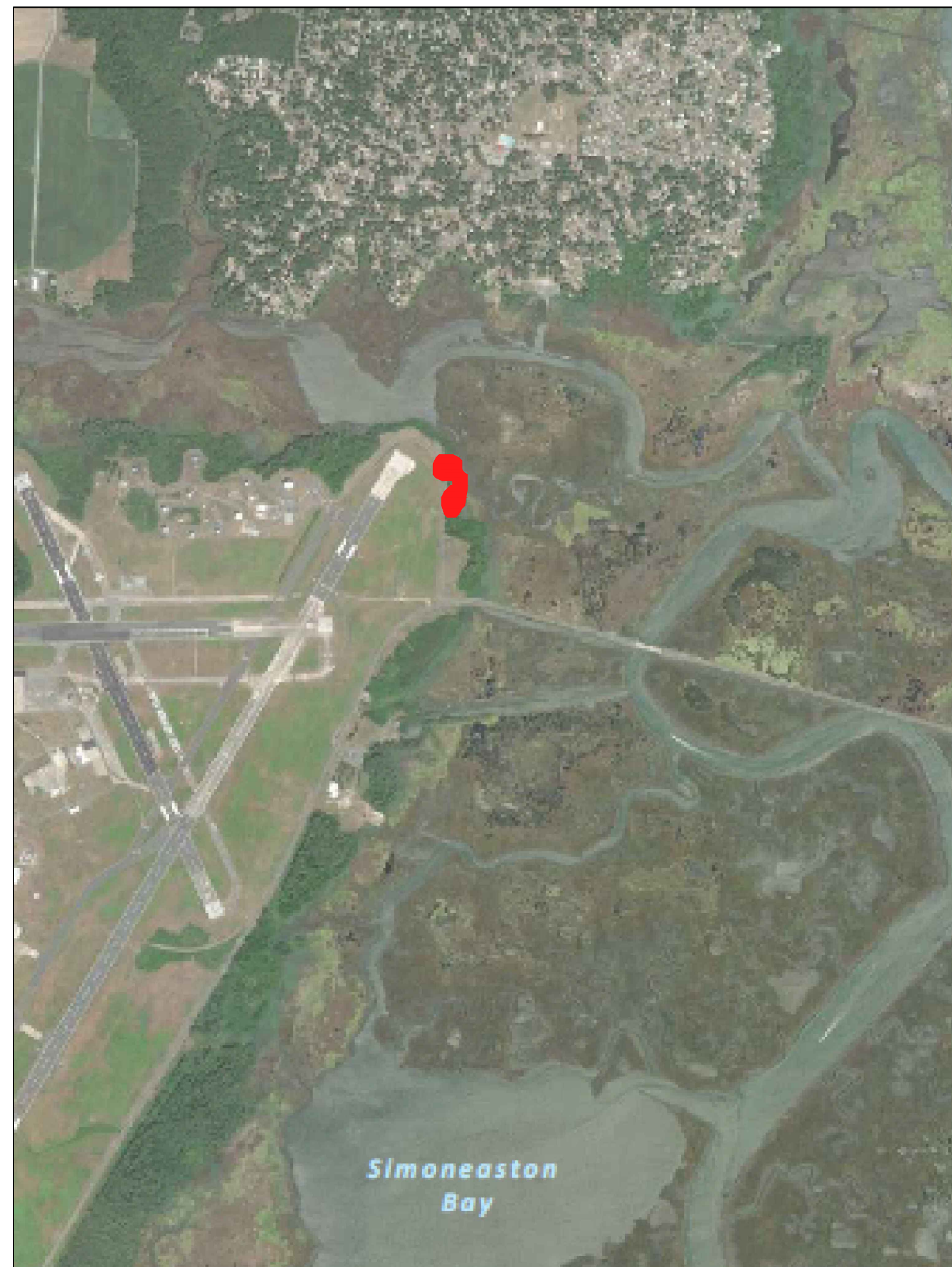


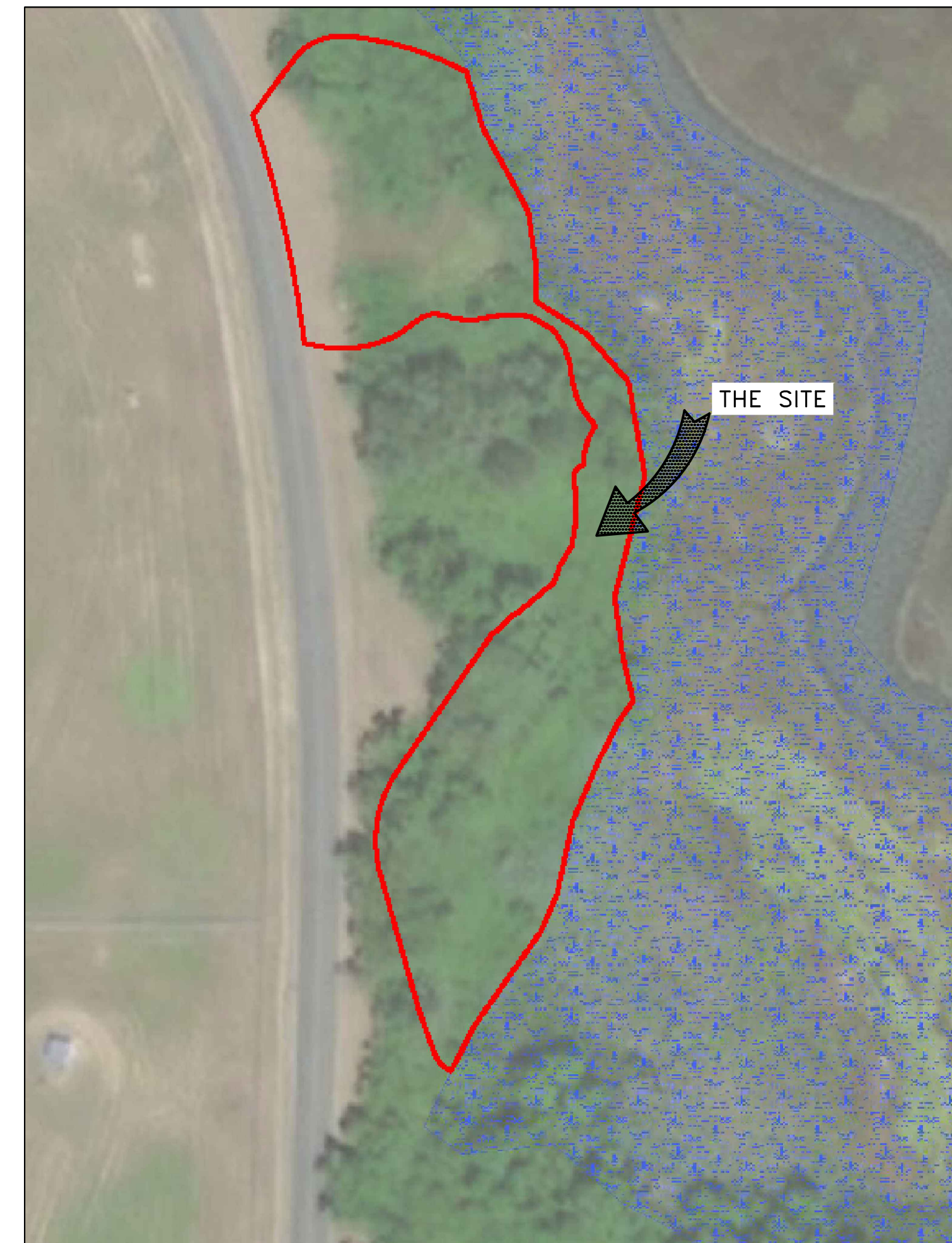
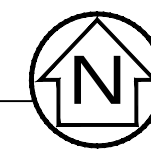
# CONSTRUCTION DEBRIS LANDFILL PROJECT 15

NATIONAL AERONAUTICS & SPACE ADMINISTRATION  
GODDARD SPACE FLIGHT CENTER  
WALLOPS FLIGHT FACILITY  
WALLOPS ISLAND, VIRGINIA 23337

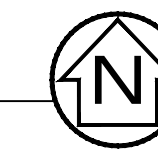
DRAWING INDEX		
DRAWING NUMBER	SHEET	SHEET TITLE
G-001	1 OF 12	COVER SHEET
C-100	2 OF 12	EXISTING CONDITIONS PLAN
C-101	3 OF 12	HAUL ROUTE PLAN
C-102	4 OF 12	PROPOSED EXCAVATION EXTENTS
CG100	5 OF 12	EXCAVATION PLAN
CG101	6 OF 12	FINAL GRADING PLAN
CG102	7 OF 12	PHASE I EROSION & SEDIMENT CONTROL
CG103	8 OF 12	PHASE II EROSION & SEDIMENT CONTROL
CG104	9 OF 12	PHASE III EROSION & SEDIMENT CONTROL
CG500	10 OF 12	EROSION & SEDIMENT CONTROL NOTES
CG501	11 OF 12	EROSION & SEDIMENT CONTROL DETAILS I
CG502	12 OF 12	EROSION & SEDIMENT CONTROL DETAILS II



VICINITY MAP  
NTS



LOCATION MAP  
NTS



**DEQ AS&S WFF SEED Approval**

Christopher D Bentley

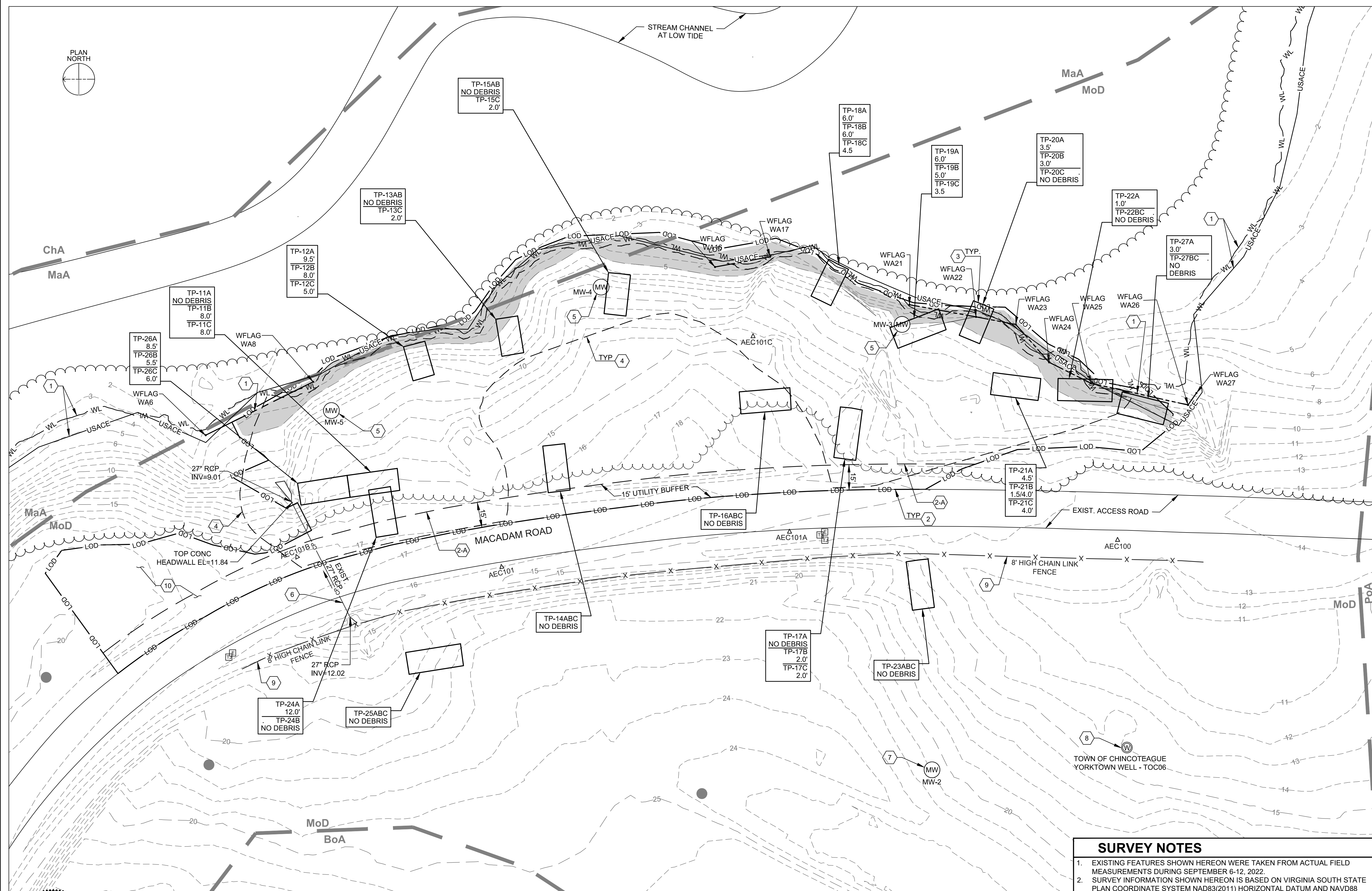
WFF SEED Administrator

Date of Approval 08JUNE23



G-001

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER WALLOPS FLIGHT FACILITY WALLOPS ISLAND, VIRGINIA 23337		DATE	LET.	REVISIONS	CK.	AP.	PROJECT ENGINEER	NASA SAFETY	CONSTRUCTION MANAGEMENT	ENGINEERING APPROVAL	GRAPHIC SCALE	NASA WALLOPS ISLAND PROJECT 15 CDL			
								DATE :	DATE :	DATE :	DATE :	COVER SHEET			
							SUBMITTED BY	FIRE PROTECTION	O & M	BRANCH APPROVAL	AUTOCAD - RELEASE 2020 FILE NAME: 606042834-G-001	SCALE NONE	PROJECT NUMBER: 60642834	DRAWING NO.	
							DATE :	DATE :	DATE :	DATE :	BRANCH HEAD	SHEET 1 OF 12	DR. LAM CK. NK	DATE: 12/29/2022	G-001



### GENERAL NOTES

- ON JUNE 22, 2022, THE VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR) CONCURRED THAT THE PROPOSED ACTION OF WASTE AND SOIL REMOVAL AT THE CDL WILL NOT AFFECT HISTORIC RESOURCES AND NO FURTHER IDENTIFICATION EFFORTS ARE WARRANTED. ON JULY 12, 2022, THE CATAWBA INDIAN NATION RESPONDED THEY HAVE NO IMMEDIATE CONCERNS WITH REGARD TO TRADITIONAL CULTURAL PROPERTIES, SACRED SITES OR NATIVE AMERICAN ARCHAEOLOGICAL SITES WITHIN THE BOUNDARIES OF THE PROPOSED PROJECT AREA. VDHR AND APPROPRIATE NATIVE AMERICAN TRIBES WILL BE NOTIFIED OF ANY ARTIFACTS AND/OR HUMAN REMAINS ENCOUNTERED DURING GROUND DISTURBANCE OF ANY ACTIVITIES.
- TIDAL WETLANDS ARE ADJACENT TO THE PROPOSED AREA TO BE EXCAVATED. THE WETLANDS WILL NOT BE EXCAVATED AND WILL NOT HAVE TO BE ACCESSED DURING THE EXCAVATION ON THE CONSTRUCTION DEBRIS LANDFILL. THEREFORE, THE WETLANDS WILL NOT BE DISTURBED DURING THE PROPOSED ACTIVITY.
- NO ACTION IS REQUIRED WITH REGARDS TO THREATENED AND ENDANGERED SPECIES. NO U.S. FISH AND WILDLIFE SERVICE DESIGNATED CRITICAL HABITATS WERE IDENTIFIED UNDER THE ENDANGERED SPECIES ACT WITHIN THE PROJECT SITE. NO HABITAT FOR ANY OF THE VIRGINIA DEPARTMENT OF WILDLIFE RESOURCES - VIRGINIA FISH AND WILDLIFE INFORMATION SERVICE SPECIES OCCUR WITHIN THE PROJECT STUDY AREA. NO BALD EAGLE (HALIAEETUS LEUCOCEPHALUS) NESTS ARE WITHIN 660 FEET OF THE PROJECT AREA. BASED ON COMMUNICATION FROM THE USFWS, THERE IS THE POTENTIAL FOR THE NORTHERN LONG EARED BAT LISTING TO BE CHANGED TO ENDANGERED WITHIN THE NEXT 12 MONTHS. IF THIS OCCURS, A TIME OF YEAR RESTRICTION WOULD BE ANTICIPATED FROM APRIL 1 TO NOVEMBER 15, UNLESS THE ABSENCE OF NORTHERN LONG-EARED BAT CAN BE CONFIRMED THROUGH A BAT SURVEY.

### KEYNOTES

- EXISTING WETLAND LIMITS. THERE ARE TWO WETLAND LIMITS AROUND THE PROJECT SITE: USACE WETLAND BOUNDARY, & LOCAL WETLANDS BOARD CHESAPEAKE BAY PROTECTION AREA BOUNDARY. "LOCAL VEGETATIVE WETLAND BOUNDARY" WITH ELEVATION AT 3.24 FOOT. WETLANDS FIELD DELINEATED BY AECOM: 10/12/2021. FIELD LOCATED WETLAND FLAGS (WA#) BY AECOM SURVEY TEAM DATED 9/12/2022.
- LIMIT OF DISTURBANCE
- WESTERN LIMIT OF PROPOSED EXCAVATION
- SITE INVESTIGATION TEST PIT WITH CALL-OUT.
- LIMIT OF WASTE DELINEATED FROM FIELD TEST PIT DATA.
- EXISTING GROUNDWATER MONITORING WELLS (MW-3, MW-4, MW-5) TO BE REMOVED AND RELOCATED.
- EXISTING CULVERT TO REMAIN FUNCTIONAL, AND TO BE PROTECTED THROUGHOUT THE CONSTRUCTION ACTIVITY.
- EXISTING GROUNDWATER MONITORING WELL TO REMAIN.
- EXISTING PUBLIC WATER SUPPLY WELL TO REMAIN.
- EXISTING FENCE TO REMAIN.
- CONTRACTOR STAGING AREA. (INCLUDES

### LEGEND

- EXIST. 8' HIGH CHAIN LINK FENCE — X —
- EXIST. MINOR CONTOUR — 9 —
- EXIST. MAJOR CONTOUR — 10 —
- EXIST. WETLAND LIMIT (LOCAL VEGETATIVE WETLAND BOUNDARY) — WL —
- EXIST. USACE WETLAND LIMIT — USACE —
- EXIST. TREELINE —
- EXIST. LIMIT OF WASTE —
- USDA NRCS SOIL TYPE — MoD MaA —
- EXIST. TEST PITS (±13'x30') —
- EXIST. TEST PIT DATA (DIST TO BOTTOM OF DEBRIS FROM EXIST. GRADE) — TP-#A 1.0' TP-#B 2.0' TP-#C 3.0' —
- EXIST. GROUNDWATER MONITORING WELL — MW —
- EXIST. PUBLIC WATER SUPPLY WELL —
- EXIST. CULVERT — CP — CP — CP —
- PROP. LIMIT OF DISTURBANCE — LOD —
- SHADED AREA IS APPROXIMATE AREA THAT MAY GET IMPACTED DURING SEASONAL HIGH TIDE; APPROXIMATE ELEVATION = 6.0 —
- SURVEY CONTROL POINT — AEC100 —
- FIELD LOCATED WETLAND FLAG — WFLAG WA24 —
- FIELD LOCATED WETLAND (PER FLAGS) —
- EXIST. BENCHMARK (GIS) —

### SURVEY NOTES

- EXISTING FEATURES SHOWN HEREON WERE TAKEN FROM ACTUAL FIELD MEASUREMENTS DURING SEPTEMBER 6-12, 2022.
- SURVEY INFORMATION SHOWN HEREON IS BASED ON VIRGINIA SOUTH STATE PLAN COORDINATE SYSTEM NAD83(2011) HORIZONTAL DATUM AND NAVD88 VERTICAL DATUM. PRIMARY CONTROL IS BASED ON GPS OBSERVATIONS USING OPUS PROCESSED THROUGH GNS.
- CONTROL TABLE:

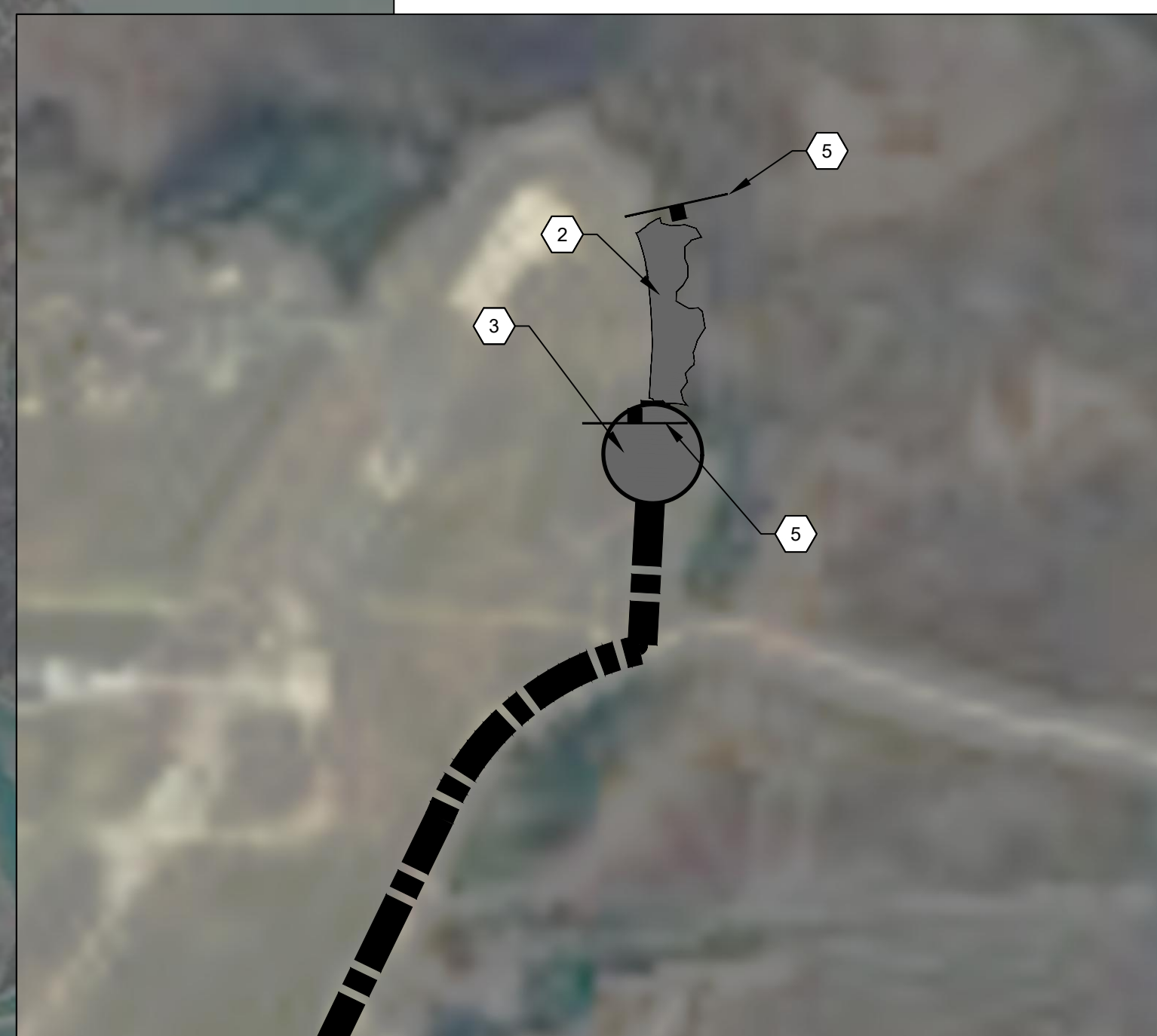
Point	Northing	Easting	Elevation	Description
AEC100	3,882,115.070	12,361,303.040	13.92	TRAV MAG NAIL
AEC101	3,882,479.000	12,361,287.105	16.00	TRAV MAG NAIL
AEC101A	3,882,308.922	12,361,307.897	14.69	TRAV MAG HUB
AEC101B	3,882,599.927	12,361,293.076	17.40	TRAV MAG HUB
AEC101C	3,882,330.490	12,361,423.348	13.28	TRAV MAG HUB
POL100A	3,882,230.812	12,361,297.972	13.71	TRAV MAG HUB
POL100B	3,882,181.298	12,361,300.140	14.01	TRAV MAG HUB

## 1 EXISTING CONDITIONS PLAN

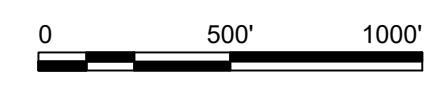
SCALE: 1" = 30'

COMMONWEALTH OF VIRGINIA  
 NITIN KHANNA  
 Lic. No. 0402066076  
 05/16/2023

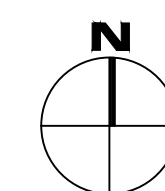
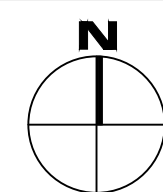
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER WALLOPS FLIGHT FACILITY WALLOPS ISLAND, VIRGINIA 23337	DATE	LET.	REVISIONS	CK.	AP.	PROJECT ENGINEER	NASA SAFETY	CONSTRUCTION MANAGEMENT	ENGINEERING APPROVAL	GRAPHIC SCALE	NASA WALLOPS ISLAND PROJECT 15 CDL EXISTING CONDITIONS PLAN PROJECT NUMBER: 60642834 DR. LAM CK. NK DATE: 12/29/2022 REVISED:	DRAWING NO. C-100	
							DATE :	DATE :	DATE :	DATE :			AUTOCAD - RELEASE 2020 FILE NAME: 606042834-C-100
							SUBMITTED BY	FIRE PROTECTION	O & M	BRANCH APPROVAL			SCALE 1" = 30' SHEET 2 OF 12
						PROJECT MANAGER	DATE :	DATE :	DATE :	BRANCH HEAD	DATE :		



2 INSET-A TEMPORARY TRAFFIC SIGNS  
SCALE: 1" = 500'



1 HAUL ROUTE PLAN  
SCALE: 1" = 2000'



**GENERAL NOTES**

1. THE PRE-EXISTING CONDITION OF THE NOAA ACCESS ROAD FROM THE EXCAVATION SITE ENTRANCE TO CHINCOTEAGUE ROAD WILL BE ASSESSED AND DOCUMENTED THROUGH PHOTOGRAPHS PRIOR TO HEAVY TRUCK TRAFFIC TRANSPORTING EQUIPMENT OR WASTE ON THE ROAD; THE CONDITION OF THE INFRASTRUCTURE (ENTRANCE GATE, CONCRETE DIVIDER, CAMERAS, AND CARD READER) WILL BE SIMILARLY ASSESSED. AFTER THE EXCAVATION IS COMPLETE, ANOTHER ASSESSMENT WILL BE CONDUCTED AND ANY DAMAGE TO THE ROADWAY OR THE INFRASTRUCTURE WILL BE REPAIRED TO PRE-EXISTING CONDITIONS.

**MAINTENANCE OF TRAFFIC NOTES**

1. ALL TEMPORARY TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) WORK AREA PROTECTION MANUAL (WAPM).
2. TRAFFIC CONTROL SIGNS SHOWN ON THIS PLAN ARE SHOWN SCHEMATICALLY. THE EXACT LOCATION AND SPACING OF THE SIGN SHALL BE ADJUSTED IN THE FIELD.
3. ADDITIONAL TRAFFIC CONTROL MEASURES MAY BE REQUIRED BECAUSE OF CHANGING FIELD CONDITIONS AND CONSTRUCTION SEQUENCING.
4. ALL WORK SHALL BE COMPLETED DURING NORMAL WORKING HOURS TO THE EXTENT PRACTICAL. NORMAL WORKING HOURS ARE BETWEEN 0600 AND 1800. OFF PEAK HOURS ARE FROM 1800 TO 0600, MONDAY - FRIDAY AND ALL DAY SATURDAY AND SUNDAY, AND FEDERAL HOLIDAYS.
5. ANY WORK THAT REQUIRES CLOSURE, REROUTE, ETC WILL TAKE PLACE DURING OFF PEAK HOURS. AECOM SHALL SUBMIT A REQUEST FOR OFF PEAK HOURS WORK TO NASA IN WRITING, 7 CALENDAR DAYS PRIOR TO COMMENCING WORK.

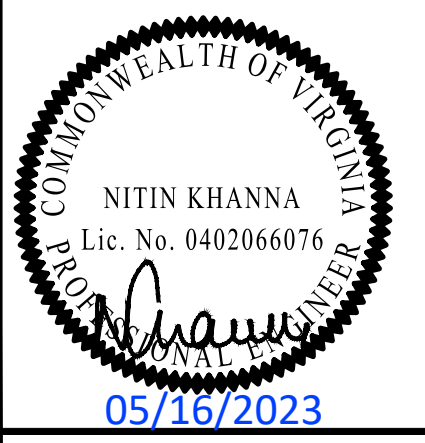
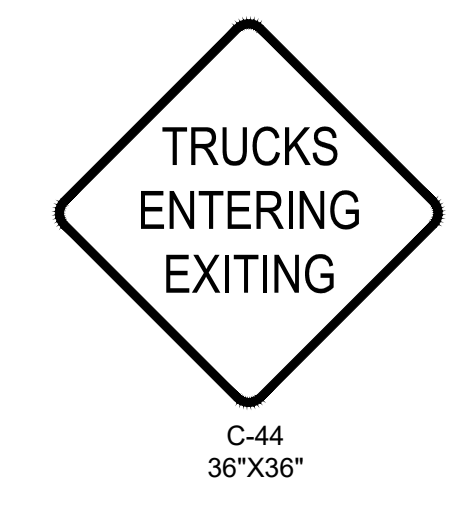
**KEYNOTES**

- 1 PROPOSED HAUL ROUTE FROM PROJECT SITE 15 CDL TO EXISTING ACCOMACK COUNTY LANDFILL.
- 2 PROJECT 15 CDL (CONSTRUCTION DEBRIS LANDFILL) SITE.
- 3 EXISTING SITE ACCESS GATE.
- 4 EXISTING ACCOMACK COUNTY LANDFILL.
- 5 TEMPORARY TRAFFIC SIGN (TRUCK ENTERING AND EXITING)

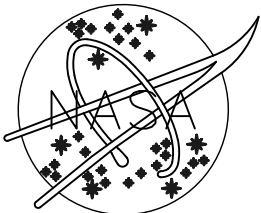
**LEGEND**



**TEMPORARY TRAFFIC SIGN**



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
GODDARD SPACE FLIGHT CENTER  
WALLOPS FLIGHT FACILITY  
WALLOPS ISLAND, VIRGINIA 23337



DATE	LET.	REVISIONS	CK.	AP.

PROJECT ENGINEER \_\_\_\_\_ DATE : \_\_\_\_\_  
SUBMITTED BY \_\_\_\_\_ DATE : \_\_\_\_\_  
PROJECT MANAGER \_\_\_\_\_

NASA SAFETY \_\_\_\_\_ DATE : \_\_\_\_\_  
FIRE PROTECTION \_\_\_\_\_ DATE : \_\_\_\_\_

CONSTRUCTION MANAGEMENT \_\_\_\_\_ DATE : \_\_\_\_\_  
O & M \_\_\_\_\_ DATE : \_\_\_\_\_

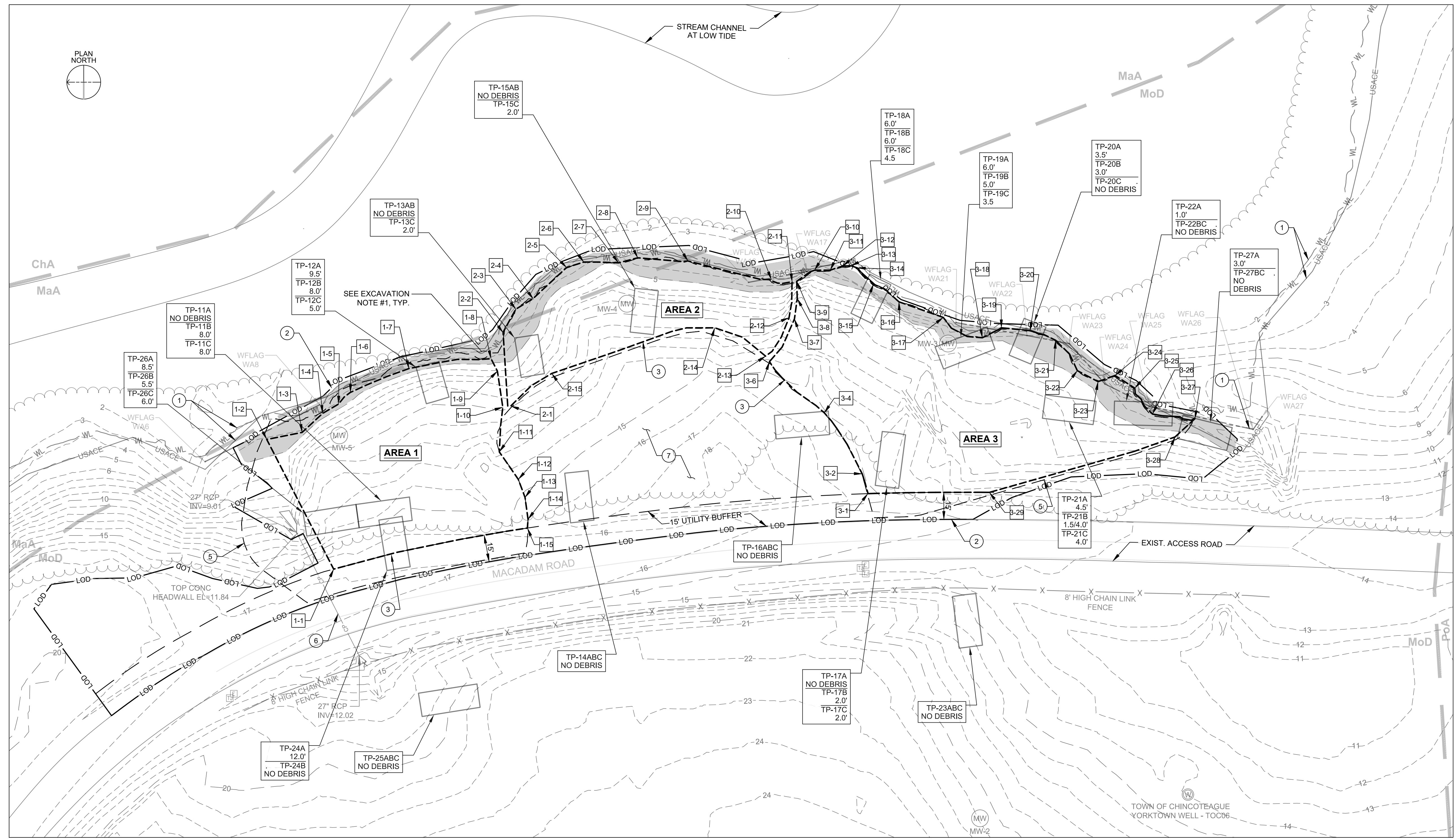
ENGINEERING APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
ENGINEERING GROUP LEADER \_\_\_\_\_ DATE : \_\_\_\_\_  
BRANCH APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
BRANCH HEAD \_\_\_\_\_

GRAPHIC SCALE  
AUTOCAD - RELEASE 2020  
FILE NAME: 606042834-C-101  
SCALE 1" = 2000'  
SHEET 3 OF 12

NASA WALLOPS ISLAND  
PROJECT 15 CDL  
HAUL ROUTE PLAN  
PROJECT NUMBER: 60642834  
DR. NK DATE: 12/29/2022  
CK. NK REVISED:

DRAWING NO. C-101

C-101



**EXCAVATION NOTES**

1. THE AREA BETWEEN THE LIMIT OF DISTURBANCE AND 6-FOOT CONTOUR ELEVATION TO BE EXCAVATED FOR CONSTRUCTION DEBRIS IN SMALL SEGMENTS AND BACKFILLED AS SOON AS POSSIBLE, TO MINIMIZE THE SITE (EXCAVATED AREA) BEING EXPOSED TO POTENTIAL HIGH TIDES AND STORM SURGES.

**KEYNOTES**

- 1 EXISTING WETLAND LIMITS. THERE ARE TWO WETLAND LIMITS AROUND THE PROJECT SITE, USACE WETLAND BOUNDARY, AND OTHER IS LOCAL WETLANDS BOARD CHESAPEAKE BAY PROTECTION AREA BOUNDARY "LOCAL VEGETATIVE WETLAND BOUNDARY" WITH ELEVATION AT 3.24 FOOT. WETLANDS FIELD DELINEATED BY AECOM DATED 10/12/2021. FIELD LOCATED WETLAND FLAGS, SURVEYED DATED 9/12/2022.
- 2 LIMIT OF DISTURBANCE.
- 3 EXCAVATION LIMITS.
- 4 NOT USED.
- 5 LIMIT OF WASTE DELINEATED FROM FIELD TEST PIT DATA.
- 6 THE EXISTING CULVERTS TO BE PROTECTED AND KEPT FUNCTIONAL THROUGHOUT THE EXCAVATION ACTIVITY.
- 7 AREA NOT PART OF DEBRIS EXCAVATION, BUT TO BE GRADED AS PART OF FINAL GRADING TO PROVIDE THE FILL MATERIAL AND POSITIVE DRAINAGE ON SITE WITHIN THE LIMIT OF DISTURBANCE.



**1 PROPOSED EXCAVATION EXTENTS**  
SCALE: 1" = 30'

**AREA 1 EXCAVATION LIMIT COORDINATE TABLE**

COORD. #	NORTHING	EASTING	COORD. #	NORTHING	EASTING
1-1	3,882,582.7237	12,361,305.3669	1-9	3,882,492.0353	12,361,415.1028
1-2	3,882,619.8421	12,361,377.3257	1-10	3,882,489.0386	12,361,395.1028
1-3	3,882,600.1964	12,361,381.1418	1-11	3,882,490.9660	12,361,370.3227
1-4	3,882,588.8468	12,361,391.6475	1-12	3,882,480.4490	12,361,355.1029
1-5	3,882,580.0301	12,361,396.8373	1-13	3,882,476.7253	12,361,345.1029
1-6	3,882,573.4853	12,361,403.2925	1-14	3,882,475.0698	12,361,333.0082
1-7	3,882,541.0813	12,361,416.4981	1-15	3,882,475.4131	12,361,328.1254
1-8	3,882,495.5635	12,361,421.9418			

**AREA 2 EXCAVATION LIMIT COORDINATE TABLE**

COORD. #	NORTHING	EASTING	COORD. #	NORTHING	EASTING
2-1	3,882,484.6269	12,361,395.7615	2-9	3,882,386.4670	12,361,476.0696
2-2	3,882,488.8811	12,361,436.4222	2-10	3,882,340.2938	12,361,465.8311
2-3	3,882,481.8572	12,361,449.3775	2-11	3,882,328.8089	12,361,464.6264
2-4	3,882,472.0990	12,361,454.9980	2-12	3,882,330.5063	12,361,444.6933
2-5	3,882,453.7052	12,361,472.4914	2-13	3,882,343.4785	12,361,423.3954
2-6	3,882,444.1732	12,361,475.5259	2-14	3,882,371.6552	12,361,439.0819
2-7	3,882,424.9094	12,361,475.0955	2-15	3,882,461.9123	12,361,413.7916
2-8	3,882,414.2970	12,361,477.8747			

**AREA 3 EXCAVATION LIMIT COORDINATE TABLE**

COORD. #	NORTHING	EASTING	COORD. #	NORTHING	EASTING	COORD. #	NORTHING	EASTING
3-1	3,882,286.7313	12,361,347.1954	3-9	3,882,326.2564	12,361,464.8753	3-17	3,882,245.0730	12,361,444.8537
3-2	3,882,289.9555	12,361,358.1785	3-10	3,882,316.3643	12,361,470.9921	3-18	3,882,223.5125	12,361,433.4388
3-3	3,882,298.2329	12,361,374.4275	3-11	3,882,307.6560	12,361,471.0538	3-19	3,882,212.8831	12,361,439.1015
3-4	3,882,310.9336	12,361,391.9405	3-12	3,882,300.8519	12,361,473.3028	3-20	3,882,196.9928	12,361,437.5215
3-5	3,882,326.1751	12,361,403.4584	3-13	3,882,296.2349	12,361,473.4851	3-21	3,882,182.8262	12,361,432.1669
3-6	3,882,341.3416	12,361,420.3537	3-14	3,882,292.6506	12,361,472.2695	3-22	3,882,170.7913	12,361,415.3462
3-7	3,882,327.4848	12,361,444.0132	3-15	3,882,293.7103	12,361,463.2566	3-23	3,882,159.3305	12,361,409.2711
3-8	3,882,325.9517	12,361,455.3629	3-16	3,882,269.6321	12,361,453.4913	3-24	3,882,149.9312	12,361,412.6761

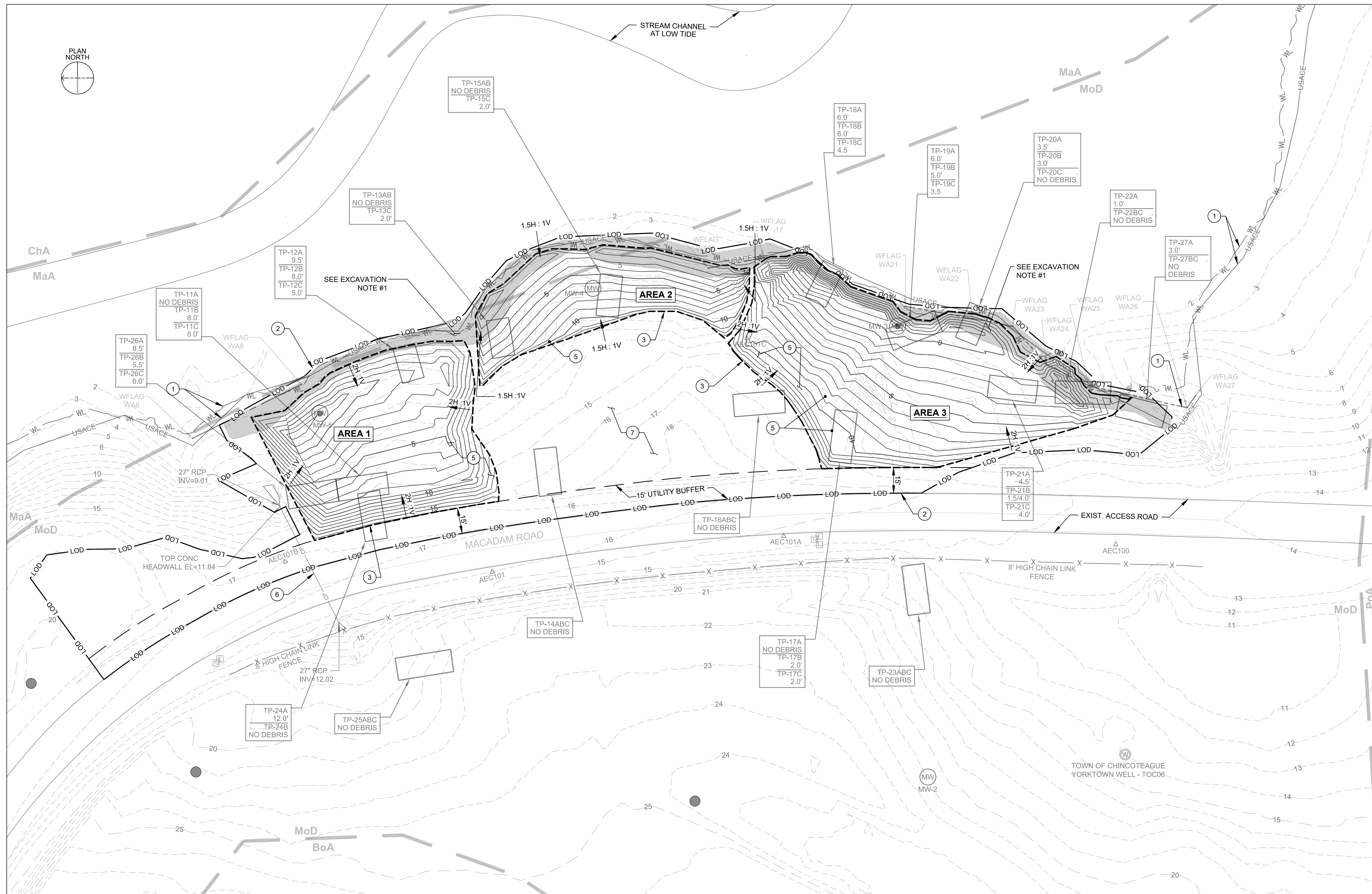
**LEGEND**

- EXIST. MINOR CONTOUR ——— 9 ———
- EXIST. MAJOR CONTOUR ——— 10 ———
- EXIST. WETLAND LIMIT (LOCAL VEGETATIVE WETLAND BOUNDARY) WL
- EXIST. USACE WETLAND LIMIT USACE
- EXIST. TREELINE
- PROP. TREELINE
- PROP. EXCAVATION BOUNDARY AREA LIMIT
- PROP. MINOR (EXCAVATED) CONTOURS ——— 9 ———
- PROP. MAJOR (EXCAVATED) CONTOURS ——— 10 ———
- PROP. LIMIT OF DISTURBANCE ——— LOD ———
- SHADED AREA IS APPROXIMATE AREA THAT MAY GET IMPACTED DURING SEASONAL HIGH TIDE APPROXIMATE ELEVATION 6.0
- COORDINATE POINT FOR EXCAVATION LIMIT, SEE COORDINATE TABLES THIS SHEET

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
GODDARD SPACE FLIGHT CENTER  
Wallops Flight Facility  
Wallops Island, Virginia 23337

DATE	LET.	REVISIONS	CK.	AP.	PROJECT ENGINEER	NASA SAFETY	CONSTRUCTION MANAGEMENT	ENGINEERING APPROVAL	GRAPHIC SCALE
					DATE : _____	DATE : _____	DATE : _____	DATE : _____	0 30' 60'
					SUBMITTED BY	FIRE PROTECTION	O & M	ENGINEERING GROUP LEADER	AUTOCAD - RELEASE 2020
					DATE : _____	DATE : _____	DATE : _____	DATE : _____	FILE NAME: 606042834-C-102
					PROJECT MANAGER			BRANCH APPROVAL	SCALE 1"=30'
								BRANCH HEAD	SHEET 4 OF 12

NASA WALLOPS ISLAND  
PROJECT 15 CDL  
**PROPOSED EXCAVATION EXTENTS**  
PROJECT NUMBER: 60642834  
DR. LAM DATE: 04/27/2023  
CK. NK REVISED:  
DRAWING NO. C-102



**EXCAVATION NOTES**

1. THE AREA BETWEEN THE LIMIT OF DISTURBANCE AND 6-FOOT CONTOUR ELEVATION TO BE EXCAVATED FOR CONSTRUCTION DEBRIS IN SMALL SEGMENTS AND BACKFILLED AS SOON AS POSSIBLE, TO MINIMIZE THE SITE (EXCAVATED AREA) BEING EXPOSED TO POTENTIAL HIGH TIDES AND STORM SURGES.

**KEYNOTES**

- 1 EXISTING WETLAND LIMITS. THERE ARE TWO WETLAND LIMITS AROUND THE PROJECT SITE, USACE WETLAND BOUNDARY, AND OTHER IS LOCAL WETLANDS BOARD CHESAPEAKE BAY PROTECTION AREA BOUNDARY "LOCAL VEGETATIVE WETLAND BOUNDARY" WITH ELEVATION AT 3.24 FOOT. WETLANDS FIELD DELINEATED BY AECOM DATED 10/12/2021. FIELD LOCATED WETLAND FLAGS, SURVEYED DATED 9/12/2022.
- 2 LIMIT OF DISTURBANCE.
- 3 EXCAVATION LIMITS.
- 4 NOT USED.
- 5 EXCAVATION CUT SLOPE ARE 2H:1V TYPICAL, TO THE DEPTH SPECIFIED FOR THE EXCAVATION AREA TABLE BELOW.

EXCAVATION AREAS	DEPTH EXCAVATION (FT)
Area 1	7
Area 2	2
Area 3	4.5

THE EXCAVATION DEPTH FOR EACH AREA LISTED ABOVE ARE APPROXIMATE. THE EXCAVATION WILL OCCUR UNTIL ALL ACCESSIBLE WASTE IS REMOVED. THE ACTUAL EXCAVATION DEPTH MAY BE MORE OR LESS THAN INDICATED.

6 THE EXISTING CULVERTS TO BE PROTECTED AND KEPT FUNCTIONAL THROUGHOUT THE EXCAVATION ACTIVITY. EXCAVATION VOLUME TABLE BELOW LISTS THE APPROXIMATE VOLUME OF CUT ANTICIPATED FOR EACH AREA. THE CUT VOLUME (QUANTITY) IS INCLUSIVE OF OVERBURDEN THAT IS PLANNED TO BE REUSED AS A FILL FOR FINAL STABILIZATION.

EXCAVATION AREAS	CUT VOLUME (CUBIC YARDS)
Area 1	2622.50
Area 2	485.52
Area 3	2586.00
TOTAL (CUT)	5694.02

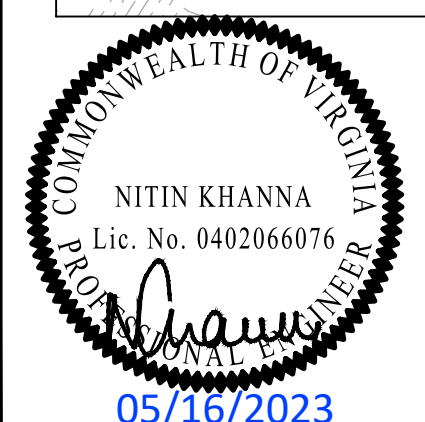
7 AREA NOT PART OF DEBRIS EXCAVATION, BUT TO BE GRADED AS PART OF FINAL GRADING TO PROVIDE THE FILL MATERIAL AND POSITIVE DRAINAGE ON SITE WITHIN THE LIMIT OF DISTURBANCE.

**LEGEND**

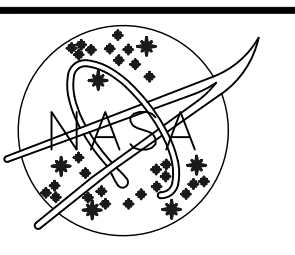
- EXIST. MINOR CONTOUR 9
- EXIST. MAJOR CONTOUR 10
- EXIST. WETLAND LIMIT (LOCAL VEGETATIVE WETLAND BOUNDARY) WL
- EXIST. USACE WETLAND LIMIT USACE
- EXIST. TREELINE
- PROP. TREELINE
- PROP. EXCAVATION BOUNDARY AREA LIMIT
- PROP. MINOR (EXCAVATED) CONTOURS 9
- PROP. MAJOR (EXCAVATED) CONTOURS 10
- PROP. LIMIT OF DISTURBANCE LOD
- SHADED AREA IS APPROXIMATE AREA THAT MAY GET IMPACTED DURING SEASONAL HIGH TIDE APPROXIMATE ELEVATION 6.0 LOD
- EXIST. BENCHMARK (GIS) AEC100
- SURVEY CONTROL POINT AEC100

**1 EXCAVATION PLAN**  
SCALE: 1" = 30'

FOR SURVEY CONTROL POINT COORDINATES, SEE "SURVEY NOTES" TABLE ON SHEET C-100.



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
GODDARD SPACE FLIGHT CENTER  
WALLOPS FLIGHT FACILITY  
WALLOPS ISLAND, VIRGINIA 23337



DATE	LET.	REVISIONS	CK.	AP.

PROJECT ENGINEER \_\_\_\_\_ DATE : \_\_\_\_\_  
SUBMITTED BY \_\_\_\_\_ DATE : \_\_\_\_\_  
PROJECT MANAGER \_\_\_\_\_

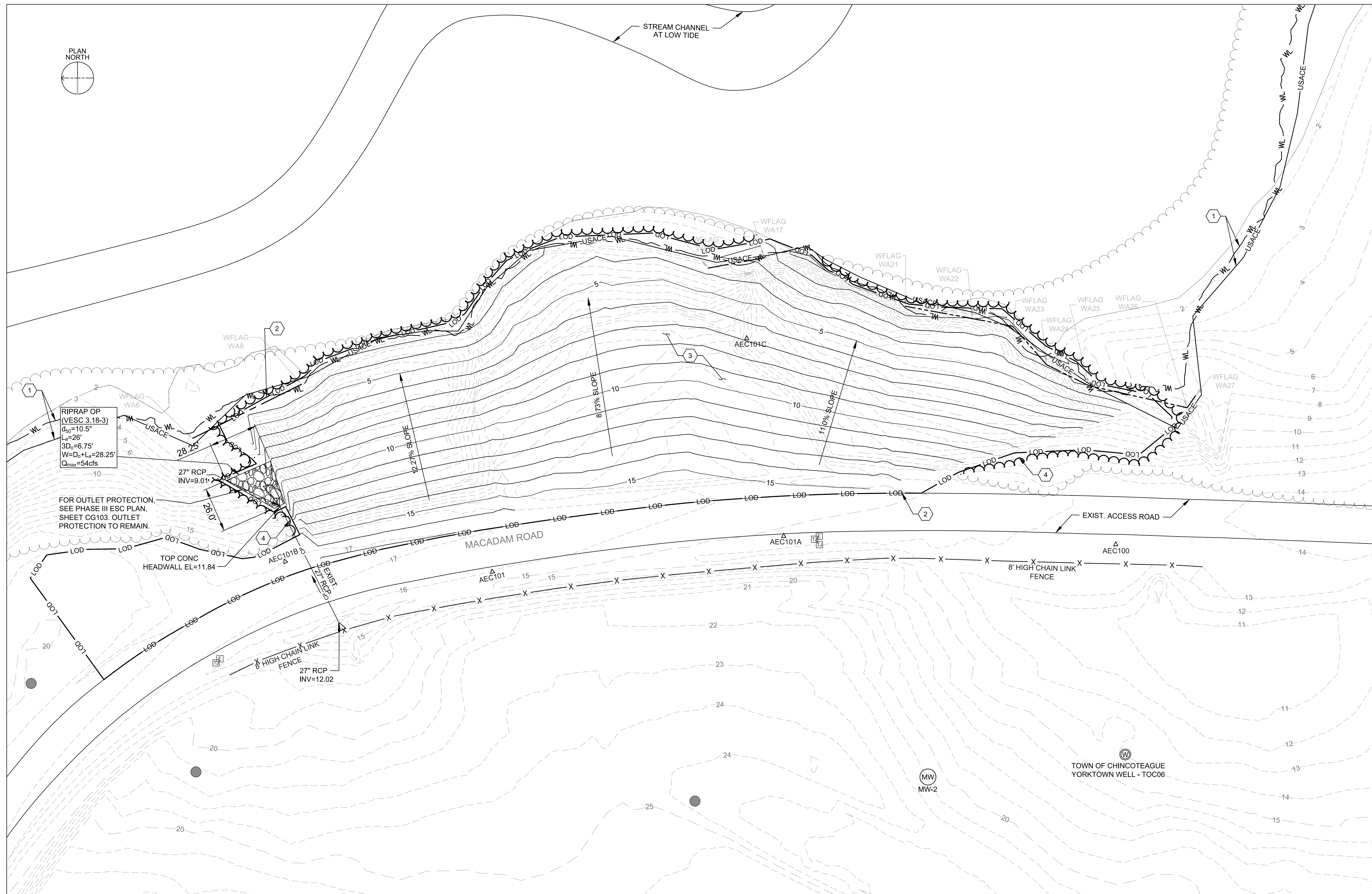
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FIRE PROTECTION \_\_\_\_\_ DATE : \_\_\_\_\_

CONSTRUCTION MANAGEMENT \_\_\_\_\_ DATE : \_\_\_\_\_  
O & M \_\_\_\_\_ DATE : \_\_\_\_\_

ENGINEERING APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
ENGINEERING GROUP LEADER \_\_\_\_\_ DATE : \_\_\_\_\_  
BRANCH APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
BRANCH HEAD \_\_\_\_\_

GRAPHIC SCALE  
0 30 60  
AUTOCAD - RELEASE 2020  
FILE NAME: 606042834-CG100  
SCALE 1"=30'  
SHEET 5 OF 12

NASA WALLOPS ISLAND  
PROJECT 15 CDL  
EXCAVATION PLAN  
PROJECT NUMBER: 60642834  
DR. SA DATE: 12/29/2022  
CK. NK REVISED:  
DRAWING NO. CG100



**GENERAL NOTES**

1. PROPOSED FILL FOR THE PROJECT SHALL BE CLEAN AND FREE OF ANY DEBRIS.
2. CUT AND FILL SLOPES ARE TO BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZATION UNTIL THE PROBLEM IS CORRECTED.
3. PER THE STORMWATER, EROSION AND ENVIRONMENTAL DEVELOPMENT (SEED) PROGRAM RECOMMENDATION, THE "CONTRACTOR'S MIX" FROM JOHNSON SEED AND FEED (70% KENTUCKY 31 (TALL FESCUE) AND 30% PERENNIAL RYE) WILL BE USED.
4. PRIOR TO ANY FILL ACTIVITY ALL SOIL MATERIAL TO BE TESTED AND PROPER SOIL AMENDMENT TO BE DONE PRIOR TO PERMANENT SEEDING.
5. MATERIALS TO BE USED AS COMPACTED FILL IN THE BUILDING AND PAVEMENT AREAS SHOULD BE CLASSIFIED AS ML, SM, OR MORE GRANULAR, AND SHOULD HAVE A LIQUID LIMIT (LL) AND PLASTICITY INDEX (PI) OF LESS THAN 40 AND 20, RESPECTIVELY. SOILS CLASSIFIED AS CL, CH, AND MH ARE NOT CONSIDERED SUITABLE FOR REUSE AS COMPACTED FILL. PORTIONS OF THE EXISTING FILL ENCOUNTERED IN THE BORINGS MAY BE REUSED AS COMPACTED FILL, PROVIDED THEY MEET THE ABOVE REQUIREMENTS AND ARE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATTER. THE SUITABILITY OF THE ONSITE SOILS FOR REUSE AS FILL AND BACKFILL SHOULD BE DETERMINED BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION. ALL NEW COMPACTED FILL SHOULD BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY, IN ACCORDANCE WITH ASTM D698. IN GENERAL, THE MOISTURE CONTENT OF THE FILL MATERIALS SHOULD BE MAINTAINED WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE CONTENT RECOMMENDED BY ASTM D698.

**KEYNOTES**

1. EXIST. WETLAND LIMITS FROM GIS DATA.
2. LIMIT OF DISTURBANCE.
3. PROPOSED GRADING (FILL) WITH VARIABLE SLOPES FROM 8.73% TO 12.27%. THE NEW FILL AREA TO PERMANENTLY STABILIZED WITH LOCALLY DEVELOPED SEED MIX.
4. PROPOSED TREE LINE
5. PROPOSED CUT AND FILL QUANTITY FOR THE FINAL GRADED SITE.

GRADE AREA (SQFT)	FILL VOL (CU.YD)	CUT VOL (CU.YD)
55,368	3,090	3,320

THE ABOVE CUT-FILL VOLUME TABLE SHOWS, THE EARTH FILL VOLUME REQUIRED TO MEET THE PROPOSED GRADING IS 3,090 CU.YD. TO MEET THIS FILL VOLUME REQUIREMENT, SOME OF THE ON-SITE CUT MATERIAL WILL BE REUSED AND THE REST WILL BE BORROWED OFF-SITE.

ASSUMPTIONS:

1. 20% OF CUT VOLUME QUANTITY CAN NOT BE REUSED (20% x 3,320 = 664 CU.YD.)
2. 6-INCH OF EXISTING TOP SOIL OF CLEAN AREA WILL BE DISPOSED OFF-SITE (470 CU.YD.)
3. 5% OF CUT VOLUME WILL BE LOST DUE TO COMPACTION (5% x 3,320=166 CU.YD.)

1,300 CU.YD. OF CUT MATERIAL WILL BE DISPOSED OFF-SITE WITH OTHER WASTE MATERIAL. REMAINING CUT MATERIAL (3,320-1,300) 2,020 CU.YD. WILL BE REUSED.

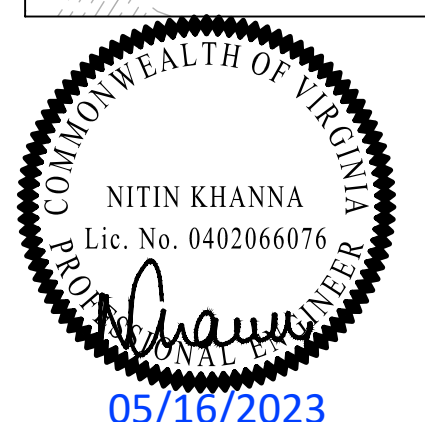
THE REQUIRED BORROW FILL MATERIAL IS FOR 6-INCHES OF TOPSOIL (3,090-2,020) 1,070 CU.YD.

GRADE AREA (SQFT)	FILL VOL (CU.YD)	CUT VOL (CU.YD)	NET VOL (CU.YD)
55,368	3,090	2,020	1,070

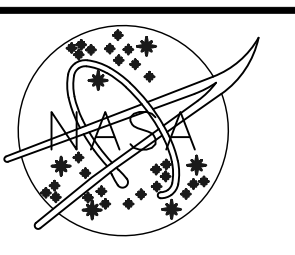
**LEGEND**

- EXIST. MINOR CONTOUR
- EXIST. MAJOR CONTOUR
- EXIST. WETLAND LIMIT
- EXIST. USACE WETLAND LIMIT
- EXIST. TREELINE
- PROP. TREELINE
- PROP. LIMIT OF DISTURBANCE
- PROP. MINOR CONTOURS
- PROP. MAJOR CONTOURS
- EXIST. BENCHMARK (GIS)
- SURVEY CONTROL POINT

**1 FINAL GRADING PLAN**  
SCALE: 1" = 30'



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
GODDARD SPACE FLIGHT CENTER  
Wallops Flight Facility  
Wallops Island, Virginia 23337



DATE	LET.	REVISIONS	CK.	AP.

PROJECT ENGINEER \_\_\_\_\_ DATE : \_\_\_\_\_  
SUBMITTED BY \_\_\_\_\_ DATE : \_\_\_\_\_  
PROJECT MANAGER \_\_\_\_\_

NASA SAFETY \_\_\_\_\_ DATE : \_\_\_\_\_  
FIRE PROTECTION \_\_\_\_\_ DATE : \_\_\_\_\_

CONSTRUCTION MANAGEMENT \_\_\_\_\_ DATE : \_\_\_\_\_  
O & M \_\_\_\_\_ DATE : \_\_\_\_\_

ENGINEERING APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
ENGINEERING GROUP LEADER \_\_\_\_\_ DATE : \_\_\_\_\_  
BRANCH APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
BRANCH HEAD \_\_\_\_\_

GRAPHIC SCALE  
0 30' 60'  
AUTOCAD - RELEASE 2020  
FILE NAME: 606042834-CG101  
SCALE 1" = 30'  
SHEET 6 OF 12

NASA WALLOPS ISLAND  
PROJECT 15 CDL  
FINAL GRADING PLAN  
PROJECT NUMBER: 60642834  
DR. LAM DATE: 12/29/2022  
CK. NK REVISED:  
DRAWING NO. CG101

CG101

**GENERAL NOTES**

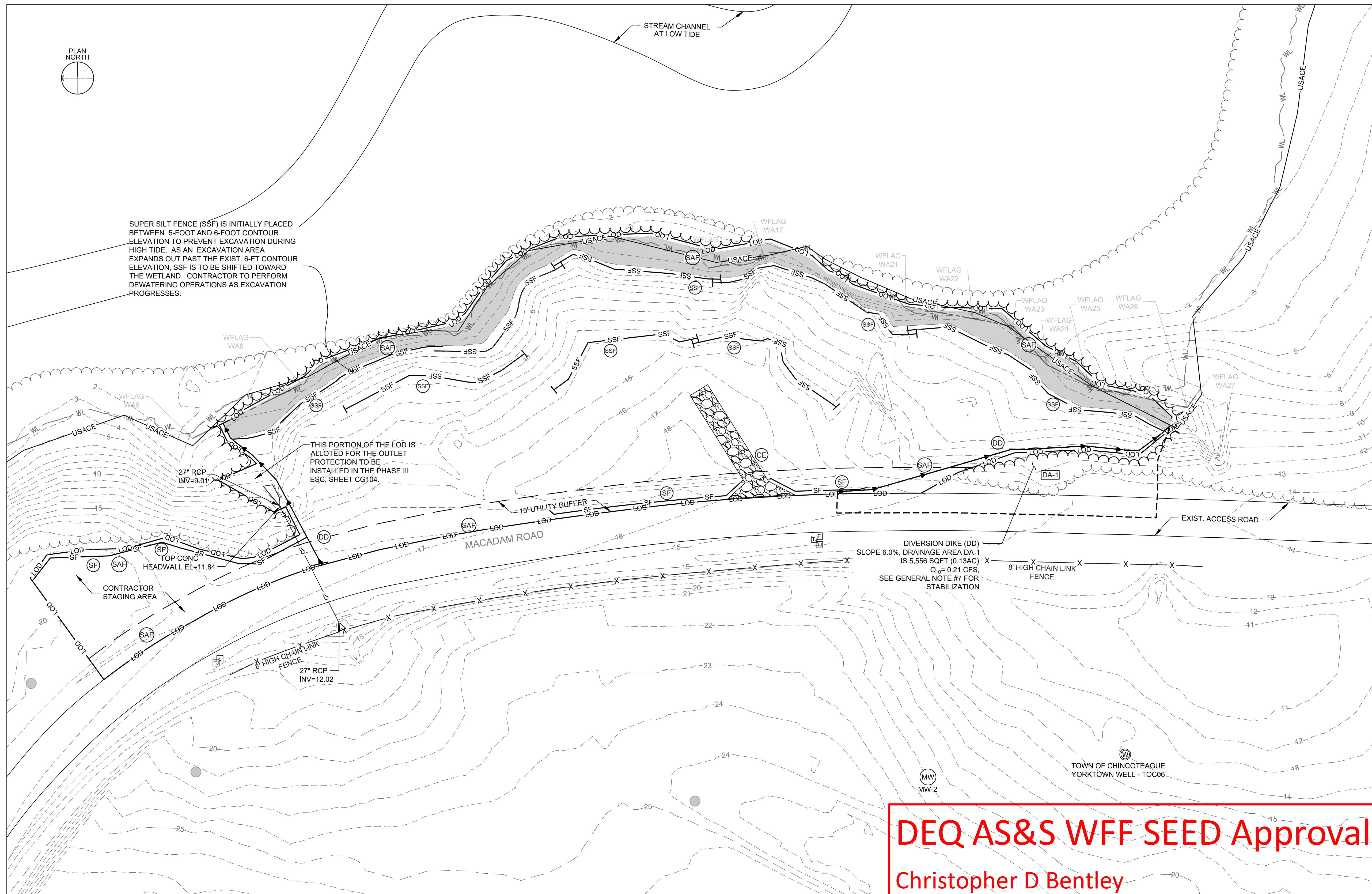
1. EROSION AND SEDIMENT CONTROL (ESC) MEASURES ARE INSTALLED A FEW FEET OFF THE LIMIT OF DISTURBANCE (LOD) ALONG THE PERIMETER.
2. INSTALL ALL PROPOSED EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN. ALL ESC MEASURES AND PRACTICES TO FOLLOW 9VAC25-840-40 MINIMUM STANDARDS.
3. ALL EXCAVATED CONSTRUCTION DEBRIS MATERIAL TO BE HAULED OFF SITE TO THE ACCOMACK COUNTY LANDFILL. SEE HAUL ROUTE PLAN, SHEET C-101.
4. ALL EXCAVATED TOPSOIL IS TO BE CONSIDERED CONTAMINATED AND IS TO BE DISPOSED OF AT THE ACCOMACK COUNTY LANDFILL.
5. ALL EXCAVATION TO BE DONE IN DRY CONDITIONS. DURING A HIGH TIDE CONDITION NO CONSTRUCTION IS ALLOWED BELOW THE 6-FOOT CONTOUR ELEVATION.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED, REPAIRED OR REPLACED AFTER EVERY STORM EVENT.
7. TEMPORARY DIVERSION DIKE TO BE INSTALLED PER VESCH STD & SPEC 3.09. AS THE SLOPE OF THE TWO DIVERSION DIKES PER WEST AND EAST OF EXCAVATION ARE TO BE CONSTRUCTED AT T 13.0% AND 5.0% SLOPES RESPECTIVELY, THE CHANNEL SHALL BE STABILIZED IN ACCORDANCE WITH VESCH STD& SPEC 3.17 STORMWATER CONVEYANCE CHANNEL.
8. THE PRE-EXISTING CONDITION OF THE NOAA ACCESS ROAD FROM THE EXCAVATION SITE ENTRANCE TO CHINCOTEAGUE ROAD WILL BE ASSESSED AND DOCUMENTED THROUGH PHOTOGRAPHS PRIOR TO HEAVY TRUCK TRAFFIC TRANSPORTING EQUIPMENT OR WASTE ON THE ROAD; THE CONDITION OF THE INFRASTRUCTURE (ENTRANCE GATE, CONCRETE DIVIDER, CAMERAS, AND CARD READER) WILL BE SIMILARLY ASSESSED. AFTER THE EXCAVATION IS COMPLETE, ANOTHER ASSESSMENT WILL BE CONDUCTED AND ANY DAMAGE TO THE ROADWAY OR THE INFRASTRUCTURE WILL BE REPAIRED TO PRE-EXISTING CONDITIONS.

**LEGEND**

VESCH 3.02	CONSTRUCTION ENTRANCE	
VESCH 3.05-1	SUPER SILT FENCE	
VESCH 3.05-2	SILT FENCE	
	TEMPORARY JERSEY BARRIERS	
VESCH 3.09	TEMPORARY DIVERSION DIKE	
VESCH 3.01	SAFETY FENCE	
	LIMIT OF DISTURBANCE	
	EXIST. MINOR CONTOUR	
	EXIST. MAJOR CONTOUR	
	EXIST. WETLAND LIMIT	
	EXIST. USACE WETLAND LIMIT	
	EXIST. TREELINE	
	PROP. TREELINE	
	EXCAVATION/GRADING IN SHADED AREA BELOW THE EXIST. 6-FT CONTOUR IS ALLOWED ONLY DURING LOW TIDE.	

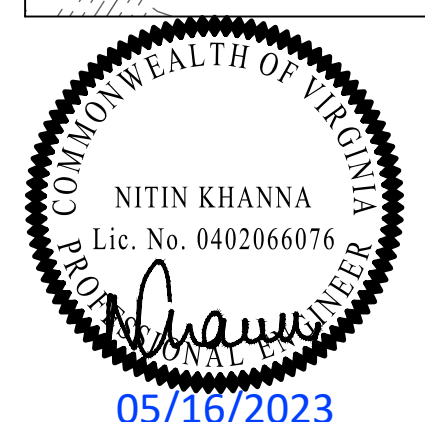
**SEQUENCE OF CONSTRUCTION**

- A. CONTRACTOR SHALL SCHEDULE AN ON-SITE PRE-CONSTRUCTION MEETING 2-WEEKS PRIOR TO THE START OF CONSTRUCTION.
- B. PHASE 1
1. INSTALL MAINTENANCE OF TRAFFIC (MOT) MEASURES AS NEEDED AND STAKE OUT THE LIMIT OF DISTURBANCE AS SHOWN ON THE PLANS.
  2. SET UP THE CONTRACTOR STAGING AREA.
  3. INSTALL ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN. INSTALL THE ORANGE SAFETY FENCE ALONG THE LIMIT OF DISTURBANCE.
  4. INSTALL SIGNS ON SITE SUPER SILT FENCE OR SAFETY FENCE INSTALLED ALONG THE EASTERN EDGE OF PROJECT SITE TO CLEARLY INDICATE THE WARNING OF PRESENCE OF WETLANDS.
  5. INSTALL (CONSTRUCT) EARTHEN DIVERSION DIKE AS SHOWN ON THE PLANS TO DIVERT THE CLEAN SURFACE RUNOFF AWAY FROM THE PROJECT SITE.
  6. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE.
  7. COMMENCE CLEARING OPERATIONS TO REMOVE TREES, BRUSH, & 3-INCHES OF TOPSOIL. CONTRACTOR HAS THE DISCRETION TO CLEAR THE ENTIRE SITE OR DIVIDE THE SITE INTO SUB-AREAS PER THE EXCAVATION PLAN, CG100. TREES TO BE DEMOLISHED WITHIN THE LIMIT OF DISTURBANCE ALONG WITH ROOTS AS NEEDED.
  8. ALL DENUDED AREAS TO BE LEFT DORMANT FOR LONGER THAN 14-DAYS ARE TO RECEIVE TEMPORARY SOIL STABILIZATION WITHIN SEVEN-DAYS.
  9. ONCE THE CLEARING OPERATIONS ARE COMPLETE, AND DISTURBED AREAS ARE TEMPORARILY STABILIZED THE SUPER SILT FENCE ALONG THE EASTERN EDGE TO BE RELOCATED FOR THE PHASE II EXCAVATION.

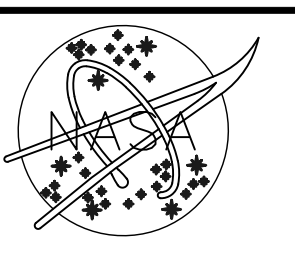


**DEQ AS&S WFF SEED Approval**  
 Christopher D Bentley  
 WFF SEED Administrator  
 Date of Approval 08JUNE23

**1 PHASE I EROSION & SEDIMENT CONTROL**  
 SCALE: 1" = 30'



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
 GODDARD SPACE FLIGHT CENTER  
 WOLLOPS FLIGHT FACILITY  
 WOLLOPS ISLAND, VIRGINIA 23337



DATE	LET.	REVISIONS	CK.	AP.

PROJECT ENGINEER  
 DATE : \_\_\_\_\_

SUBMITTED BY  
 DATE : \_\_\_\_\_

PROJECT MANAGER

NASA SAFETY  
 DATE : \_\_\_\_\_

FIRE PROTECTION  
 DATE : \_\_\_\_\_

CONSTRUCTION MANAGEMENT  
 DATE : \_\_\_\_\_

O & M  
 DATE : \_\_\_\_\_

ENGINEERING APPROVAL  
 DATE : \_\_\_\_\_

ENGINEERING GROUP LEADER  
 DATE : \_\_\_\_\_

BRANCH APPROVAL  
 DATE : \_\_\_\_\_

BRANCH HEAD

GRAPHIC SCALE  
 0 30' 60'

AUTOCAD - RELEASE 2020  
 FILE NAME: 606042834-CG102

SCALE  
 1" = 30'

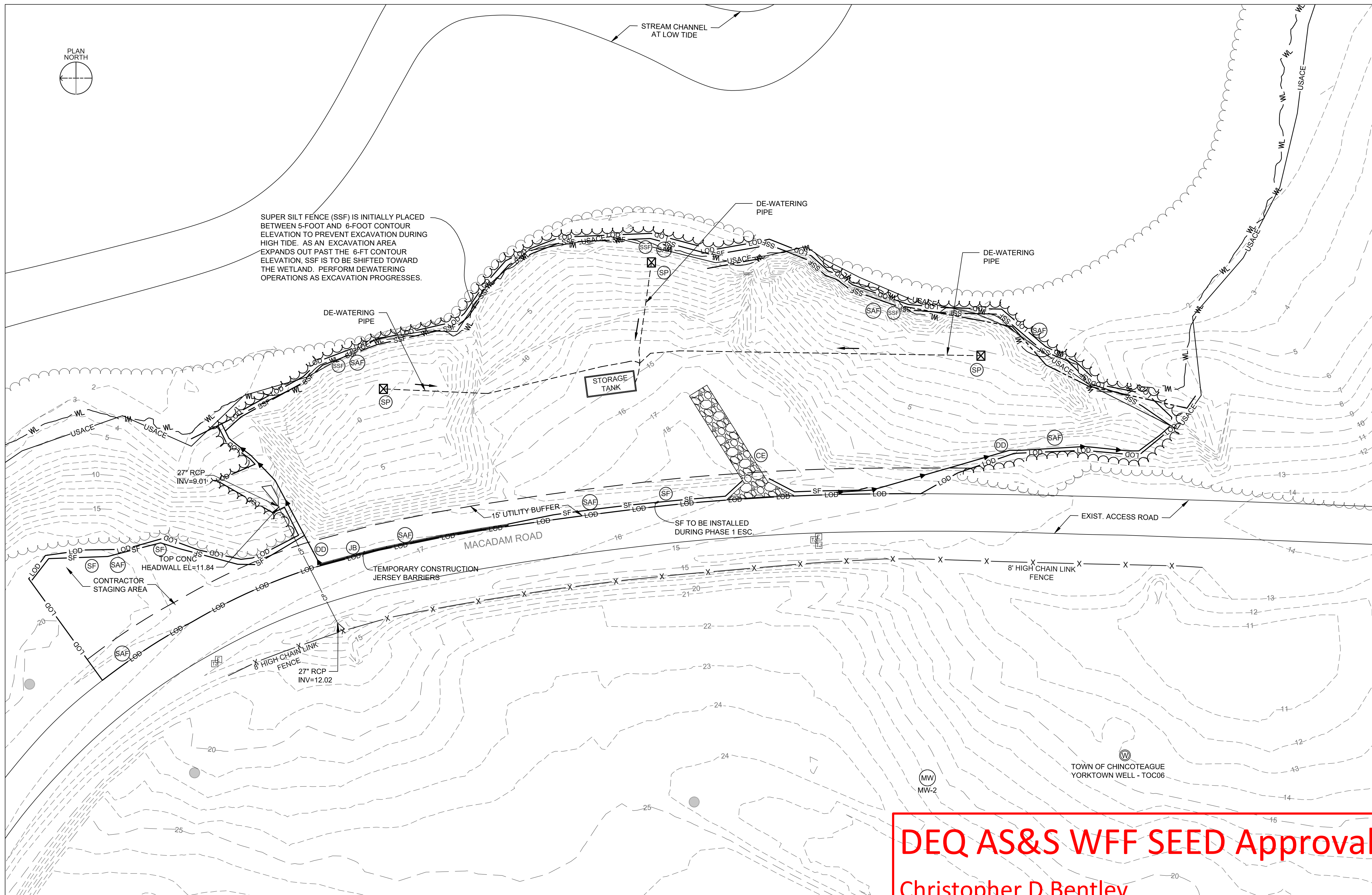
SHEET 7 OF 12

NASA WOLLOPS ISLAND  
 PROJECT 15 CDL  
**PHASE I EROSION & SEDIMENT CONTROL**

PROJECT NUMBER: 60642834  
 DR. LAM DATE: 12/29/2022  
 CK. NK REVISED:

DRAWING NO.  
**CG102**

CG102



SUPER SILT FENCE (SSF) IS INITIALLY PLACED BETWEEN 5-FOOT AND 6-FOOT CONTOUR ELEVATION TO PREVENT EXCAVATION DURING HIGH TIDE. AS AN EXCAVATION AREA EXPANDS OUT PAST THE 6-FT CONTOUR ELEVATION, SSF IS TO BE SHIFTED TOWARD THE WETLAND. PERFORM DEWATERING OPERATIONS AS EXCAVATION PROGRESSES.

- ### GENERAL NOTES
1. EROSION AND SEDIMENT CONTROL (ESC) MEASURES ARE INSTALLED A FEW FEET OFF THE LIMIT OF DISTURBANCE (LOD) ALONG THE PERIMETER.
  2. CONTRACTOR TO INSTALL ALL PROPOSED EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN. ALL ESC MEASURES AND PRACTICES TO FOLLOW 9VAC25-840-40 MINIMUM STANDARDS.
  3. ALL EXCAVATED CONSTRUCTION DEBRIS MATERIAL TO BE HAULED OFF SITE TO THE ACCOMACK COUNTY LANDFILL. SEE THE HAUL ROUTE PLAN, SHEET C-101.
  4. ALL EXCAVATED TOPSOIL IS TO BE CONSIDERED CONTAMINATED AND IS TO BE DISPOSED OF AT THE ACCOMACK COUNTY LANDFILL.
  5. ALL EXCAVATION TO BE DONE IN DRY CONDITIONS. DURING A HIGH TIDE CONDITION NO CONSTRUCTION IS ALLOWED BELOW THE 6-FOOT CONTOUR ELEVATION.
  6. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING, INSPECTING AND REPAIRING ALL EROSION AND SEDIMENT CONTROL MEASURES AFTER EVERY STORM EVENT.
  7. ALL THE EXCAVATED MATERIAL (SOIL) WITHIN THE TIDAL AREA TO BE DE-WATERED PRIOR TO BEING HAULED OFF SITE.
  8. ALL EXCAVATION IN AREAS 1, 2 AND 3 TO BE PERFORMED IN DRY CONDITIONS. EXCAVATED AREAS TO BE DE-WATERED USING ON SITE PUMPS AND WATER TO BE STORED IN ON FIELD STORAGE TANK(S). ALL SUMP WATER IS TO BE TESTED FOR CONTAMINANTS AND DISPOSED OF BY PROPER MEANS IF CONTAMINATED.
  9. THE SIZE AND THE LOCATION OF THE STORAGE (DEWATER) TANK TO BE FIELD DETERMINED.
  10. THE AREA BETWEEN THE LIMIT OF DISTURBANCE AND 6-FOOT CONTOUR ELEVATION TO BE EXCAVATED FOR CONSTRUCTION DEBRIS IN SMALL SEGMENTS AND BACKFILLED AS SOON AS POSSIBLE, TO MINIMIZE THE SITE (EXCAVATED AREA) BEING EXPOSED TO POTENTIAL HIGH TIDES AND STORM SURGES.

### LEGEND

YESCH 3.02 CONSTRUCTION ENTRANCE		CE
YESCH 3.05-1 SUPER SILT FENCE		SSF
YESCH 3.05-2 SILT FENCE		SF
TEMPORARY JERSEY BARRIERS		JB
YESCH 3.09 TEMPORARY DIVERSION DIKE		DD
YESCH 3.01 SAFETY FENCE		SAF
SUMP PIT WITH PORTABLE PUMP		SP
LIMIT OF DISTURBANCE		LOD
EXIST. MINOR CONTOUR		9
EXIST. MAJOR CONTOUR		10
PROP. MINOR CONTOUR		
PROP. MAJOR CONTOUR		10
EXIST. WETLAND LIMIT		WL
EXIST. USACE WETLAND LIMIT		USACE
EXIST. TREELINE		
PROP. TREELINE		

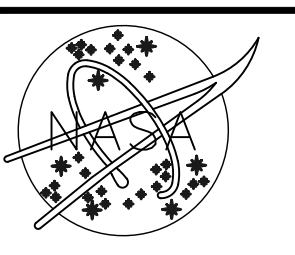
- ### SEQUENCE OF CONSTRUCTION
- PHASE 2-A**
1. INSTALL CONCRETE JERSEY BARRIERS WHERE INDICATED BEFORE COMMENCING EXCAVATION IN EXCAVATION AREA 1. SEE CG100.
  2. COMMENCE EXCAVATION OPERATIONS: SEE EXCAVATION PLAN, CG100. CONTRACTOR HAS THE OPTION OF EXCAVATING ONE EXCAVATION AREA AT A TIME IN ANY ORDER, OR EXCAVATE ALTERNATING AREAS AT A TIME (i.e. AREAS 1 & 3, OR AREA 2).
  3. CONTRACTOR SHALL PERFORM DEWATERING OPERATIONS AS BOTTOM OF EXCAVATION AREA(S) APPROACH FINAL ELEVATIONS.
  4. SUMP PITS TO BE INSTALLED IN EXCAVATED AREA AS NEEDED, AND INSTALL STORAGE TANK(S) TO STORE THE WATER FROM EXCAVATED AREAS.
  5. ANY DENUDED AREA TO BE LEFT BARE FOR LONGER THAN 14-DAYS IS TO RECEIVE TEMPORARY SOIL STABILIZATION MEASURES WITHIN 7-DAYS.
- PHASE 2-B**
1. ONCE THE AREA HAS BEEN EXCAVATED TO THE PROPOSED DEPTH OR TO A DEPTH WHERE THERE IS NO MORE CONSTRUCTION DEBRIS LEFT TO BE EXCAVATED, COMMENCE BACK-FILL OPERATIONS:
    - a. IF CONTRACTOR CHOSE TO EXCAVATE 1 AREA AT A TIME, THEN CONTRACTOR IS TO BACK-FILL & BRING THE SURFACE TO NEAR-FINAL GRADE ELEVATIONS BEFORE PROCEEDING TO THE NEXT EXCAVATION AREA.
    - b. IF CONTRACTOR CHOSE TO EXCAVATE 2 ALTERNATING AREAS (AREAS 1 & 3) AT A TIME, THEN CONTRACTOR IS TO BACK-FILL BOTH AREAS & BRING THE SURFACE TO NEAR-FINAL GRADE ELEVATIONS BEFORE PROCEEDING TO THE NEXT REMAINING EXCAVATION AREA.
  2. ANY DENUDED AREA TO BE LEFT BARE FOR LONGER THAN 14-DAYS IS TO RECEIVE TEMPORARY SOIL STABILIZATION MEASURES WITHIN 7-DAYS.

**DEQ AS&S WFF SEED Approval**  
 Christopher D Bentley  
 WFF SEED Administrator  
 Date of Approval 08JUNE23

**1 PHASE II EROSION & SEDIMENT CONTROL**  
 SCALE: 1" = 30'



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
 GODDARD SPACE FLIGHT CENTER  
 WALLOPS FLIGHT FACILITY  
 WALLOPS ISLAND, VIRGINIA 23337



DATE	LET.	REVISIONS	CK.	AP.

PROJECT ENGINEER \_\_\_\_\_ DATE : \_\_\_\_\_  
 SUBMITTED BY \_\_\_\_\_ DATE : \_\_\_\_\_  
 PROJECT MANAGER \_\_\_\_\_

NASA SAFETY \_\_\_\_\_ DATE : \_\_\_\_\_  
 FIRE PROTECTION \_\_\_\_\_ DATE : \_\_\_\_\_

CONSTRUCTION MANAGEMENT \_\_\_\_\_ DATE : \_\_\_\_\_  
 O & M \_\_\_\_\_ DATE : \_\_\_\_\_

ENGINEERING APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
 ENGINEERING GROUP LEADER \_\_\_\_\_ DATE : \_\_\_\_\_  
 BRANCH APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
 BRANCH HEAD \_\_\_\_\_

GRAPHIC SCALE  
 0 30' 60'  
 AUTOCAD - RELEASE 2020  
 FILE NAME: 606042834-CG103  
 SCALE 1" = 30'  
 SHEET 8 OF 12

NASA WALLOPS ISLAND  
 PROJECT 15 CDL  
**PHASE II EROSION & SEDIMENT CONTROL**  
 PROJECT NUMBER: 60642834  
 DR. LAM DATE: 12/29/2022  
 CK. NK REVISED:  
 DRAWING NO. **CG103**

**GENERAL NOTES**

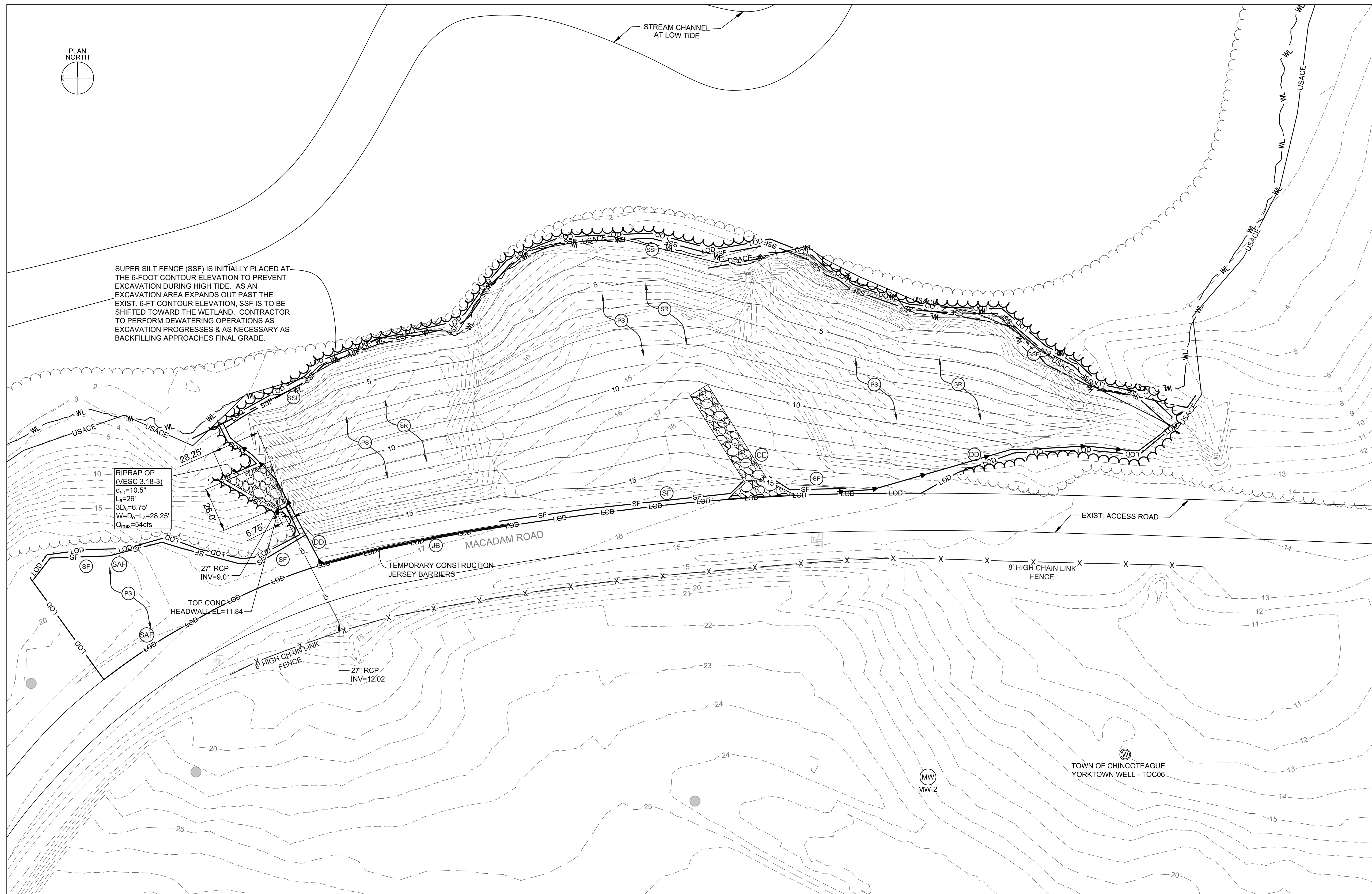
1. EROSION AND SEDIMENT CONTROL (ESC) MEASURES ARE INSTALLED A FEW FEET OFF THE LIMIT OF DISTURBANCE (LOD) ALONG THE PERIMETER.
2. INSTALL ALL PROPOSED EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN. ALL ESC MEASURES AND PRACTICES TO FOLLOW 9VAC25-840-40 MINIMUM STANDARDS.
3. ALL EXCAVATED CONSTRUCTION DEBRIS MATERIAL TO BE HAULED OFF SITE TO THE ACCOMACK COUNTY LANDFILL. SEE HAUL ROUTE PLAN, SHEET C-101.
4. ALL EXCAVATED TOPSOIL IS TO BE CONSIDERED CONTAMINATED AND IS TO BE DISPOSED OF AT THE ACCOMACK COUNTY LANDFILL.
5. ALL EXCAVATION TO BE DONE IN DRY CONDITIONS. DURING A HIGH TIDE CONDITION NO CONSTRUCTION IS ALLOWED BELOW THE 6-FOOT CONTOUR ELEVATION.
6. MAINTAIN, INSPECT AND REPAIR ALL EROSION AND SEDIMENT CONTROL MEASURES AFTER EVERY STORM EVENT.

**LEGEND**

VE SCH 3.02 CONSTRUCTION ENTRANCE		CE
VE SCH 3.05-1 SUPER SILT FENCE		SSF
VE SCH 3.05-2 SILT FENCE		SF
TEMPORARY JERSEY BARRIERS		JB
VE SCH 3.09 TEMPORARY DIVERSION DIKE		DD
VE SCH 3.32 PERMANENT SEEDING		PS
VE SCH 3.29 SURFACE ROUGHENING		SR
LIMIT OF DISTURBANCE		LOD
EXIST. MINOR CONTOUR		9
EXIST. MAJOR CONTOUR		10
PROP. MINOR CONTOUR		10
PROP. MAJOR CONTOUR		10
EXIST. WETLAND LIMIT		WL
EXIST. USACE WETLAND LIMIT		USACE
EXIST. TREELINE		
PROP. TREELINE		

**SEQUENCE OF CONSTRUCTION**

- PHASE 3
1. ONCE THE AREA HAS BEEN EXCAVATED TO THE PROPOSED DEPTH OR TO A DEPTH WHERE THERE IS NO MORE CONSTRUCTION DEBRIS LEFT TO BE EXCAVATED, COMMENCE BACK-FILL OPERATIONS WITH APPROPRIATE FILL MATERIAL.
  2. ANY DENUDED AREA TO BE LEFT BARE FOR LONGER THAN 14-DAYS IS TO RECEIVE TEMPORARY SOIL STABILIZATION MEASURES WITHIN 7-DAYS.
  3. COMMENCE FINAL GRADING OPERATIONS. BRING SITE TO THE PROPOSED FINAL GRADE PER SHEET CG101.
  4. INSTALL OUTLET PROTECTION (OP) FOR THE EXISTING 27-INCH RCP.
  5. REMOVE STABILIZED CONSTRUCTION ENTRANCE.
  6. APPLY PERMANENT SOIL STABILIZATION MEASURES AFTER SITE REACHES THE FINAL GRADE.
  7. ALL PERIMETER ESC MEASURES ARE TO REMAIN IN PLACE UNTIL SITE HAS BEEN PERMANENTLY STABILIZED.
  8. ONCE THE SITE IS STABILIZED, REMOVE ALL PERIMETER ESC MEASURES. REPAIR AREAS DISTURBED BY THE ESC REMOVAL & USE SAME DAY STABILIZATION.
  9. ONCE ALL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED REMOVE THE DEWATERING STRUCTURES (DS-1 AND DS-2) AND BRING THE GRADES TO EXISTING.
  10. UPON COMPLETION OF ALL WORK, ALL PAVED ROADWAY SURFACES TO BE CLEANED USING A VACUUM SWEEPER TRUCK & PROPERLY DISPOSE OF ALL WASTE MATERIAL.
  11. AFTER THE EXCAVATION IS COMPLETE, AN ASSESSMENT WILL BE CONDUCTED AND ANY DAMAGE TO THE ROADWAY OR THE INFRASTRUCTURE WILL BE REPAIRED TO PRE-EXISTING CONDITIONS.



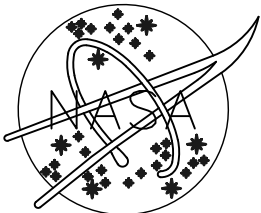
SUPER SILT FENCE (SSF) IS INITIALLY PLACED AT THE 6-FOOT CONTOUR ELEVATION TO PREVENT EXCAVATION DURING HIGH TIDE. AS AN EXCAVATION AREA EXPANDS OUT PAST THE EXIST. 6-FT CONTOUR ELEVATION, SSF IS TO BE SHIFTED TOWARD THE WETLAND. CONTRACTOR TO PERFORM DEWATERING OPERATIONS AS EXCAVATION PROGRESSES & AS NECESSARY AS BACKFILLING APPROACHES FINAL GRADE.

RIPRAP OP  
(VESC 3.18-3)  
d<sub>50</sub>=10.5'  
L<sub>s</sub>=26'  
3D<sub>s</sub>=6.75'  
W=D<sub>s</sub>+L<sub>s</sub>=28.25'  
Q<sub>max</sub>=54cfs

**1 PHASE III EROSION & SEDIMENT CONTROL**  
SCALE: 1" = 30'



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
GODDARD SPACE FLIGHT CENTER  
WALLOPS FLIGHT FACILITY  
WALLOPS ISLAND, VIRGINIA 23337



DATE	LET.	REVISIONS	CK.	AP.

PROJECT ENGINEER	DATE :
SUBMITTED BY	DATE :
PROJECT MANAGER	DATE :

NASA SAFETY	DATE :
FIRE PROTECTION	DATE :

CONSTRUCTION MANAGEMENT	DATE :
O & M	DATE :

ENGINEERING APPROVAL	DATE :
ENGINEERING GROUP LEADER	DATE :
BRANCH APPROVAL	DATE :
BRANCH HEAD	DATE :

GRAPHIC SCALE	0 30' 60'
AUTOCAD - RELEASE 2020	FILE NAME: 606042834-CG104
SCALE	1" = 30'
SHEET	9 OF 12

NASA WALLOPS ISLAND PROJECT 15 CDL	
PHASE III EROSION & SEDIMENT CONTROL	
PROJECT NUMBER: 60642834	DRAWING NO. CG104
DR. LAM	DATE: 12/29/2022
CK. NK	REVISED:

CG104

ALL CONSTRUCTION ON SITE SHALL BE IN CONFORMANCE WITH THE FOLLOWING 19 MINIMUM STANDARDS AS ESTABLISHED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS.

**9VAC25-840-40. MINIMUM STANDARDS.**

- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
- SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.
  - THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.
  - SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.
- CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
- WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
- ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.
- THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
  - NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
  - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
  - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
  - MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
  - RE-STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THIS CHAPTER.
  - APPLICABLE SAFETY REQUIREMENTS SHALL BE COMPLIED WITH.
- WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS:
  - CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.
  - ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:
    - THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS 100 TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION;
    - (a) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS.
      - ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A 10-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND
      - PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A 10-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.
    - IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:
      - IMPROVE THE CHANNELS TO A CONDITION WHERE A 10-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS;
      - IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE 10-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES;
      - DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A 10-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR
      - PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION.

- THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.
- ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT.
- IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.
- OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.
- ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.
- INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.
- IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.
- ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.
- ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10- YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 62.1-44.15:54 OR 62.1-44.15:65 OF THE ACT.
- FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES (I) ARE IN ACCORDANCE WITH PROVISIONS FOR TIME LIMITS ON APPLICABILITY OF APPROVED DESIGN CRITERIA IN 9VAC25-870-47 OR GRANDFATHERING IN 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMMP) REGULATION, IN WHICH CASE THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT SHALL APPLY, OR (II) ARE EXEMPT PURSUANT TO § 62.1-44.15:34 C 7 OF THE ACT.
- COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMMP) REGULATION SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF THIS SUBDIVISION 19.

DEQ AS&S WFF SEED Approval  
Christopher D Bentley  
WFF SEED Administrator  
Date of Approval 08JUNE23



**NARRATIVE**

**PROJECT DESCRIPTION**  
 THE PROJECT SITE IS LOCATED ON THE EAST-SIDE OF AND ADJACENT TO MACADAM ROAD AT THE NORTH-EAST END OF THE NORTH-SOUTH RUNWAY OF THE NATIONAL AERONAUTICS & SPACE ADMINISTRATION, GODDARD SPACE FLIGHT CENTER, WALLOPS FLIGHT FACILITY, WALLOPS ISLAND, VIRGINIA 23337, AT THE FOLLOWING COORDINATES:  
 NAD83 VSP COORDS. SOUTH ZONE: TOTAL DISTURBED AREA = 68,999.5220 SF  
 N 3,882,380 = 1.5840 AC  
 E 12,361,360  
 LATITUDE & LONGITUDE (APPROX.)  
 LAT 37°56'46"N  
 LONG 78°27'11"W

THE SITE IS CURRENTLY WOODED WITH THE TOE OF THE DOWN SLOPE ON THE EAST SIDE OF THE PROJECT AREA, ADJACENT TO A TIDAL TRIBUTARY OF THE CHESAPEAKE BAY. PROJECT SITE CONTAINS TWO (2) WETLAND LIMITS: A USACE WETLAND LIMIT, AND A LOCAL JURISDICTIONAL WETLAND LIMIT.

SEVERAL YEARS AGO, THE CURRENT SITE WAS BACKFILLED & BUILT UP USING CONSTRUCTION DEBRIS. THIS PROJECT IS TO EXCAVATE THE OLD CONSTRUCTION DEBRIS & BACKFILL SOIL, & REMOVE THEM FROM THE SITE FOR OFF-SITE DISPOSAL. HAZARDOUS MATERIALS ARE NOT EXPECTED. RECENT TEST PITS THRU OUT THE SITE REVEALED THE DEPTH, EXTENT, & MATERIALS PRESENT. AFTER EXCAVATION, THE SITE WILL BE BACKFILLED WITH APPROPRIATE, COMPACTED, FILL SOIL. A LAYER OF TOPSOIL IS TO BE ADDED AS THE SITE IS BROUGHT TO THE FINISHED GRADE. THE FINISHED GRADE WILL MIMIC THE PRE-EXCAVATION GRADE.

THE PROJECT START AND COMPLETION DATES ARE YET TO BE DETERMINED.

**EXISTING SITE CONDITIONS**  
 THE EXISTING SITE IS IN A NATURAL VEGETATIVE STATE WITH NO KNOWN LANDSCAPING. THE SITE SLOPES DOWN HILL FROM WEST TO EAST, FROM AN ELEVATION OF ±18-FEET TO ±3-FEET.

THERE ARE POSSIBLE UNDERGROUND UTILITIES PARALLEL TO THE EASTERN EDGE OF PAVEMENT OF MACADAM ROAD. THE EXCAVATION WILL ALLOW FOR A 15-FOOT WIDE BUFFER, AND EXCAVATION WILL START 15-FEET AWAY FROM THE EDGE OF PAVEMENT. AT THE NORTHERN END OF THE SITE THERE IS AN EXISTING 27-INCH RCP CROSSING MACADAM ROAD TO CONVEY STORMWATER FROM THE WEST SIDE OF MACADAM ROAD TO A POINT DOWN-SLOPE ON THE EAST SIDE. THE LIMIT OF DISTURBANCE (LOD) HAS BEEN ADJUSTED TO AVOID IMPACTING THIS CULVERT DURING EXCAVATION OPERATIONS.

PER GIS CAD DATA, THERE WAS EXPECTED TO BE AN EXISTING CULVERT JUST TO THE SOUTH OF THE SITE THAT IS TO CONVEY STORMWATER FROM THE WEST SIDE OF MACADAM ROAD TO A POINT DOWN-SLOPE ON THE EAST SIDE. THE FIELD SURVEY PERFORMED FOR THIS AREA PICKED UP A PIPE ON THE WEST SIDE OF THE ROAD BUT DID NOT FIND THE PIPE OUTLET ON THE EAST SIDE. IT IS ASSUMED THAT THIS CULVERT, IF PRESENT, WILL BE OUTSIDE OF THE PROJECT LOD, AND, THUS, SHOULD NOT BE IMPACTED BY THE EXCAVATION. HOWEVER, EXCAVATION IN THE VICINITY OF THIS PIPE SHOULD PROCEED WITH CAUTION.

**ADJACENT AREAS**  
 AS PREVIOUSLY MENTIONED ABOVE, THERE IS A WETLAND TO THE IMMEDIATE EAST OF THE SITE WHICH IS A PART OF A TIDAL TRIBUTARY OF THE CHESAPEAKE BAY. TO THE IMMEDIATE NORTH AND SOUTH OF THE PROJECT SITE ARE WOODS AND BRUSH. ON THE WEST SIDE OF MACADAM ROAD IS A LARGE GRASSY AREA THAT ABUTS AGAINST THE RUNWAYS OF THE FLIGHT FACILITY. THE SOILS TO THE NORTH, SOUTH, & WEST ARE ALSO MOLENA LOAMY SAND, MoD.

**OFF-SITE AREAS**  
 NO OFF-SITE AREA WILL BE AFFECTED UNDER THIS PROJECT. ALL MATERIALS TO BE DISPOSED OF WILL BE TAKEN BY DUMP TRUCK TO THE ACCOMACK COUNTY LANDFILL. SEE THE HAUL ROUTE PLAN, SHEET C-101. ALL BORROW MATERIAL WILL BE TRUCKED-IN FROM HOG'S NECK BURROW.

**SOILS**  
 THE EXISTING SOIL ONSITE AND IMMEDIATELY ADJACENT TO THE SITE ON THE NORTH, SOUTH, & WEST IS DESCRIBED BY THE USDA NATURAL RESOURCES CONSERVATION SERVICE SOIL SURVEY AS MOLENA LOAMY SAND, MoD, 6 TO 35 PERCENT SLOPES. THE EXISTING SOIL IMMEDIATELY TO THE EAST OF THE SITE IS MAGOTHA FINE SANDY LOAM, MaA, 0 TO 2 PERCENT SLOPES, FREQUENTLY FLOODED. SOURCE: SOIL SURVEY, ACCOMACK COUNTY, VIRGINIA, VERSION 18, AUGUST 22, 2022.

**CRITICAL AREAS**  
 THERE ARE EXISTING WETLAND DELINEATED (FLAGGED) ALONG THE EASTERN EDGE OF THE PROJECT SITE. REFER TO WETLAND DELINEATION REPORT PREPARED BY AECOM DATED JUNE, 2022.

- EROSION AND SEDIMENT CONTROL MEASURES**
- SUPER SILT FENCE SHALL BE INSTALLED ON THE EAST SIDE OF THE SITE ON THE DOWN-SLOPE AT THE 6-FOOT CONTOUR ELEVATION. NO EXCAVATION IS TO BE PERFORMED BELOW THE 6-FOOT CONTOUR DURING HIGH TIDES AS THE HIGHEST HIGH TIDE IS AROUND THE 5.5-FEET IN ELEVATION. EXCAVATION IS ALLOWED BELOW THE 6-FOOT CONTOUR ONLY DURING LOW TIDE.
  - SILT FENCE WILL BE USED ON THE REMAINING PERIMETER OF THE SITE AT ALL DOWN-SLOPES AND AT THE LOD LIMITS. WHERE INSTALLED ON THE DOWN-SLOPES THE SILT FENCE IS TO PREVENT SEDIMENT FROM LEAVING THE SITE FROM DISTURBED AREAS.
  - DIVERSION DIKE IS TO BE INSTALLED ALONG THE DOWN SLOPES AT THE CULVERT AT THE NORTH & AT THE SOUTH ARE TO PREVENT OFF-SITE STORMWATER RUNOFF FROM ENTERING THE SITE & TO DIRECT IT AROUND THE SITE.
  - ALL PERIMETER EROSION CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO CLEARING & GRUBBING AND SHALL REMAIN IN PLACE AND/OR BE REPAIRED OR UPDATED AS EXCAVATION PROGRESSES AND WILL REMAIN IN PLACE UNTIL FINAL SITE STABILIZATION IS COMPLETED. SILT FENCE WILL BE CLEANED IF SEDIMENT REACHES ONE-FOOT IN HEIGHT ON THE FENCE.
  - UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE 1992 VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH). THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE. THE E & S INSPECTOR HAS THE AUTHORITY TO ADD OR DELETE E&S CONTROL MEASURES AS NECESSARY IN THE FIELD AS SITE CONDITIONS CHANGE. IN ADDITION, NO E&S CONTROLS CAN BE REMOVED WITHOUT WRITTEN AUTHORIZATION. ADDITIONALLY, NO EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED UNTIL ALL UP SLOPE AREAS HAVE BEEN STABILIZED.

- SAFETY FENCE (VESCH 3.01):  
 SAFETY FENCE MAY BE INSTALLED WHEREVER NEEDED TO SEPARATE WORKERS & PEDESTRIANS FROM THE WORK AREA & MAY BE ADJUSTED IN THE FIELD AS NECESSARY.
- STONE CONSTRUCTION ENTRANCE (VESCH 3.02):  
 A TEMPORARY CONSTRUCTION ENTRANCE WILL BE INSTALLED DURING PHASE 1, PRIOR TO EXCAVATION. EXTREME CARE SHALL BE TAKEN TO AVOID TRACKING SEDIMENT ONTO ANY PAVED ROADS DURING ALL EXCAVATION ACTIVITIES.
- SUPER SILT FENCE (VESCH 3.05-1):  
 THIS IS SILT FENCE WITH WIRE SUPPORT. IT SHALL BE INSTALLED AS SHOWN ON THE PLANS TO PREVENT SEDIMENT FROM REACHING DOWN-SLOPE INTO THE ADJACENT WETLANDS DURING LAND DISTURBING ACTIVITIES.
- SILT FENCE (VESCH 3.05-2):  
 THIS IS SILT FENCE WITHOUT WIRE SUPPORT. IT SHALL BE INSTALLED AS SHOWN ON THE PLANS TO PREVENT SEDIMENT FROM REACHING DOWN-SLOPE INTO THE ADJACENT WETLANDS DURING LAND DISTURBING ACTIVITIES.
- TEMPORARY DIVERSION DIKE (VESCH 3.09):  
 A TEMPORARY RIDGE OF COMPACTED SOIL CONSTRUCTED AT THE TOP OF THE SLOPING DISTURBED AREA, TO DIVERT THE STORM RUNOFF FROM UPSLOPE DRAINAGE AREA FROM UNPROTECTED DISTURBED AREA. FOR THE PROJECT INSTALLING TWO DIVERSION DIKES (DD) NORTH AND SOUTH OF SITE. THE DIVERSION DIKE TO REMAIN IN PLACE THROUGHOUT THE CONSTRUCTION, TO BE REMOVED (DEMOLISHED) ONCE ALL THE DISTURBED ARE IS PERMANENTLY STABILIZED.

**MANAGEMENT STRATEGIES AND SEQUENCING OF CONSTRUCTION**  
 THE CONSTRUCTION IS ACTIVITY IS DIVIDED INTO THREE MAJOR PHASES, 1) CLEARING AND GRUBBING, 2) EXCAVATION, 3) GRADE (FILL) AND PERMANENT STABILIZATION. ALL THE THREE PHASES HAVE SEPARATE SEQUENCE OF CONSTRUCTION WITH MODIFICATION TO EROSION AND SEDIMENT CONTROL MEASURES. SEE PLAN SHEET CG-102, CG-103 AND CG-104.

**PERMANENT STABILIZATION**  
 ONCE THE SITE IS GRADED AND EXCAVATED AREAS ARE FILLED, THE SITE TO BE STABILIZED USING PERMANENT SEEDING PER VESCH STD&SPEC 3.32, TABLE 3.32D SEEDING MIXTURE FOR COASTAL PLAIN AREA. USING KENTUCKY 31 TALL FESCUE (70% KENTUCKY 31, AND 30% PERENNIAL RYE).

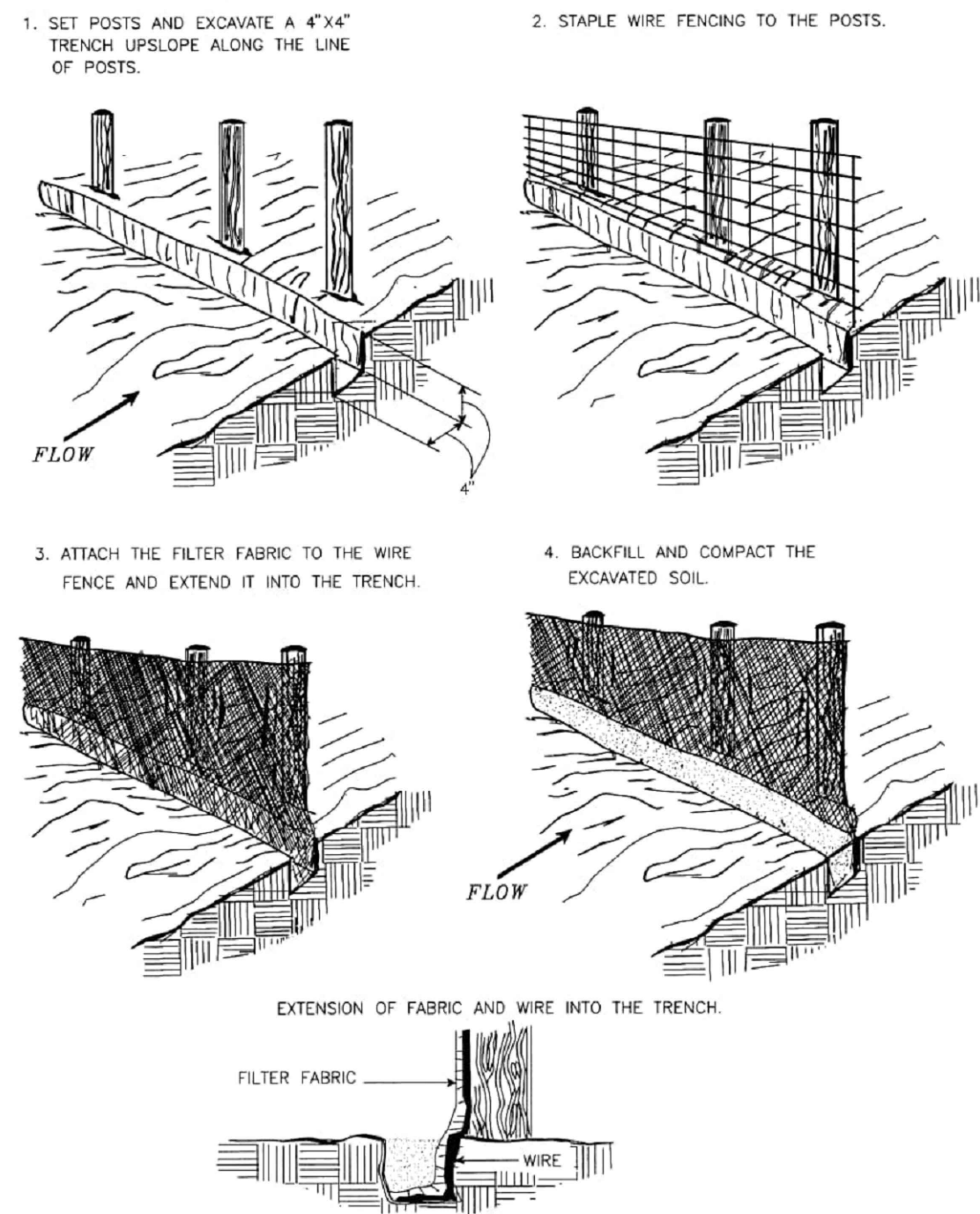
**MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES**  
 ALL EROSION AND SEDIMENT CONTROL MEASURES UNDER EACH PHASE TO BE MAINTAINED, INSPECTED AND REPLACED AS NEEDED AFTER EACH MAJOR STORM.

**CALCULATION OF TEMPORARY AND SEDIMENT CONTROL MEASURES**  
 TEMPORARY DIVERSION DIKE IS DESIGNED TO SAFELY DIVERT AND CONVEY THE 10 YEAR FLOW IN A SAFELY MANNER. THE Q10 VALUE IS CALCULATED USING RATIONAL METHOD. SEE SHEET CG-102 FOR SOUTH DIVERSION DIKE.

CG500

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GODDARD SPACE FLIGHT CENTER WALLEPS FLIGHT FACILITY WALLEPS ISLAND, VIRGINIA 23337		DATE	LET.	REVISIONS	CK.	AP.	PROJECT ENGINEER	NASA SAFETY	CONSTRUCTION MANAGEMENT	ENGINEERING APPROVAL	GRAPHIC SCALE	NASA WALLEPS ISLAND PROJECT 15 CDL EROSION & SEDIMENT CONTROL NOTES				
								_____ DATE : _____	_____ DATE : _____	_____ DATE : _____	_____ DATE : _____					
								SUBMITTED BY	FIRE PROTECTION	O & M	BRANCH APPROVAL		AUTOCAD – RELEASE 2020 FILE NAME: 606042834-C6500	SCALE NONE	PROJECT NUMBER: 60642834	DRAWING NO.
								_____ DATE : _____	_____ DATE : _____	_____ DATE : _____	_____ DATE : _____			SHEET <u>10</u> OF <u>12</u>	DR. LAM CK. NK	DATE: 12/29/2022 REVISED:

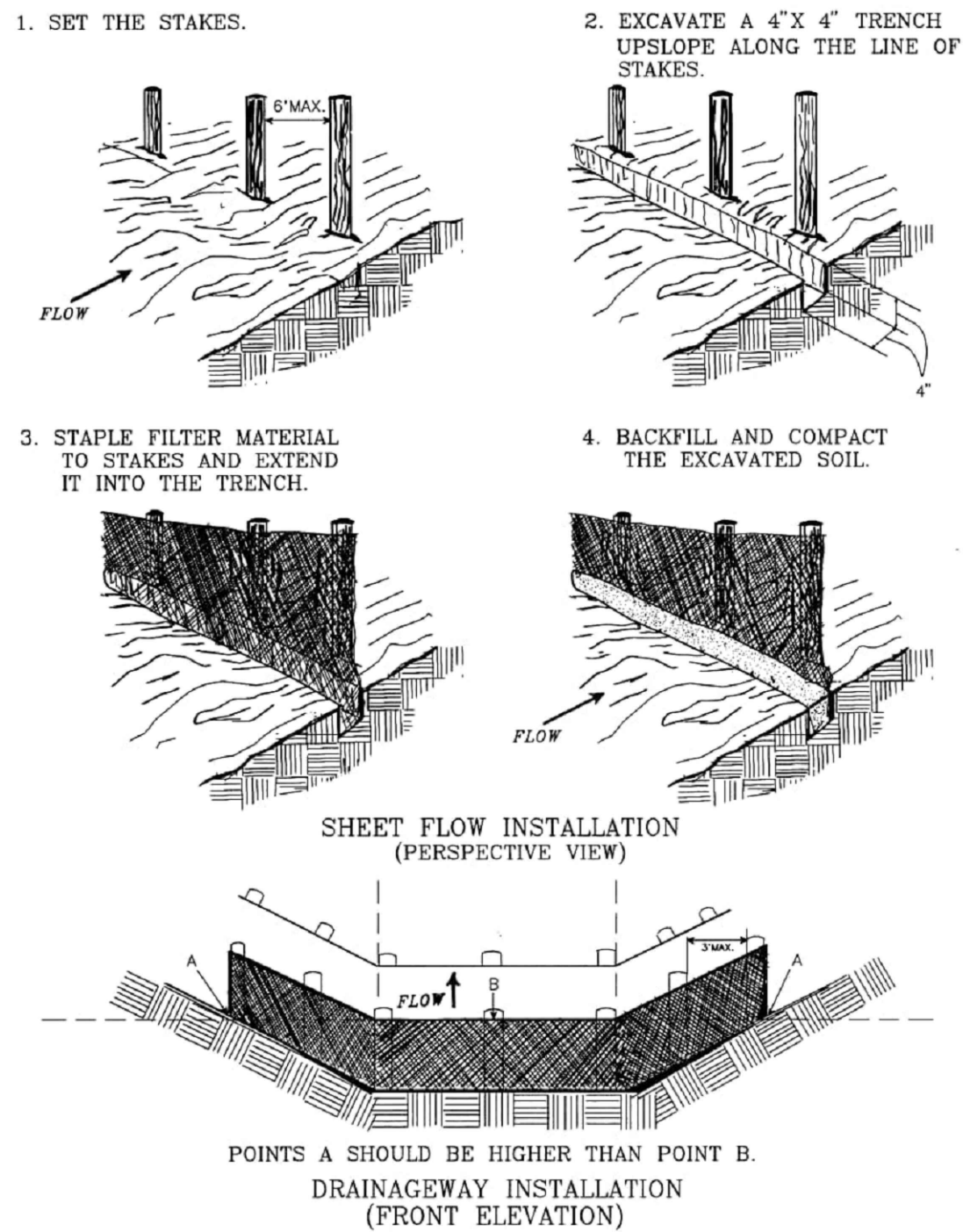
### CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)



Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant Plate 3.05-1

VESCH 3.05-1 SUPER SILT FENCE (SSF)

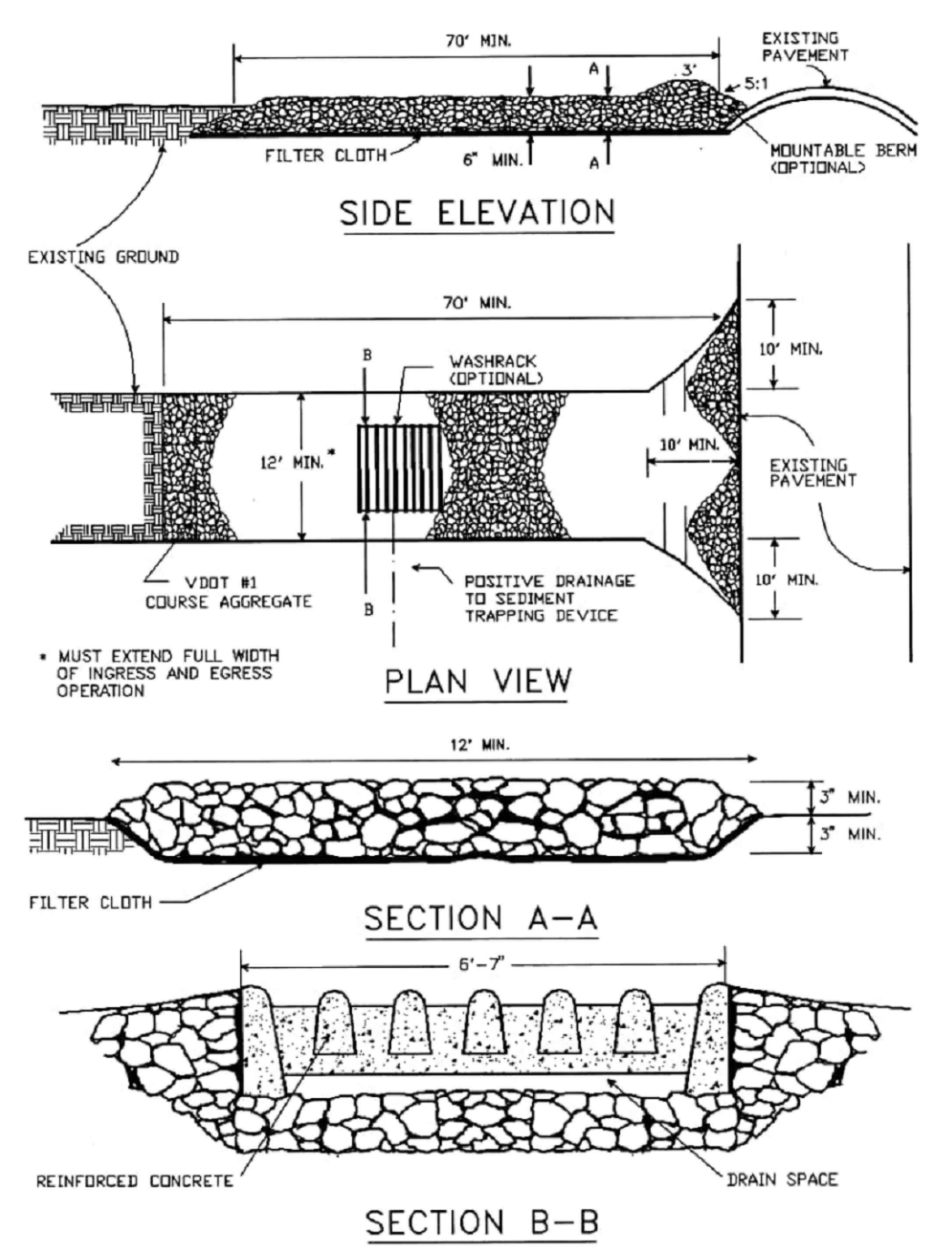
### CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant Plate 3.05-2

VESCH 3.05-2 SILT FENCE (SF)

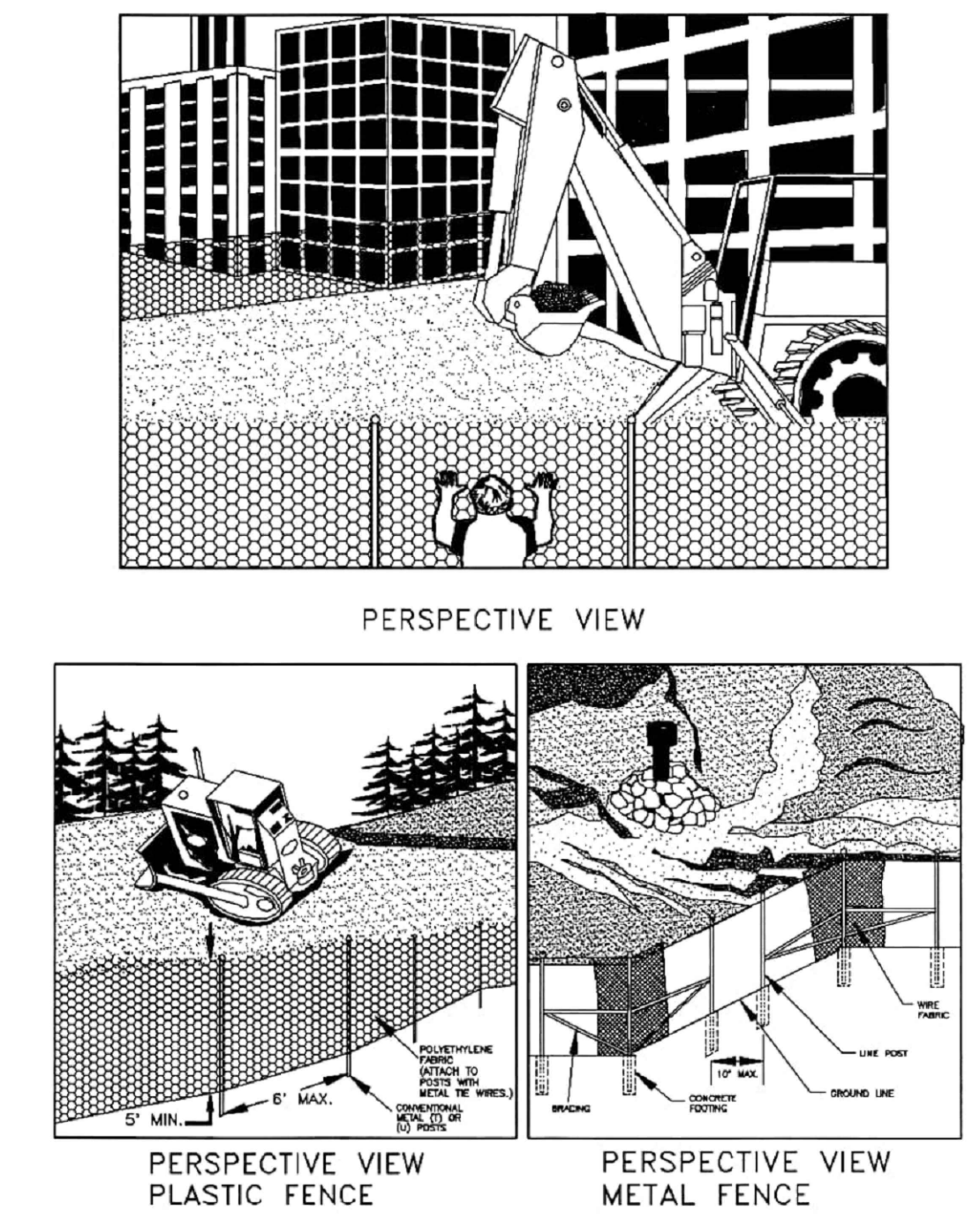
### STONE CONSTRUCTION ENTRANCE



Source: Adapted from 1983 Maryland Standards for Soil Erosion and Sediment Control, and Va. DSWC Plate 3.02-1

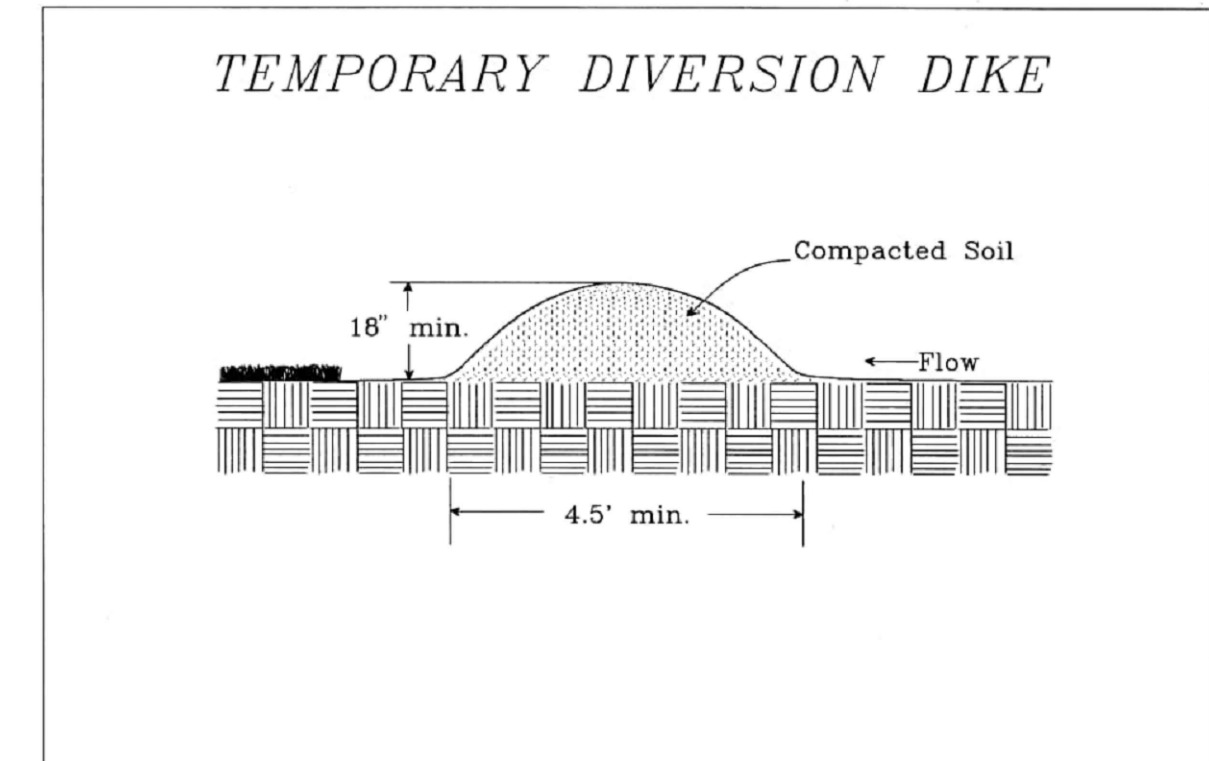
VESCH 3.02 CONSTRUCTION ENTRANCE (CE)

### SAFETY FENCE



Source: Adapted from Conwed Plastics and VDOT Road and Bridge Standards Plate 3.01-1

VESCH 3.01 TEMPORARY SAFETY FENCE (SAF)



Source: Va. DSWC Plate 3.09-1

VESCH 3.09 TEMPORARY DIVERSION DIKE (DD)

**TABLE 3.32-D SITE SPECIFIC SEEDING MIXTURES FOR COASTAL PLAIN AREA**

Mixture	Total Lbs. Per Acre
<b>Minimum Care Lawn</b>	
- Commercial or Residential	
- Kentucky 31 or Turf-Type Tall Fescue	175-200 lbs.
or	
- Common Bermudagrass **	75 lbs.
<b>High-Maintenance Lawn</b>	
- Kentucky 31 or Turf-Type Tall Fescue	200-250 lbs.
or	
- Hybrid Bermudagrass (seed) **	40 lbs. (unhulled) 30 lbs. (hulled)
or	
- Hybrid Bermudagrass (by other vegetative establishment method, see Std. & Spec. 3.34)	
<b>General Slope (3:1 or less)</b>	
- Kentucky 31 Fescue	128 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs. 150 lbs.
<b>Low Maintenance Slope (Steeper than 3:1)</b>	
- Kentucky 31 Tall Fescue	93-108 lbs.
- Common Bermudagrass **	0-15 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs. 150 lbs.
- Sericea Lespedeza **	

VESCH 3.32 PERMANENT SEEDING (PS)

**TABLE 3.32-E QUALITY OF SEED\***

Legumes	Minimum Seed Purity (%)	Minimum Germination (%)
Crownvetch	98	65**
Lespedeza, Korean	97	85**
Lespedeza, Sericea	98	85**
<b>Grasses</b>		
Bluegrass, Kentucky	97	85
Fescue, Tall (Improved, Turf-Type Cultivars)	98	85
Fescue, Tall (Ky-31)	97	85
Fescue, Red	98	85
Redtop	94	80
Reed Canarygrass	98	80
Perennial Ryegrass	98	90
Weeping Lovegrass	98	87
<b>Annuals</b>		
Annual Ryegrass	97	90
German Millet	98	85
Oats	98	80
Cereal Rye	98	85

\* Seed containing prohibited or restricted noxious weeds should not be accepted. Seed should not contain in excess of 0.5% weed seed. To calculate percent pure, live seed, multiply germination times purity and divide by 100.

**Example:** Ky-31 Tall Fescue with a germination of 85 percent and a purity of 97 percent.

$97 \times 85 = 8245. 8245 \div 100 = 82.45$  percent pure live seed.

\*\* Includes "hard seed"

**TABLE 3.31-B ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS "QUICK REFERENCE FOR ALL REGIONS"**

Planting Dates	Species	Rate (lbs./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (Lolium multi-florum)	60 - 100
May 1 - Aug 31	German Millet (Setaria italica)	50

Source: Va. DSWC

VESCH 3.31 TEMPORARY SEEDING (TS)



#### Specifications

##### Cut Slope Applications For Areas Which Will Not Be Mowed

Cut slopes with a gradient steeper than 3:1 shall be stair-step graded or grooved (Plates 3.29-1 and 3.29-2).

- Stair-step grading may be carried out on any material soft enough to be ripped with a bulldozer. Slopes consisting of soft rock with some subsoil are particularly suited to stair-step grading.

The ratio of the vertical cut distance to the horizontal distance shall be less than 1:1 and the horizontal portion of the "step" shall slope toward the vertical wall.

Individual vertical cuts shall not be more than 30 inches on soft soil materials and not more than 40 inches in rocky materials.

- Grooving consists of using machinery to create a series of ridges and depressions which run perpendicular to the slope (on the contour).

Grooves may be made with any appropriate implement which can be safely operated on the slope and which will not cause undue compaction. Suggested implements include discs, tillers, spring harrows, and the teeth on a front-end loader bucket. Such grooves shall not be less than 3 inches deep nor further than 15 inches apart.

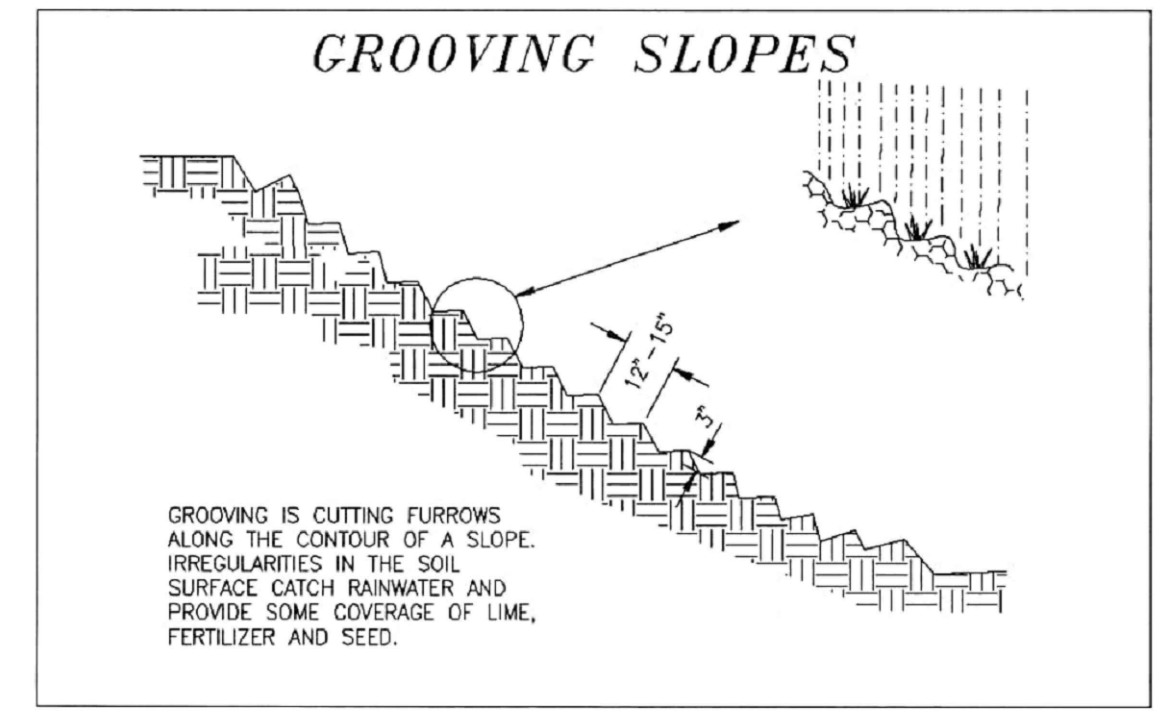
##### Fill Slope Applications For Areas Which Will Not Be Mowed

Fill slopes with a gradient steeper than 3:1 shall be grooved or allowed to remain rough as they are constructed. Method (1) or (2) below may be used.

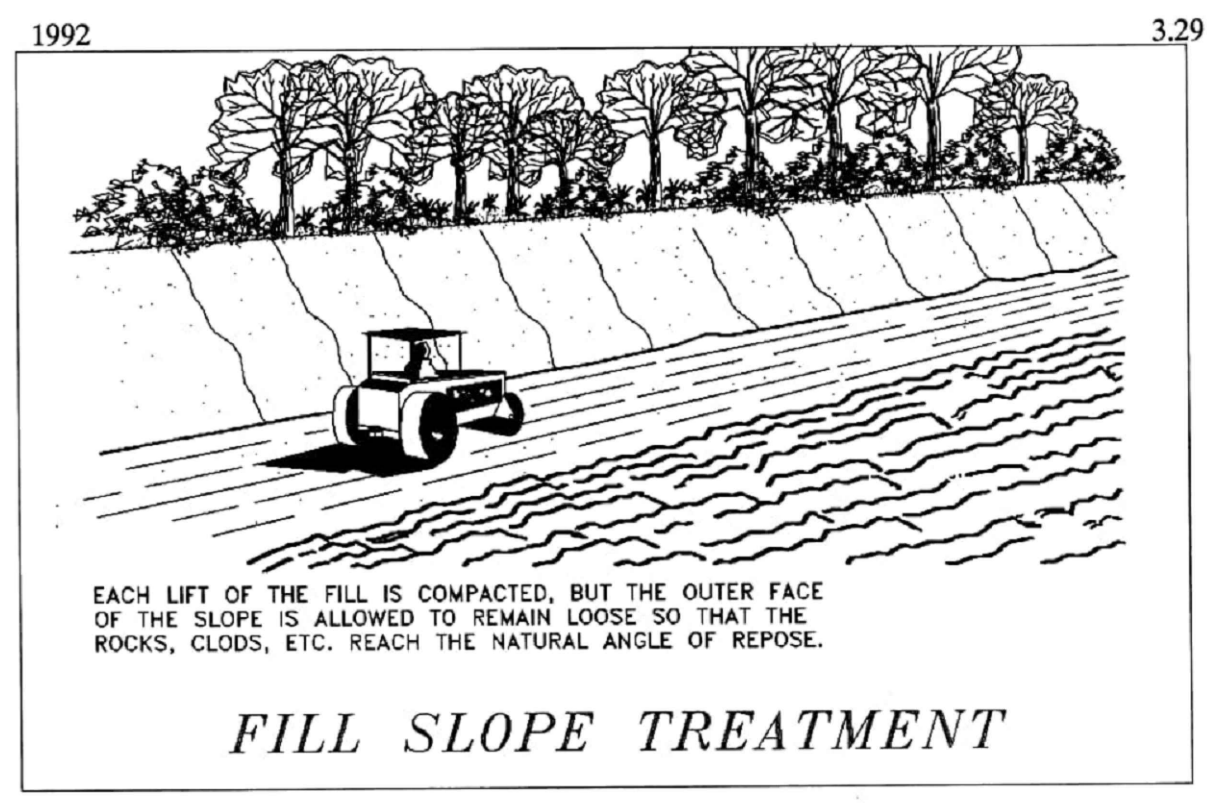
- Groove according to #2 above.
- As lifts of the fill are constructed, soil and rock materials may be allowed to fall naturally onto the slope surface (see Plate 3.29-3).

Colluvial materials (soil deposits at the base of slopes or from old stream beds) shall not be used in fills as they flow when saturated.

At no time shall slopes be bladed or scraped to produce a smooth, hard surface.

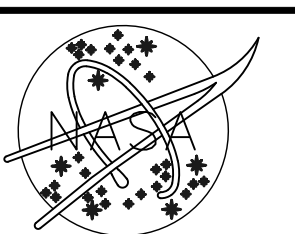


Source: Va. DSWC Plate 3.29-2



Source: Va. DSWC Plate 3.29-3

VESCH 3.29 SURFACE ROUGHENING (SR)



DATE	LET.	REVISIONS	CK.	AP.	PROJECT ENGINEER

DATE	NASA SAFETY

DATE	CONSTRUCTION MANAGEMENT

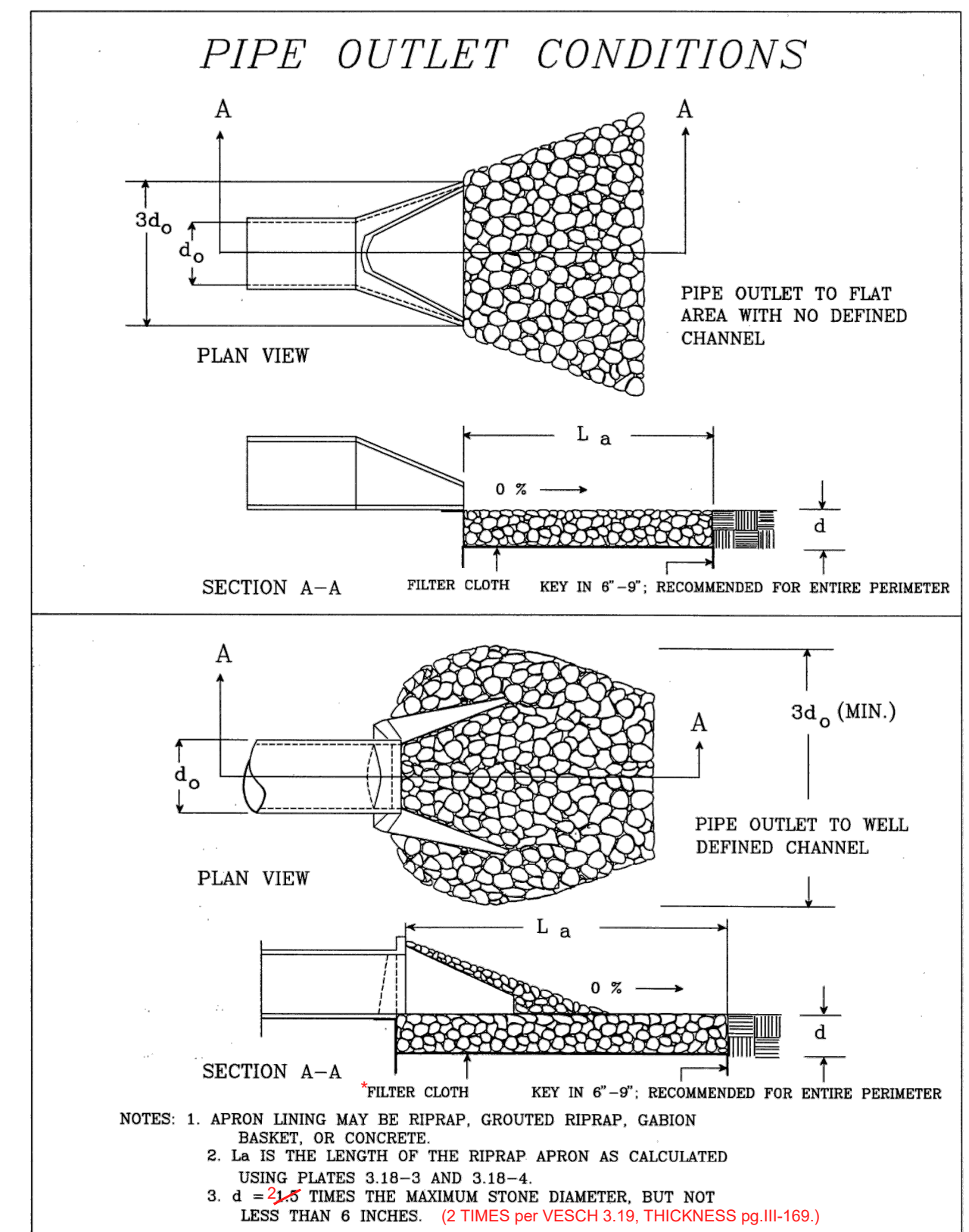
DATE	ENGINEERING APPROVAL

DATE	GRAPHIC SCALE

DATE	PROJECT NUMBER	SCALE	DRAWING NO.

1992

3.18



Source: Va. DSWC

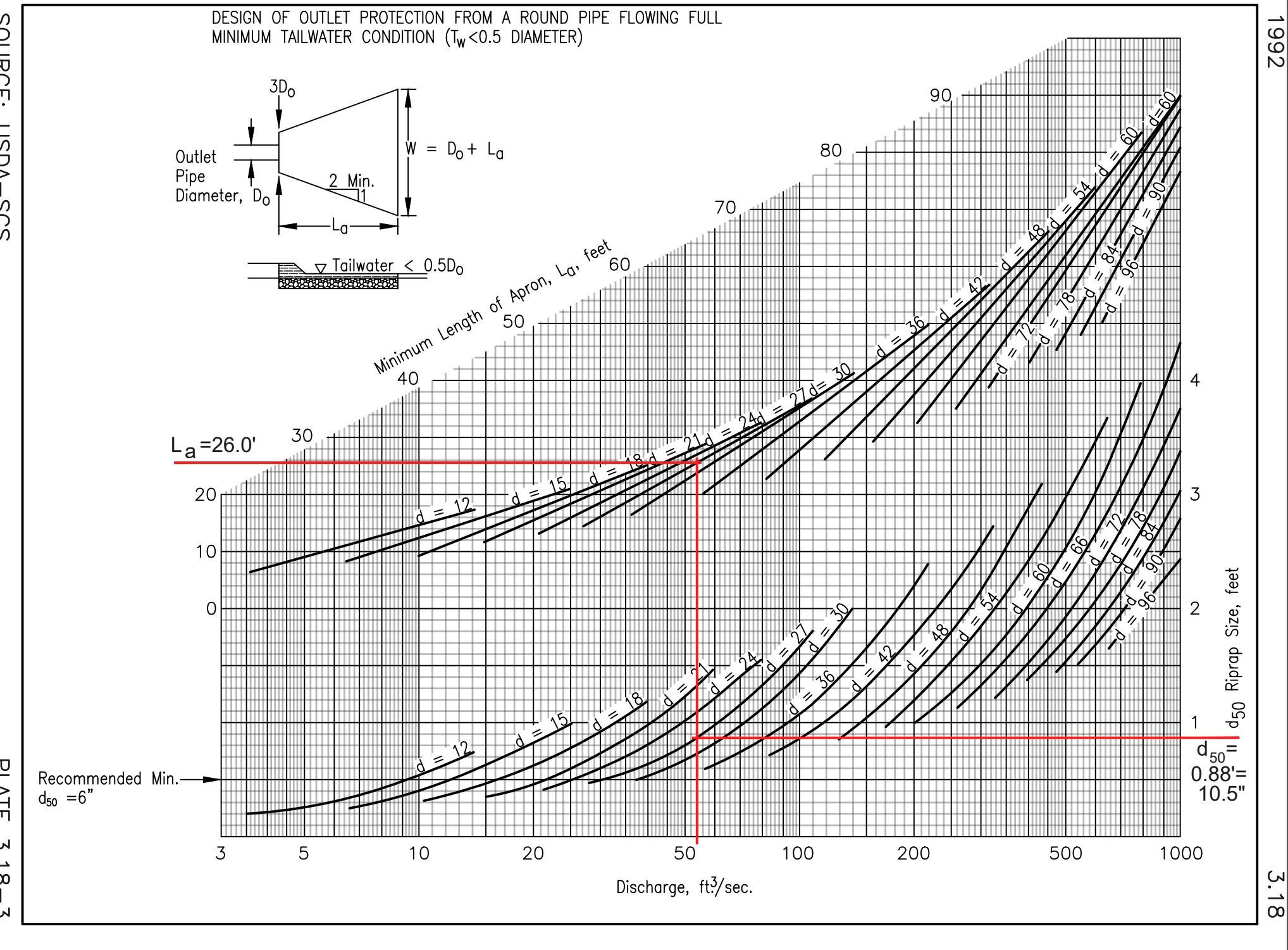
Plate 3.18-1

III - 157

SOURCE: USDA-SCS

III - 164

PLATE 3.18-3



PIPE SZ, $D_o$	$Q_{CAP}$	$L_a$	$3D_o$	W	$d_{50}$	CLASS A1 RIPRAP***
27"	54 cfs	26.00'	6.75'	28.25'	10.5"	

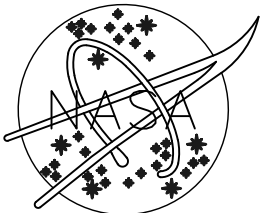
RIPRAP DEPTH,  $d$ :  
 $d = d_{MAX}$  RIPRAP SIZE x 2 \*  
 $d_{MAX} = 1.5 \times d_{50} = 15.75'$  \*\*  
 $d = 2 \times 15.75' = 31.50'$   
 $d = 2.625'$

SOURCE:  
 \*VESCH 3.19, THICKNESS pg.III-169  
 \*\*VESCH 3.19, GRADATION pg.III-168  
 \*\*\*VESCH 3.19, TABLE 3.19-B pg.III-169

VESCH 3.18 OUTLET PROTECTION OP



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
 GODDARD SPACE FLIGHT CENTER  
 WALLOPS FLIGHT FACILITY  
 WALLOPS ISLAND, VIRGINIA 23337



DATE	LET.	REVISIONS	CK.	AP.

PROJECT ENGINEER \_\_\_\_\_ DATE : \_\_\_\_\_  
 SUBMITTED BY \_\_\_\_\_ DATE : \_\_\_\_\_  
 PROJECT MANAGER \_\_\_\_\_

NASA SAFETY \_\_\_\_\_ DATE : \_\_\_\_\_  
 FIRE PROTECTION \_\_\_\_\_ DATE : \_\_\_\_\_

CONSTRUCTION MANAGEMENT \_\_\_\_\_ DATE : \_\_\_\_\_  
 O & M \_\_\_\_\_ DATE : \_\_\_\_\_

ENGINEERING APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
 ENGINEERING GROUP LEADER \_\_\_\_\_ DATE : \_\_\_\_\_  
 BRANCH APPROVAL \_\_\_\_\_ DATE : \_\_\_\_\_  
 BRANCH HEAD \_\_\_\_\_

GRAPHIC SCALE \_\_\_\_\_  
 SCALE NONE  
 SHEET 12 OF 12

NASA WALLOPS ISLAND  
 PROJECT 15 CDL  
 EROSION & SEDIMENT CONTROL DETAILS II  
 PROJECT NUMBER: 60642834  
 DR. LAM DATE: 12/29/2022  
 CK. NK REVISED:

DRAWING NO. CG502

CG502

05/16/2023