ITEMS TO BE USED FOR CONSTRUCTION.

REQUEST WRITTEN INTERPRETATION FROM THE CONTRACTING OFFICER.

WHERE LACK OF INFORMATION, OR ANY DISCREPANCY WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL BE ADJUSTED TO THE OTHER CONDITION AS NECESSARY.

ACCUMULATED DEBRIS, PROTECT ALL EXPOSED PORTIONS OF THE WORK.

CONTRACTOR SHALL NOT INTERFERE, AFFECT OR LIMIT NPS OPERATIONS (INCLUDING ACCESS TO FACILITIES) THAT ARE NOT DIRECTLY RELATED TO THIS PROJECT.

REFERENCES TO NAVD88 - GEOID 12B (EQUIVALENT TO NAVD88-30). NO DATUM CONVERSION IS REQUIRED BETWEEN THESE DATUMS.

THE DESIGN OF THIS PROJECT IS BASED UPON INFORMATION PROVIDED BY NATIONAL PARK SERVICE THROUGH EXISTING STANDARDS, LAWS, AND REGULATIONS.

CONSTRUCTION. VARIATION OF TIDAL LEVELS FROM THOSE INDICATED OR CONTRACTOR'S ESTIMATION OF TIDAL LEVELS DO NOT DEFEAT THE PURPOSE OF THIS PROVISION.

STANDARD WOOD CONSTRUCTION PRACTICES.

WILL BE CONSIDERED AS A CLAIM FOR ADDITIONAL COMPENSATION OR DELAY OF WORK.

WHEREVER THE TERMS "FOR EQUIPMENT" IS USED, IT SHALL MEAN EQUAL EQUIPMENT AS APPROVED BY CONTRACTING OFFICER.

REPLACE OR REPAIR DAMAGED OR DESTROYED ITEMS WITH EQUIVALENT EQUIPMENT.

THE BULKHEAD RATED CAPACITY IS AVAILABLE.

DARKENED OR OUTLINED ON THE TO NAVD88-30 EPOCH AND ARE NOT GUARANTEED TO REPRESENT INTERIOR ELEVATION.

BONDING LOGS (1 OF 2)

BULKHEAD REPAIRS DETAILS (2 OF 2)

BULKHEAD REPAIRS DETAILS (1 OF 2)

DEMOLITION DETAILS

STRUCTURAL SITE PLAN (2 OF 2)

OVERALL EXISTING CONDITIONS PLAN

CURRENT CONDITIONS PLAN

CONTRACTING OFFICER, MANUFACTURER, BUILDING CODE (IEBC) 2018, WITH APPENDICES TO IF NOT IN CONSTRUCTION.

SECRETARY OF THE INTERIOR STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY STANDARDS

ANSI/AWC NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS) (2015)

AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION

ACI 301-16 SPECIFICATIONS FOR STRUCTURAL CONCRETE

NFPA 101 (LIFE SAFETY CODE)

BUILDING CODE (IEBC) 2018, WITH APPENDICES

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NFPA 101 (LIFE SAFETY CODE)
PHOTOGRAPHS OF EXISTING CONDITIONS

DATE: 2021-04-16

TECH REVIEW:

DESIGNED:

SUB SHEET NO.

DRAWING NO.

PMIS/PKG NO.

SHEET

TITLE OF SHEET

A/E FIRM

CROFT, KENNESAW, GEORGIA.

MOFFATT & NICHOL, MIAMI, FLORIDA.

CRUZ BAY VISITOR CENTER

VIRGIN ISLANDS NATIONAL PARK

CLEAT, TYP

TIMBER FENDER SYSTEM

EXTRUDED D-FENDER, TYP

G4

CONCRETE DECK

CONCRETE WALL

CONCRETE CAP

SPALLS

CONCRETE WALL

CONCRETE CAP

CRACKING

FAILING PATH

CRACKS

SPALLS

CONCRETE CAP

VOID BEHIND CAP

CONCRETE DECK

EXTRUDED D-FENDER, TYP

TYPICAL BULKHEAD

TYPICAL PIER

TYPICAL FENDER SYSTEM

BOX CULVERT

SPALL

STRUCTURAL CRACKING

JOINT GAP

COLD JOINT GAP

SURFACE CRACKING

CRACKING AND SPALLING

DAMAGED CLEAT

COLD JOINT GAP

G1

G1

G2

G2

G3

G3

G4

G4

A1

A1

A2

A2

A3

A3

A4

A4
DEMOLITION NOTES:
1. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO STRIGHTLY CONSTRUCT THE DEMOLITION WITHIN THE LIMITS OF THE REQUIRED CONSTRUCTION AND AVOID ANY DAMAGE TO THE EXISTING STRUCTURES. PLAN SHALL INCLUDE DETAILED PLANS AND METHODS OF DEMOLITION WORK.
2. ANY DAMAGE INCURRED IN EXECUTION OF THIS CONTRACT TO ANY PART OF THE PROPERTY/STRUCTURE NOT SPECIFICALLY DESIGNATED FOR DEMOLITION SHALL BE REPAIRED, EXTRACTED, AND INCURRED COSTS SHARED WITH THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO RETURN THE PROPERTY/STRUCTURE TO ITS ORIGINAL CONDITION AS DIRECTED BY NPS CO AT THE EXPENSE OF THE CONTRACTOR.
3. ALL DEMOLISHED MATERIAL, EXCEPT AS NOTED OTHERWISE, BECOMES THE PROPERTY OF, AND SHALL BE COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR. THE REMOVAL, HANDLING, AND DISPOSAL OF ALL DEMOLITION MATERIALS SHALL BE IN STRICT ACCORDANCE WITH ALL LOCAL AND ENVIRONMENTAL REQUIREMENTS.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH THE MATERIALS TO BE DISPOSED OF AND ALL GOVERNING AGENCY REQUIREMENTS.
5. UTILITIES INFORMATION IS NOT AVAILABLE BEFORE DEMOLITION START. CONFIRM WITH NPS THE PRESENCE OF ANY EXISTING UTILITIES IN THE VICINITY OF THE PROJECT SITE.
6. THE CONTRACTOR IS RESPONSIBLE TO CONTROL FUGITIVE DUST ORIGINATING FROM THE PROJECT SITE DURING CONSTRUCTION BY WATERING OR OTHER METHODS AS REQUIRED.
7. ACTIVITIES REQUIRED FOR REMOVAL, OF ENVIRONMENTALLY CONTAMINATED MATERIALS AND DEVICES IF PRESENT, SHALL BE COORDINATED THROUGH NPS CONTRACTING OFFICER.
8. ALL SURVEY MONUMENTS WITHIN LIMITS OF CONSTRUCTION ARE TO BE PROTECTED.
9. TREATED TIMBER SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS.
10. ALL CONCRETE SHALL BE ASSUMED TO BE STEEL REINFORCED.
11. THE EIGHTEEN STEEL H PILES SUPPORTING THE PIER SHALL BE EXTRACTED FULL LENGTH. EVERY ATTEMPT SHALL BE MADE TO REMOVE EXTRACT THE ENTIRE LENGTH OF PILE. ALL EXTRACTED AND/OR CUT PILES SHALL BE DISPOSED OF IN AN APPROVED LOCATION. A PIECE MAY NOT BE CUT OR UNTIL THE OPINION OF THE CONTRACTOR'S REPRESENTATIVE, THE CONTRACTOR HAS EXHAUSTED ALL REASONABLE MEANS TO EXTRACT THE PILES SHALL BE CUT AT A MINIMUM AT 12 FEET BELOW THE TARGET DRILL DEPTH RECORD LOCATION OF ANY CUT PILES AND PROVIDE SURVEY TO NPS CO UPON COMPLETION OF DEMOLITION. PILE EXTRACTION MUST COMPLY WITH PERMIT REQUIREMENTS.
12. DEMOLITION QUANTITIES ARE ESTIMATED BASED ON TOPOGRAPHIC SURVEY DATA PROVIDED BY "CRUZ BAY VISITOR CENTER" AND AS OBSERVED DURING FIELD INSPECTION. UNANTICIPATED SUBMERGED DEBRIS AND UTILITIES MAY BE PRESENT AT THE PROJECT SITE AND MUST BE REVEALED BY THE CONTRACTOR. DEMOLITION QUANTITIES ON SITE TO BE CONFIRMED BY THE CONTRACTOR.
13. DEMOLITION OF HARDWARE, CONCRETE ANCHORS, REINFORCED CONCRETE REQUIRED FOR REPAIR AND OTHER MISCELLANEOUS COMPONENTS RELATED TO THE WORK SHOWN ON THESE PLANS IS CONSIDERED INCIDENTAL TO THE WORK.

ESTIMATED DEMOLITION QUANTITIES

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>FENDER SYSTEM</td>
<td>410 LF</td>
</tr>
<tr>
<td>H PILES</td>
<td>19</td>
</tr>
<tr>
<td>BULKHEAD CLEATS</td>
<td>30</td>
</tr>
</tbody>
</table>

LEGEND

- 10' DEMO AREA

BATHYMETRIC CONTOUR

5.00 GRADE ELEVATION

SCALE 1"=30'
DEMOLITION NOTES:

1. EXISTING EXTRUDED D-FENDER ARE SCATTERED THROUGHOUT. CONTRACTOR SHALL FIELD VERIFY QUANTITIES.

2. COMPONENT SIZES AND ALL DIMENSIONS SHOWN THIS SHEET ARE APPROXIMATE.

3. FENDER SYSTEM CONFIGURATION VARIES THROUGHOUT LENGTH OF BULKHEAD. DETAIL C3 ON SHEET G4 SHOWN TYPICAL CONFIGURATIONS.

4. STEEL H-PILES EXHIBIT SEVERE CORROSION AND SECTION LOSS WHERE THE CONCRETE ENCASMENT HAS FAILED IN THE TIDAL/SLASH ZONE. CONTRACTOR METHOD OF PILE EXTRACTION MUST ACCOUNT FOR PILE INTEGRITY.
ENVIRONMENTAL MEASURES

1. DURING ENVIRONMENTAL CONSTRUCTION, THE CONTRACTOR SHALL MONITOR THE TURBIDITY LEVELS TO ENSURE THAT TERRITORIAL OFFICIALS, AMONG OTHER REGULATORY AGENCIES, ARE NOT BREACHED.


3. CONTRACTOR SHALL MAINTAIN TURBIDITY BARRIERS WITHIN THE PROJECT TURBIDITY CONTROL LIMITS. TURBIDITY BARRIERS SHALL BE DEEMED ACCEPTABLE TO BE USED WITHIN 200 FEET OUTSIDE OF THE DEMOLITION/CONSTRUCTION AREAS.

4. CONTRACTOR SHALL NOT BE ALLOWED TO DISPOSE OF ANY MATERIALS, INCLUDING SEDIMENT OR TURBID WATER PLUMES AT SUFFICIENT DISTANCE TO MAINTAIN A SUFFICIENT DISTANCE TO MAINTAIN TURBIDITY BARRIERS IN ALL PERMANENT BODIES OF WATER.

5. TURBIDITY CURTAIN SHALL NOT BE LEFT UNDESIRED BY ANY REGULATORY AUTHORITY. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING PERMITS AND COORDINATING WITH THE CONSTRUCTION OF PERMANENT TURBIDITY BARRIERS. THE CONTRACTOR SHALL MAINTAIN TURBIDITY BARRIERS IN ALL PERMANENT BODIES OF WATER.

FACTORS TO CONSIDER ARE LISTED BELOW:

1. PERMIT NUMBER
2. STATE OF SAMPLING AND ANALYSIS
3. STATEMENT DESCRIBING METHODS USED IN COLLECTION, HANDLING, STORAGE, AND ANALYSIS OF THE SAMPLES
4. MAP INDICATING SAMPLE LOCATIONS
5. STATEMENT BY INDIVIDUAL RESPONSIBLE FOR THE IMPLEMENTATION OF THE SAMPLING PROGRAM CONCERNING THE AUTHENTICITY, PRECISION, LIMITS OF DETECTION AND CONFIDENCE LEVELS.

DREDGE MATERIAL TESTING

1. CONTRACTOR TO CONFIRM WITH THE PROPOSED DISPOSAL SITE (BROWN LANDING) REGARDING ANY TESTING THAT MAY BE REQUIRED FOR THE DISPOSAL OF THE DREDGED MATERIAL.

2. NON-HAZARDOUS DREDGE MATERIALS MAY BE BENEFICIALLY REUSED AS FILL MATERIAL ON SITE, IF NEEDED.

TABLE OF QUANTITIES

<table>
<thead>
<tr>
<th>TABLE OF QUANTITIES</th>
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<tbody>
<tr>
<td><strong>DEBRIS REMOVAL</strong></td>
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<tr>
<td><strong>GENERAL EROSION AND TURBIDITY CONTROL NOTES</strong></td>
<td></td>
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<tr>
<td><strong>WATER QUALITY MONITORING PLAN</strong></td>
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<tr>
<td><strong>TURBIDITY AND EROSION CONTROL METHODS</strong></td>
<td></td>
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<tr>
<td><strong>DREDGING MATERIALS</strong></td>
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<tr>
<td><strong>CONSTRUCTION NOTES FOR FABRICATED SILT FENCE</strong></td>
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</tbody>
</table>

TURBIDITY BARRIERS AND TESTING

**Legend:**

- Approximate Limits of In-Water Property Line
- Existing Bathymetric Contour
- Dredging Area
- Parking Area
- Turbidity Barrier

**Note:**
1. Hydrographic survey data provided by "Robcad Inc." Dated September 2022. Water depths are expressed in feet and referenced to MSL.
2. No existing utilities information is available at the project site.
3. Maintenance dredge target depth (-8.0 ft MLLW) and dredge extent provided by NSF based on previous maintenance dredging performed in Little Cruz Bay.
4. Location of in-water property lines is approximate. Contractor to confirm by licensed surveyor.
5. Horizontal control coordinates are in feet and referenced to Puerto Rico North 83.
6. Dredge volume does not include overburden.

**Table of Quantities**

<table>
<thead>
<tr>
<th>Dredge Area</th>
<th>9,780 SQ FT</th>
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<tbody>
<tr>
<td>Dredge Volume</td>
<td>2,000 CY</td>
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**Working Point Table**

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<tr>
<th>JOB</th>
<th>NORTHING</th>
<th>EASTING</th>
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<tr>
<td>1</td>
<td>839686.02</td>
<td>1244088.23</td>
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<tr>
<td>2</td>
<td>839947.44</td>
<td>1244085.65</td>
</tr>
<tr>
<td>3</td>
<td>848885.86</td>
<td>1245732.89</td>
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</tbody>
</table>

**Scale:** 1" = 20'
NOTES

1. Containment area to enable drying of sandy material. Once dry, dredged material will be taken to the proper facility for disposal (Bovon Landfield).

2. Location and final dimensions of containment area is approximate. Contractor to confirm location and final dimensions on-site based on upland availability and dredging rates.
ALL WASHERS SHALL BE ASTM F215, UNLESS NOTED OTHERWISE.

1. ALL STEEL ITEMS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A 122 OR ASTM A 153, UNLESS NOTED OTHERWISE.

REINFORCED CONCRETE

1. ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 301, AND CONFORM TO SPECIFICATION SECTION 03 32 19, UNLESS NOTED OTHERWISE.

2. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH 28-DAY COMPRESSIVE STRENGTH AT LEAST:
   - FIXED PIER: 5000 PSI
   - ALL OTHER: 4000 PSI

3. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCED STEEL SHALL CONFORM TO THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 318-14, UNLESS NOTED OTHERWISE.

4. REINFORCING STEEL
   - ALL REINFORCEMENT SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
   - MECHANICAL SPlices SHALL DEVELOP AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE BAR IN TENSION.

5. CONCRETE SHALL BE NON-METALLIC AND NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 8,000 PSI, UNLESS OTHERWISE NOTED.

6. EXPOSED CORNERS SHALL BE CHAMFERED 3/4 IN.

7. CONSTRUCTION JOINTS SHALL BE PROVIDED ONLY AS NOTED ON THE DRAWINGS AND AS SPECIFICALLY PERMITTED BY THE ENGINEER.

8. PROVIDE EXPOSED CORNERS.

9. PROVIDE CONCRETE REPAIRS OVER REINFORCEMENT, UNLESS NOTED OTHERWISE.

10. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 IN.

11. CONCRETE REPAIRS SHALL CONFORM TO THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 318-14, UNLESS NOTED OTHERWISE.

12. CONCRETE REPAIRS SHALL CONFORM TO THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 318-14, UNLESS NOTED OTHERWISE.

13. PROVIDE THE FOLLOWING CONCRETE COVER OVER REINFORCEMENT, UNLESS NOTED OTHERWISE.

14. PROVIDE EXPOSED CORNERS.

15. PROVIDE CONCRETE REPAIRS OVER REINFORCEMENT, UNLESS NOTED OTHERWISE.

16. PROVIDE CONCRETE REPAIRS.

17. PROVIDE CONCRETE REPAIRS.

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51. PROVIDE CONCRETE REPAIRS.
NOTE:
1. DRIVE PILE TO SPECIFIED TIP ELEVATION AND MINIMUM SPECIFIED CAPACITY.
2. IF SPECIFIED TIP ELEVATION CAN NOT BE ACHIEVED DUE TO BEDROCK, NOTIFY CO.

CUTOFF PILE TOP FLUSH.
GRIND SMOOTH

NOTE:
1. DRIVE PILE TO SPECIFIED TIP ELEVATION AND MINIMUM SPECIFIED CAPACITY.
2. IF SPECIFIED TIP ELEVATION CAN NOT BE ACHIEVED DUE TO BEDROCK, NOTIFY CO.
NOTE: COMPLETE CONCRETE CAP REPAIRS PRIOR TO INSTALLING NEW FENDER SYSTEM.
NOTES:
1. REMOVE LOOSE DEBRIS AND MARINE GROWTH PRIOR TO FILLING Voids.
2. Voids DEEPER THAN 12" MUST BE FILLED TO A MINIMUM DEPTH OF 12".
3. CHIP-OUT AND REMOVE EXISTING SOFT GROUT PATCH MATERIAL WHERE ENCOUNTERED.

SEAL CRACK MINIMUM 1" BEYOND EACH END WITH SURFACE SEALANT.
AFTER CRACK INJECTION REPAIR:
1. REMOVE ALL INJECTION PORTS.
2. GRIND SURFACE SMOOTH WITH SURROUNDING CONCRETE.

EXPOSED REINFORCING OR ANCHOR BOLT TO REMAIN - TYP.
CUT-OFF REINFORCING BOLT - TYP.
FILL VOID W/ EPOXY GROUT OR CEMENTITIOUS MORTAR.

NOTE:
1. SOUND CONCRETE AT CRACK REPAIR LOCATIONS TO IDENTIFY CLOSED SPALLS. IF CLOSED SPALLS ARE ENCOUNTERED.
2. OPEN STRUCTURAL CRACKS TO A WIDTH OF 1/4" WIDE BY 1" DEEP.

A1 TYPICAL SPALL REPAIR (SCALE: 1/2" = 1'-0"

NOTE:
1. REFER TO CONCRETE REPAIR NOTES FOR DETAILED REPAIR STEPS.
2. PROTECT EXISTING REINFORCED STEEL, REPLACE AND SPLICE AS REQUIRED BY CONCRETE REPAIR NOTES.

C4 DETAIL - STRUCTURAL CRACK REPAIR (SCALE: 3/4" = 1'-0"

EXPOSED REINFORCING OR ANCHOR BOLT TO REMAIN - TYP.
REPLACE MAIN REINFORCEMENT AS REQUIRED.
SEAL CRACK MINIMUM 1" BEYOND EACH END WITH SURFACE SEALANT.
AFTER CRACK INJECTION REPAIR:
1. REMOVE ALL INJECTION PORTS.
2. GRIND SURFACE SMOOTH WITH SURROUNDING CONCRETE.

FILL COLD JOINT GAPS WITH GROUT.
SPALL LENGTH 3"
REPAIR LENGTH 3"
SPALL WIDTH 3"
REPAIR WIDTH 3"
EX SPALL SQUARE CUT REPAIR EDGE
MECHANICAL LAP SPLICE SPEC
NEW REPLACEMENT REBAR

C4 DETAIL - STRUCTURAL CRACK REPAIR (SCALE: 1/2" = 1'-0"

EXPOSED REINFORCING OR ANCHOR BOLT TO REMAIN - TYP.
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NEW REPLACEMENT REBAR

C4 DETAIL - STRUCTURAL CRACK REPAIR (SCALE: 1/2" = 1'-0"

EXPOSED REINFORCING OR ANCHOR BOLT TO REMAIN - TYP.
REPLACE MAIN REINFORCEMENT AS REQUIRED.
TREATED 2X4 CONCRETE SIDEWALK

GROUT VOIDS
CRUSHED ROCK/FILL

REMOVE TRASH, DEBRIS, ORGANICS AND LOOSE SOIL, BY VAC TRUCK OR OTHER METHODS

NOTE: WHERE VOIDS OCCUR UNDER ASPHALT PAVING, COLD PATCH ASPHALT AFTER GROUTING. PATCH TO MATCH (E) ASPHALT THICKNESS. APPLY PATCH MATERIAL IN ACCORDANCE MANUFACTURER'S INSTRUCTIONS.

6" MIN
4000 PSI

DOWEL #3 INTO (E) SIDEWALK AT 4" O.C
EMBED 6" MIN

Saucut (E) CONCRETE SIDEWALK AROUND DAMAGED AREA AS NEEDED FOR ACCESS TO PERFORM REPAIR. PROTECT (E) REINFORCING (E) 2 X TIMBER.

REMOVE 2'-0" MIN AT VOID LOCATIONS

VOID (BELOW) SEE DEFECT TABLE FOR APPROXIMATE DIMENSIONS

D1 SECTIONS

NOTE: WHERE VOIDS OCCUR UNDER ASPHALT PAVING, COLD PATCH ASPHALT AFTER GROUTING. PATCH TO MATCH (E) ASPHALT THICKNESS. APPLY PATCH MATERIAL IN ACCORDANCE MANUFACTURER'S INSTRUCTIONS.
NOTE: HISTORIC BORING LOGS PROVIDED BY NPS, FOR REFERENCE USE ONLY.
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