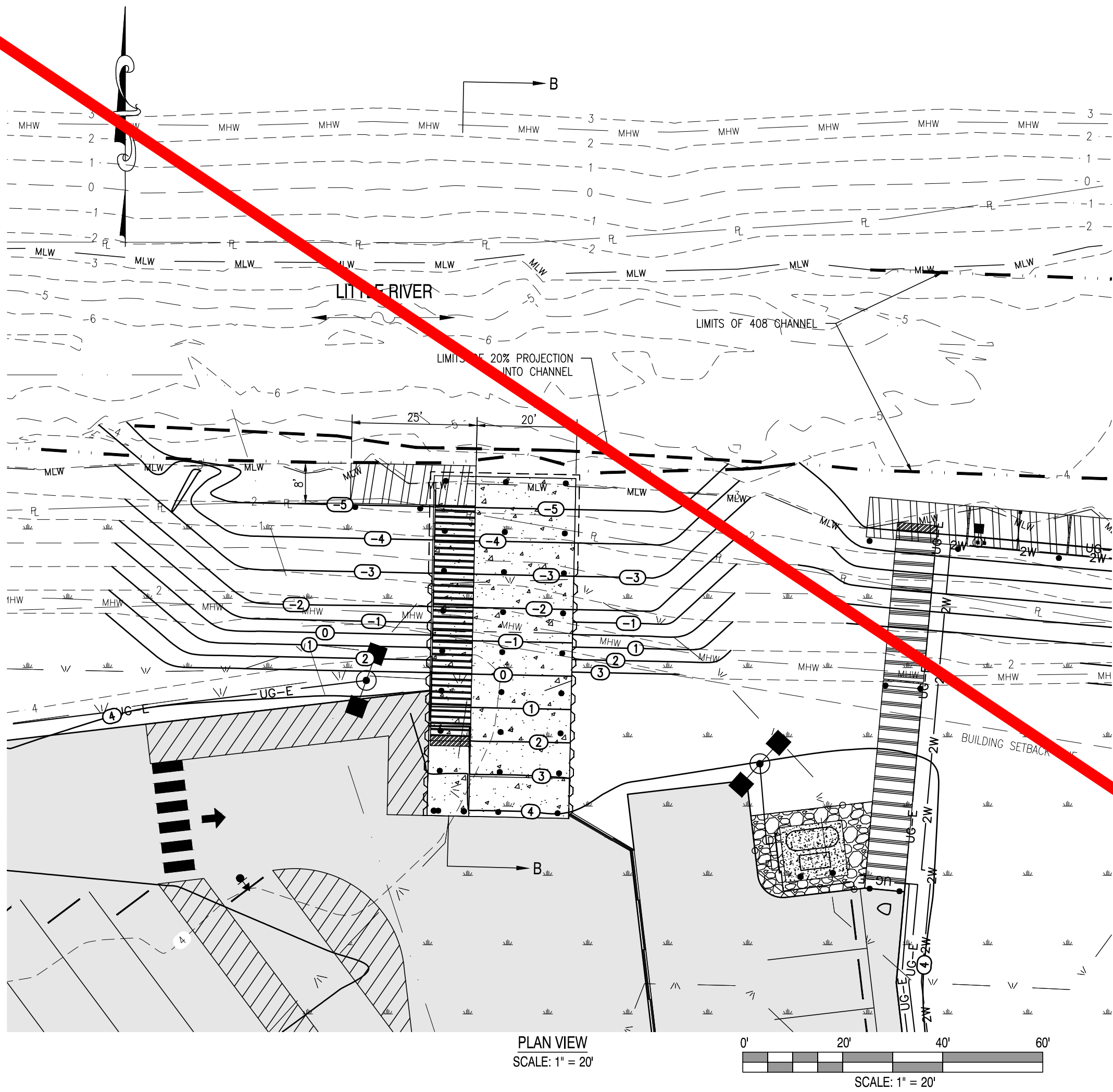
DLD / MDS AES

SCALE SHEET NO.

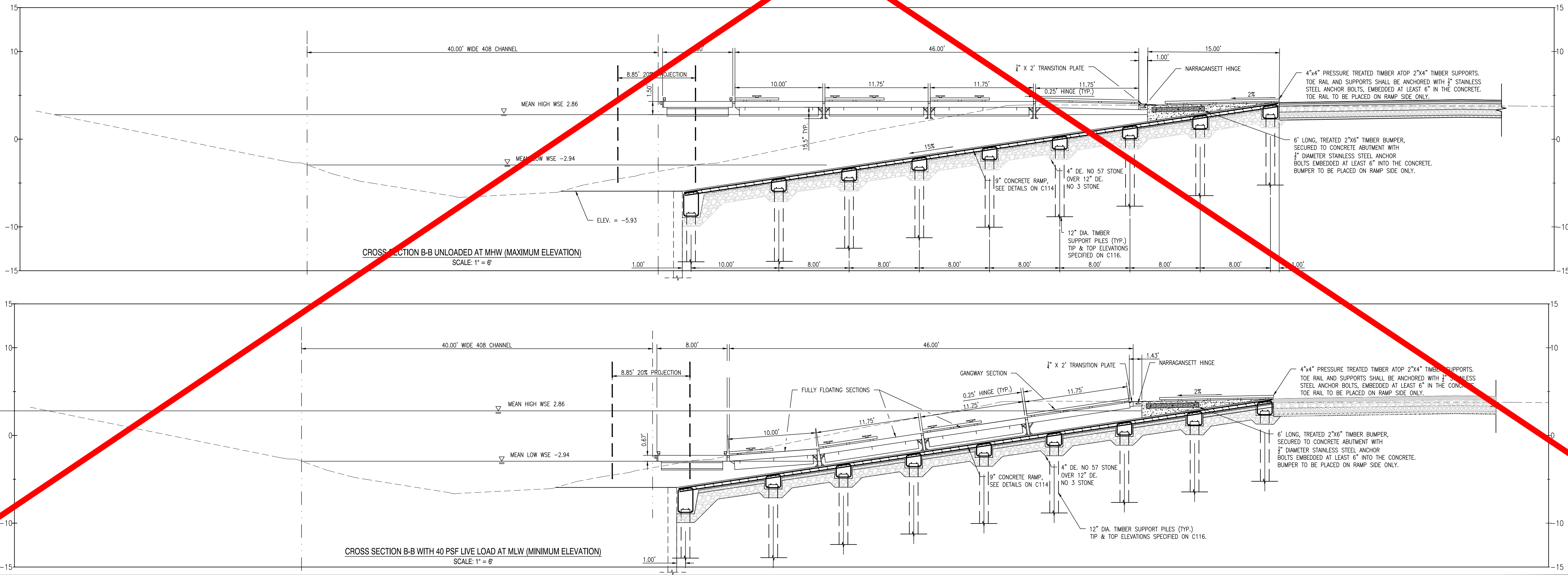
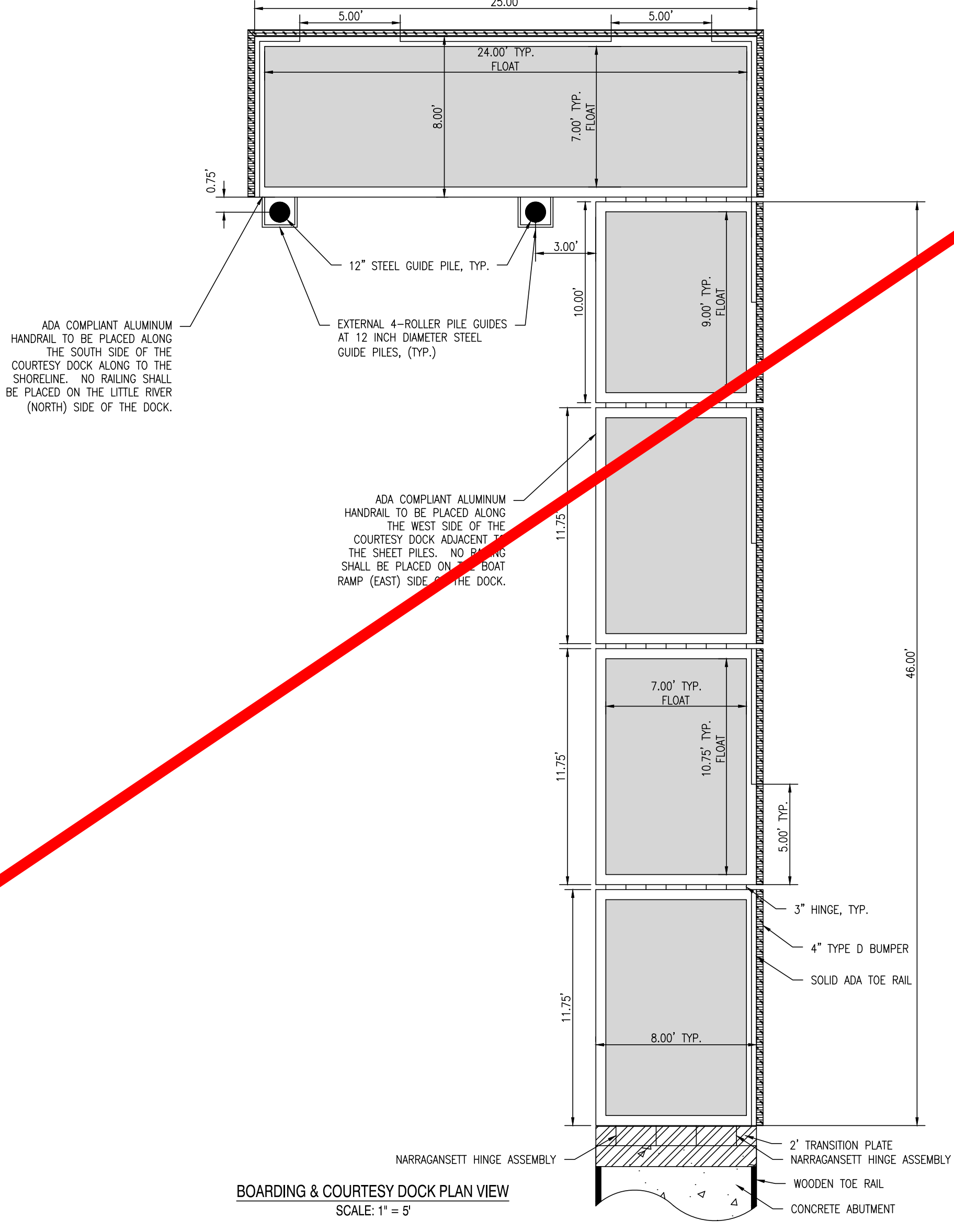
AS NOTED

PROJECT NO.
155001.03

C112



- COURTESY DOCK NOTES:
1. FINAL DOCK CONFIGURATION TO BE CONFIRMED WITH OWNER.
 2. ALL STRUCTURAL ALUMINUM IS TO BE ALLOY 6061-T6.
 3. ALL DOCK HARDWARE IS TO BE STAINLESS STEEL, SERIES 304.
 4. FLOATING DOCKS DESIGNED FOR AN 18" UNLOADED FREEBOARD AND A MINIMUM 8" LOADED FREEBOARD.
 5. DOCK DIMENSIONS SHOWN ARE NOMINAL FROM ALUMINUM TO ALUMINUM FRAME. FINAL FINISHED DIMENSIONS WILL VARY ACCORDING TO INSTALLED FENDERS & BUMPERS.
 6. TOP AND TIP ELEVATIONS OF TIMBER SUPPORT PILES FOR BOAT RAMP PROVIDED ON C116.
 7. 12 INCH DIAMETER GALVANIZED STEEL GUIDE PILES: TOP ELEVATION = 12.00, EST. TIP ELEVATION = -30.00 BASED UPON MINIMUM 16.0' EMBEDMENT IN FIRM SAND.
 8. ALL DOCKS, GANGWAYS, RAILING, AND ANCILLARY ITEMS SHALL BE PROVIDED BY THE OWNER.



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| REVISIONS | |
|-----------|--|
| DATE | DESCRIPTION |
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

| ADDENDUM | |
|-------------|------|
| DESCRIPTION | DATE |

CONSTRUCTION PLANS

FOR

DELAWARE DIVISION OF FISH & WILDLIFE

LITTLE CREEK BOAT RAMP

BAYSIDE DRIVE (SR9, KOR17)

LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE

CROSS SECTION - COURTESY DOCK

KENT COUNTY - FINAL DESIGN

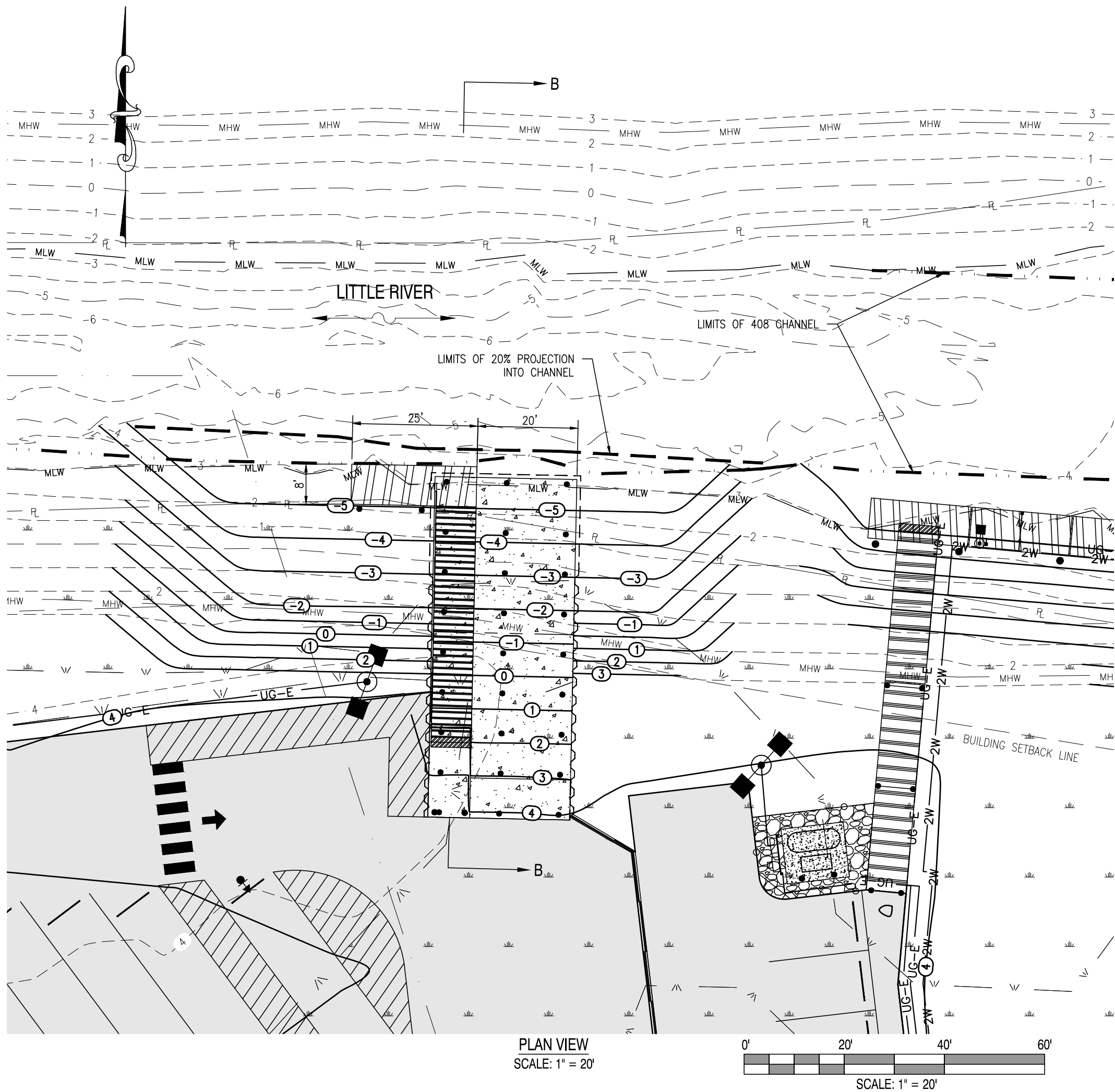
JANUARY 2ND, 2018

DRAWN: DLD / MDS
CHECKED/DRAWN: AES

SCALE: AS NOTED
PROJECT NO.: 155001.03

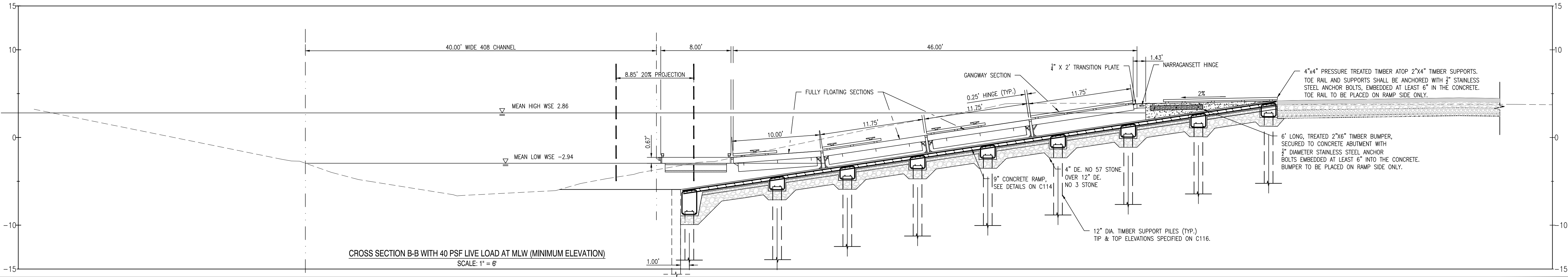
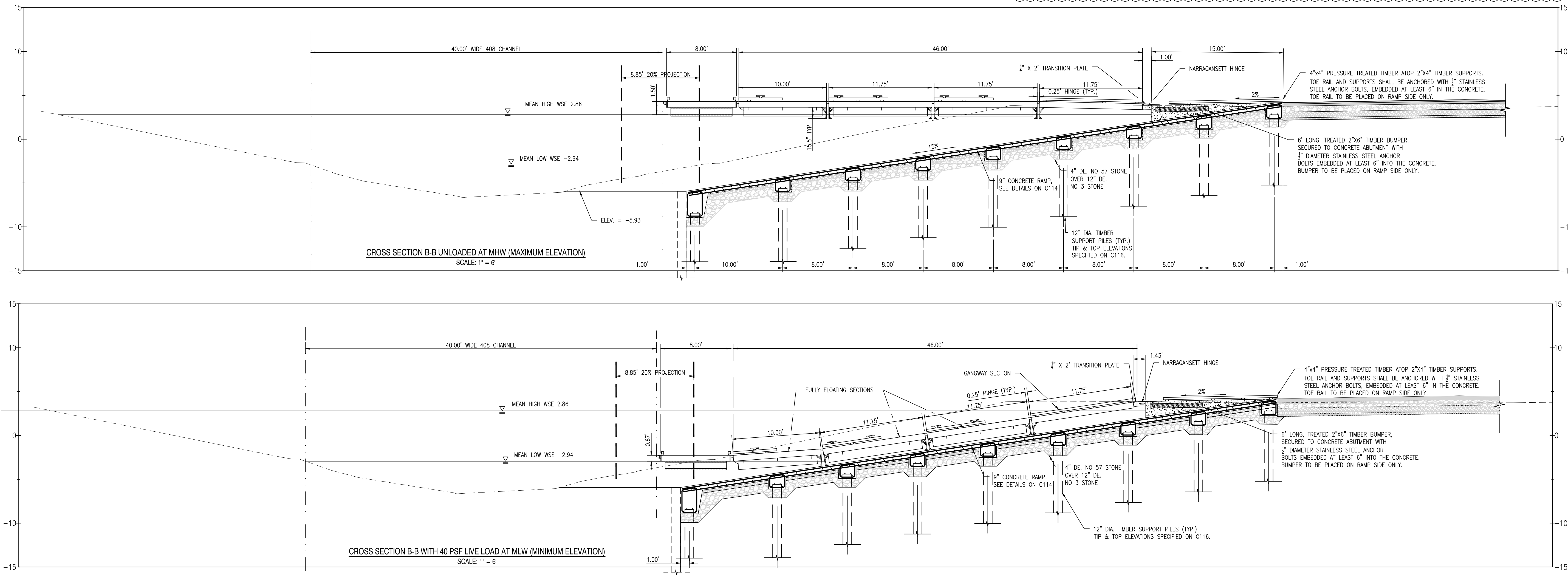
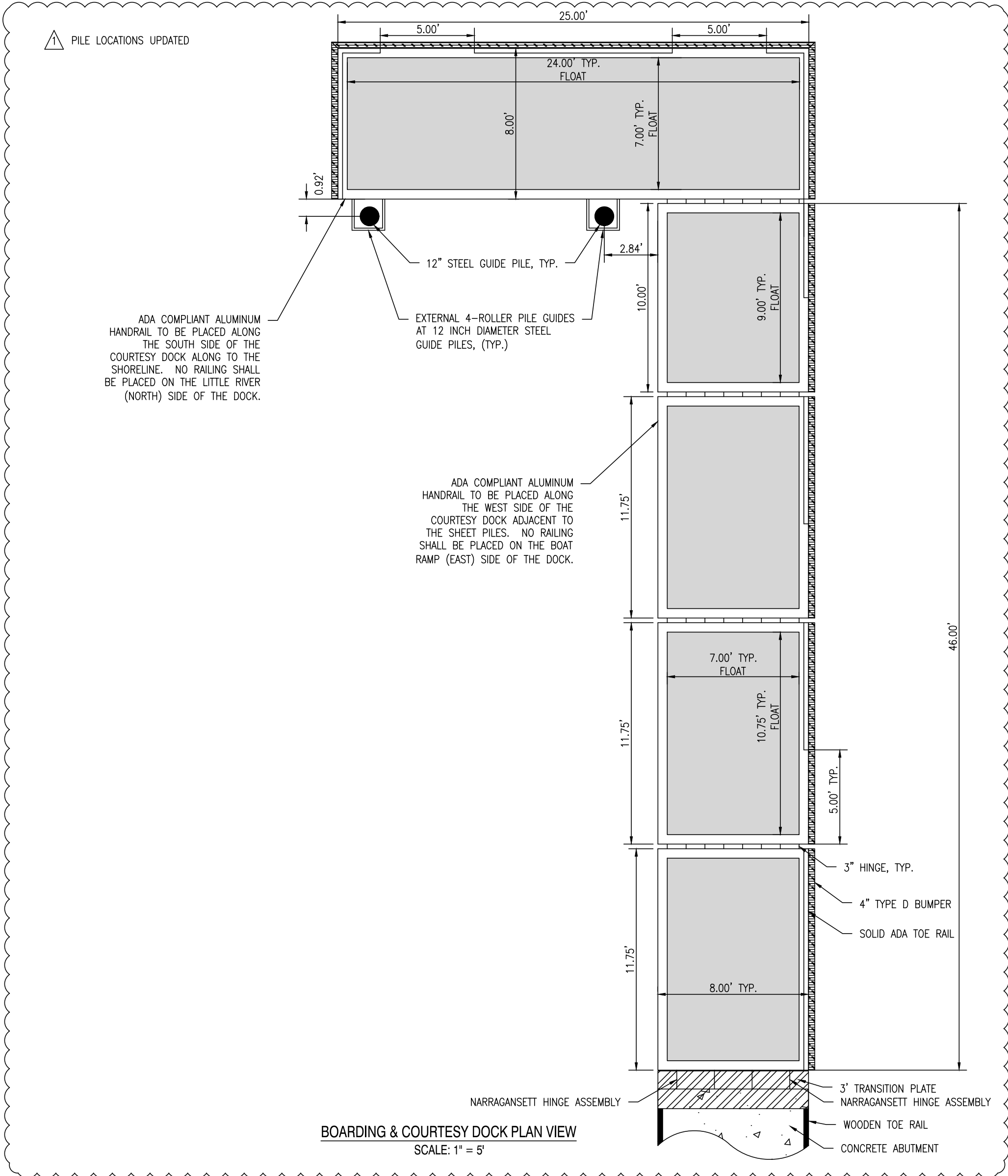
C116

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COURTESY DOCK NOTES:

1. FINAL DOCK CONFIGURATION TO BE CONFIRMED WITH OWNER.
2. ALL STRUCTURAL ALUMINUM IS TO BE ALLOY 6061-T6.
3. ALL DOCK HARDWARE IS TO BE STAINLESS STEEL, SERIES 304.
4. FLOATING DOCKS DESIGNED FOR AN 18" UNLOADED FREEBOARD AND A MINIMUM 8" LOADED FREEBOARD.
5. DOCK DIMENSIONS SHOWN ARE NOMINAL FROM ALUMINUM TO ALUMINUM FRAME. FINAL FINISHED DIMENSIONS WILL VARY ACCORDING TO INSTALLED FENDERS & BUMPERS.
6. TOP AND TIP ELEVATIONS OF TIMBER SUPPORT PILES FOR BOAT RAMP PROVIDED ON C116.
7. 12 INCH DIAMETER GALVANIZED STEEL GUIDE PILES: TOP ELEVATION = 12.00, EST. TIP ELEVATION = -30.00 BASED UPON MINIMUM 16.0' EMBEDMENT IN FIRM SAND.
8. ALL DOCKS, GANGWAYS, RAILING, AND ANCILLARY ITEMS SHALL BE PROVIDED BY THE OWNER.



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| REVISIONS | |
|-----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFW, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

| ADDENDUM | |
|---|------------|
| DESCRIPTION | DATE |
| REVISED PER GATORCROSS SHOP DRAWINGS, SEE DETAILS ON SHEETS C111-C116 | 02/01/2018 |

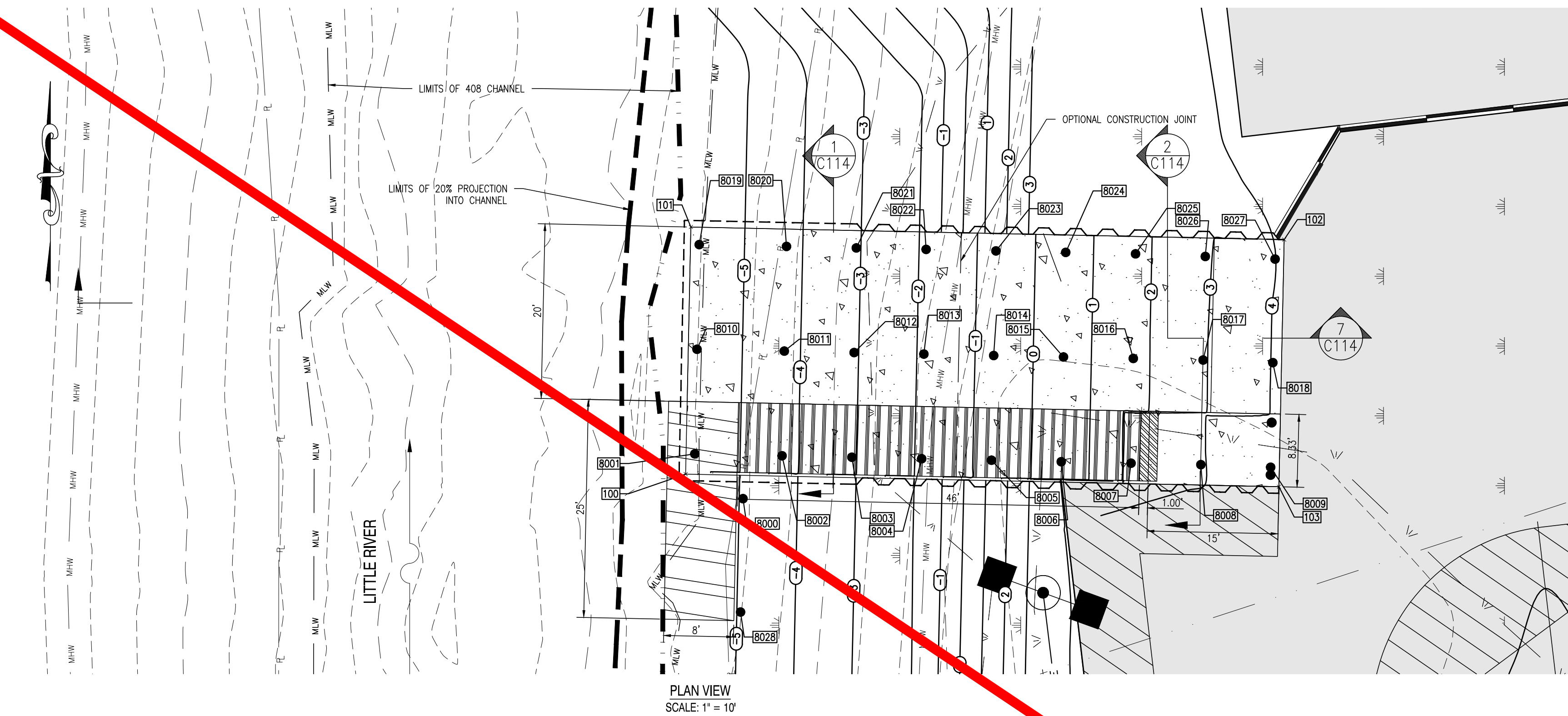
CONSTRUCTION PLANS

FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

PROJECT
SHEET TITLE
CROSS SECTION -
COURTESY DOCK

KENT COUNTY - FINAL
DESIGN
JANUARY 2ND, 2018
DRAWN CHK'D/DISIGNER
DLD / MDS AES
SCALE SHEET NO.
AS NOTED
PROJECT NO. 155001.03
C113

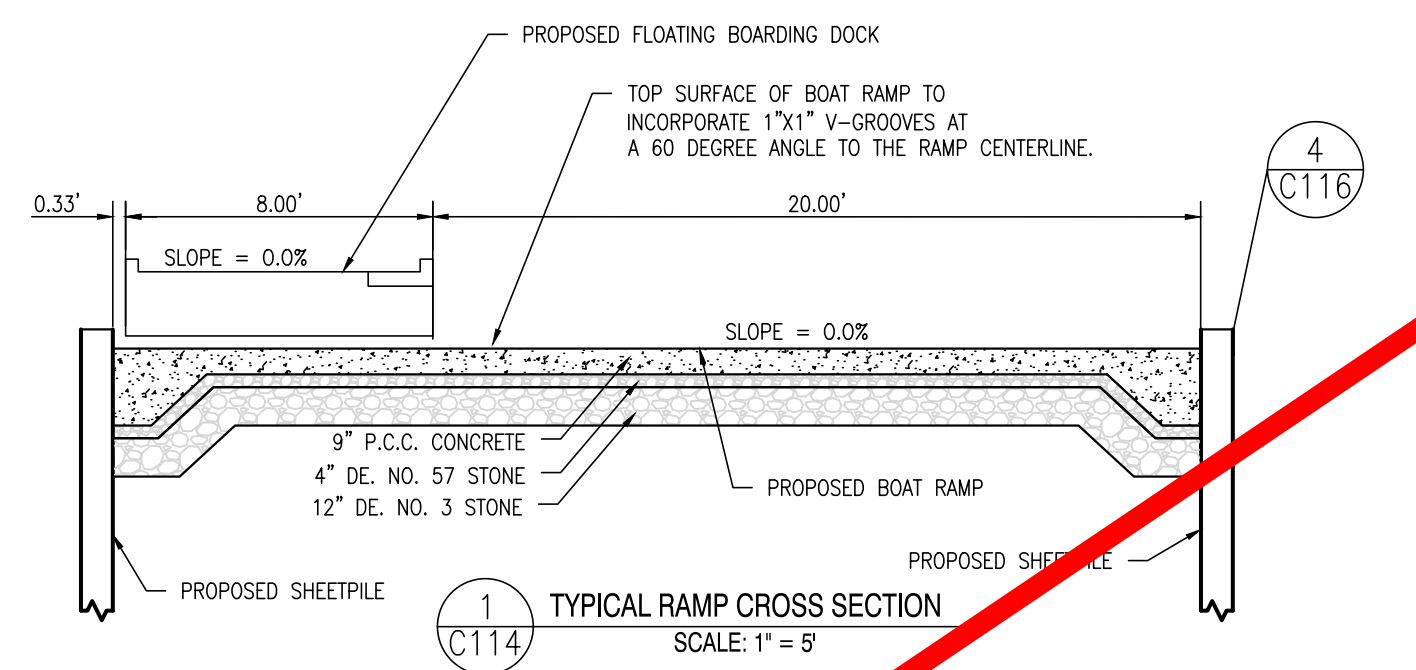
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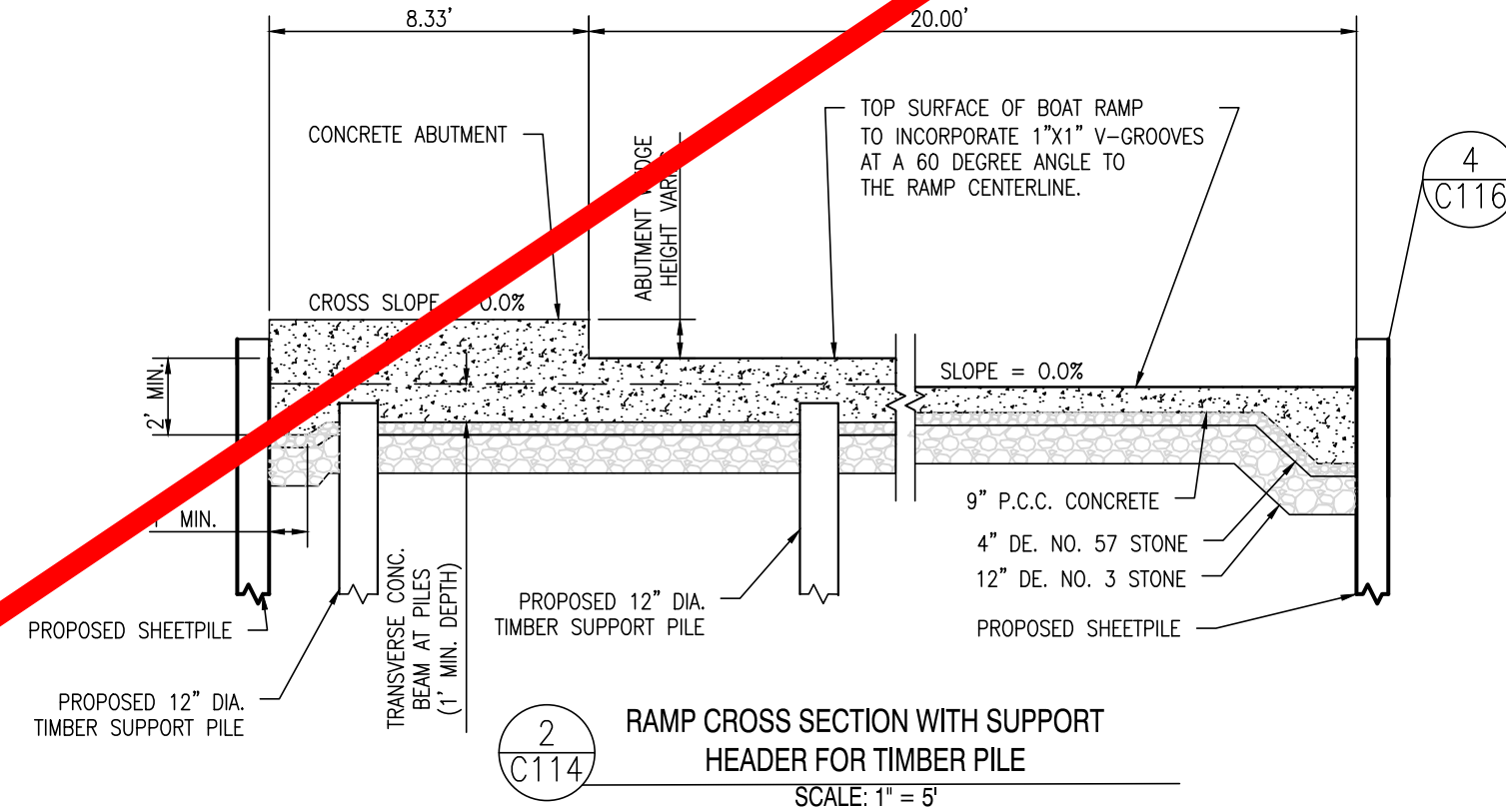
PLAN VIEW
SCALE: 1" = 10'

| COURTESY DOCK AND BOAT RAMP PILE LAYOUT | | | |
|---|-------------|-------------|-------------|
| POINT NO. | DESCRIPTION | NORTHING | EASTING |
| 8000 | PILE | 422631.3868 | 648337.0884 |
| 8001 | PILE | 422636.9055 | 648342.2155 |
| 8002 | PILE | 422626.9078 | 648342.0027 |
| 8003 | PILE | 422618.9096 | 648341.8325 |
| 8004 | PILE | 422610.9114 | 648341.6625 |
| 8005 | PILE | 422602.9132 | 648341.4920 |
| 8006 | PILE | 422594.9151 | 648341.3217 |
| 8007 | PILE | 422586.9169 | 648341.1515 |
| 8008 | PILE | 422578.9187 | 648340.9819 |
| 8009 | PILE | 422570.9232 | 648340.8128 |
| 8010 | PILE | 422636.6517 | 648354.2124 |
| 8011 | PILE | 422626.6525 | 648353.9996 |
| 8012 | PILE | 422618.6542 | 648353.8317 |
| 8013 | PILE | 422610.6560 | 648353.6612 |
| 8014 | PILE | 422602.6578 | 648353.4920 |
| 8015 | PILE | 422594.6596 | 648353.3228 |
| 8016 | PILE | 422586.6614 | 648353.1549 |
| 8017 | PILE | 422578.6633 | 648352.9782 |
| 8018 | PILE | 422570.6679 | 648352.8090 |
| 8019 | PILE | 422636.3980 | 648366.2093 |
| 8020 | PILE | 422626.3971 | 648365.9965 |
| 8021 | PILE | 422618.3989 | 648365.8263 |
| 8022 | PILE | 422610.4007 | 648365.6560 |
| 8023 | PILE | 422602.4025 | 648365.4858 |
| 8024 | PILE | 422594.4043 | 648365.3156 |
| 8025 | PILE | 422586.4062 | 648365.1453 |
| 8026 | PILE | 422578.4107 | 648364.9751 |
| 8027 | PILE | 422570.4153 | 648364.8049 |
| 8028 | PILE | 422631.6623 | 648364.6347 |

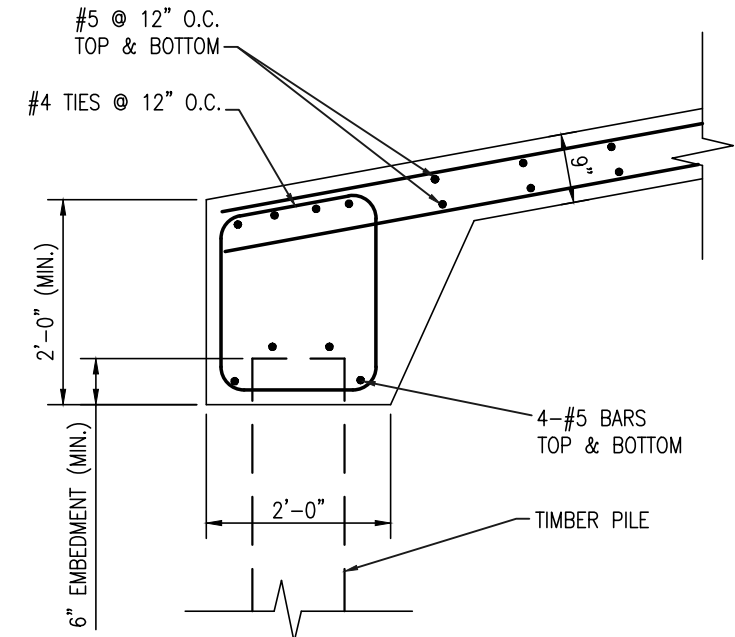
| CONCRETE RAMP LAYOUT | | | |
|----------------------|-------------|-------------|-------------|
| POINT NO. | DESCRIPTION | NORTHING | EASTING |
| 100 | CONCRETE | 422637.9548 | 648339.8993 |
| 101 | CONCRETE | 422637.3538 | 648368.2257 |
| 102 | CONCRETE | 422569.3691 | 648366.7834 |
| 103 | CONCRETE | 422569.9711 | 648338.4590 |



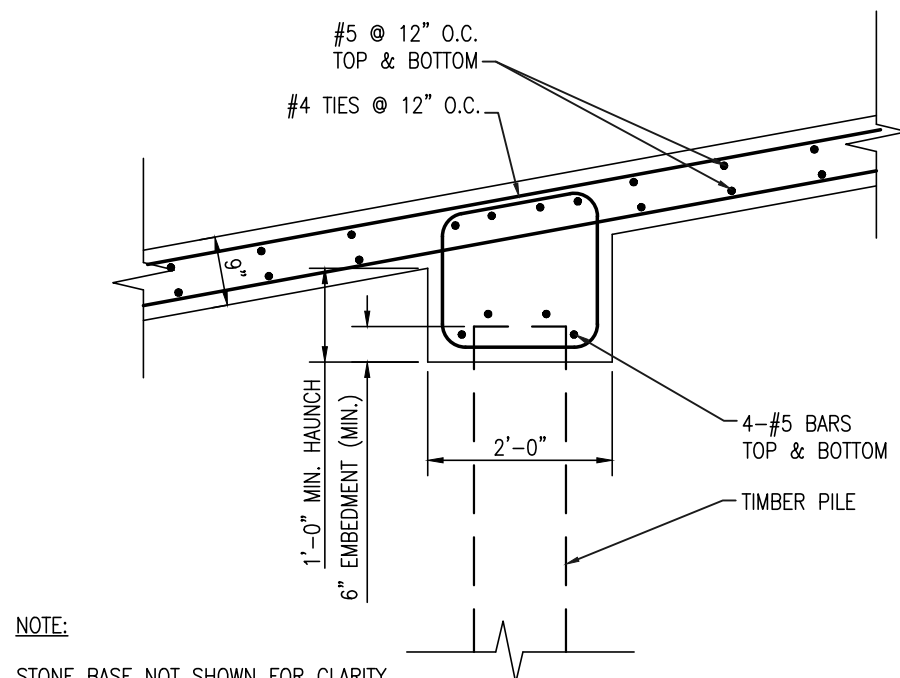
TYPICAL RAMP CROSS SECTION
SCALE: 1" = 5'



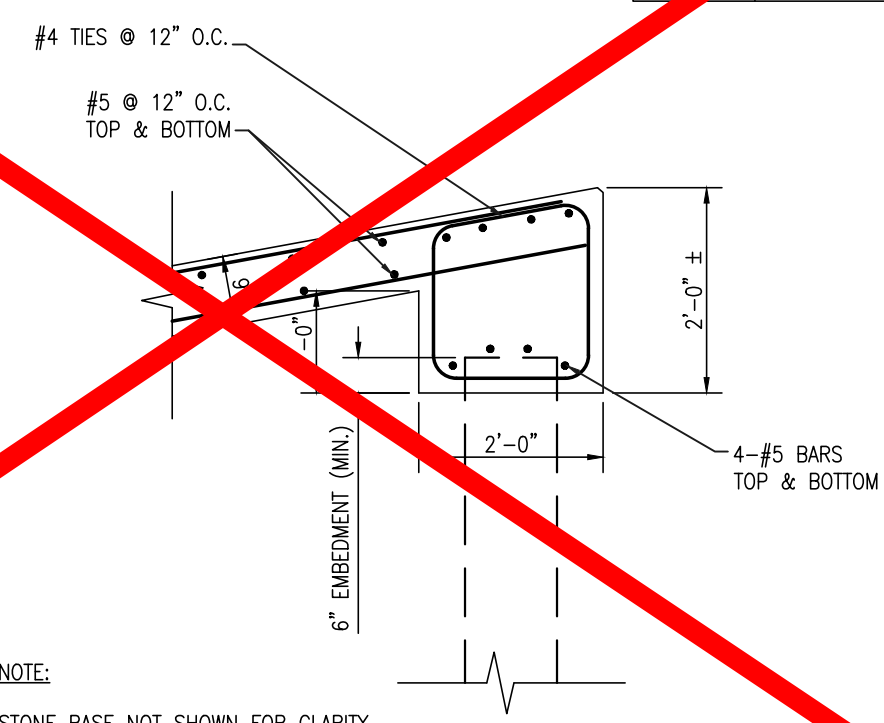
RAMP CROSS SECTION WITH SUPPORT
HEADER FOR TIMBER PILE
SCALE: 1" = 5'



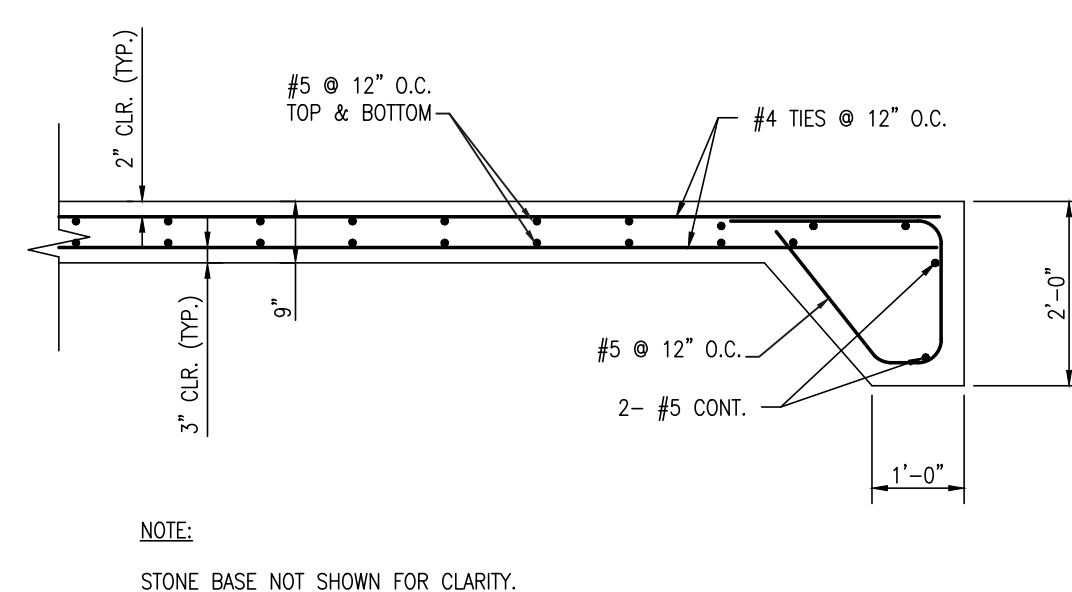
3
C114
RAMP TOE DETAIL
SCALE: 1/2" = 1'-0"



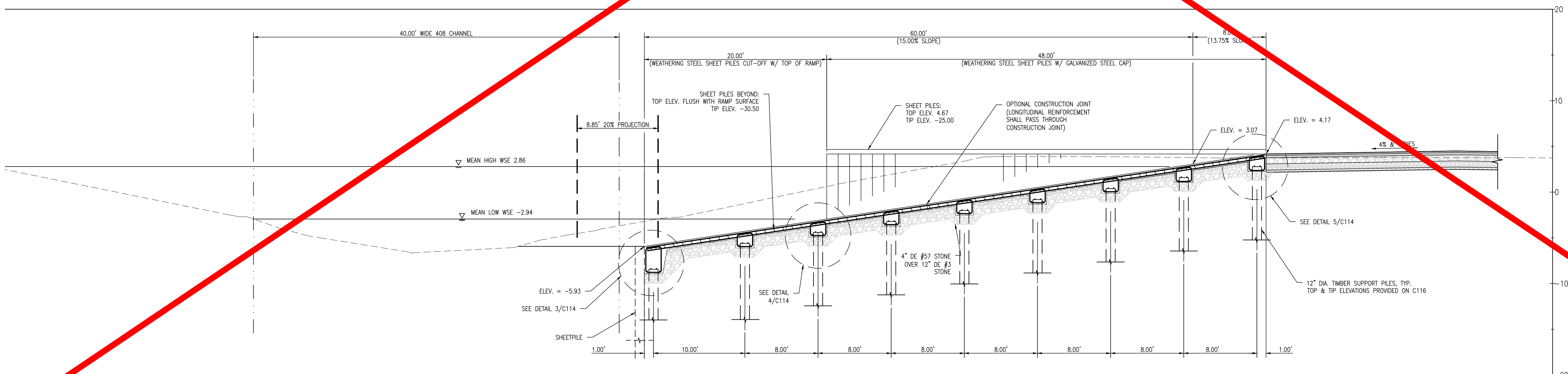
4
C114
RAMP INTERMEDIATE PILE DETAIL
SCALE: 1/2" = 1'-0"



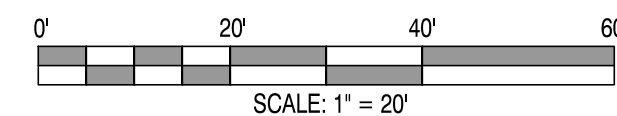
5
C114
RAMP TOP DETAIL
SCALE: 1/2" = 1'-0"



6
C114
RAMP LONGITUDINAL EDGE
SCALE: 1/2" = 1'-0"



7
C114
RAMP CROSS SECTION
SCALE: 1" = 6'



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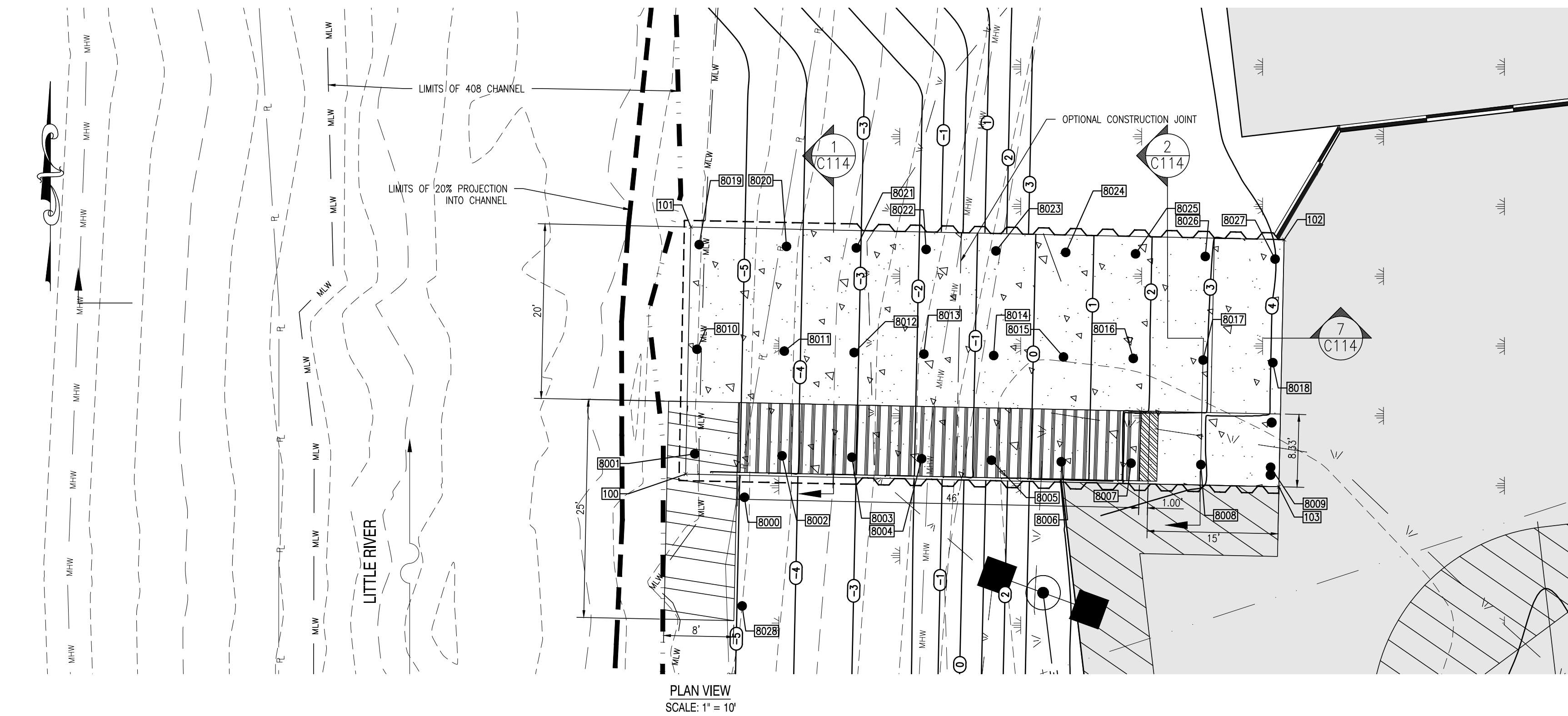
| ADDENDUM | |
|-------------|------|
| DESCRIPTION | DATE |

CONSTRUCTION PLANS
FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

PROJECT
SHEET TITLE
CROSS SECTION -
BOAT RAMP

KENT COUNTY - FINAL
DESIGN
JANUARY 2ND, 2018
DRAWN: DLD / MDS
CHK'D/DESIGNER: AES
SCALE: AS NOTED
PROJECT NO.: 155001.03
SHEET NO.: C114

C:\PROJECTS\155001.03_KentCo_Fish and Wildlife\155001.03_Design of Little Creek Boat Ramp\155001.03_Sheet\Construction Plans\C114.dwg, 1/29/2018, 9:19 PM



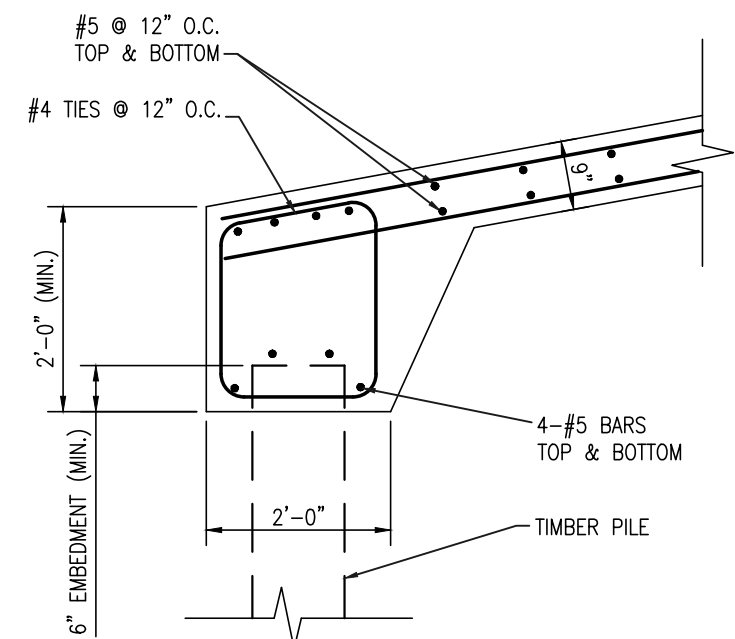
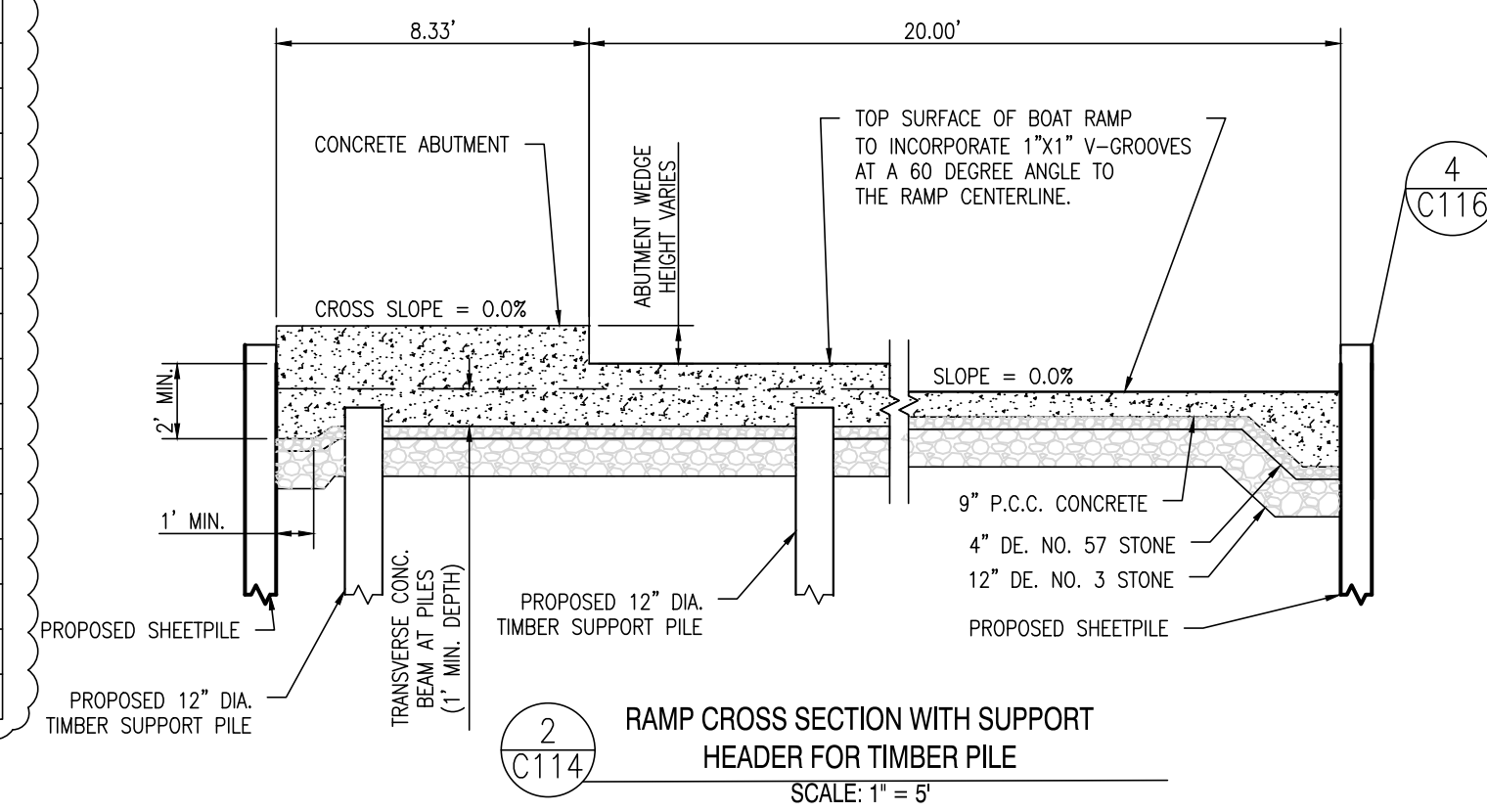
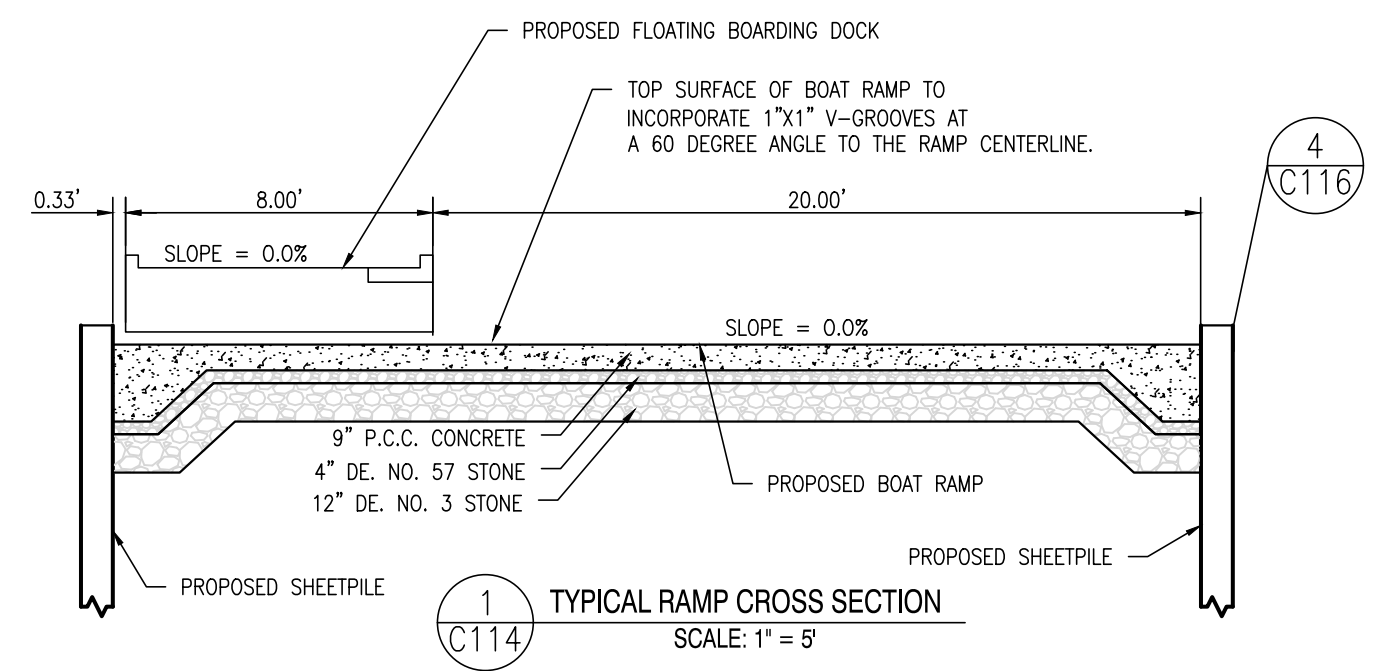
STEEL GUIDE PILE LOCATIONS UPDATED

COURTESY DOCK AND BOAT RAMP PILE LAYOUT

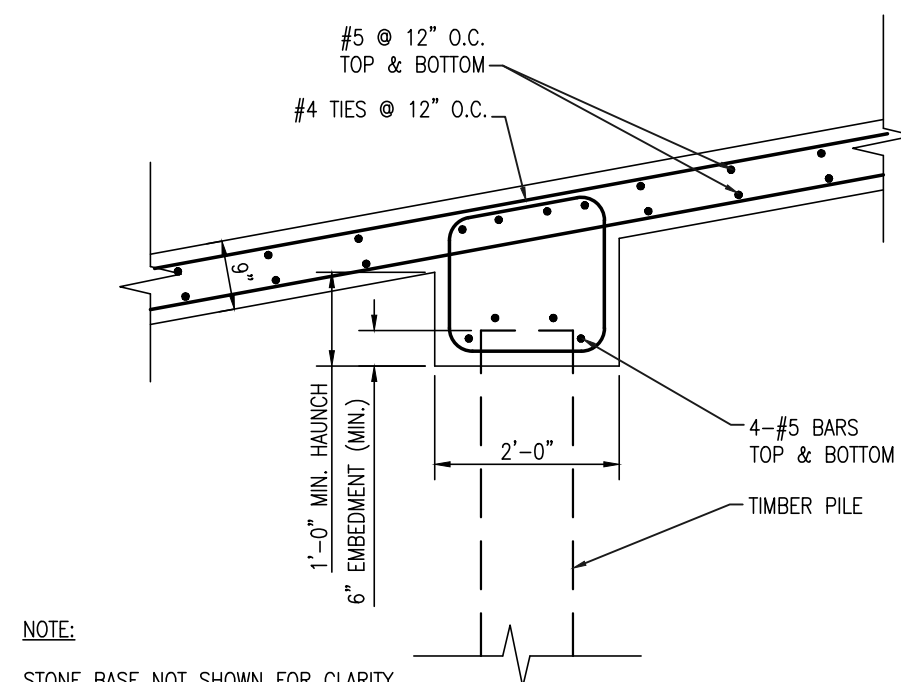
| POINT NO. | DESCRIPTION | NORTHING | EASTING |
|-----------|-------------|-------------|-------------|
| 8000 | PILE | 422631.2169 | 648337.2421 |
| 8001 | PILE | 422636.9055 | 648342.2155 |
| 8002 | PILE | 422626.9078 | 648342.0027 |
| 8003 | PILE | 422618.9096 | 648341.8325 |
| 8004 | PILE | 422610.9114 | 648341.6625 |
| 8005 | PILE | 422602.9132 | 648341.4920 |
| 8006 | PILE | 422594.9151 | 648341.3217 |
| 8007 | PILE | 422586.9169 | 648341.1515 |
| 8008 | PILE | 422578.9187 | 648340.9819 |
| 8009 | PILE | 422570.9232 | 648340.6828 |
| 8010 | PILE | 422636.6517 | 648354.2124 |
| 8011 | PILE | 422626.6525 | 648353.9996 |
| 8012 | PILE | 422618.6542 | 648353.8317 |
| 8013 | PILE | 422610.6560 | 648353.6612 |
| 8014 | PILE | 422602.6578 | 648353.4920 |
| 8015 | PILE | 422594.6596 | 648353.3228 |
| 8016 | PILE | 422586.6614 | 648353.1549 |
| 8017 | PILE | 422578.6633 | 648352.9782 |
| 8018 | PILE | 422570.6679 | 648352.6790 |
| 8019 | PILE | 422636.3980 | 648366.2093 |
| 8020 | PILE | 422626.3971 | 648365.9965 |
| 8021 | PILE | 422618.3989 | 648365.8263 |
| 8022 | PILE | 422610.4007 | 648365.6560 |
| 8023 | PILE | 422602.4025 | 648365.4858 |
| 8024 | PILE | 422594.4043 | 648365.3156 |
| 8025 | PILE | 422586.4062 | 648365.1453 |
| 8026 | PILE | 422578.4107 | 648364.8461 |
| 8027 | PILE | 422570.4153 | 648364.5469 |
| 8028 | PILE | 422631.4808 | 648324.7866 |

CONCRETE RAMP LAYOUT

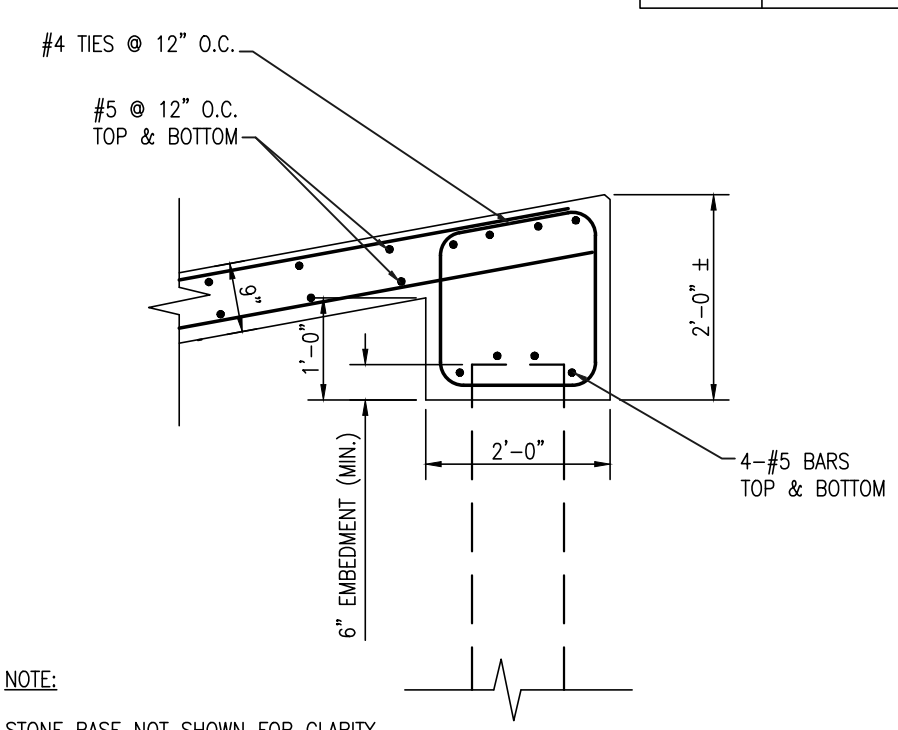
| POINT NO. | DESCRIPTION | NORTHING | EASTING |
|-----------|-------------|-------------|-------------|
| 100 | CONCRETE | 422637.9548 | 648339.8993 |
| 101 | CONCRETE | 422637.3538 | 648368.2257 |
| 102 | CONCRETE | 422569.3691 | 648366.7834 |
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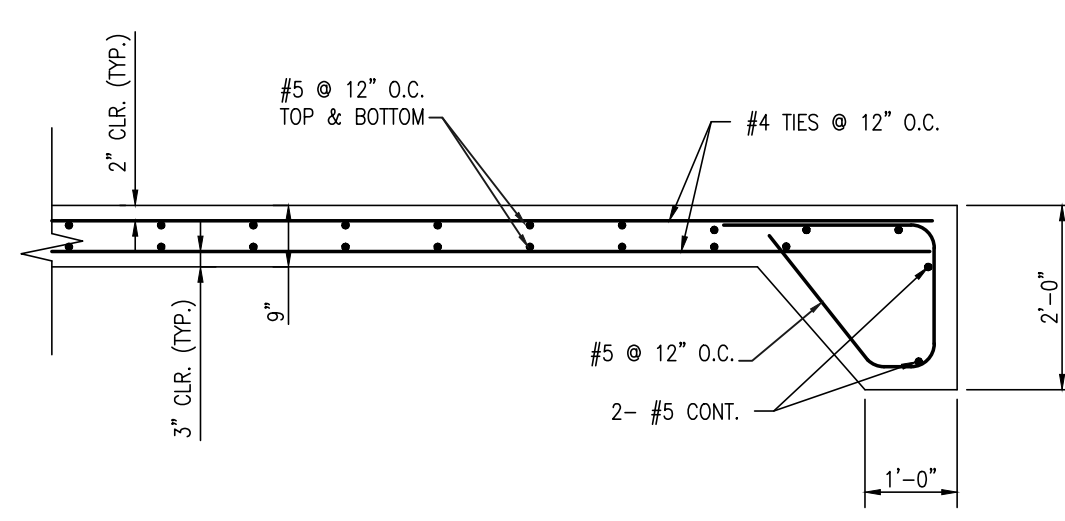
NOTE:
STONE BASE AND SHEET PILES NOT SHOWN FOR CLARITY.



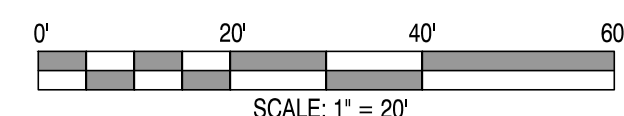
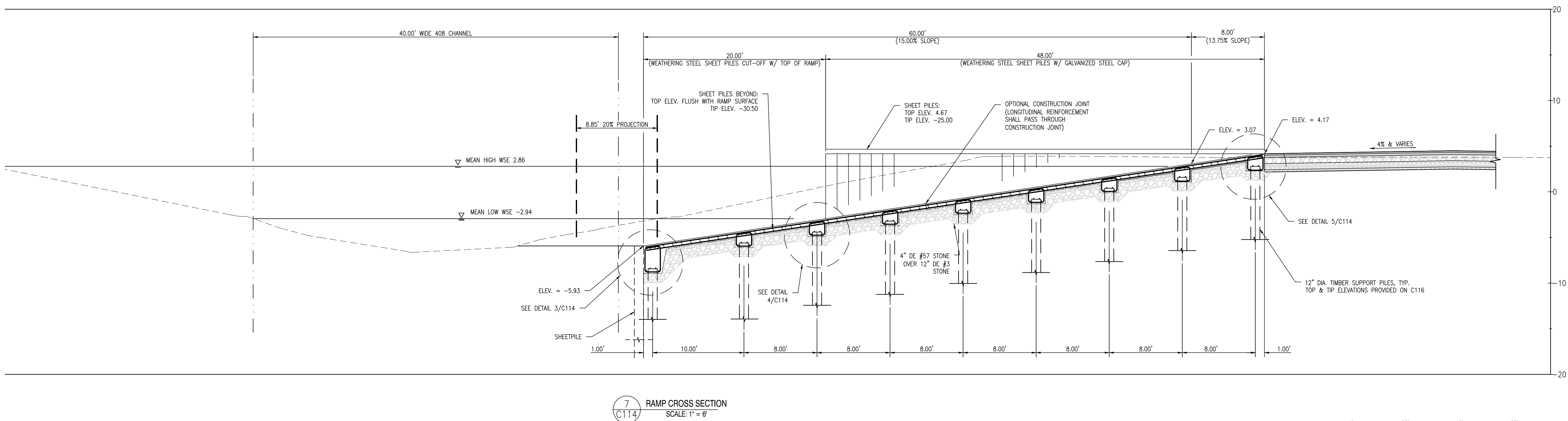
NOTE:
STONE BASE NOT SHOWN FOR CLARITY.



NOTE:
STONE BASE NOT SHOWN FOR CLARITY.



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ADDENDUM

| DATE | DESCRIPTION |
|------------|--|
| 02/01/2018 | REVISED PER GATORDOCK SHOP DRAWINGS. SEE DETAILS ON SHEETS C111-C116 |

CONSTRUCTION PLANS

FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE

CROSS SECTION -
BOAT RAMP

KENT COUNTY - FINAL
DESIGN
JANUARY 2ND, 2018

DRAWN CHK'D/DISIGNER

DLD / MDS AES

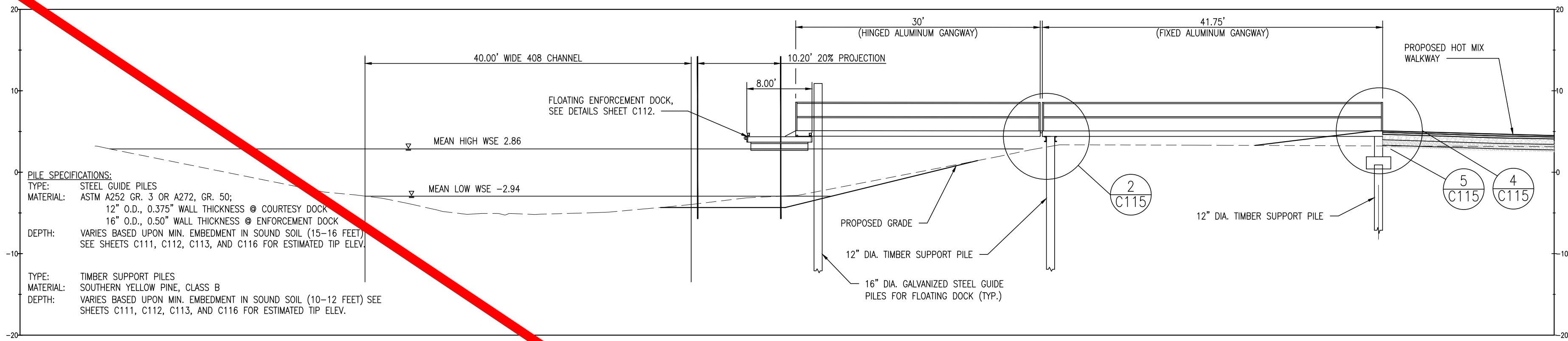
SCALE SHEET NO.

AS NOTED

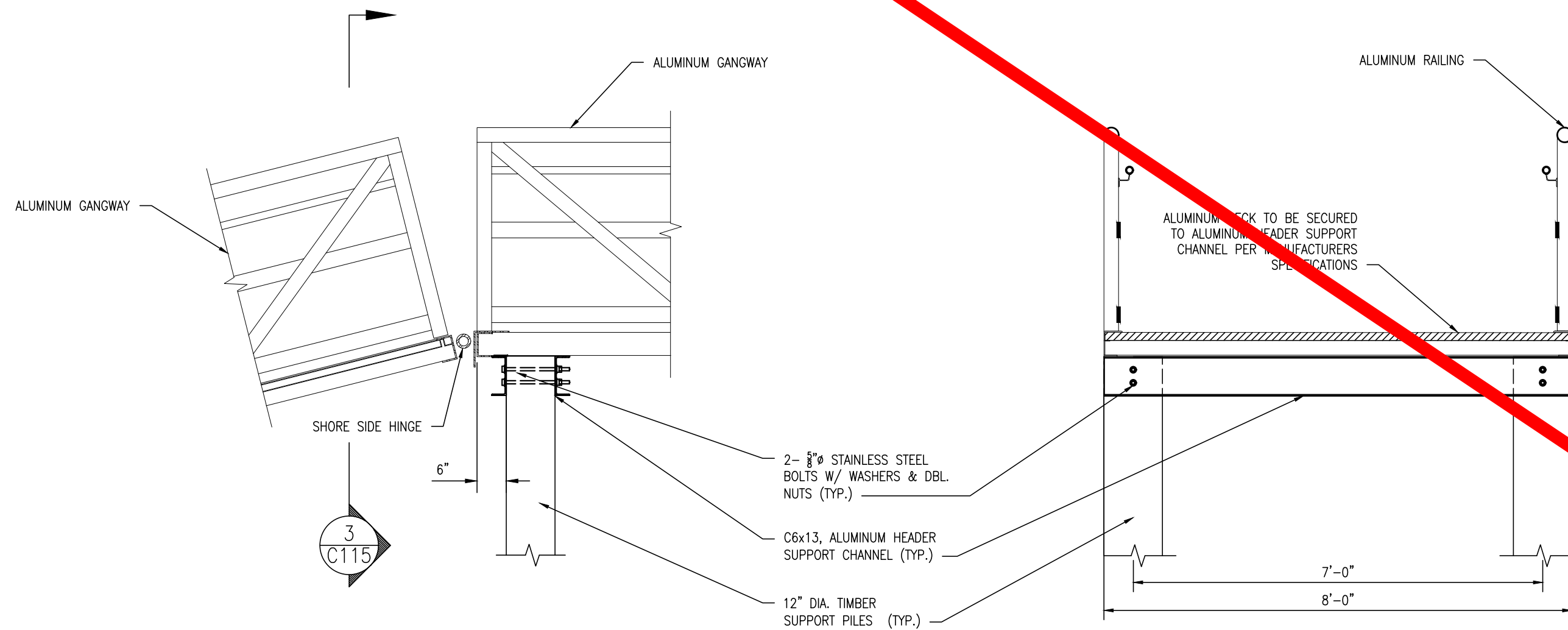
PROJECT NO.

155001.03

C114

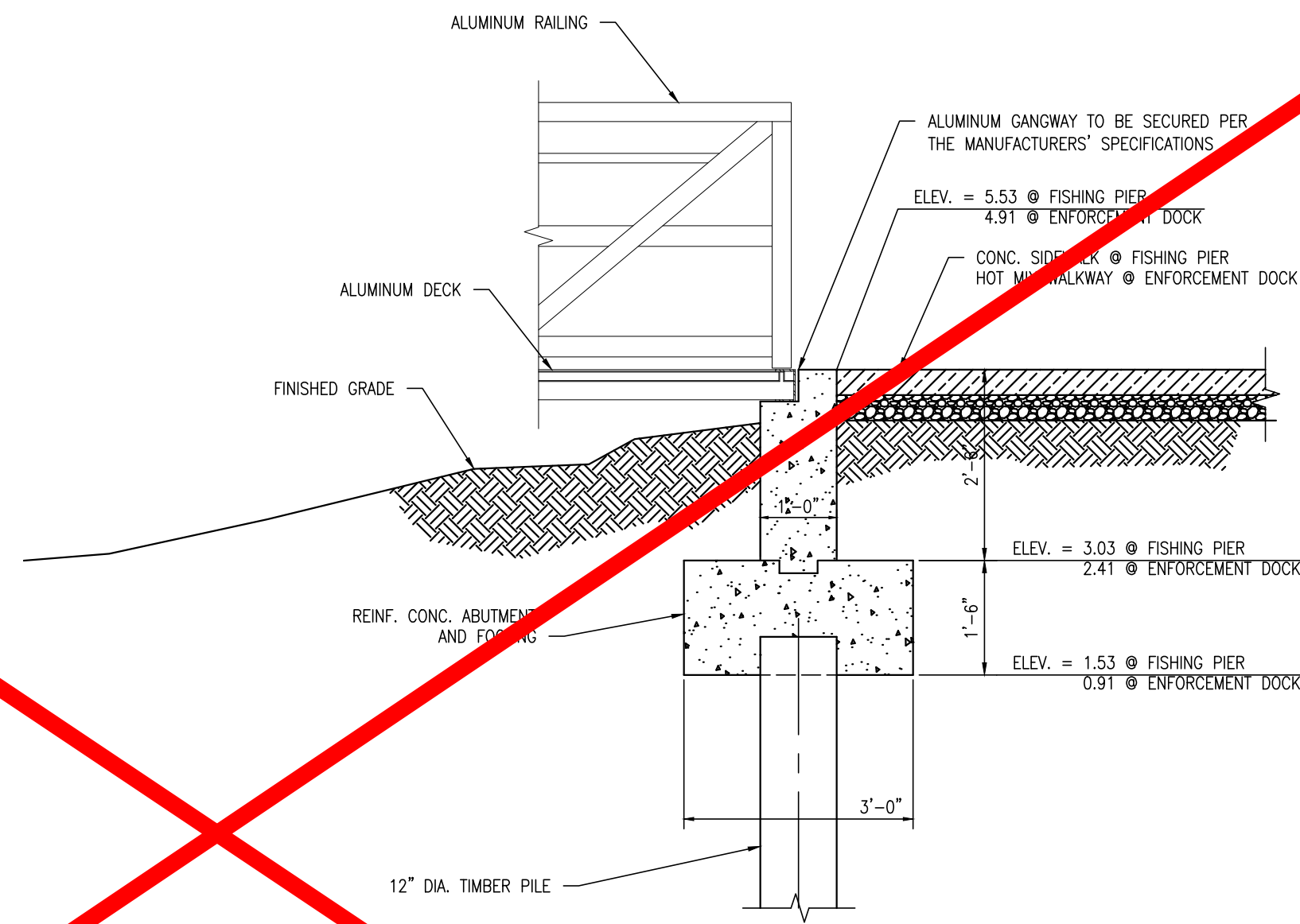


1
C115
GANGWAY AT ENFORCEMENT DOCK
SCALE: 1"=10'-0"

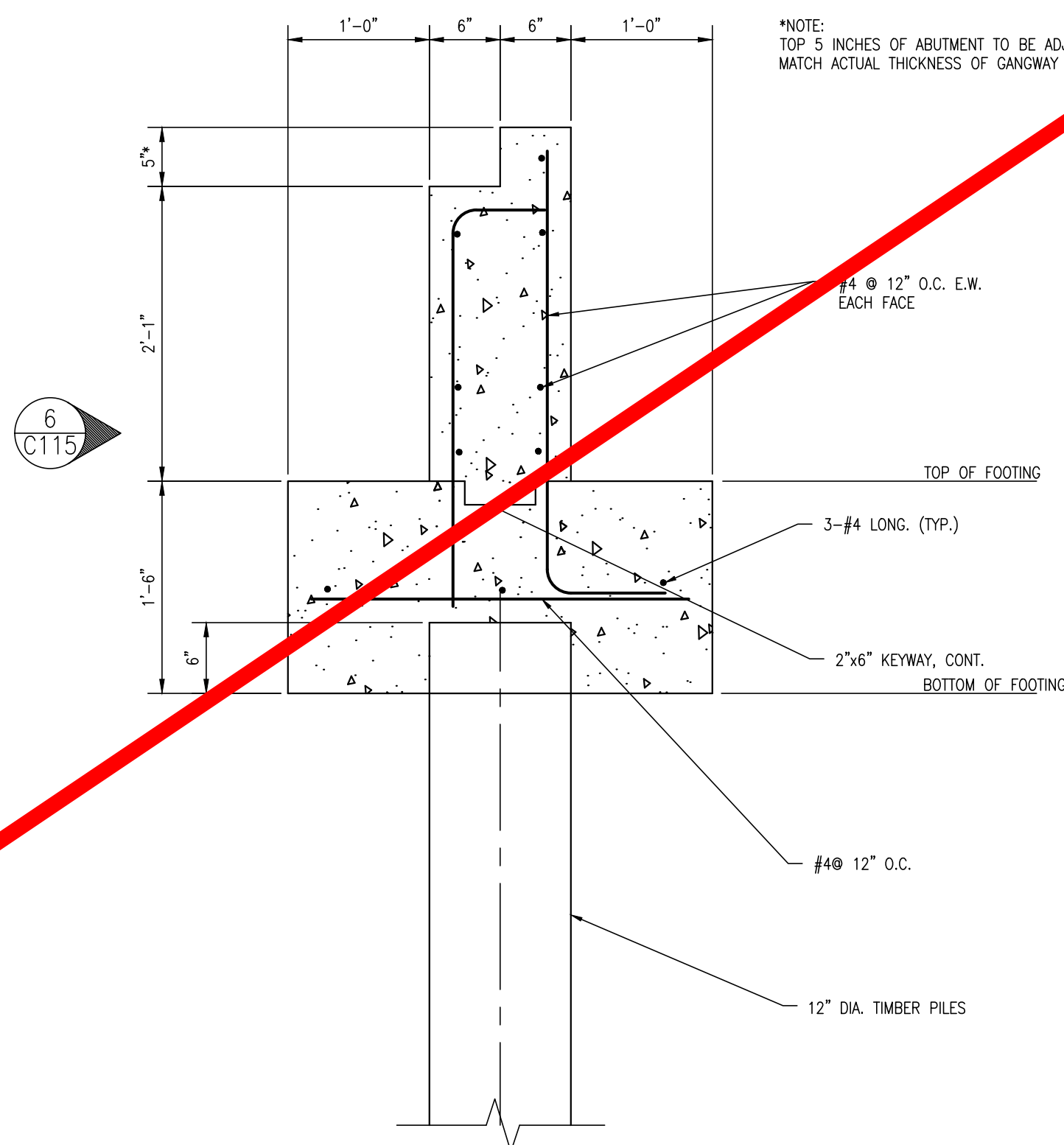


3
C115
SECTION A
GANGWAY ELEVATION AT PIER BENT
SCALE: 1/2"=1'-0"

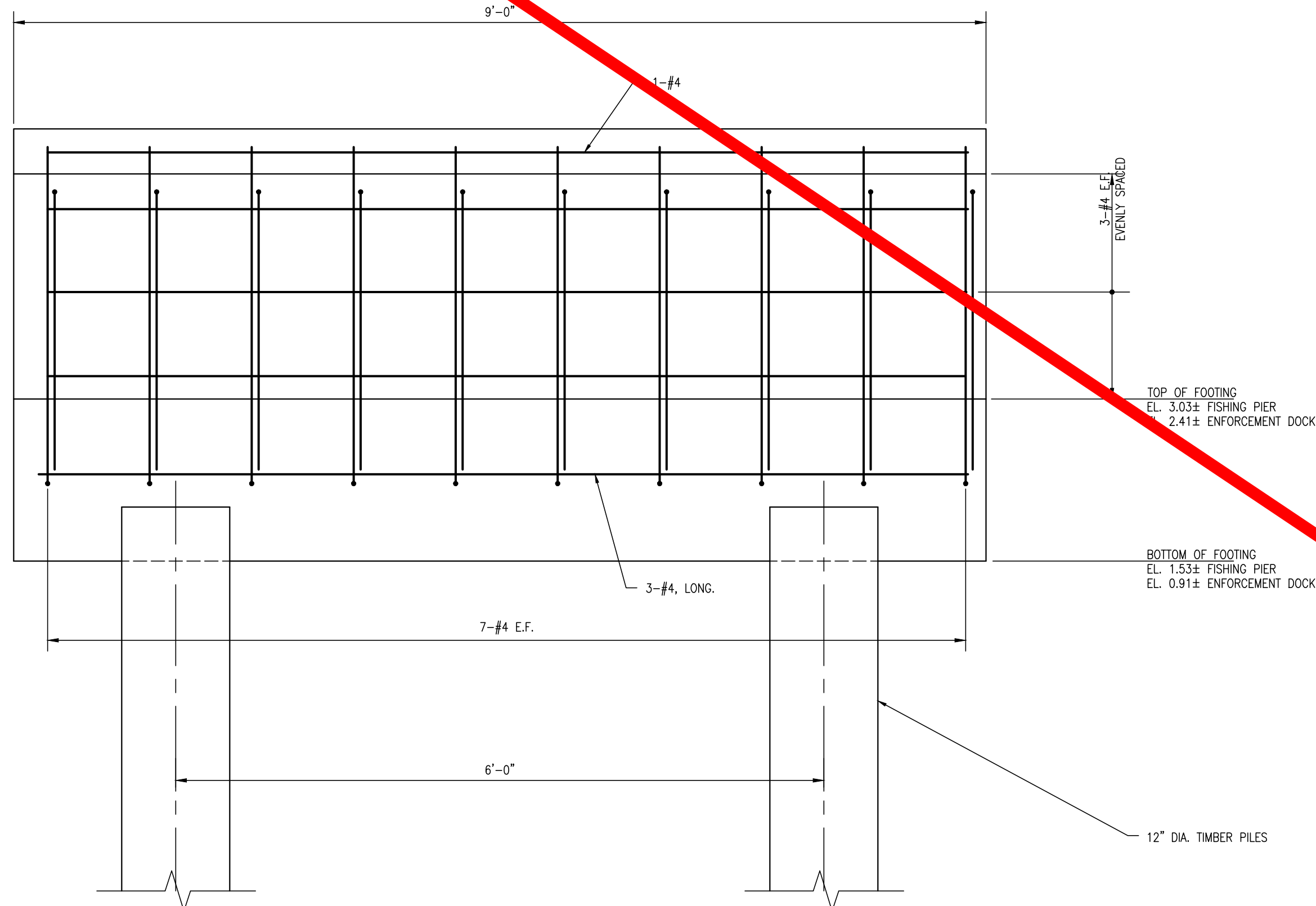
2
C115
GANGWAY SECTION AT PIER BENT
SCALE: 1/2"=1'-0"



4
C115
GANGWAY ABUTMENT
SCALE: 1/2"=1'-0"



5
C115
GANGWAY ABUTMENT SECTION
SCALE: 1"=1'-0"



6
C115
GANGWAY ABUTMENT
REBAR LAYOUT ELEVATION
SCALE: 1"=1'-0"

GENERAL NOTES:

DESIGN AND CONSTRUCTION SPECIFICATIONS:

- LOADS:
 - LIVE LOAD - GANGWAYS AND BOARDWALKS: 40 POUNDS PER SQUARE FOOT WITH A MAXIMUM DEFLECTION OF L/180.
- MATERIALS:
 - ALUMINUM:
 - ALL STRUCTURAL ALUMINUM IS ALLOY 6061-T6, MILL FINISH.
 - ALL WELDED FABRICATION IN ACCORDANCE WITH AWS D1.2, UNLESS NOTED OTHERWISE. FILLER METAL TO BE 5356 SERIES WIRE.
 - STEEL:
 - ALL FABRICATED STEEL (EXCLUDING STEEL SHEET PILES) SHALL BE ASTM A36, AASHTO M232. STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153, AASHTO M 232.
 - GALVANIZED COATINGS THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE CLEANED AND REPAIRED USING A ZINC RICH COLD GALVANIZING PAINT AS APPROVED BY THE OWNER.
 - STEEL SHEET PILES SHALL BE WEATHERING STEEL COATED IN COAL TAR EPOXY AS PER TECHNICAL SPECIFICATION SECTION 316216 - STEEL SHEET PILES.
 - REINFORCING STEEL:
 - ALL REINFORCING STEEL SHALL BE AASHTO M31, (ASTM A615), GRADE 60.
 - ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH AASHTO M284.
 - TIMBER:
 - PILES SHALL BE CLASS B SOUTHERN YELLOW PINE, IN ACCORDANCE WITH ASTM D25.
 - DIMENSION LUMBER SHALL BE SOUTHERN YELLOW PINE, NO. 2 OR BETTER.
 - ALL PILES AND DIMENSION LUMBER SHALL BE TREATED WITH CHROMATED COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION OF 0.05 POUNDS PER CUBIC FOOT.
- CONNECTIONS:
 - ALL BOLTS AND NUTS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153, AASHTO M232 OR STAINLESS STEEL IN ACCORDANCE WITH ASTM A316, AS SHOWN ON THE PLANS.
 - BOLTED CONNECTIONS THAT ARE EXPOSED TO PEDESTRIANS ON THE BRIDGE SHALL BE POSITIONED SUCH THAT THE BOLT HEADS FACE THE DECK AND NUTS FACE AWAY FROM THE PUBLIC.
- CONCRETE:
 - ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH SECTION 610 OF THE DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (DATED AUGUST 2016) UNLESS OTHERWISE NOTED.
 - SUBMIT CONCRETE MIX DESIGNS FOR REVIEW AND APPROVAL PRIOR TO STARTING WORK. ALL CONCRETE SHALL USE A DELDOT APPROVED MIX.
 - CONCRETE FOR ABUTMENT FOOTING SHALL BE DELDOT CLASS A ($f'_c = 4,500$ PSI) AND SHALL CONFORM TO SECTION 610001 - PORTLAND CEMENT MASONRY, ABUTMENT FOOTING, CLASS A.
 - CONCRETE FOR ABUTMENT STEM, AND RAMPS SHALL BE DELDOT CLASS A ($f'_c = 4,500$ PSI) AND SHALL CONFORM TO SECTION 610004 - PORTLAND CEMENT MASONRY, ABUTMENT ABOVE FOOTING, CLASS A.
 - MINIMUM CONCRETE COVER FOR REBAR SHALL BE: 3" MINIMUM FOR SURFACES CAST AGAINST EARTH, AND 2" FOR ALL OTHER FIELD-FORMED SURFACES.
 - CHAMFER ALL EXPOSED EDGES 1" UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE DEWATERING SYSTEM AS NECESSARY FOR CONSTRUCTION OF BOAT RAMP AND GANGWAYS. CONTRACTOR SHALL OBTAIN ANY NECESSARY DEWATERING PERMITS. DEWATERING SYSTEM SHALL BE INCIDENTAL TO THE CONTRACT.

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| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

| ADDENDUM | |
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| DESCRIPTION | DATE |

CONSTRUCTION PLANS

FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

PROJECT

SHEET TITLE
STRUCTURAL DETAILS -
GANGWAY

KENT COUNTY - FINAL
DESIGN

JANUARY 2ND, 2018

DRAWN CHK'D/DISIGNER

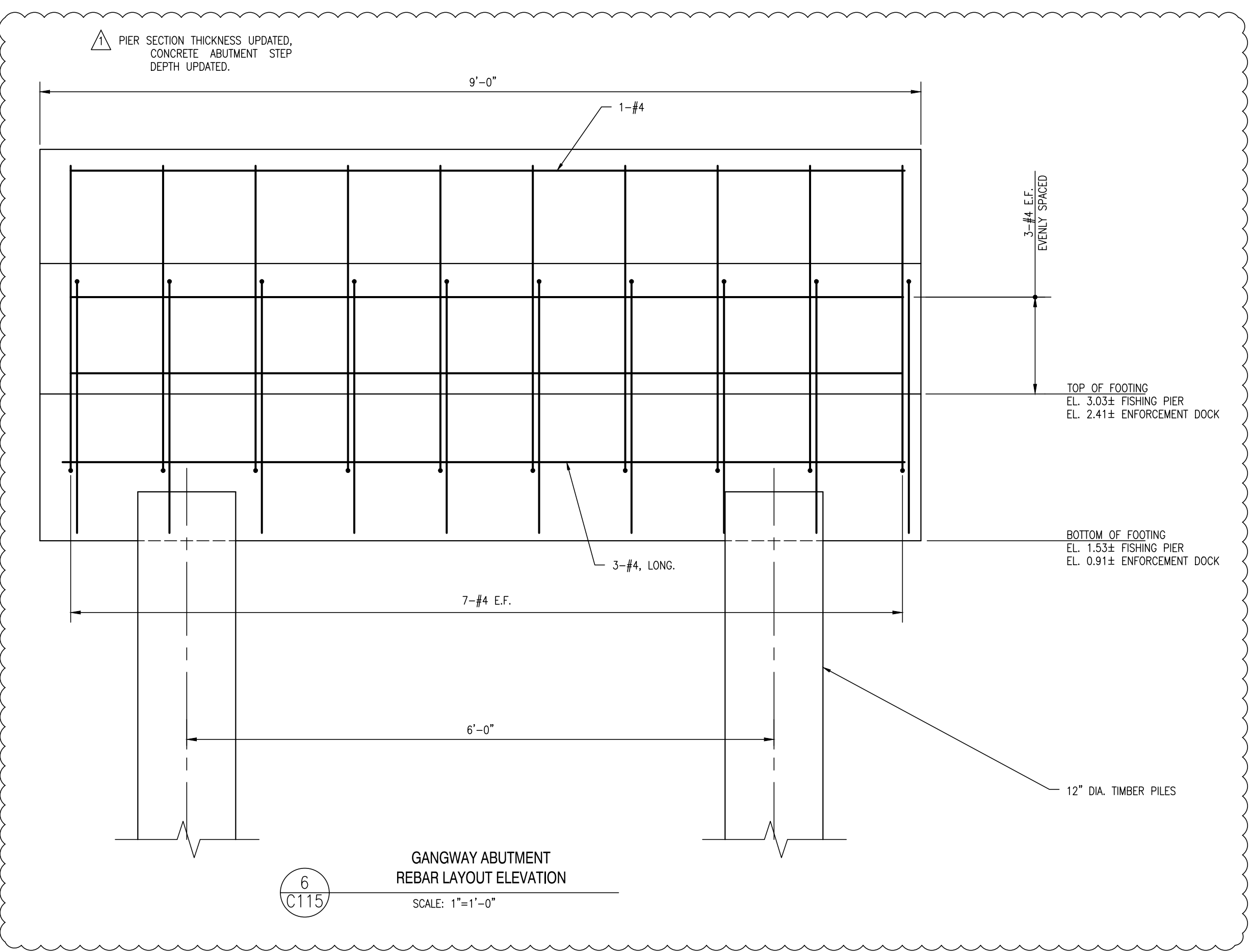
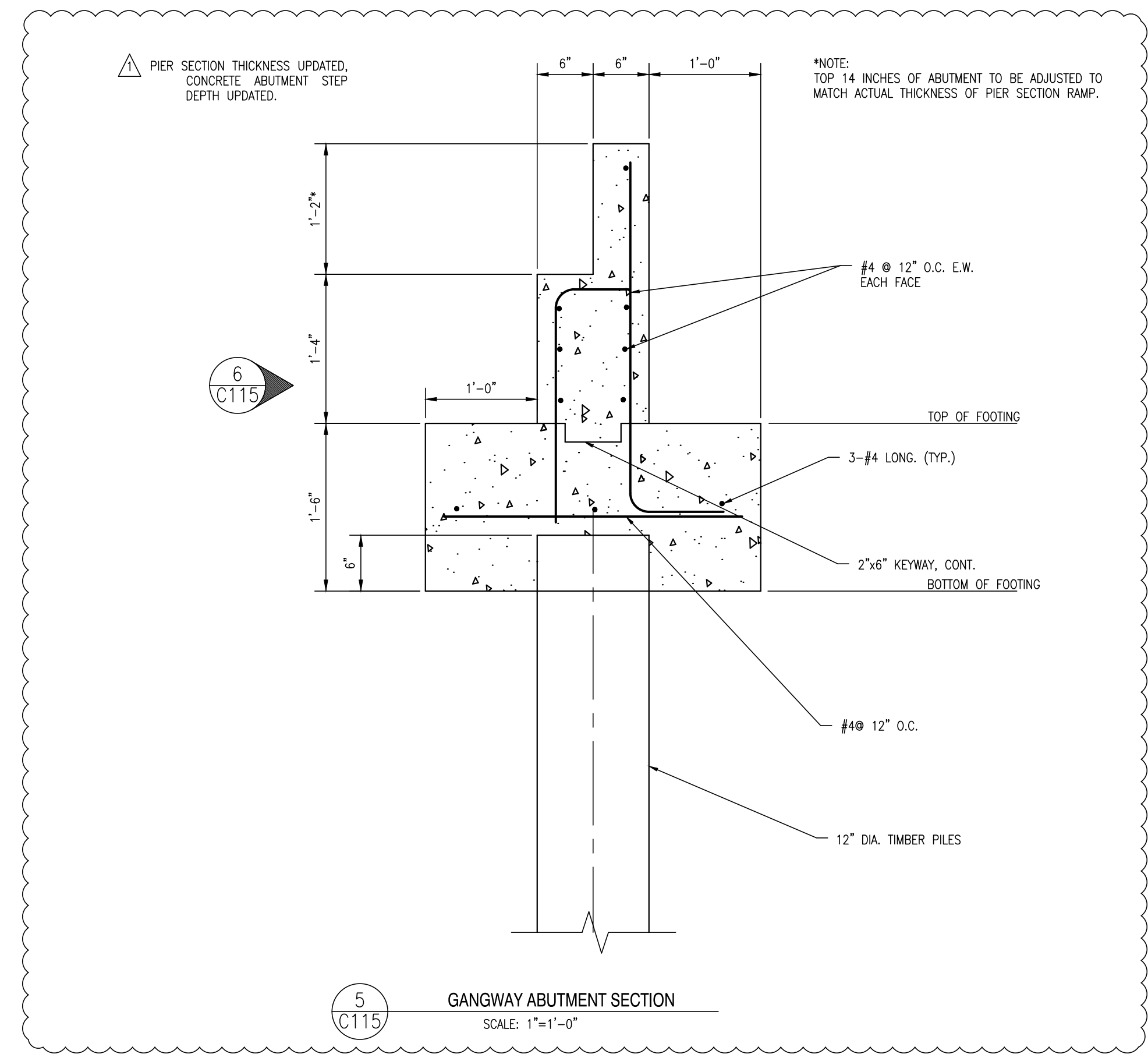
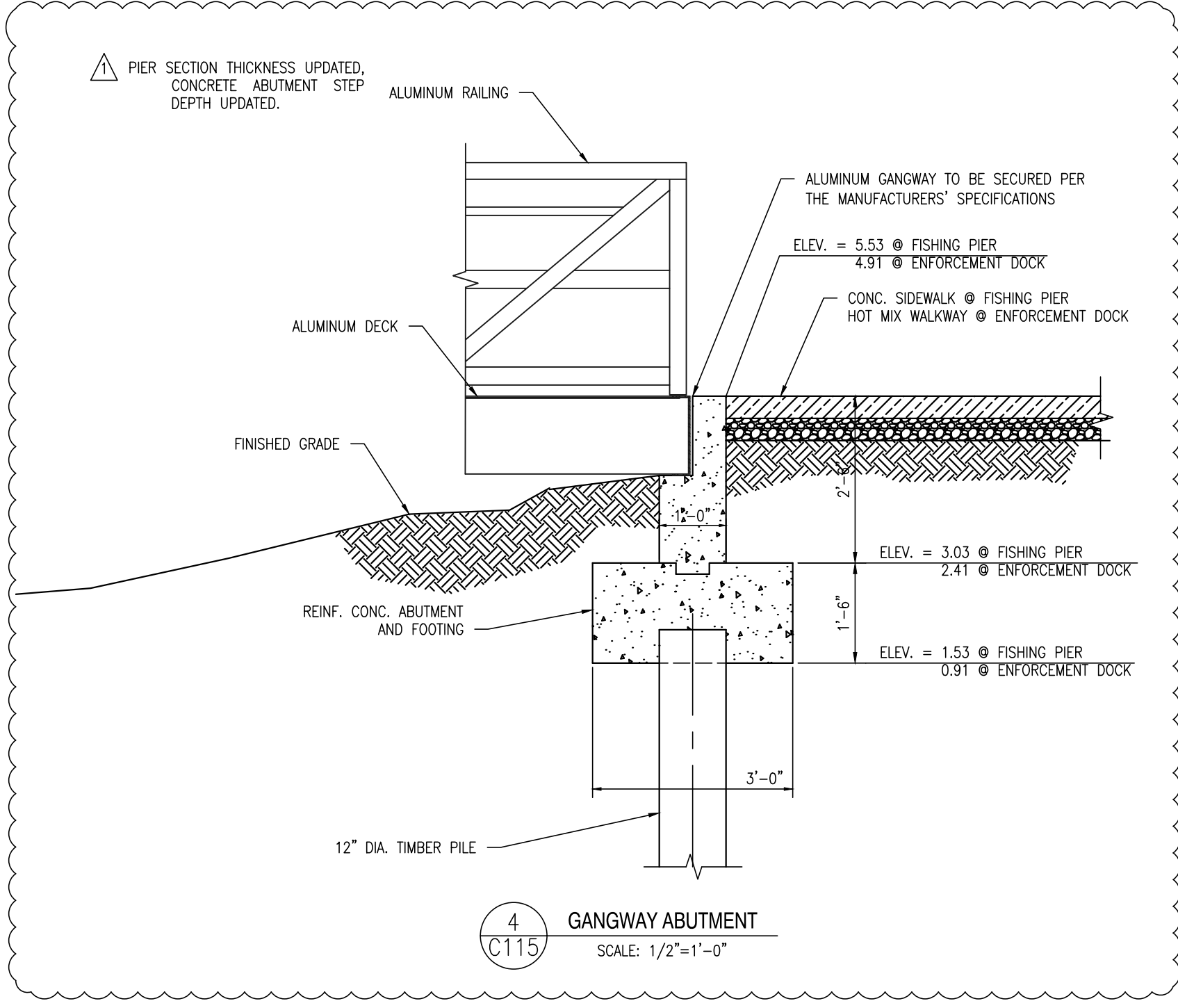
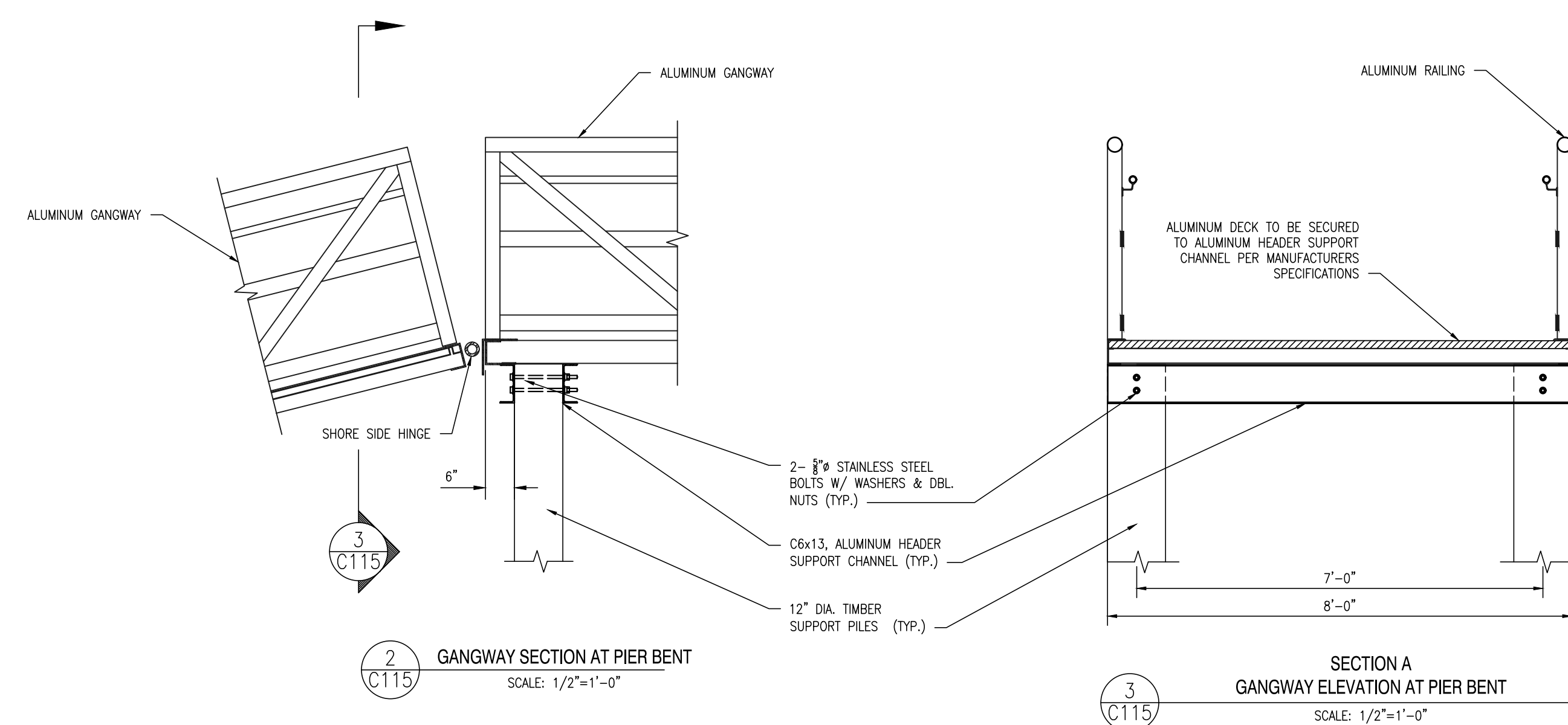
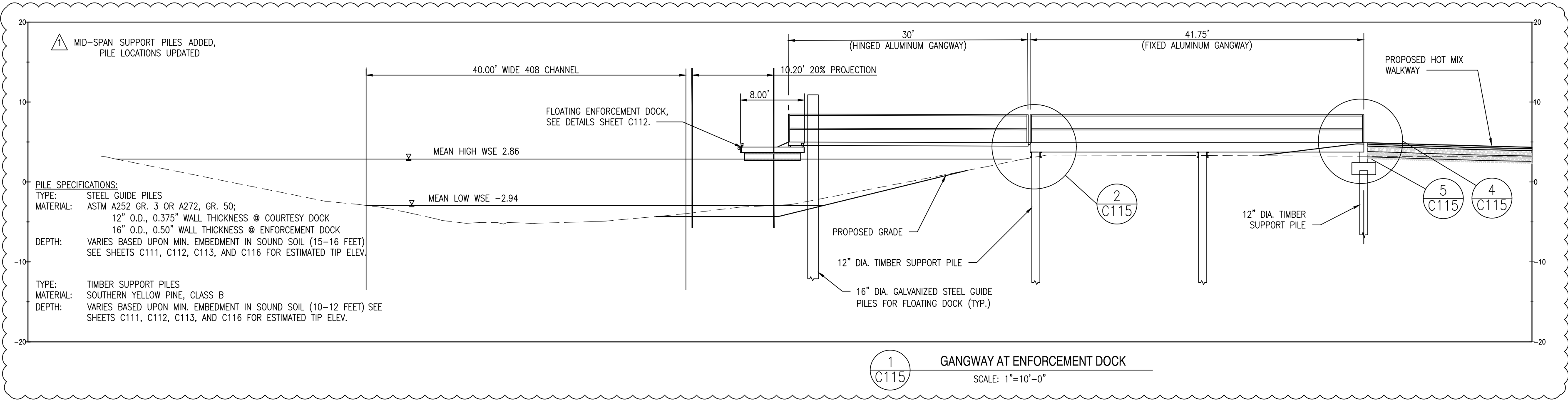
DLD / MDS AES

SCALE SHEET NO.

NOT TO SCALE

PROJECT NO. C115

155001.03



GENERAL NOTES:

DESIGN AND CONSTRUCTION SPECIFICATIONS:

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 - LIVE LOAD - GANGWAYS AND BOARDWALKS: 40 POUNDS PER SQUARE FOOT WITH A MAXIMUM DEFLECTION OF L/180.
- MATERIALS:
 - ALUMINUM:
 - ALL STRUCTURAL ALUMINUM IS ALLOY 6061-T6, MILL FINISH.
 - ALL WELDED FABRICATION IN ACCORDANCE WITH AWS D1.2, UNLESS NOTED OTHERWISE. FILLER METAL TO BE 5356 SERIES WIRE.
 - STEEL:
 - FABRICATED STEEL (EXCLUDING STEEL SHEET PILES) SHALL BE ASTM A36, A572 M183, STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153, A572 M 232.
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 - TIMBER:
 - PILES SHALL BE CLASS B SOUTHERN YELLOW PINE IN ACCORDANCE WITH ASTM D25.
 - DIMENSION LUMBER SHALL BE SOUTHERN YELLOW PINE, NO. 2 OR BETTER.
 - ALL PILES AND DIMENSION LUMBER SHALL BE TREATED WITH CHROMATED COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION OF 2.5 POUNDS PER CUBIC FOOT.
- CONNECTIONS:
 - ALL BOLTS AND NAILS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153, A572 M232 OR STAINLESS STEEL IN ACCORDANCE WITH ASTM A316, AS SHOWN ON THE PLANS.
 - BOLTED CONNECTIONS THAT ARE EXPOSED TO PEDESTRIANS ON THE BRIDGE SHALL BE POSITIONED SUCH THAT THE BOLT HEADS FACE THE DECK AND NUTS FACE AWAY FROM THE THE PUBLIC.
- CONCRETE:
 - ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH SECTION 610 OF THE DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (DATED AUGUST 2016) UNLESS OTHERWISE NOTED.
 - SUBMIT CONCRETE MIX DESIGNS FOR REVIEW AND APPROVAL PRIOR TO STARTING WORK. ALL CONCRETE SHALL USE A DELDOT APPROVED MIX.
 - CONCRETE FOR ABUTMENT FOOTING SHALL BE DELDOT CLASS A (f'c = 4,500 PSI) AND SHALL CONFORM TO SECTION 610001 - PORTLAND CEMENT MASONRY, ABUTMENT FOOTING, CLASS A.
 - CONCRETE FOR ABUTMENT STEM, AND RAMPS SHALL BE DELDOT CLASS A (f'c = 4,500 PSI) AND SHALL CONFORM TO SECTION 610004 - PORTLAND CEMENT MASONRY, ABUTMENT ABOVE FOOTING, CLASS A.
 - MINIMUM CONCRETE COVER FOR REBAR SHALL BE: 3" MINIMUM FOR SURFACES CAST AGAINST EARTH, AND 2" FOR ALL OTHER FIELD-FORMED SURFACES.
 - CHAMFER ALL EXPOSED EDGES 1" UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE DEWATERING SYSTEM AS NECESSARY FOR CONSTRUCTION OF BOAT RAMP AND GANGWAYS. CONTRACTOR SHALL OBTAIN ANY NECESSARY DEWATERING PERMITS. DEWATERING SYSTEM SHALL BE INCIDENTAL TO THE CONTRACT.

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| REVISIONS | |
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| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFM, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

| ADDENDUM | |
|--|------------|
| △ DESCRIPTION | DATE |
| △ REVISED PER GATORCROCK SHOP DRAWINGS SEE DETAILS ON SHEETS C111-C116 | 02/01/2018 |

CONSTRUCTION PLANS

FOR

DELAWARE DIVISION OF FISH & WILDLIFE

LITTLE CREEK BOAT RAMP

BAYSIDE DRIVE (SR9, KCR17)

LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

PROJECT

SHEET TITLE

STRUCTURAL DETAILS - GANGWAY

KENT COUNTY - FINAL DESIGN

JANUARY 2ND, 2018

DRAWN

CHK'D/DESIGNER

DLD / MDS

AES

SCALE

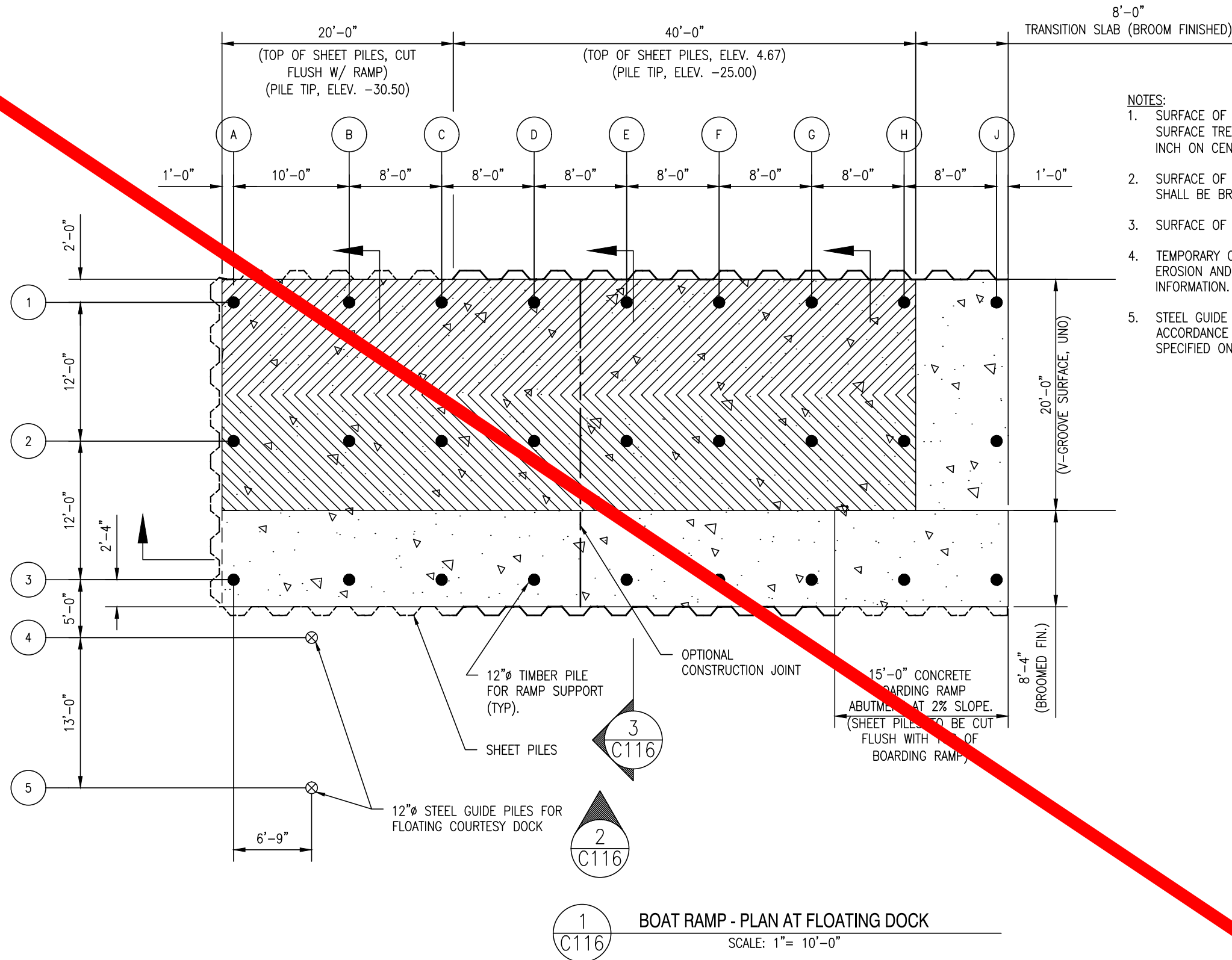
SHEET NO.

NOT TO SCALE

PROJECT NO.

155001.03

C115

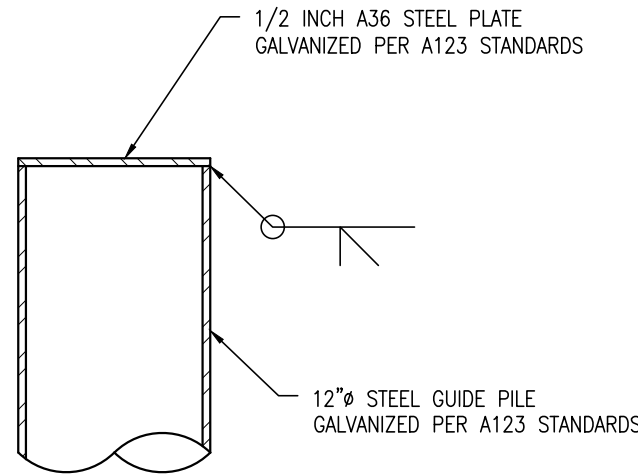


| BOAT RAMP TIMBER PILE DRIVING SCHEDULE | | | |
|--|------|---------------|----------------------|
| ROW | SIZE | TOP ELEVATION | EST. TIP ELEVATION * |
| A | 12"Ø | -8.43 | -37.88 |
| B | | -5.61 | -36.67 |
| C | | -4.41 | -35.71 |
| D | | -3.21 | -34.74 |
| E | | -2.01 | -33.78 |
| F | | -0.81 | -32.82 |
| G | | +0.39 | -31.85 |
| H | | +1.59 | -30.89 |
| J | | +2.69 | -29.86 |

| COURTESY DOCK STEEL GUIDE PILE DRIVING SCHEDULE | | | |
|---|------|---------------|-----------------------|
| ROW | SIZE | TOP ELEVATION | EST. TIP ELEVATION ** |
| 4 & 5 | 12"Ø | 12.00 | -30.00 |

PILE NOTES:
* PROVIDE MINIMUM OF 18 FEET EMBEDMENT IN FIRM SAND FOR BOAT RAMP TIMBER PILES.
** PROVIDE MINIMUM OF 16 FEET OF EMBEDMENT IN FIRM SAND FOR COURTESY DOCK STEEL GUIDE PILES.
FIRM SAND SHALL BE THAT MATERIAL THAT CAN SUPPORT THE DEAD WEIGHT OF THE PILE OR SHEET PILE AND THE DRIVING HAMMER BEFORE DRIVING COMMENCES.

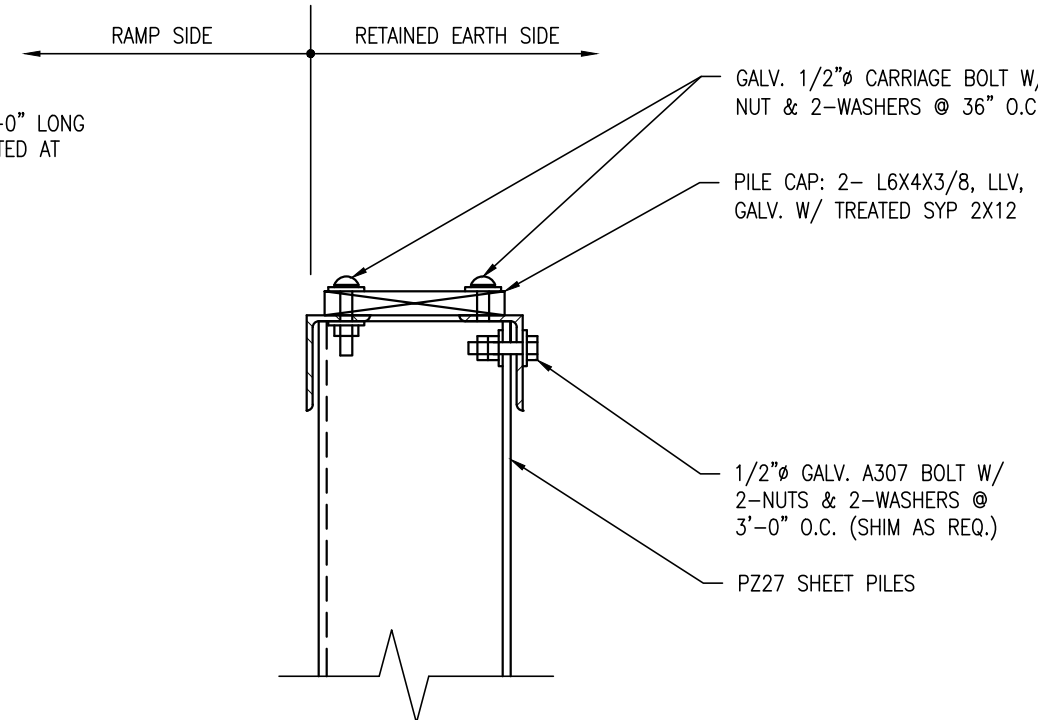
- CONCRETE NOTES**
- ALL EXPOSED CONCRETE PAD EDGES SHALL HAVE A 1" CHAMFER.
 - AN OPTIONAL TRANSVERSE CONSTRUCTION JOINT MAY BE PLACED AT THE MID-SPAN OF THE BOAT RAMP AS SHOWN.
 - ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH SECTION 610 OF THE DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (DATED AUGUST 2016) UNLESS OTHERWISE NOTED.
 - SUBMIT CONCRETE MIX DESIGNS FOR REVIEW AND APPROVAL PRIOR TO STARTING WORK. ALL CONCRETE SHALL USE A DELDOT APPROVED MIX.
 - CONCRETE DESIGN MIXES/STRENGTHS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF $f'_c = 4,500$ PSI. ALL CONCRETE SHALL CONTAIN A WATER-REDUCING ADMIXTURE. CALCIUM CHLORIDE IS PROHIBITED.
 - CONCRETE FOR RAMP SHALL BE DELDOT CLASS A ($f'_c = 4,500$ PSI) AND SHALL CONFORM TO SECTION 610004 - PORTLAND CEMENT MASONRY, ABUTMENT ABOVE FOOTING, CLASS A.
 - WELDED WIRE FABRIC SHALL BE SMOOTH OR DEFORMED AND CONFORM TO ASTM A1064 AND BE A MINIMUM #4. W4.0XW4.0 ALL WELDED WIRE SHALL BE SPICED SO THAT THE OVERLAP OF THE OUTERMOST CROSS WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRES PLUS TWO INCHES.
 - UNLESS OTHERWISE SHOWN, CONCRETE COVER OVER REINFORCEMENT SHALL BE 1" FOR INTERIOR FACE OF WALLS NOT EXPOSED TO EARTH, 2" FOR EXTERIOR FACE OF WALLS, 3" FOR FOOTINGS AND OTHER STRUCTURAL CONCRETE DEPOSITED AGAINST GROUND, 2" FOR CONCRETE PERMANENTLY EXPOSED TO EARTH OR WEATHER AND 0.75" FOR SLABS.
 - NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN SUBGRADE.
 - THE REQUIRED AIR CONTENT FOR ALL CONCRETE SHALL BETWEEN 3% AND 7%.
 - PROOF ROLL SUBGRADES FOR PAVED AREAS UNDER THE DIRECTION OF THE INSPECTION AGENCY. REMOVE ALL UNSUITABLE AREAS AND REPLACE WITH COMPACTED STRUCTURAL FILL MATERIALS. PLACE FILL IN 6" LIFTS AND COMPACT FILL TO AT LEAST 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE ASTM D1557 MODIFIED PROCTOR TEST. FILL MATERIAL SHALL BE SM OR BETTER AS CLASSIFIED PER ASTM D2486.
 - CONCRETE SHALL BE POURED WITHIN 24 HOURS OF EXCAVATION UNLESS APPROVED BY THE ENGINEER.



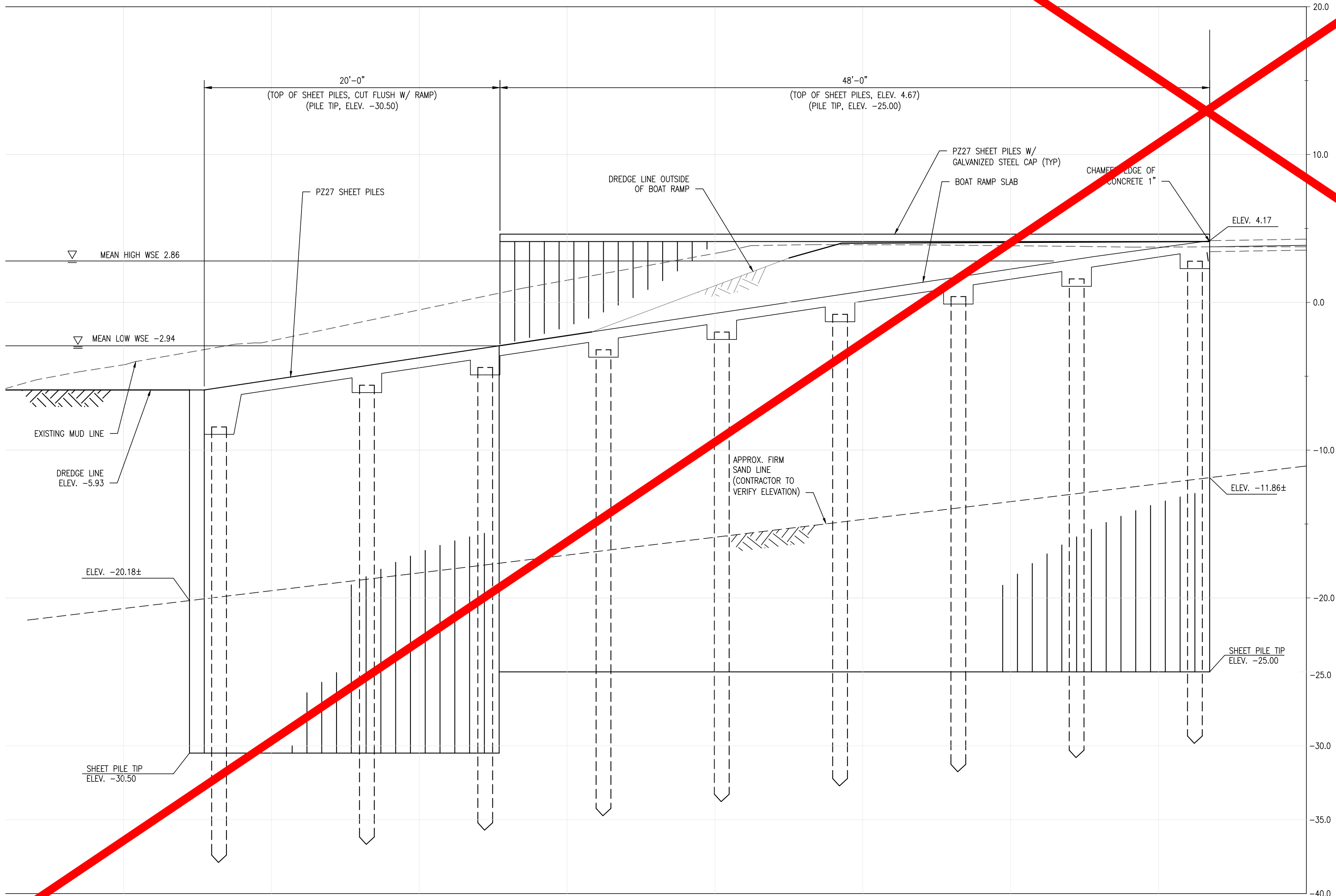
3
C116
TYPICAL GUIDE PILE
SCALE: 1"= 1'-0"

NOTES:

- PILE CAP TO BE SUPPLIED IN 10'-0" LONG MINIMUM LENGTHS, AND BUTT JOINTED AT SEAMS.



4
C116
SHEET PILE CAP
SCALE: 1"= 1'-0"



2
C116
BOAT RAMP - SHEET PILE ELEVATION
SCALE: 1"= 5'-0"

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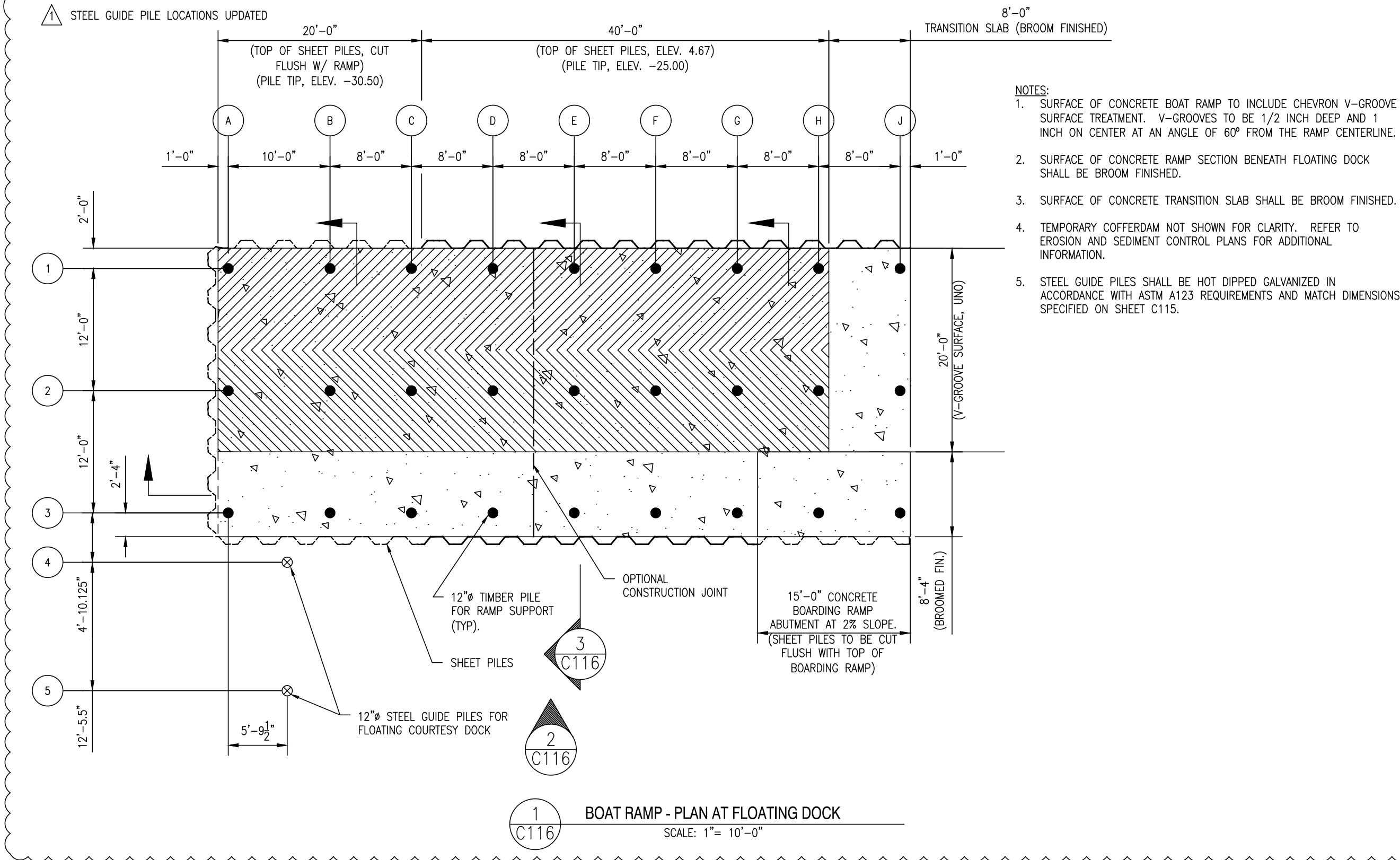
| ADDENDUM | |
|-------------|------|
| DESCRIPTION | DATE |

CONSTRUCTION PLANS
FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

STRUCTURAL DETAILS - BOAT RAMP

KENT COUNTY - FINAL DESIGN
JANUARY 2ND, 2018
DRAWN: DLD / MDS
CHK'D/DESIGNER: AES
SCALE: NOT TO SCALE
PROJECT NO. 155001.03
SHEET NO. C116

C:\WORK\DESIGN\555001.03_BNCC_Fish and Wildlife\55501.03_Design of Little Creek Boat Ramp\0300 FILES\Sheet\Construction Plans\0100 Structural\Details.dwg, 1/29/2018 3:35 PM



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|--|------|---------------|----------------------|
| ROW | SIZE | TOP ELEVATION | EST. TIP ELEVATION * |
| A | 12"Ø | -8.43 | -37.88 |
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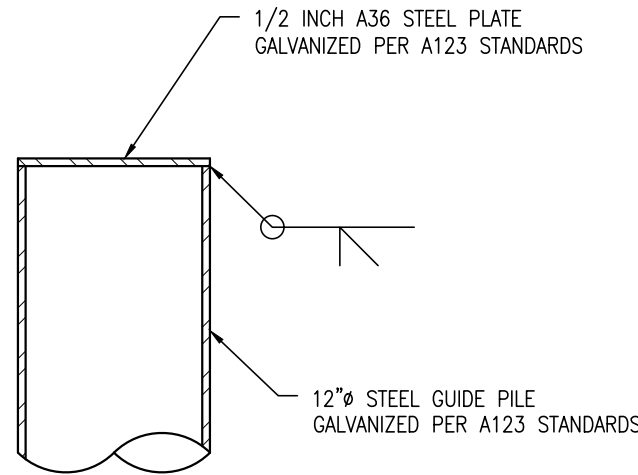
| COURTESY DOCK STEEL GUIDE PILE DRIVING SCHEDULE | | | |
|---|------|---------------|-----------------------|
| ROW | SIZE | TOP ELEVATION | EST. TIP ELEVATION ** |
| 4 & 5 | 12"Ø | 12.00 | -30.00 |

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CONCRETE NOTES

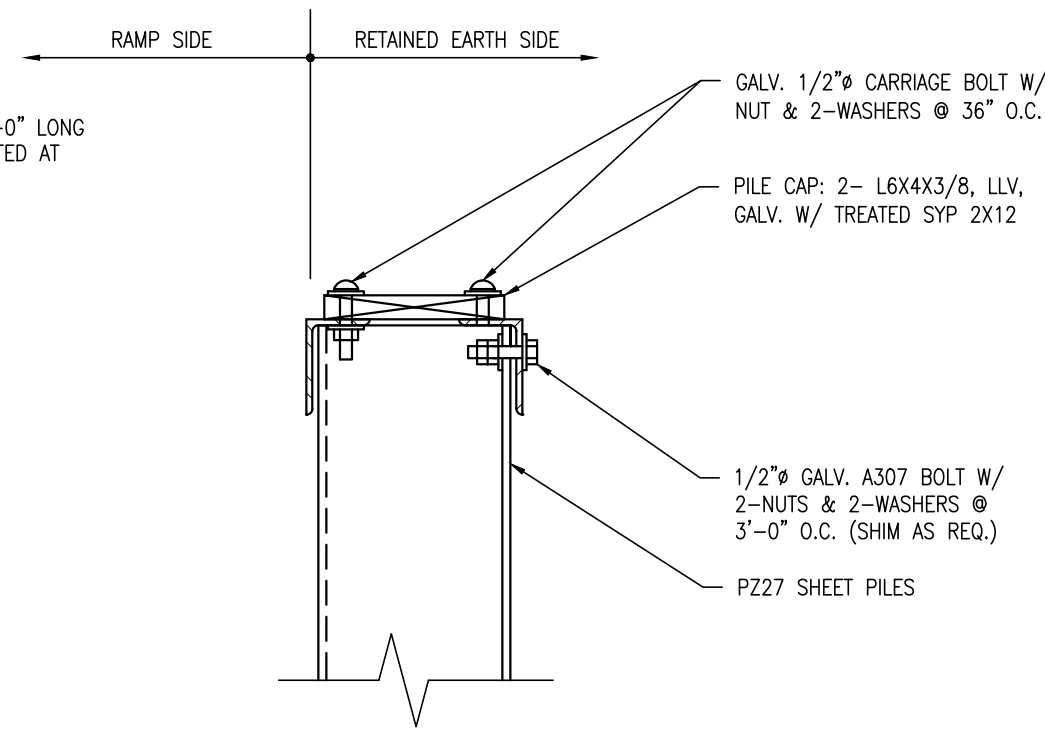
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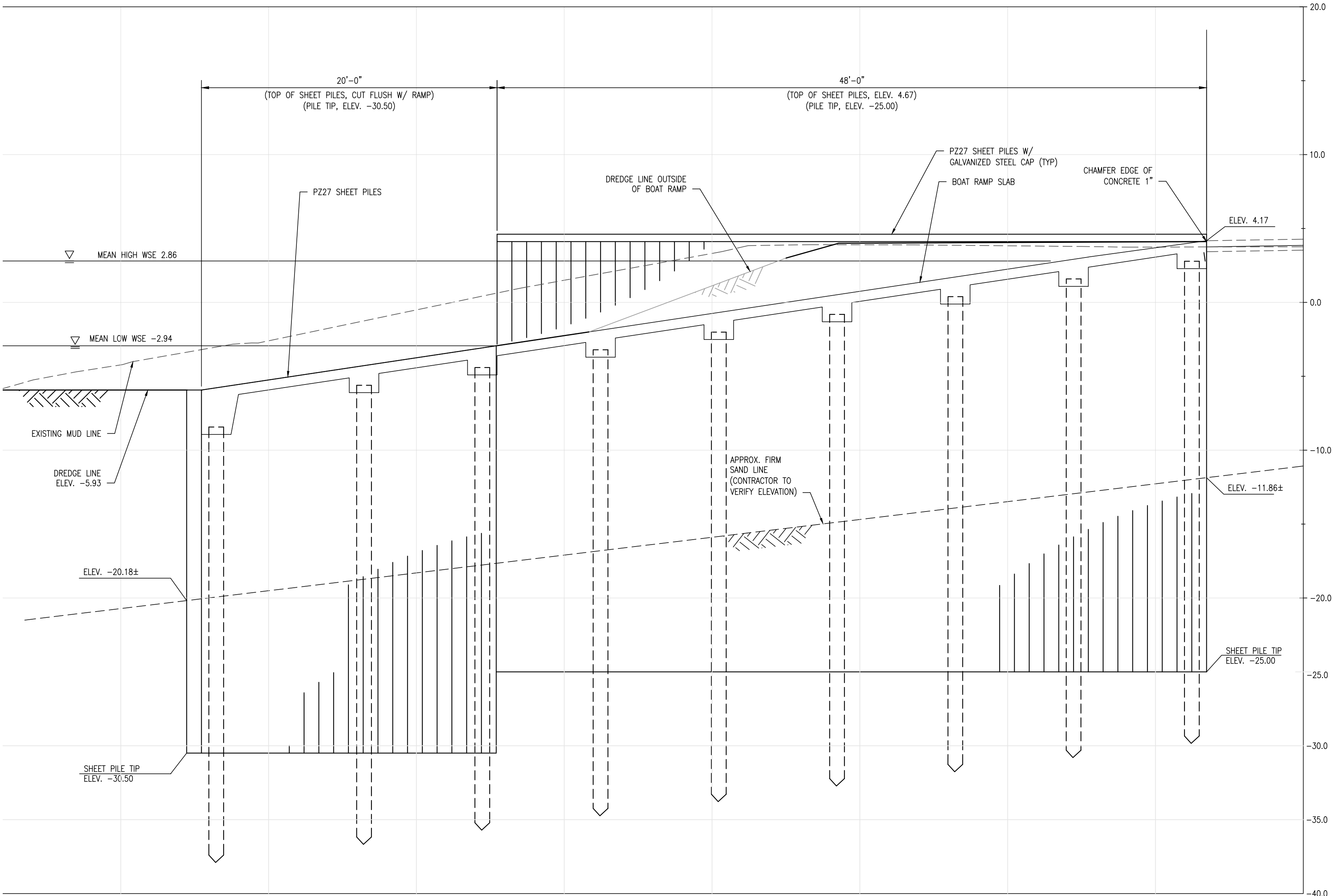
3
C116
TYPICAL GUIDE PILE CAP
SCALE: 1"= 1'-0"

NOTES:

- PILE CAP TO BE SUPPLIED IN 10'-0" LONG MINIMUM LENGTHS, AND BUTT JOINTED AT SEAMS.



4
C116
SHEET PILE CAP
SCALE: 1"= 1'-0"



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ADDENDUM

| DESCRIPTION | DATE |
|---|------------|
| REVISED PER GATORCROCK SHOP DRAWINGS. SEE DETAILS ON SHEETS C111-C116 | 02/01/2018 |

CONSTRUCTION PLANS

FOR

DELAWARE DIVISION OF FISH & WILDLIFE

LITTLE CREEK BOAT RAMP

BAYSIDE DRIVE (SR9, KOR17)

LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

SHEET TITLE

STRUCTURAL DETAILS -
BOAT RAMP

KENT COUNTY - FINAL
DESIGN

JANUARY 2ND, 2018

DRAWN CHK'D/DESIGNER

DLD / MDS AES

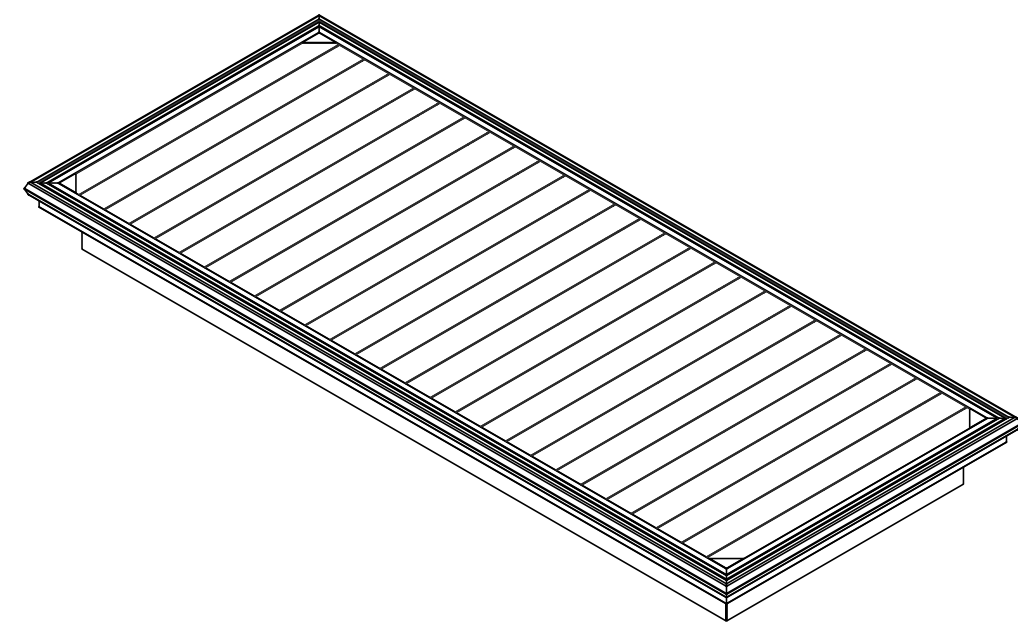
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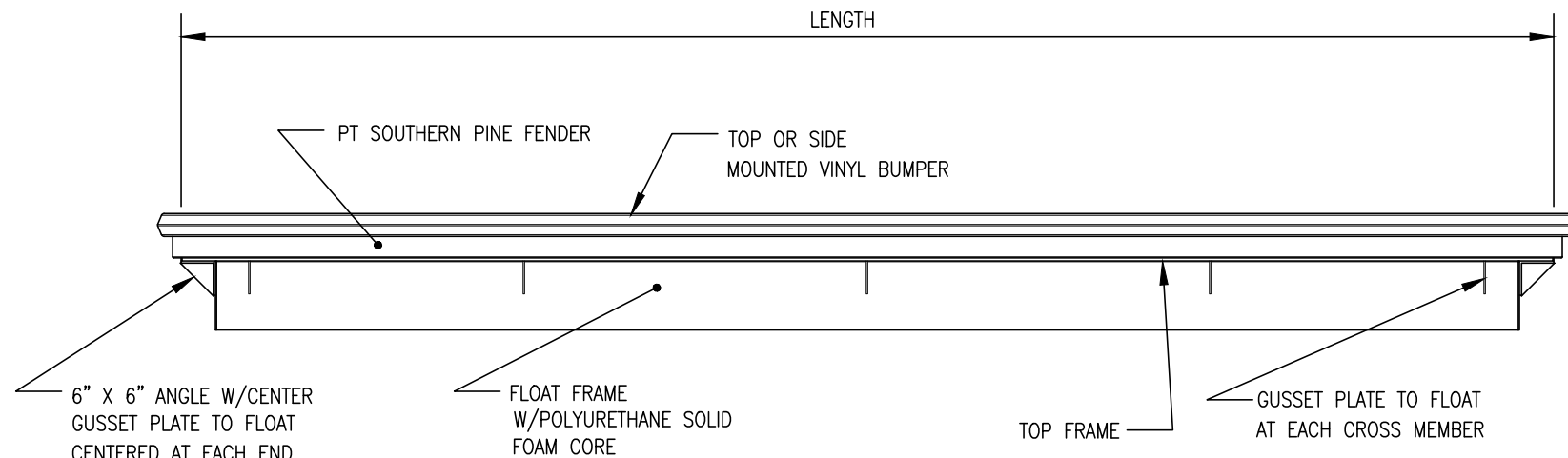
PROJECT NO.

155001.03

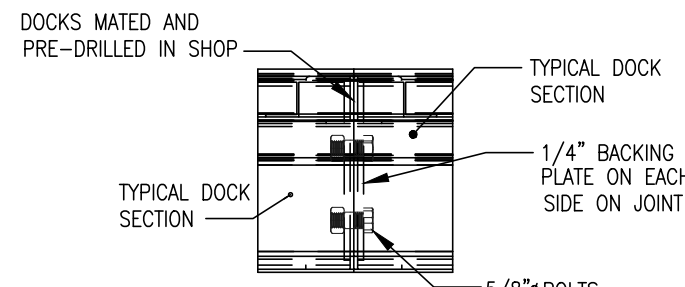
C116



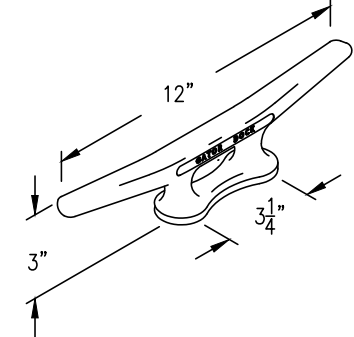
ISOMETRIC VIEW OF ALUMINUM DECKED FULL FLOATING DOCK
NOT TO SCALE



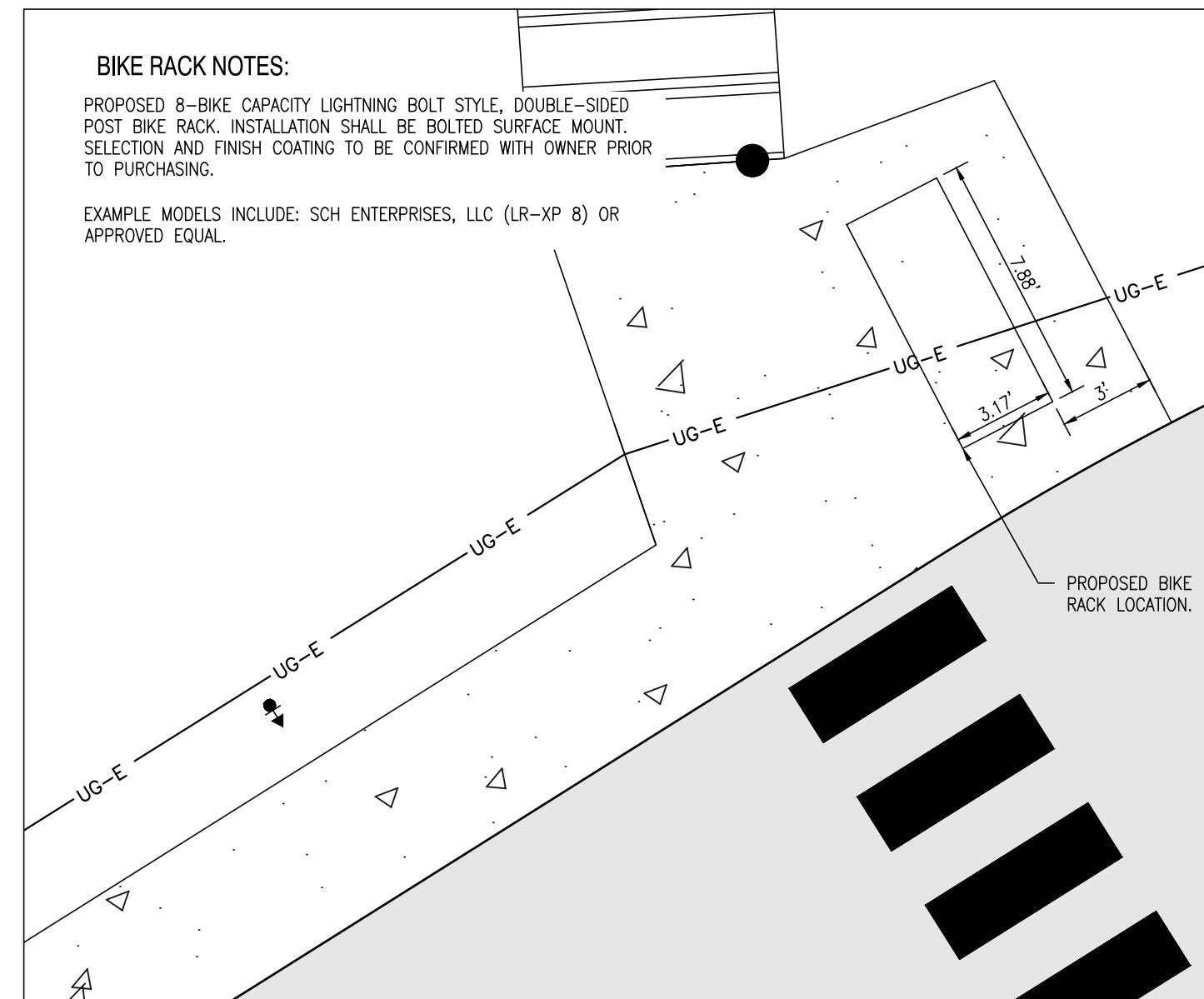
ELEVATION VIEW FOR ALUMINUM DECKED FULL FLOATING DOCK
NOT TO SCALE



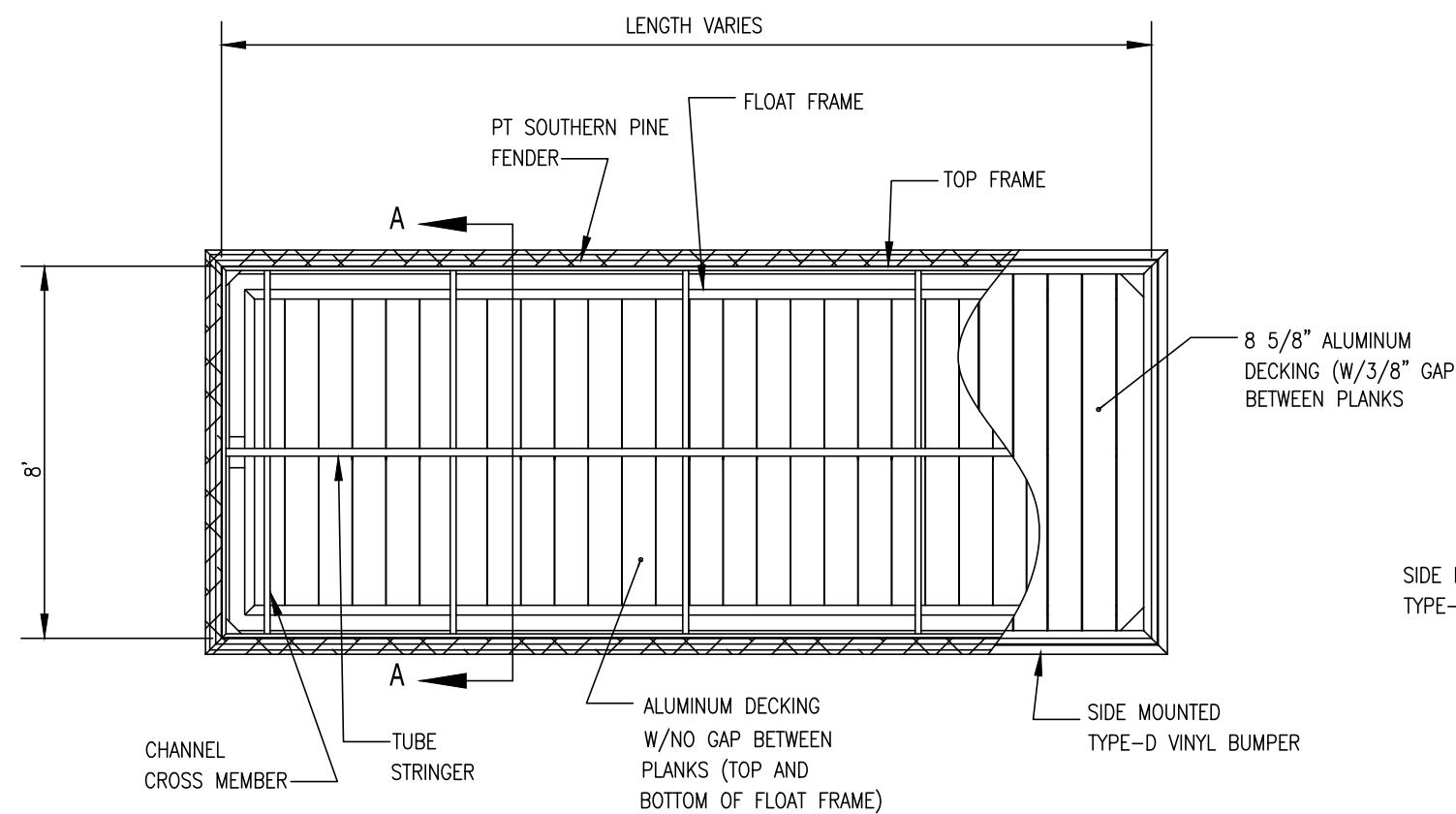
REINFORCED BOLTED DOCK CONNECTION
NOT TO SCALE



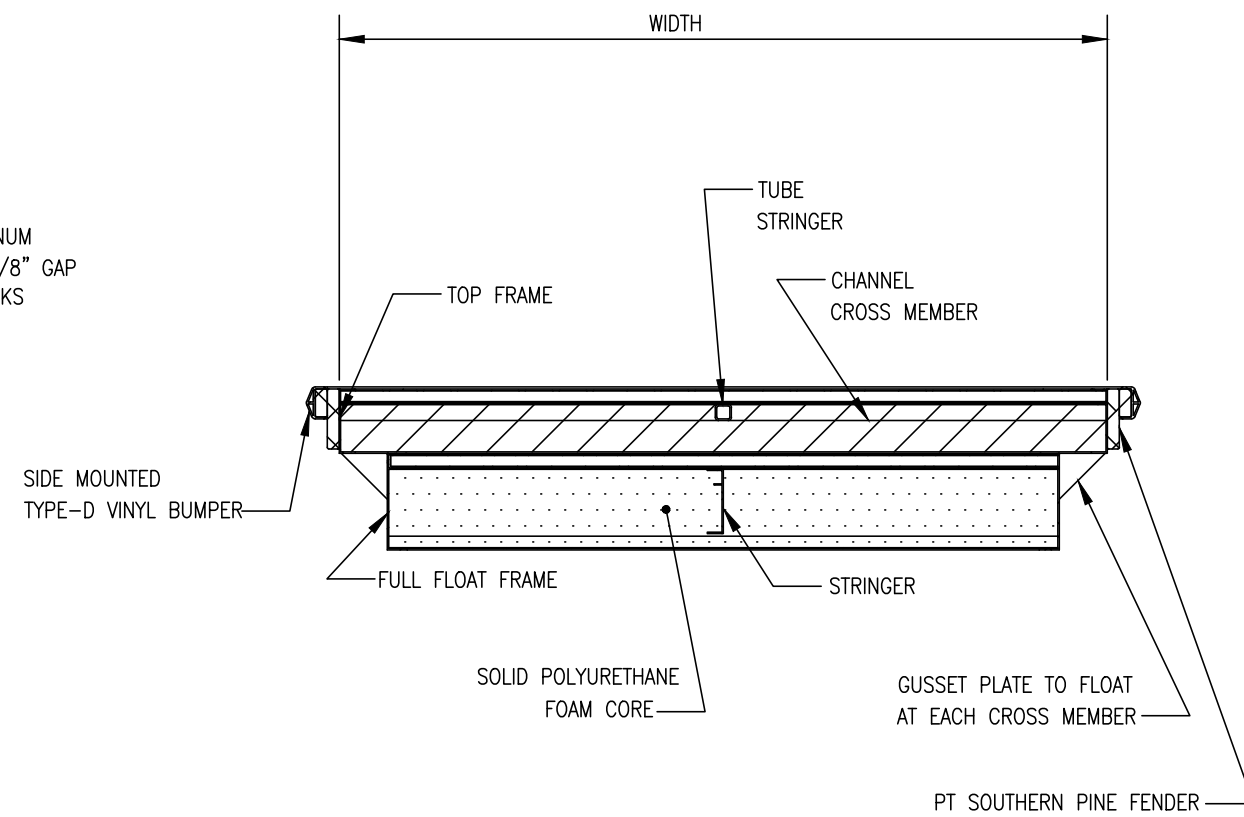
ALUMINUM CLEAT
NOT TO SCALE
* CLEAT TO BE FILLET WELDED



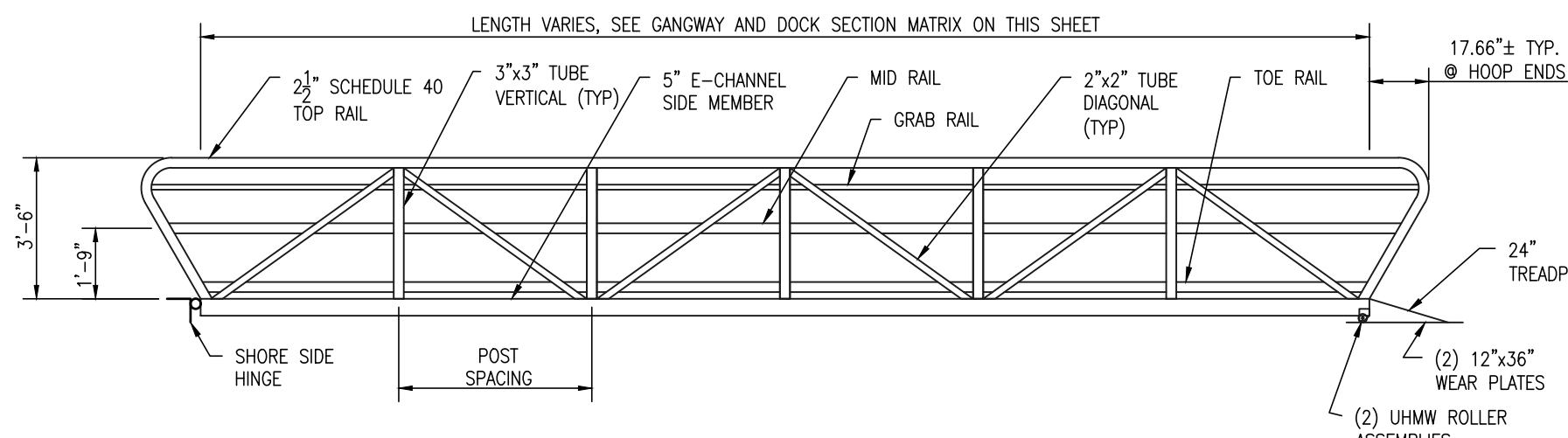
BICYCLE RACK LAYOUT DETAIL
SCALE: 1" = 5'



PLAN VIEW OF ALUMINUM DECKED FULL FLOATING DOCK
NOT TO SCALE



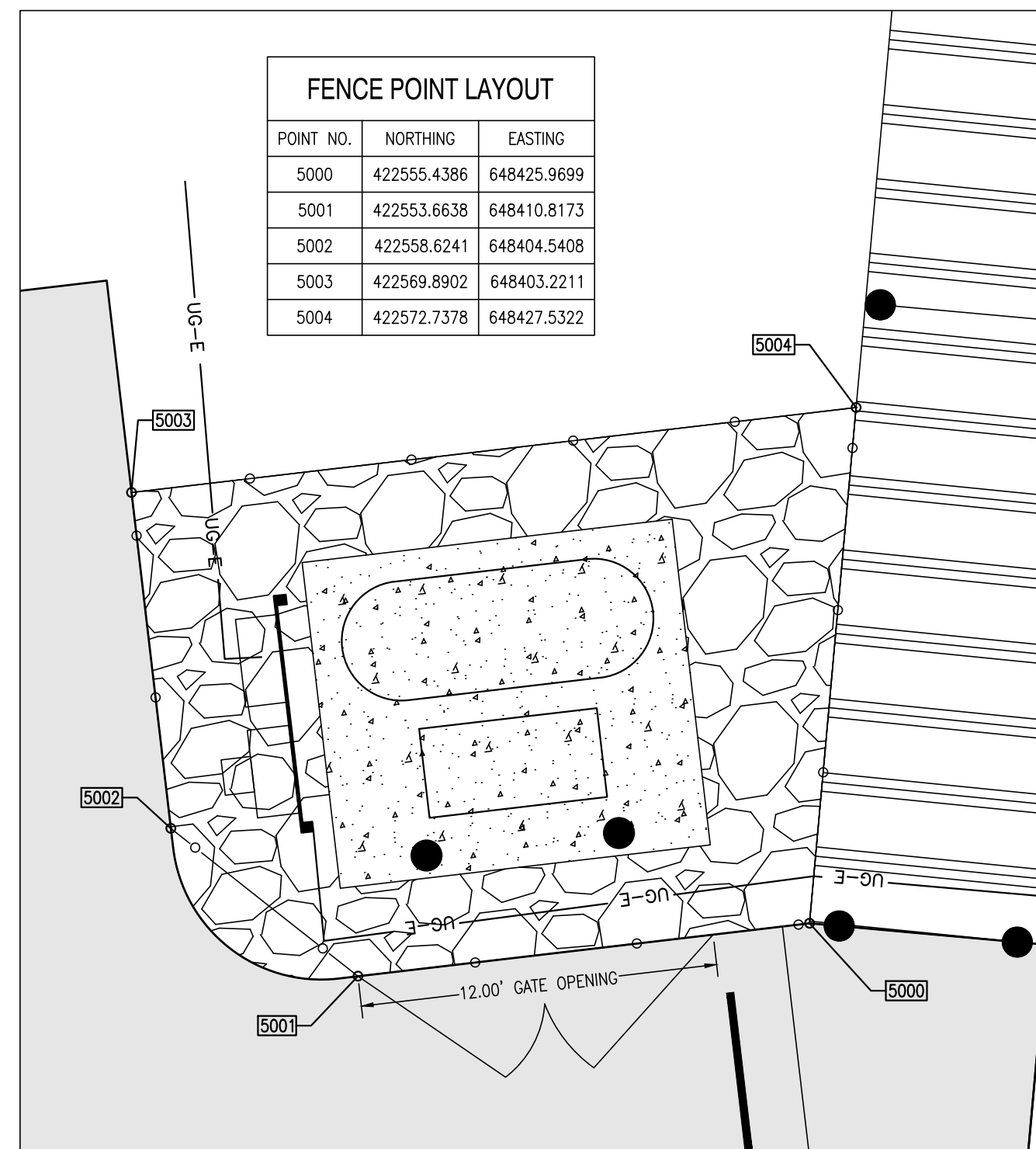
SECTION A-A
NOT TO SCALE



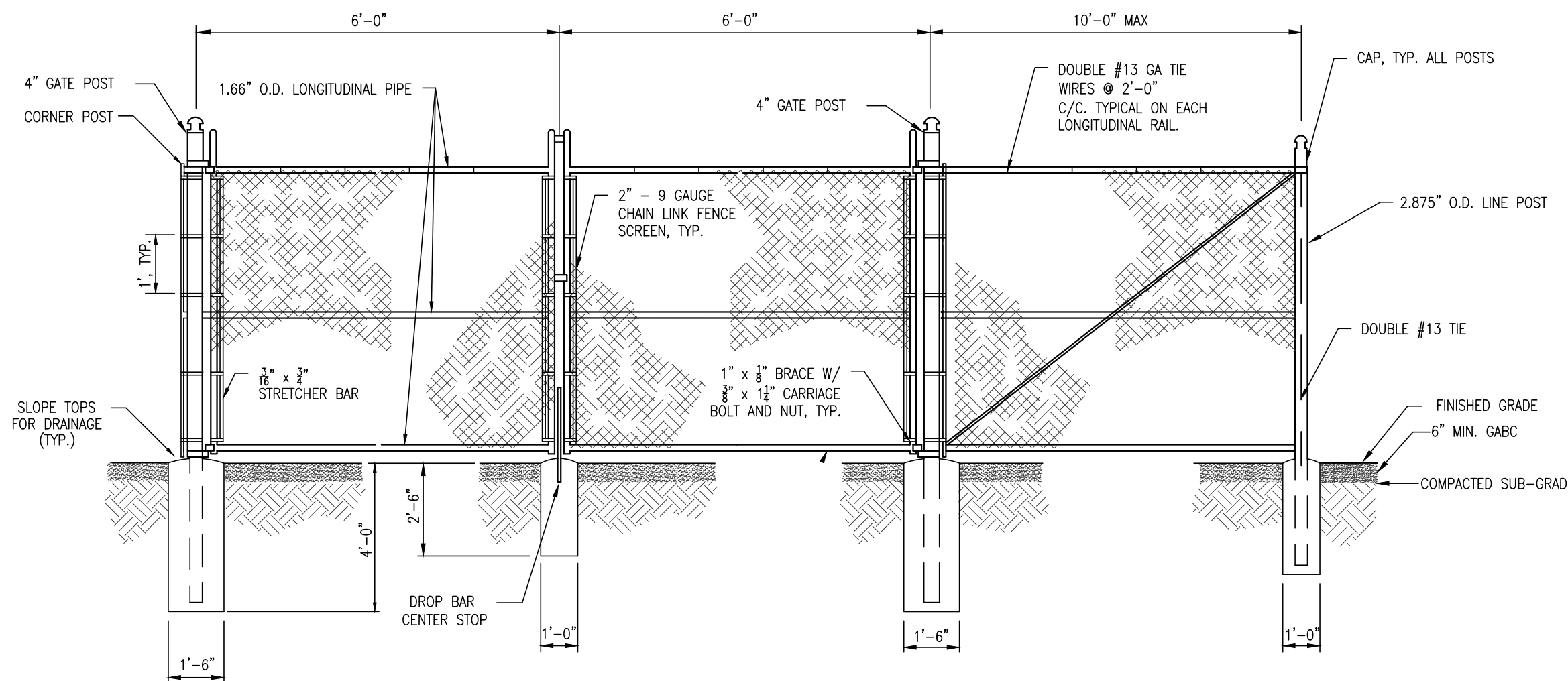
GANGWAY PLAN
SCALE: 1/4"=1'-0"

| GANGWAY AND DOCK SEGMENT MATRIX | | | |
|---------------------------------|---------------------|-------------|----------------------------------|
| | TOTAL LENGTH (FT.)* | WIDTH (FT.) | NOTES |
| FISHING PIER | | | |
| FIXED MAIN PIER: | 80.75 | 8 | 4-20' SECTIONS |
| FIXED FISHING PIER: | 70 | 8 | 1-40' SECTION, 1-30' SECTION |
| COURTESY DOCK | | | |
| FLOATING COURTESY DOCK: | 25 | 8 | |
| BOAT RAMP FLOATING DOCKS: | 46 | 8 | 3-11.75' SECTIONS, 1-10' SECTION |
| ENFORCEMENT DOCK | | | |
| FLOATING ENFORCEMENT DOCK: | 80.75 | 8 | 4-20' SECTIONS |
| FIXED GANGWAY: | 42 | 8 | 1-41.75' SECTION |
| HINGED GANGWAY: | 30 | 8 | |

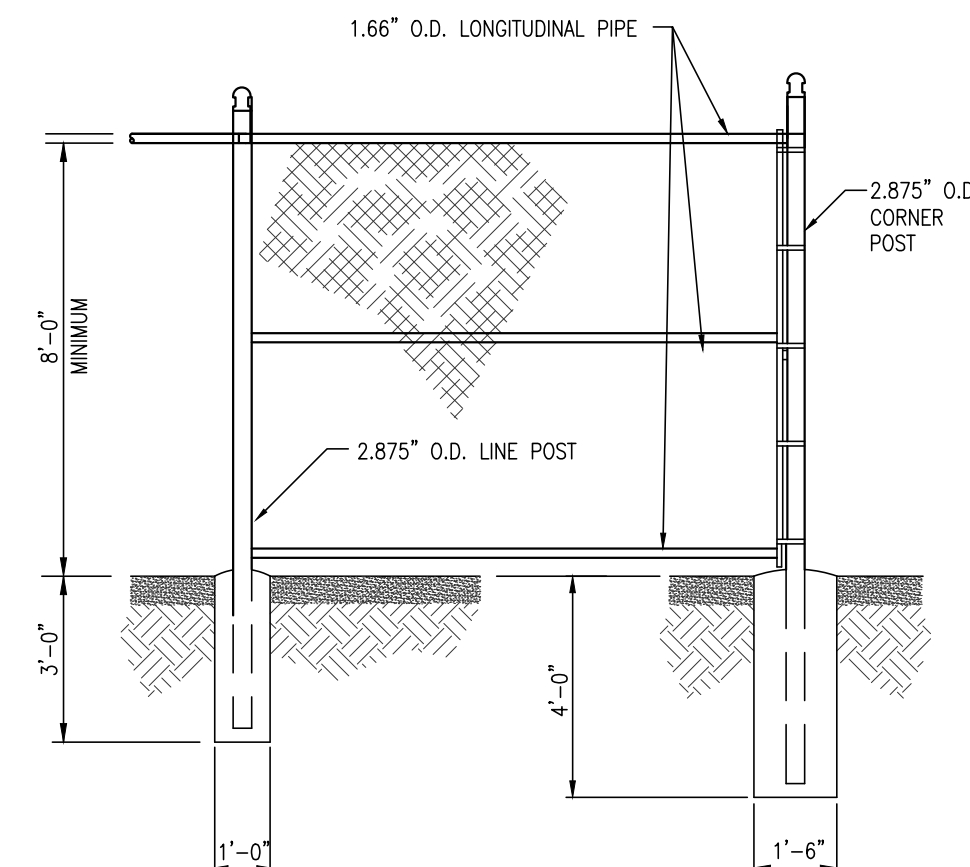
** NOTE: TOTAL LENGTH INCLUDES 3" HINGES BETWEEN FLOATING DOCKS SECTIONS. **



UTILITY PAD FENCE LAYOUT DETAIL
SCALE: 1" = 5'

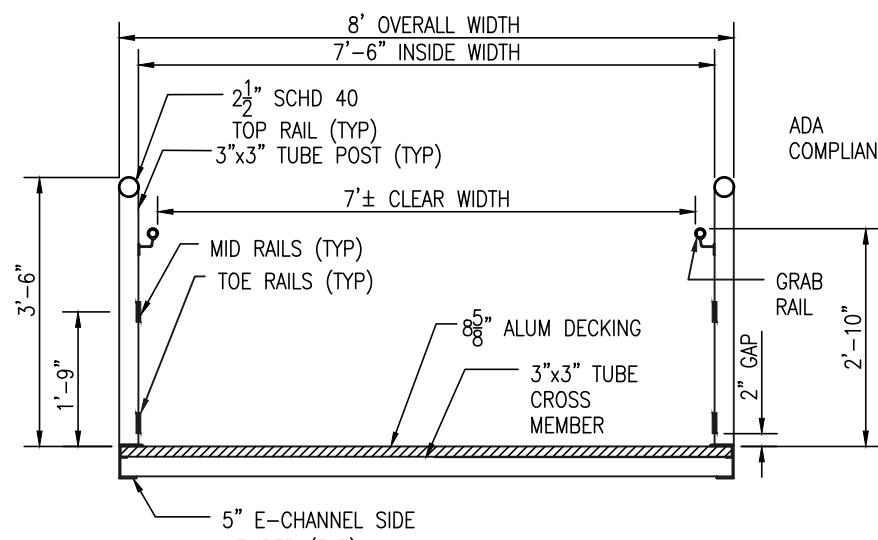


GATE & LINE POST DETAIL
NOT TO SCALE



TYPICAL CORNER POST DETAIL
NOT TO SCALE

- NOTES:
- ALL STRUCTURAL ALUMINUM IS ALLOY 6061-T6, MILL FINISH.
 - ALL WELDED FABRICATION IN ACCORDANCE WITH AWS D1.2, UNLESS NOTED OTHERWISE. FILLER METAL TO BE 5356 SERIES WIRE.
 - ALL GANGWAYS, FLOATING DOCKS, HANDRAILS, AND ANCILLARY ITEMS TO BE PROVIDED BY OWNER AND INSTALLED BY THE CONTRACTOR PER MANUFACTURERS' SPECIFICATION AND RECOMMENDATIONS.



GANGWAY SECTION
SCALE: 1/2"=1'-0"

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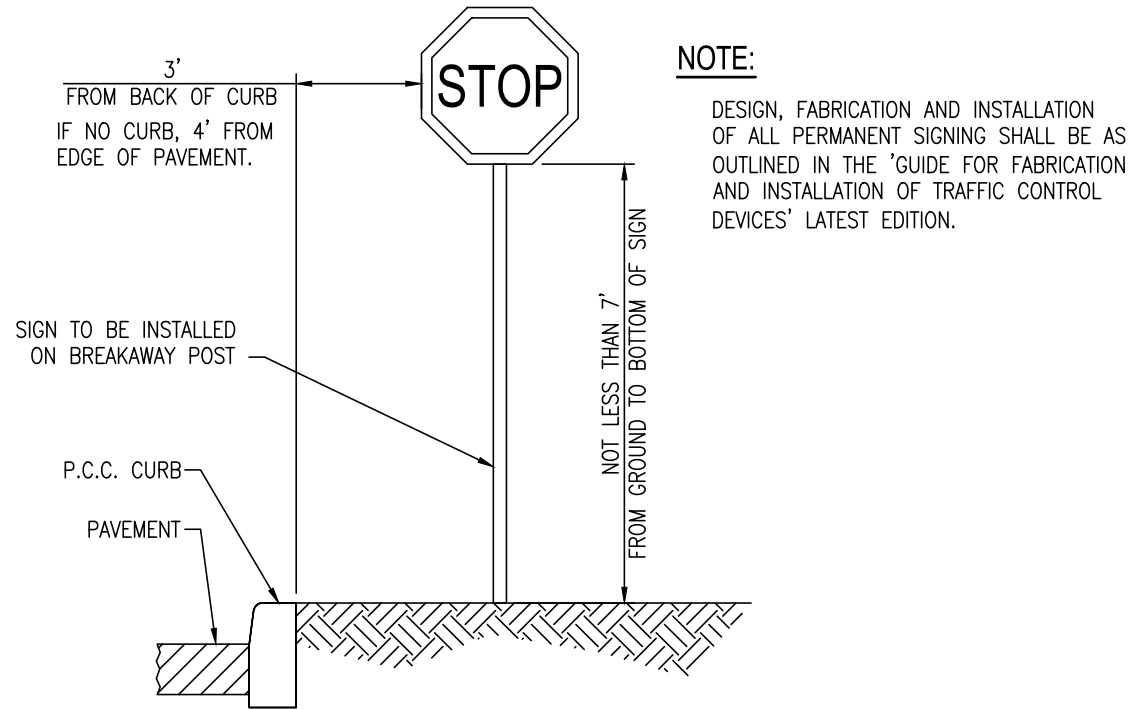
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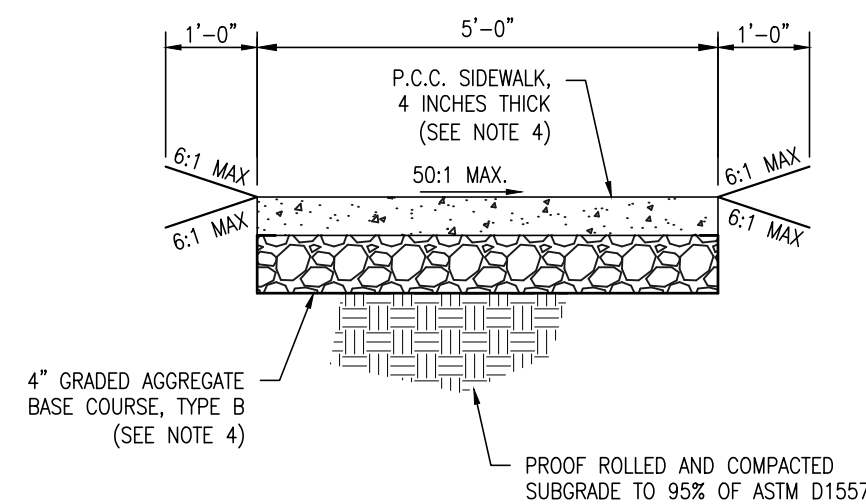
CONSTRUCTION PLANS
FOR
DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP
BAYSIDE DRIVE (SR9, KCR17)
LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

CONSTRUCTION DETAILS

KENT COUNTY - FINAL
DESIGN
JANUARY 2ND, 2018
DRAWN: DLD / MDS
SCALE: NOT TO SCALE
PROJECT NO.: 155001.03
CHK'D/DISIGNER: AES
SHEET NO.: C117

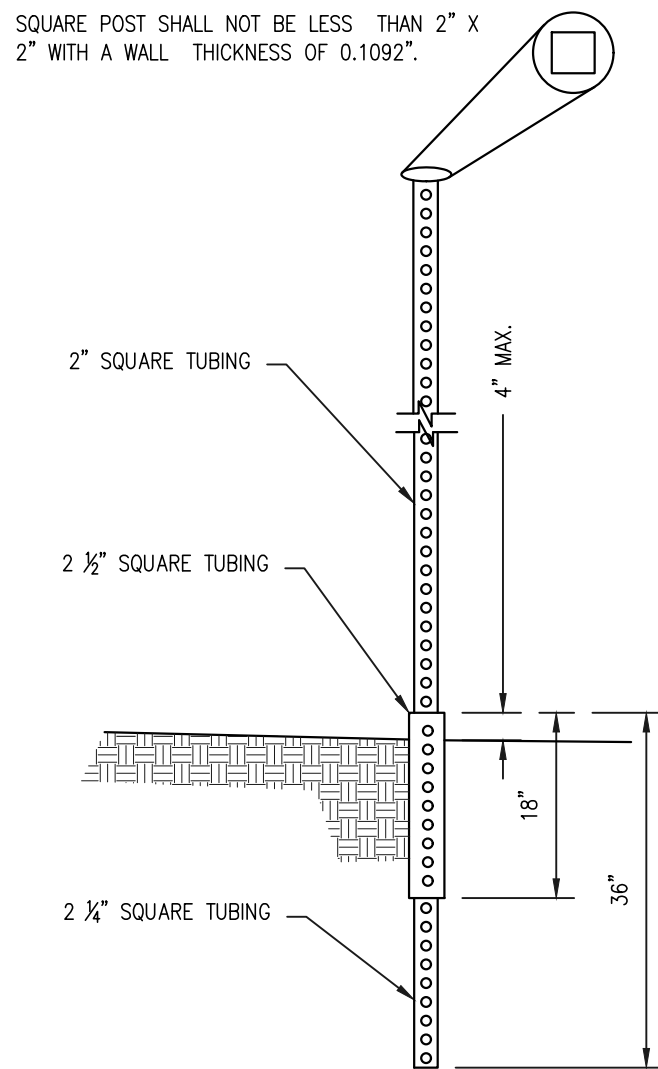


TYPICAL STOP SIGN DETAIL
NOT TO SCALE



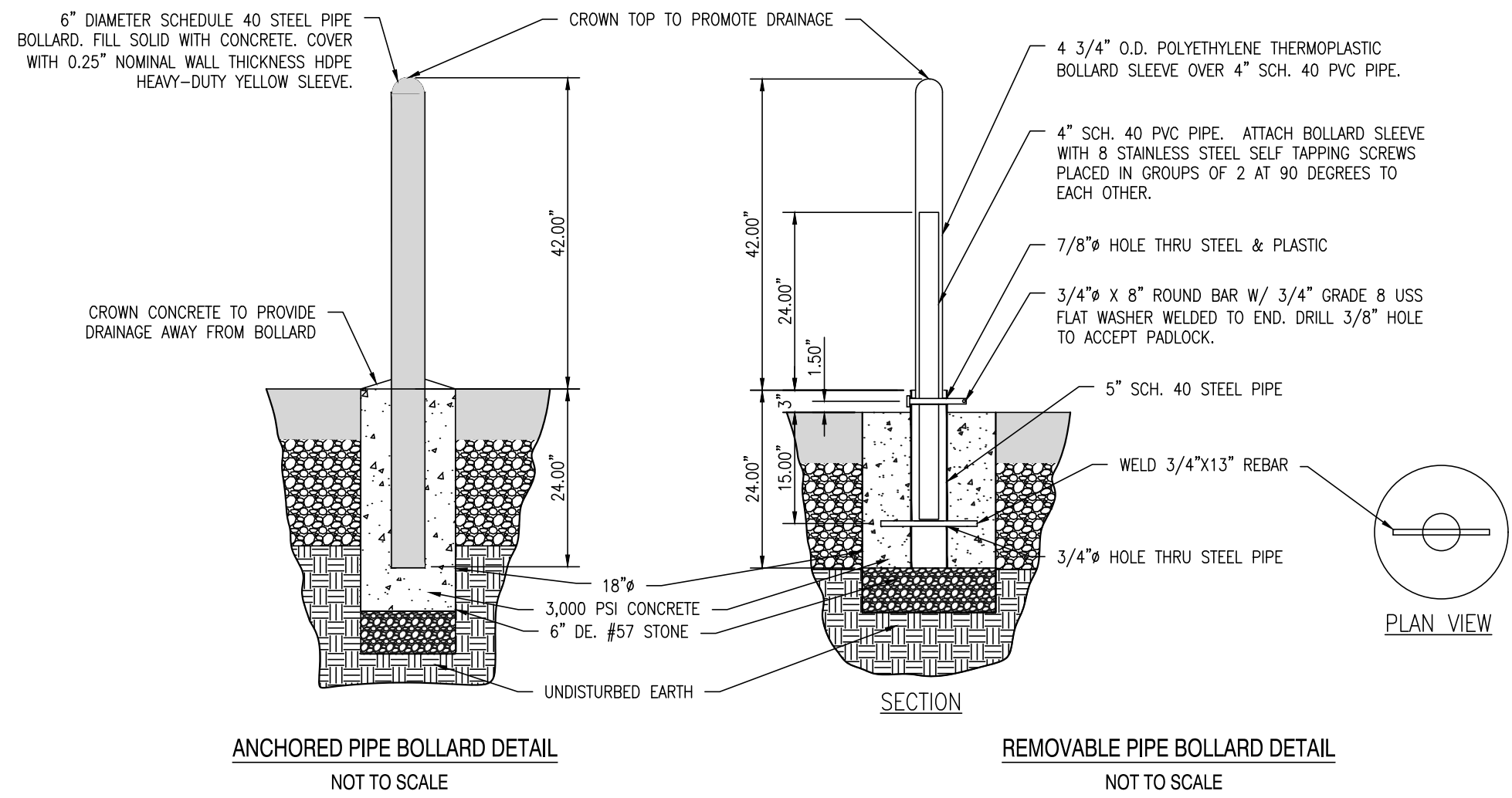
- NOTES:
- MARK IN 5' SQUARES, USE CORK EXPANSION JOINTS AT INTERVALS NOT GREATER THAN 15'.
 - CONCRETE SIDEWALKS SHALL BE CONSTRUCTED AS PER DELDOT SPECIFICATIONS.
 - CROSS SLOPE OF SIDEWALK SHALL BE 1% MIN., 2% MAX. LONGITUDINAL SLOPE AS SHOWN ON PLANS.

TYPICAL SIDEWALK DETAIL
NOT TO SCALE



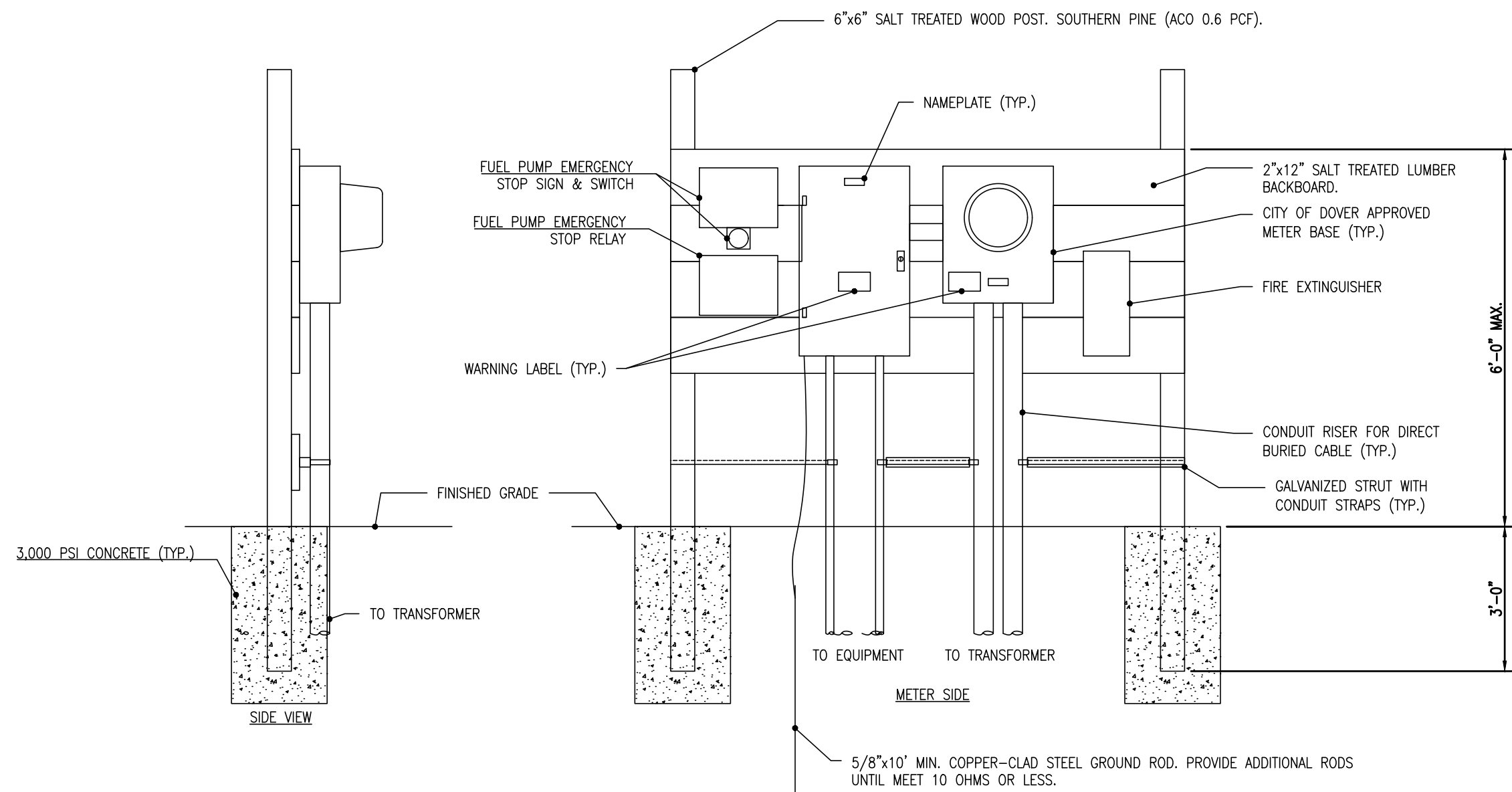
TELESCOPING STEEL SIGN POST BREAK AWAY ASSEMBLY
NOT TO SCALE

- NOTES:
- SQUARE TUBES ARE TO BE FORMED FROM GALVANIZED SHEET STRUCTURAL (PHYSICAL) QUALITY, ASTM A 446, GRADE A, COATING DESIGNATION G 90, REGULAR SPANGLE, OR HOT ROLLED CARBON SHEET STEEL STRUCTURAL (PHYSICAL) QUALITY, ASTM A 570, GRADE 33.
 - NOMINAL OUTSIDE DIMENSION, (INCHES):
 - 2 X 2
 - 2 1/4 X 2 1/4
 - 2 1/2 X 2 1/2
 - ALL FOUR SIDES ARE TO HAVE EVENLY SPACED 7/16" DIAMETER HOLES ON 1" CENTERS THE ENTIRE LENGTH OF THE TUBE.
 - TOLERANCE ON HOLE SIZE IS $\pm 1/64"$. TOLERANCE ON HOLE SPACING IS $\pm 1/8"$ IN 20 FEET.
 - STANDARD CORNER RADIUS SHALL BE $5/32" \pm 1/64"$.
 - THE FASTENERS TO BE SUPPLIED UNDER THIS SPECIFICATION SHALL BE 5/16" GRADE 5 UNC CORNER BOLTS WITH CADMIUM OR ZINC PLATING, INSTALLATION OF SIGNS SHALL BE WITH 3/8" X 2.5" BOLT WITH LOCKNUT AND WASHER.
 - REGULATORY SIGNS WIDER THAN 30" SHALL BE MOUNTED ON TWO POSTS. WHEN MORE THAN ONE REGULATORY SIGN IS TO BE INSTALLED ON THE SAME POST ASSEMBLY, THE MOUNTING HOLES SHALL BE DRILLED IN THE FIELD AS THE ASSEMBLY IS BEING CONSTRUCTED.



REMOVABLE BOLLARD NOTES:

- ALL STEEL SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.



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CONSULTING ENGINEERS ■ SURVEYORS

ADDRESS:
4134 NORTH DUPONT HIGHWAY
DOVER, DE 19901
P: (302) 734-9188 F: (302) 734-4589
WEBSITE:
www.centuryeng.com
EMAIL:
cei@centuryeng.com

REVISIONS

| DATE | DESCRIPTION |
|----------|--|
| 3/20/17 | REVISED PER KENT COUNTY COMMENTS |
| 6/22/17 | 60% DFM SUBMISSION |
| 9/4/17 | REVISED PER DFM, DFM, DELDOT, & KENT COUNTY COMMENTS |
| 12/18/17 | REVISED FOR FIXED FISHING PIER |
| 1/2/18 | REVISED PER KENT COUNTY COMMENTS |

ADDENDUM

| DESCRIPTION | DATE |
|---|------------|
| REVISED PER GATORDOCK SHOP DRAWINGS SEE DETAILS ON SHEETS C111-C116 | 02/01/2018 |

CONSTRUCTION PLANS

FOR
DELAWARE DIVISION OF FISH & WILDLIFE

LITTLE CREEK BOAT RAMP

BAYSIDE DRIVE (SR9, KCR17)

LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

PROJECT

SHEET TITLE

CONSTRUCTION DETAILS

KENT COUNTY - FINAL
DESIGN

JANUARY 2ND, 2018

DRAWN CHK'D/DISIGNER

DLD / MDS AES

SCALE SHEET NO.

NOT TO SCALE

PROJECT NO.
155001.03

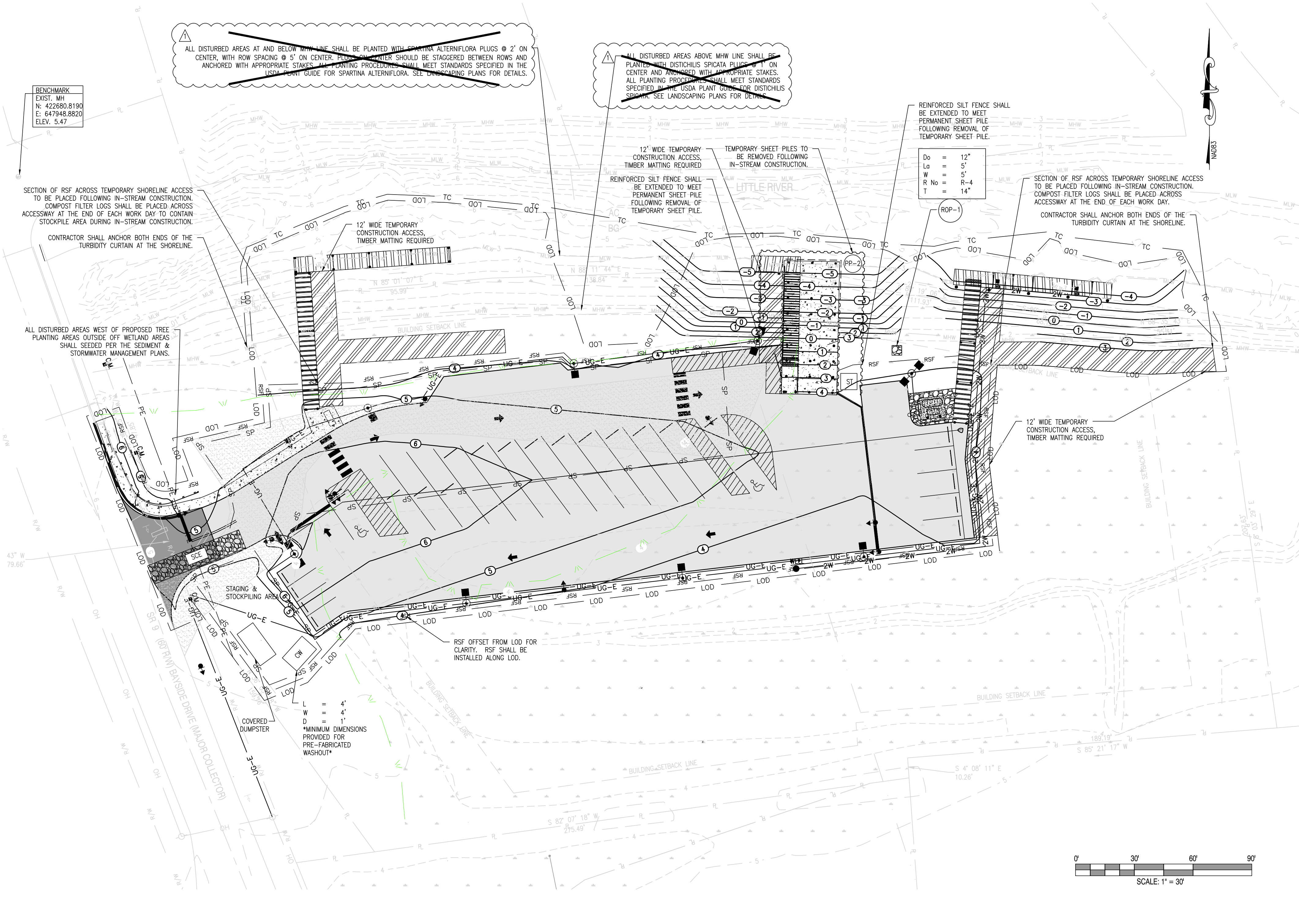
C118

PROJECT NOTES

- TOTAL LOD AREA = 1.87 ACRES (81,457± S.F.)
- TOTAL WETLAND AREA WITHIN LOD = 0.70 ACRES (30,492± S.F.) - FEDERAL WETLANDS
= 0.30 ACRES (13,068± S.F.) - STATE WETLANDS
- THE ENTIRE LOD IS LOCATED WITHIN THE 100-YR FLOODPLAIN PER FEMA MAP NO 10001C01873, DATED JULY 7, 2014.
- EXCAVATION VOLUMES: SPOIL: 2,385 CY / BORROW: 106 CY
ALL SPOIL MATERIAL TO BE HAULED OFFSITE.
- GEOTEXTILE FOR THE STABILIZED CONSTRUCTION ENTRANCE AND TEMPORARY RIPRAP OUTLET PROTECTION SHALL MEET DNREC TYPE GS-1 SPECIFICATIONS.
EXAMPLE PRODUCTS INCLUDE: MIRAFI 600X, AMOCO 2006, AND GEOTEX 3155T
- SPRINKLING SHALL BE THE STABILIZATION MEASURE INITIATED IF DUST CONTROL BECOMES A PROBLEM.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN AND REPAIR ALL EROSION AND SEDIMENT CONTROL PRACTICES DURING CONSTRUCTION.
- LOCATIONS OF DUMPSTER AND CONCRETE WASHOUT AREAS ARE SHOWN ON PLANS. IF THESE LOCATIONS MUST BE MOVED, THE NEW LOCATION SHALL BE APPROVED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
- STOCKPILE AREAS SHOWN FOR BIDDING/INFORMATIONAL PURPOSES ONLY. STOCKPILE LOCATIONS MAY BE ADJUSTED AS REQUIRED. CONTRACTOR SHALL COORDINATE ALL STOCKPILE LOCATIONS WITH THE OWNER TO AVOID EXISTING TREES AND OTHER ITEMS TO REMAIN. NO STOCKPILING SHALL OCCUR WITHIN WETLAND AREAS.
- MAXIMUM STOCKPILE HEIGHT SHALL BE 6.0' WITH A MAXIMUM SIDE SLOPE OF 3:1.
- THIS PLAN SHOWS SHEET PILES AS A METHOD OF PROVIDING TEMPORARY SHORING AND STREAM DIVERSION. THE CONTRACTOR HAS THE OPTION TO SUBMIT FOR APPROVAL AN ALTERNATE METHOD OF TEMPORARY SHORING AS REQUIRED FOR THE CONSTRUCTION OF THE BOAT RAMP.

SEQUENCE OF CONSTRUCTION

- NOTIFY THE DNREC SEDIMENT AND STORMWATER PROGRAM IN WRITING AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
- PRIOR TO ANY CLEARING, INSTALLATION OF SEDIMENT CONTROL MEASURES OR GRADING, A PRECONSTRUCTION MEETING MUST BE SCHEDULED AND CONDUCTED WITH THE AGENCY CONSTRUCTION SITE REVIEWER, THE LANDOWNER/DEVELOPER, CONTRACTOR, AND CERTIFIED CONSTRUCTION REVIEWER ARE REQUIRED TO BE IN ATTENDANCE AT THE PRE-CONSTRUCTION MEETING; THE DESIGNER IS RECOMMENDED TO ATTEND.
- CLEAR AND GRUB AS REQUIRED TO INSTALL STABILIZED CONSTRUCTION ENTRANCE. INSTALL STABILIZED CONSTRUCTION ENTRANCE. CLEAR AND GRUB AS REQUIRED TO INSTALL REINFORCED SILT FENCE. INSTALL REINFORCED SILT FENCE. COMPOST FILTER LOGS SHALL BE PLACED IN-STREAM OF REINFORCED SILT FENCE AT TIMBER MATING TEMPORARY ACCESS AREAS DURING IN-STREAM CONSTRUCTION. PLACE TEMPORARY TIMBER MATING, AND INSTALL TURBIDITY CURTAIN. THE TURBIDITY CURTAIN SHALL BE ANCHORED AT BOTH ENDS ALONG THE SHORELINE. ALL PERIMETER CONTROLS ARE TO BE REVIEWED BY THE AGENCY CONSTRUCTION SITE REVIEWER AND APPROVED PRIOR TO PROCEEDING WITH FURTHER SITE DISTURBANCE OR CONSTRUCTION.
- THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHOULD BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENTATION ON THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR REPAIR MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
- CLEAR AREAS WITHIN LOD.
- INSTALL COFFERDAM SURROUNDING BOAT RAMP. INSTALL SUMP PIT, PORTABLE SEDIMENT TANK, AND TEMPORARY RIPRAP OUTFALL FOR DEWATERING OPERATION AT THE BOAT RAMP. PERFORM GRADING AT PROPOSED DOCKS AND BOAT RAMPS. INSTALL ALL PILING, INCLUDING PERMANENT SHEET PILES AT THE BOAT RAMP.
- PERFORM ROUGH GRADING.
- INSTALL UNDERGROUND ELECTRIC, WELL, AND WATERLINES.
- PLACE STONE FOUNDATION FOR ALL AREAS TO PAVED.
- PLACE CONCRETE FOR BOAT RAMP, CURBS, SIDEWALKS, FUEL TANK PAD, BUILDING PAD, POLE BASES AND GANGWAY FOOTINGS.
- PLACE DOCKS, GANGWAYS, AND ALL ASSOCIATED COMPONENTS. ~~REMOVE EXISTING PILES, INCLUDING WORKING IN ALL DISTURBED AREAS BETWEEN THE MEAN LOW WATER LINE AND THE MEAN HIGH WATER LINE.~~
- UPON COMPLETION OF IN-STREAM CONSTRUCTION, REINFORCED SILT FENCE SHALL BE PLACED ACROSS THE TIMBER MATING TEMPORARY ACCESS AREAS AND THE COMPOST FILTER LOGS SHALL BE REMOVED. REMOVE SUMP PIT & PORTABLE SEDIMENT TANK. REMOVE TEMPORARY SHEET PILES. EXTEND REINFORCED SILT FENCE TO MEET PERMANENT SHEET PILES AT THE BOAT RAMP.
- PAVE ALL AREAS TO BE PAVED INCLUDING ENTRANCE, PARKING AREAS, AND DRIVE AISLES.
- PERFORM FINAL SITE GRADING. SEED AND STABILIZE ALL REMAINING DISTURBED AREAS. WETLAND SEED MIX SHALL BE PLACED FOR ALL AREAS ABOVE MEAN HIGH WATER LINE.
- INSTALL GUARDRAIL, SITE LIGHTING, AND PLACE FUEL TANK.
- EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED ONLY AFTER WORK IN AN AREA HAS BEEN COMPLETED AND STABILIZED, WITH WRITTEN APPROVAL FROM THE AGENCY CONSTRUCTION SITE REVIEWER.
- THE TERMINATION OF THE CONSTRUCTION GENERAL PERMIT WILL REQUIRE SUBMISSION AND ACCEPTANCE OF THE POST CONSTRUCTION VERIFICATION DOCUMENTS, INCLUDING FINAL STABILIZATION THROUGHOUT THE SITE, AND ALL ELEMENTS OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN IMPLEMENTED.



LEGEND:

| | | |
|-----------------------------------|-------|-----|
| LIMITS OF DISTURBANCE (LOD) | LOD | LOD |
| REINFORCED SILT FENCE | RSF | RSF |
| STABILIZED CONSTRUCTION ENTRANCE | | |
| CONCRETE WASHOUT | CW | |
| SOIL STOCKPILE AREA | SP | SP |
| TURBIDITY CURTAIN | TC | |
| PORTABLE SEDIMENT TANK | ST | |
| PUMPING PIT - TYPE 2 | PP-2 | |
| RIPRAP OUTLET PROTECTION - TYPE 1 | ROP-1 | |

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DOVER, DE 19801
P: (302) 734-9188 F: (302) 734-4589
WEBSITE: www.centuryeng.com
EMAIL: ce@centuryeng.com

REVISIONS

| DESCRIPTION | DATE |
|-----------------------------|------------|
| PLANTING PLUG NOTES REMOVED | 01/30/2018 |

DELAWARE DIVISION OF FISH & WILDLIFE
LITTLE CREEK BOAT RAMP

FOR
DELAWARE DIVISION OF FISH & WILDLIFE
BAYSIDE DRIVE (SR8, K16), LITTLE CREEK HUNDRED, KENT COUNTY, DELAWARE

PROJECT

SHEET TITLE

CONSTRUCTION SITE
STORMWATER
MANGEMENT PLAN

SEDIMENT AND STORMWATER
MANAGEMENT PLANS
DECEMBER 22, 2017

DRAWN CHK'D/DESIGNER

JSW/MDS

AES

SCALE SHEET NO.

1" = 30'

PROJECT NO.

155001.03

SWM402