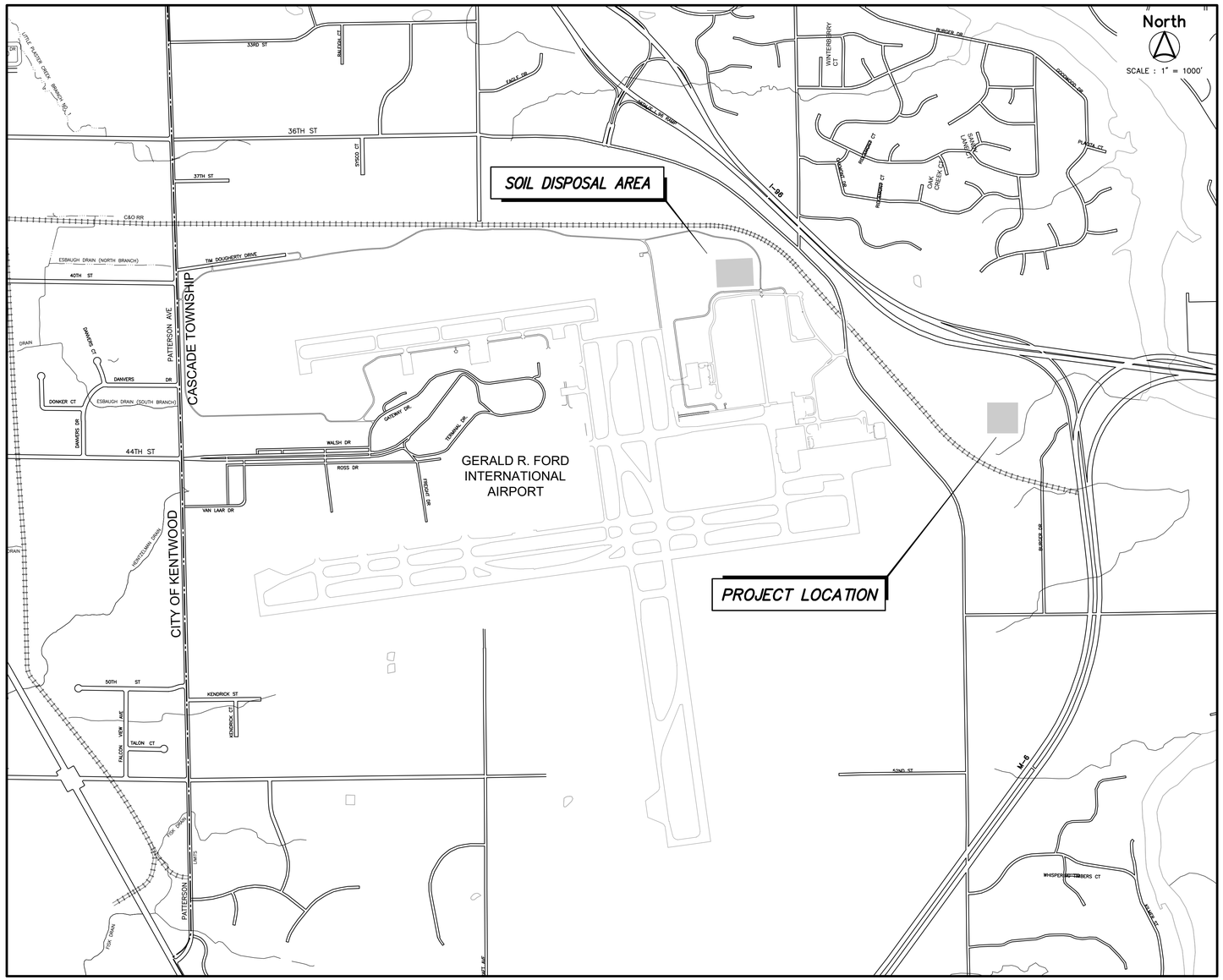
GERALD R. FORD INTERNATIONAL AIRPORT AUTHORITY

KENT COUNTY, MICHIGAN

C-449 NATURAL TREATMENT SYSTEM MAINTENANCE PHASE 2

CELLS 1A, 1B, 1C, AND 1D



GENERAL NOTES

1. THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATION REFERENCED FOR EACH ITEM OF WORK. IF NO ITEM OF WORK IS REFERENCED, THE 2020 MICHIGAN DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND SUPPLEMENTAL SPECIFICATIONS SHALL APPLY.
2. ALL UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE THE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.
3. TRAFFIC SIGNS AND MARKINGS OUTSIDE OF THE AIR OPERATIONS AREAS INCLUDED WITH THIS PROJECT SHALL BE IN DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

UTILITIES

SANITARY SEWER
GERALD R. FORD INT'L AIRPORT
5500 44TH ST SE
GRAND RAPIDS, MICHIGAN 49512
ATTN: CLINT NEMETH
PHONE : (616) 233-6000

GAS
DTE ENERGY
444 WEALTHY STREET
GRAND RAPIDS, MI 49503
ATTN: ADAM SCRIPPS
PHONE : (616) 632-2631

WATER
CITY OF GRAND RAPIDS
1900 OAK INDUSTRIAL DR NE
GRAND RAPIDS, MI 49505
ATTN: JAMES PARR
PHONE : (616) 456-4059

ELECTRIC-DISTRIBUTION
CONSUMERS ENERGY
4000 CLAY AVENUE SW
GRAND RAPIDS, MI 49508
ATTN: ANDREW ALDRICH
PHONE : (616) 215-3609

STORM SEWER
GERALD R. FORD INT'L AIRPORT
5500 44TH ST SE
GRAND RAPIDS, MICHIGAN 49512
ATTN: CLINT NEMETH
PHONE : (616) 233-6000

COMMUNICATION
AT&T
955 36TH STREET SE, ROOM 5
GRAND RAPIDS, MI 49508
ATTN: CORY VANTIL
PHONE : (616) 246-7573

OTHER COMMUNICATION
FAA
ATTN: PETE WILKE
PHONE : (616) 464-5371

CABLE TELEVISION
COMCAST CABLE
3500 PATTERSON AVE
GRAND RAPIDS, MICHIGAN 49512
ATTN: JIM ZAWACKI
PHONE : (616) 575-0501

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

PROJECT DATUM INFORMATION

COORDINATE SYSTEM :	STATE PLANE GRID
ZONE :	MICHIGAN SOUTH 2113
ELLIPSOID :	GRS 80
HORIZONTAL DATUM :	NAD 83 (2011)
VERTICAL DATUM :	NAVD 88 (LOCAL SITE BENCHMARK)
GEOID :	GEOID 18
UNITS :	INTERNATIONAL FEET

PROJECT COMBINED SCALE FACTOR (PCSF) = 0.9998768967
GROUND DISTANCE = GRID DISTANCE/PCSF

STATE LOCATION MAP

SHEET INDEX

SHEET No.	DESCRIPTION
G-000	COVER SHEET
G-001	CONSTRUCTION SAFETY PHASING PLAN
G-002	CONSTRUCTION NOTES
C-000	EXISTING SITE CONDITIONS
C-001	CELLS 1A, 1B, 1C & 1D GENERAL ABBREVIATIONS
C-002	CELLS 1A, 1B, 1C & 1D HYDRAULIC PROFILE
C-100	OVERALL SITE PLAN
C-101	CELLS 1A & 1B DEMOLITION PLAN
C-102	CELLS 1C & 1D DEMOLITION PLAN
C-103	CELLS 1A & 1B GRADING PLAN
C-104	CELLS 1C & 1D GRADING PLAN
C-105	CELLS 1A & 1B PIPING PLAN
C-106	CELLS 1C & 1D PIPING PLAN
C-201	CELLS 1A & 1B PIPING PROFILES
C-202	CELLS 1C & 1D PIPING PROFILES
C-203	CELLS 1A & 1B PROFILE BASELINES
C-210	CELLS 1C & 1D PROFILE BASELINES
C-211	SOIL DISPOSAL AREA GRADING PLAN
C-212	SITE PLAN
C-501	CELLS 1A, 1B, 1C, & 1D DETAILS & TYPICAL SECTION
C-502	SITE DETAILS

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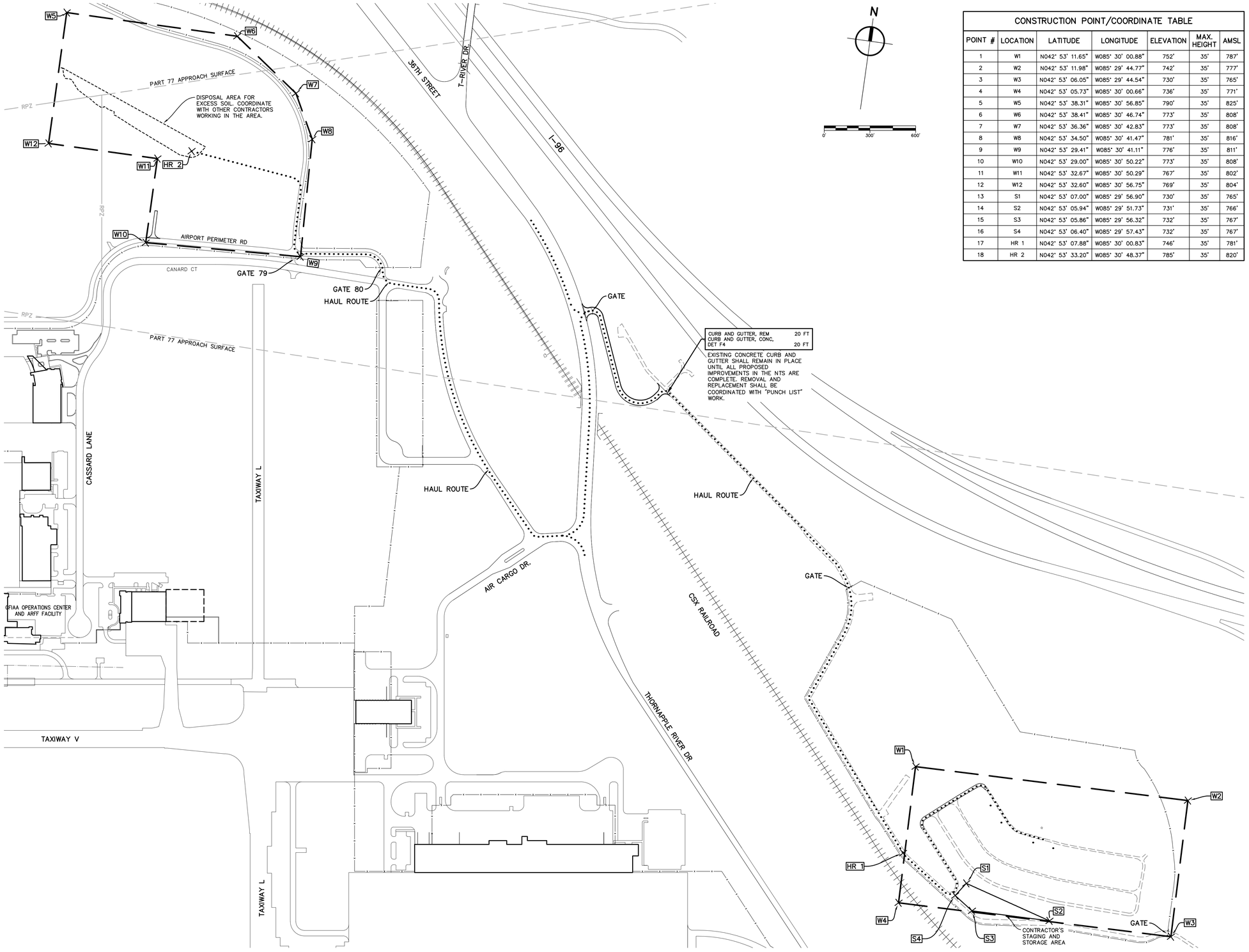
PROJECT NO. 2250383
SHEET NO. G-000

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PHASING NOTES

GENERAL

1. FOR ALL PHASES HEREIN, CONTRACTOR'S EQUIPMENT MUST ENTER THE WORK AREA THROUGH THE HAUL ROUTE SHOWN.
2. CONTRACTOR SHALL PROVIDE, PLACE, AND MAINTAIN LOW PROFILE BARRICADES OR OTHER TRAFFIC CONTROL DEVICES AT THE LOCATIONS SHOWN IMMEDIATELY UPON STARTING WORK.
3. MAXIMUM EQUIPMENT HEIGHT IS 35 FEET.
4. THE MAXIMUM NUMBER OF LOW PROFILE BARRICADES ANTICIPATED TO BE IN USE AT ANY ONE TIME IS ZERO (0). ALL COSTS FOR BARRICADES SHALL BE INCLUDED INTO THE "SAFETY AND SECURITY". (PLACE HOLDER NOTE IN CASE BARRICADES ARE NEEDED ON PERIMETER ROADS.)
5. COORDINATE LOCATION OF AGGREGATE STOCKPILES WITH GFIAA OPERATIONS AND ENVIRONMENTAL STAFF. NO STOCKPILES MAY BE STARTED UNTIL HEIGHT AND CONTAINMENT CONTROL PLANS HAVE BEEN ACCEPTED BY GFIAA STAFF.
6. WORK IN THE NATURAL TREATMENT SYSTEM (NTS) IS OUTSIDE THE AIRPORT SECURITY FENCE. THE DISPOSAL AREA FOR EXISTING NTS MATERIAL IS LOCATED INSIDE THE AIRPORT SECURITY FENCE.
7. REHABILITATION OF THE NTS WILL OCCUR INSIDE THE FENCE SURROUNDING THE NTS. THE GATE MAY BE OPEN WHEN CONSTRUCTION TRAFFIC IS ACTIVELY USING THE GATE. (MINIMUM SIX VEHICLES PASSING THROUGH THE GATE PER HOUR.) THE GATE MUST BE CLOSED AT ALL OTHER TIMES AND AT THE END OF EACH DAY. SECURITY OF THE NTS WILL BE THE CONTRACTORS RESPONSIBILITY WHENEVER THE GATE IS OPEN FOR CONSTRUCTION OF THIS PROJECT.
8. THIS PROJECT INCLUDES REHABILITATION OF NTS CELLS 1A, 1B, 1C, AND 1D, INCLUDING REMOVAL OF EXISTING MATERIALS, PARTIAL REMOVAL OF THE DRAINAGE SYSTEM, PLACEMENT OF NEW AGGREGATE BEDS, BED DRAINAGE SYSTEM, AND RESTORATION.
9. SOIL MATERIALS EXCAVATED FROM THE EXISTING BEDS SHALL BE PLACED IN THE DESIGNATED LOCATION INSIDE GATE 80. TOPSOIL SHALL BE REMOVED FROM THE DISPOSAL AREA PRIOR TO DISPOSAL OF SOILS. TOPSOIL SHALL BE PLACED OVER SOILS ONCE EXCAVATION IS COMPLETE AND THE AREA SEEDED AND MULCHED.
10. CONSTRUCTION STAFF WORKING INSIDE THE AIRPORT SECURITY FENCE SHALL OBTAIN AN AOA SECURITY BADGE FROM THE GERALD R. FORD INTERNATIONAL AIRPORT.



CONSTRUCTION POINT/COORDINATE TABLE

POINT #	LOCATION	LATITUDE	LONGITUDE	ELEVATION	MAX. HEIGHT	AMSL
1	W1	N042° 53' 11.65"	W085° 30' 00.88"	752'	35'	787'
2	W2	N042° 53' 11.98"	W085° 29' 44.77"	742'	35'	777'
3	W3	N042° 53' 06.05"	W085° 29' 44.54"	730'	35'	765'
4	W4	N042° 53' 05.73"	W085° 30' 00.66"	736'	35'	771'
5	W5	N042° 53' 38.31"	W085° 30' 56.85"	790'	35'	825'
6	W6	N042° 53' 38.41"	W085° 30' 46.74"	773'	35'	808'
7	W7	N042° 53' 36.36"	W085° 30' 42.83"	773'	35'	808'
8	W8	N042° 53' 34.50"	W085° 30' 41.47"	781'	35'	816'
9	W9	N042° 53' 29.41"	W085° 30' 41.11"	776'	35'	811'
10	W10	N042° 53' 29.00"	W085° 30' 50.22"	773'	35'	808'
11	W11	N042° 53' 32.67"	W085° 30' 50.29"	767'	35'	802'
12	W12	N042° 53' 32.60"	W085° 30' 56.75"	769'	35'	804'
13	S1	N042° 53' 07.00"	W085° 29' 56.90"	730'	35'	765'
14	S2	N042° 53' 05.94"	W085° 29' 51.73"	731'	35'	766'
15	S3	N042° 53' 05.86"	W085° 29' 56.32"	732'	35'	767'
16	S4	N042° 53' 06.40"	W085° 29' 57.43"	732'	35'	767'
17	HR 1	N042° 53' 07.88"	W085° 30' 00.83"	746'	35'	781'
18	HR 2	N042° 53' 33.20"	W085° 30' 48.37"	785'	35'	820'

LEGEND

- CONSTRUCTION AREA
- STAGING & STORAGE AREA
- ACCESS ROUTE
- RPZ — RUNWAY PROTECTION ZONE (RPZ)
- PART 77 SURFACE
- FENCE LINE
- W99 — PROJECT COORDINATE LOCATION
- EXISTING PAVEMENT
- EXISTING BUILDING

NO.	REVISIONS	BY	DATE

DRAWN SXH
DATE SEPT. '26
CHECKED JAS
DATE MAR. '26

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GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2

CONSTRUCTION SAFETY PHASING PLAN

PROJECT NO. 2250383
SHEET NO. G-001

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CONSTRUCTION SAFETY PHASING NOTES

1. NTS BED MATERIAL AND DRAINAGE SYSTEMS SHALL BE COMPLETE AND READY FOR INITIATING DEVELOPMENT OF SOIL BACTERIA FOR STORMWATER TREATMENT BY AUGUST 31, 2027. SURFACE RESTORATION AND PUNCH LIST ITEMS MUST BE COMPLETE BY SEPTEMBER 30, 2027.

2. TWO NOTICES TO PROCEED WILL BE ISSUED. ONE WILL BE ISSUED AFTER THE CONSTRUCTION AGREEMENT HAS BEEN FULLY EXECUTED TO FACILITATE PROCESSING OF SHOP DRAWINGS AND SUBMITTALS PRIOR TO STARTING CONSTRUCTION. A SECOND "NOTICE TO PROCEED" WILL BE ISSUED FOR CONSTRUCT TO START ON TUESDAY, JUNE 1, 2027.

3. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL WORK BETWEEN JUNE 1, 2027 AND THE TIMES SPECIFIED IN ITEM 1 ABOVE, LIQUIDATED DAMAGES SHALL BE ASSESSED AT THE RATE OF $2,500 PER CALENDAR DAY UNTIL COMPLETION.

4. THE CONTRACTOR SHALL COMPLY WITH THE CURRENT EDITION OF THE GERALD R. FORD INTERNATIONAL AIRPORT AUTHORITY (GFIAA) RULES AND REGULATIONS (https://www.grr.org/hubfs/PDFs/BoardDocs/2026%20Rules%20and%20Regulations.pdf?hsLang=en) AS WELL AS ALL SECURITY REQUIREMENTS OF THE AIRPORT. SECURITY REQUIREMENTS ARE SUBJECT TO CHANGE AS MANDATED BY THE TRANSPORTATION SECURITY ADMINISTRATION (TSA). FAILURE TO COMPLY WITH SECURITY REQUIREMENTS WILL RESULT IN SUSPENSION OF THE CONTRACTOR'S OPERATIONS UNTIL A PLAN TO CORRECT DEFICIENCIES IS APPROVED. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES LEVIED AGAINST OR BY THE AIRPORT FOR SECURITY VIOLATIONS RESULTING FROM THE CONTRACTOR'S ACTIVITIES.

5. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF FAA ADVISORY CIRCULAR 150/5370-2, "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".

6. THE CONTRACTOR SHALL SUBMIT A SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) TO THE AIRPORT PRIOR TO NOTICE TO PROCEED. A SAMPLE DOCUMENT IS INCLUDED IN THE PROJECT SPECIFICATIONS DOCUMENT, NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2, DATED OCT. 9, 2026 (REFER TO THE TABLE OF CONTENTS IN THAT DOCUMENT).

7. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE SAFETY AND OPERATIONS PLAN (SHEET G-001 AND THE NOTES ON THIS SHEET).

8. THE GROUND MOVEMENT OF AIRCRAFT SHALL HAVE RIGHT-OF-WAY AT ALL TIMES. THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL YIELD TO AIRCRAFT AT ALL TIMES.

9. IF OPENING OR CLOSING OF ANY AIRCRAFT PAVEMENT AREA BECOMES NECESSARY, SUCH ACTIONS SHALL BE COORDINATED THROUGH AIRPORT OPERATIONS. A MINIMUM OF 72 HOURS NOTICE IS REQUIRED. NO BARRICADES SHALL BE PLACED OR REMOVED WITHOUT APPROVAL FROM THE AIRPORT.

10. THE CONTRACTOR'S SUPERINTENDENT SHALL ATTEND CONSTRUCTION PROGRESS AND SAFETY/SECURITY MEETINGS ON A WEEKLY BASIS THROUGHOUT THE DURATION OF THE PROJECT OR AS REASONABLY REQUESTED BY THE OWNER. THE MEETINGS WILL BE HELD AT A LOCATION ON AIRPORT PROPERTY AS DETERMINED BY THE AIRPORT.

11. THE CONTRACTOR SHALL COORDINATE HAUL ROUTES AND SCHEDULES WITH AIRPORT OPERATIONS AND/OR ENGINEERING STAFF. OTHER CONSTRUCTION PROJECTS MAY BE IN PROGRESS DURING THE SAME TIME PERIOD AS THIS PROJECT. ALL CONTRACTOR ACCESS TO THE SITE SHALL BE FROM THORNAPPLE RIVER DRIVE AND THE EXISTING GRAVEL SERVICE DRIVE.

12. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN THEIR OWN HAUL ROUTES AS NECESSARY TO COMPLETE THEIR WORK. HAUL ROUTES MUST BE APPROVED BY THE AIRPORT PRIOR TO CONSTRUCTION. HAUL ROUTES SHALL BE RESTORED AS DESCRIBED ABOVE FOR THE CONTRACTOR'S STORAGE AREA.

13. SOIL EXCAVATED FROM CONSTRUCTION OPERATIONS MUST BE DISPOSED AT THE DESIGNATED DISPOSAL SITE INSIDE GATE 80 (SEE SHEET G-001).

14. THE CONTRACTOR SHALL PROVIDE APPROPRIATELY BADGED INDIVIDUALS TO GUARD GATES USED FOR ACCESS INTO THE AOA SECURE AREA. GATE GUARDS WILL BE REQUIRED TO ATTEND TRAINING SESSIONS FOR GATE OPERATION CONDUCTED BY THE AIRPORT POLICE. GATE GUARDS WILL BE REQUIRED TO LOG INGRESS AND EGRESS OF ALL TRAFFIC. SAMPLE GATE LOGS ARE AVAILABLE FROM THE AIRPORT POLICE.

15. THE CONTRACTOR SHALL PROVIDE THE OWNER AND GFIAA WITH THE NAME AND TELEPHONE NUMBER OF TWO (2) INDIVIDUALS WHO WILL BE AVAILABLE 24 HOURS A DAY, SEVEN DAYS A WEEK THROUGHOUT THE DURATION OF THE PROJECT FOR EMERGENCY USE. THESE CONTACT PEOPLE SHALL HAVE THE AUTHORITY TO IMMEDIATELY CORRECT ANY SAFETY OR SECURITY DEFICIENCY AS IDENTIFIED BY AIRPORT STAFF.

16. THE NTS AREA IS LOCATED OUTSIDE OF THE AIRPORT SECURITY FENCE. THE SOIL DISPOSAL AREA IS LOCATED INSIDE THE SECURITY FENCE.

17. AIRPORT ISSUED IDENTIFICATION BADGES WILL BE REQUIRED FOR ALL WORK INSIDE THE AIR OPERATIONS AREA (AOA). BADGES ARE ISSUED BY THE GFIAA BADGING OFFICE. APPLICANTS MUST SCHEDULE AN APPOINTMENT THROUGH THE AIRPORT BADGING WEBPAGE (https://www.grr.org/badging-services). APPLICANTS MUST PRESENT REQUIRED DOCUMENTATION AND A FINGERPRINT SCREENING APPLICATION WHEN THEY ARRIVE AT THE APPOINTMENT. A LIST OF ACCEPTABLE IDENTIFICATION DOCUMENTS AND THE APPLICATION FORM ARE AVAILABLE FROM THE BADGING WEBPAGE. THE CONTRACTOR SHALL ALLOW A MINIMUM OF TWO (2) WEEKS TO COMPLETE THE APPLICATION PROCESS. A TWO-WEEK TURN AROUND IS NOT GUARANTEED.

18. THE CONTRACTOR SHALL LIMIT ACCESS INTO THE SECURE AREA TO AUTHORIZED CONTRACTOR VEHICLES. ALL AUTHORIZED CONTRACTOR VEHICLES SHALL HAVE A PERMANENTLY ATTACHED SIGN ON BOTH SIDES CONTAINING THE CONTRACTOR'S COMPANY NAME. A FLASHING YELLOW LIGHT SHALL BE MOUNTED AT THE HIGHEST POINT OF THE VEHICLE. PERSONAL VEHICLES WILL NOT BE ALLOWED WITHIN THE AIRPORT SECURITY FENCE.

19. CONTRACTOR'S STAGING AND STORAGE AREA SHALL BE AT THE LOCATION SHOWN. ALL TRAILERS, EMPLOYEE PARKING, EQUIPMENT AND MATERIAL STORAGE SHALL BE KEPT IN THAT AREA.

20. THE CONTRACTOR SHALL CONFINE OPERATIONS TO THE LIMITS OF THE CONSTRUCTION AREA AND THE DESIGNATED ACCESS ROUTES. CONTRACTOR PERSONNEL, EQUIPMENT, MATERIALS SUBCONTRACTORS AND SUPPLIERS WILL NOT BE ALLOWED ON ANY OTHER AREA WITHIN THE AIRPORT SECURITY FENCE WITHOUT PRIOR APPROVAL FROM GFIAA.

21. ALL CONTRACTOR EQUIPMENT MUST BE STORED A MINIMUM OF 10 FEET FROM SECURITY FENCE AT ALL TIMES.

22. CONTRACTOR SHALL CONTROL DUST FROM CONSTRUCTION OPERATIONS BY VACUUM TYPE SWEEPING, WATERING OR OTHER METHODS AS APPROVED BY GFIAA. IF THE CONTRACTOR FAILS TO COMPLY WITH THIS REQUIREMENT, CONSTRUCTION WILL BE SUSPENDED UNTIL A PLAN FOR CONTROLLING DUST IS APPROVED BY GFIAA.

23. MAXIMUM EQUIPMENT HEIGHT FOR ALL AREAS IS 35 FEET.

24. THE CONTRACTOR'S EQUIPMENT STORAGE AREA SHALL BE AT THE LOCATIONS SHOWN ON THE CONSTRUCTION SAFETY PHASING PLAN (SEE POINTS S1 THROUGH S4, DRAWNG G-001). THE CONTRACTOR SHALL CONFINE THE STORAGE OF EQUIPMENT AND MATERIALS TO THIS AREA. THE MAXIMUM STORAGE HEIGHT SHALL BE AS INDICATED. ALL NON-PAVED AREAS THAT ARE DISTURBED BY CONTRACTOR'S OPERATIONS, LOCATED OUTSIDE OF THE GRADING LIMITS SHALL BE RESTORED WITH 4" OF TOPSOIL, SEEDED WITH 95% HIGH ENDOPHYTE CREEPING RED FESCUE AND 5% PERENNIAL RYE, MULCHED AND ANCHORED IN ACCORDANCE WITH SECTION 816 OF MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AT THE CONTRACTOR'S EXPENSE. ALL PAVED AREAS THAT ARE DAMAGED BY THE CONTRACTOR'S HAUL ROUTES OR OTHER OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

25. CONTRACTOR SHALL BE RESPONSIBLE FOR HANDLING AND CONTAINING FUEL, OIL AND OTHER HAZARDOUS MATERIALS DELIVERED TO THE AIRPORT BY THE CONTRACTOR FOR CONSTRUCTION OPERATIONS. MATERIALS SHALL BE HANDLED IN ACCORDANCE WITH EGLE, MIOSHA, EPA, OR OTHER AGENCIES WITH REGULATORY AUTHORITY OVER THE ASSOCIATED MATERIAL. ALL RELEASES OF HAZARDOUS MATERIALS SHALL BE REPORTED TO AIRPORT COMMUNICATIONS IMMEDIATELY AND REMOVED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMOVAL AND CLEANUP COSTS INCLUDING FINES AND PENALTIES ASSESSED TO THE AIRPORT AS A RESULT OF THE RELEASE. CONTRACTOR SHALL SUBMIT COPIES OF ALL SAFETY DATA SHEETS (SDS) ASSOCIATED WITH THE WORK TO THE ENGINEER PRIOR TO DELIVERY TO THE SITE.

26. NO WORK ON AIRPORT PAVEMENTS IS ANTICIPATED AS PART OF THIS PROJECT. IF WORK ON AN AIRPORT PAVEMENT BECOMES NECESSARY, MATERIAL TRACKED OR OTHERWISE DEPOSITED ON AIRCRAFT PAVEMENT AREAS BY CONTRACTOR'S OPERATIONS SHALL BE REMOVED PRIOR TO REOPENING THE AREA TO TRAFFIC.

27. IF WORK ON AIRPORT PAVEMENTS BECOMES NECESSARY, CONTRACTOR SHALL MAINTAIN ALL IMPACTED AIRFIELD PAVEMENT SURFACES IN AN OPERABLE CONDITION FOR AIRCRAFT. ANY AIRFIELD PAVEMENT DAMAGED BY CONTRACTOR'S EQUIPMENT SHALL BE REPLACED IMMEDIATELY AND AT THE CONTRACTOR EXPENSE.

28. CONTRACTOR SHALL COLLECT AND DISPOSE OF LUNCH WRAPPERS, FOOD AND OTHER WILDLIFE ATTRACTANTS. CONTRACTOR SHALL ABIDE BY AIRPORT WILDLIFE MANAGEMENT PROCEDURES.

29. CONTRACTOR SHALL IMMEDIATELY NOTIFY AIRPORT MANAGEMENT OF ANY CONDITION THAT MAY, IN THE CONTRACTOR'S OPINION, ADVERSELY AFFECT OPERATIONAL SAFETY. AIRPORT OPERATIONS WILL ASSESS THE REPORT AND NOTIFY THE FAA AND OTHER IMPACTED PARTIES AS WARRANTED BY THE SITUATION

30. IN CASE OF AN AIRPORT EMERGENCY, CONTACT AIRPORT COMMUNICATIONS AT 616-233-6055. CONTRACTOR SHALL CONTACT 911 FOR ALL OTHER EMERGENCIES.

31. CONTRACTOR SHALL INSPECT THE WORK AREA EACH DAY AND COMPLETE THE CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST. CHECKLIST IS INCLUDED IN THE CONTRACT DOCUMENTS. COPIES OF THE CHECKLIST SHALL BE SUBMITTED TO THE ENGINEER UPON REQUEST. FAILURE TO SUBMIT REPORTS IN A TIMELY MANNER WILL RESULT IN SUSPENSION OF WORK AND PAYMENTS UNTIL THE REPORTS ARE SUBMITTED. ALL COSTS FOR INSPECTIONS AND SUBMITTAL OF CHECKLIST SHALL BE INCLUDED IN THE LUMP SUM UNIT ITEM FOR SAFETY AND SECURITY.

32. FINAL INSPECTIONS WILL BE CONDUCTED BY AIRPORT PERSONNEL AND THE ENGINEER. RUNWAYS, TAXIWAYS, AND OTHER AIRCRAFT PAVEMENTS WILL NOT BE RE-OPENED UNTIL THE SAFETY AREAS HAVE BEEN INSPECTED AND APPROVED BY AIRPORT MANAGEMENT. (AIRCRAFT PAVEMENT IMPACTS ARE NOT ANTICIPATED BY THIS PROJECT.)

33. NO PROPOSED, TEMPORARY, OR PERMANENT ADJUSTMENTS TO THE RUNWAY SAFETY AREA (RSA) OR TAXIWAY SAFETY AREA (TSA) DIMENSIONS ARE ASSOCIATED WITH THIS CONTRACT.

34. CONTRACTOR SHALL NOT CROSS, PROTRUDE, ENTER OR BREAK THE PLANE OF AN OPEN RSA, TSA, OBJECT FREE ZONE (OFZ), OR OBJECT FREE AREA (ROFA, TOFA) WITH PERSONNEL, EQUIPMENT AND/OR MATERIAL.

35. CONTRACTOR SHALL NOT USE OPEN FLAME WELDERS OR TORCHES OUTSIDE OF THE STAGING AND STORAGE AREA WITHOUT APPROVAL BY THE AIRPORT. IF "HOT WORK" IS REQUIRED, CONTRACTOR SHALL SUBMIT A " HOT WORK" PERMIT REQUEST TO THE AIRPORT. "HOT WORK" PERMIT FORM MAY BE FOUND AT https://forms.gle/o6izaxeDGHxEZdcC8. AN APPROVED PERMIT IS REQUIRED PRIOR TO STARTING ANY "HOT WORK". USE OF OPEN FLAME WELDERS OR TORCHES SHALL BE IN ACCORDANCE WITH AIRPORT PERMIT REQUIREMENTS AND THE CONTRACTOR'S CORPORATE POLICY. A CONTRACTOR'S SAFETY PLAN FOR "HOT WORK" ACTIONS IS REQUIRED. USE SHALL BE LIMITED TO AREAS WITH FIRE PROTECTION, AND CONTRACTOR SHALL PREVENT FIRES FROM STARTING AND LIMIT THE SPREAD IF ONE IS STARTED.

36. CONTRACTOR SHALL NOT USE EXPLOSIVES.

37. DEFINITIONS:

SPONSOR/OWNER/AIRPORT – GERALD R. FORD INTERNATIONAL AIRPORT, GRR, GFIAA
AC – ADVISORY CIRCULAR
AOA – AIR OPERATIONS AREA
CFR – CODE OF FEDERAL REGULATIONS
FAA – FEDERAL AVIATION ADMINISTRATION
FOD – FOREIGN OBJECT DEBRIS
PAPI – PRECISION APPROACH PATH INDICATOR
REIL – RUNWAY END IDENTIFIER LIGHT
ROFA – RUNWAY OBJECT FREE AREA
ROFZ – RUNWAY OBJECT FREE ZONE
RSA – RUNWAY SAFETY AREA
TOFA – TAXIWAY OBJECT FREE AREA
TSA – TAXIWAY SAFETY AREA
NAVAID – NAVIGATIONAL AID
NOTAM – NOTICE TO AIRMEN

CONSTRUCTION NOTES:

GENERAL

1. IN CASE OF CONFLICT BETWEEN NOTES SHOWN ON THE DRAWINGS AND THE STANDARD SPECIFICATIONS, THE NOTES ON THE DRAWINGS SHALL TAKE PRECEDENCE.

2. THE INFORMATION CONCERNING UNDERGROUND UTILITIES WAS COMPILED FROM INFORMATION AND SKETCHES FURNISHED BY OR OBTAINED FROM UTILITY COMPANIES AND THE AIRPORT. THE OWNER AND THE ENGINEER DO NOT GUARANTEE THEIR ACCURACY. THE CONTRACTOR IS ADVISED TO DETERMINE THE EXACT LOCATIONS FROM THE AVAILABLE SOURCES OF INFORMATION OR PROVIDE THEIR OWN MEANS OF DETECTION.

3. IN ACCORDANCE WITH SECTIONS 70-10, 70-11 AND 70-15 OF THE GENERAL CONTRACT PROVISIONS, CONTRACTOR SHALL, PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATION: I.E., SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED, AND IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. GFIAA WILL PROVIDE UTILITY LOCATION SERVICES OF AIRPORT OWNED FACILITIES SUBJECT TO SUBMISSION OF A "MISSDIG" REQUEST AT 811 OR WWW.MISSDIG811.ORG. WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATIONS OF SUCH AN INSTALLATION, THE EXACT LOCATIONS SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING, AND WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 2 NORMAL BUSINESS DAYS PRIOR TO THE START OF ACTUAL EXCAVATION.

MOBILIZATION

4. ALL COSTS ASSOCIATED WITH MOBILIZATION AS DESCRIBED IN ITEM C-105, "MOBILIZATION" SHALL BE INCLUDED INTO THE LUMP SUM ITEM FOR "MOBILIZATION, MAX 10%". THE MAXIMUM AMOUNT ALLOWABLE FOR MOBILIZATION WILL BE TEN (10) PERCENT OF THE TOTAL BID AMOUNT.

SAFETY AND SECURITY

5. ALL COSTS ASSOCIATED WITH SAFETY AND SECURITY IDENTIFIED IN THE PLANS AND SPECIFICATIONS SHALL BE INCLUDED INTO THE LUMP LUMP SUM ITEM FOR "SAFETY AND SECURITY". PARTIAL PAYMENTS FOR "SAFETY AND SECURITY" SHALL BE MADE ACCORDING TO THE FOLLOWING SCHEDULE:
   - 5.1. WITH FIRST PAY REQUEST, 15%
   - 5.2. WHEN 25% OR MORE OF THE ORIGINAL CONTRACT IS EARNED, AN ADDITIONAL 10% (25% TOTAL).
   - 5.3. WHEN 50% OR MORE OF THE ORIGINAL CONTRACT IS EARNED, AN ADDITIONAL 25% (50% TOTAL).
   - 5.4. WHEN 75% OR MORE OF THE ORIGINAL CONTRACT IS EARNED, AN ADDITIONAL 25% (75% TOTAL).
   - 5.5. AFTER FINAL INSPECTION, STAGING AREA CLEAN-UP AND DELIVERY OF ALL PROJECT CLOSEOUT MATERIALS AS REQUIRED BY 90-11, THE FINAL 25%.

SOIL EROSION AND SEDIMENTATION CONTROL

6. THE CONTRACTOR SHALL FILE FOR THE SOIL EROSION CONTROL PERMIT WITH THE KENT COUNTY ROAD COMMISSION. THE OWNER WILL FURNISH A SIGNED PERMIT APPLICATION AND SOIL EROSION CONTROL PLANS TO THE CONTRACTOR. THE CONTRACTOR SHALL PAY ALL FEES AND BE LISTED AS THE AGENT FOR THE OWNER. THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH A COPY OF THE APPROVED PERMIT.

7. THE CONTRACTOR SHALL FILE FOR AN NPDES "NOTICE OF COVERAGE" WITH THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY. THE CONTRACTOR SHALL PAY ALL FEES AND BE LISTED AS THE AGENT FOR THE OWNER. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A COPY OF THE "NOTICE OF COVERAGE".

8. COSTS FOR THE SESC PERMIT, INSPECTIONS AND THE "NOTICE OF COVERAGE" SHALL BE INCLUDED IN THE PER DOLLAR ALLOWANCE FOR "PERMITS". PAYMENT WILL BE BASED ON COSTS INVOICED TO AND SUBMITTED BY THE CONTRACTOR WITHOUT MARK-UP OR OTHER ADJUSTMENT.

9. ANY FINES LEVIED AGAINST THE OWNER FOR THE CONTRACTOR'S FAILURE TO INSTALL, MAINTAIN OR SECURE SOIL EROSION CONTROLS AS DESCRIBED HEREIN AND ON THE PLANS WILL BE THE CONTRACTOR'S RESPONSIBILITY. THESE FINES WILL BE DEDUCTED FROM THE AMOUNT DUE TO THE CONTRACTOR.

NO.	REVISIONS	BY	DATE

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DATE: SEPT. '26
CHECKED: JAS
DATE: MAR. '26

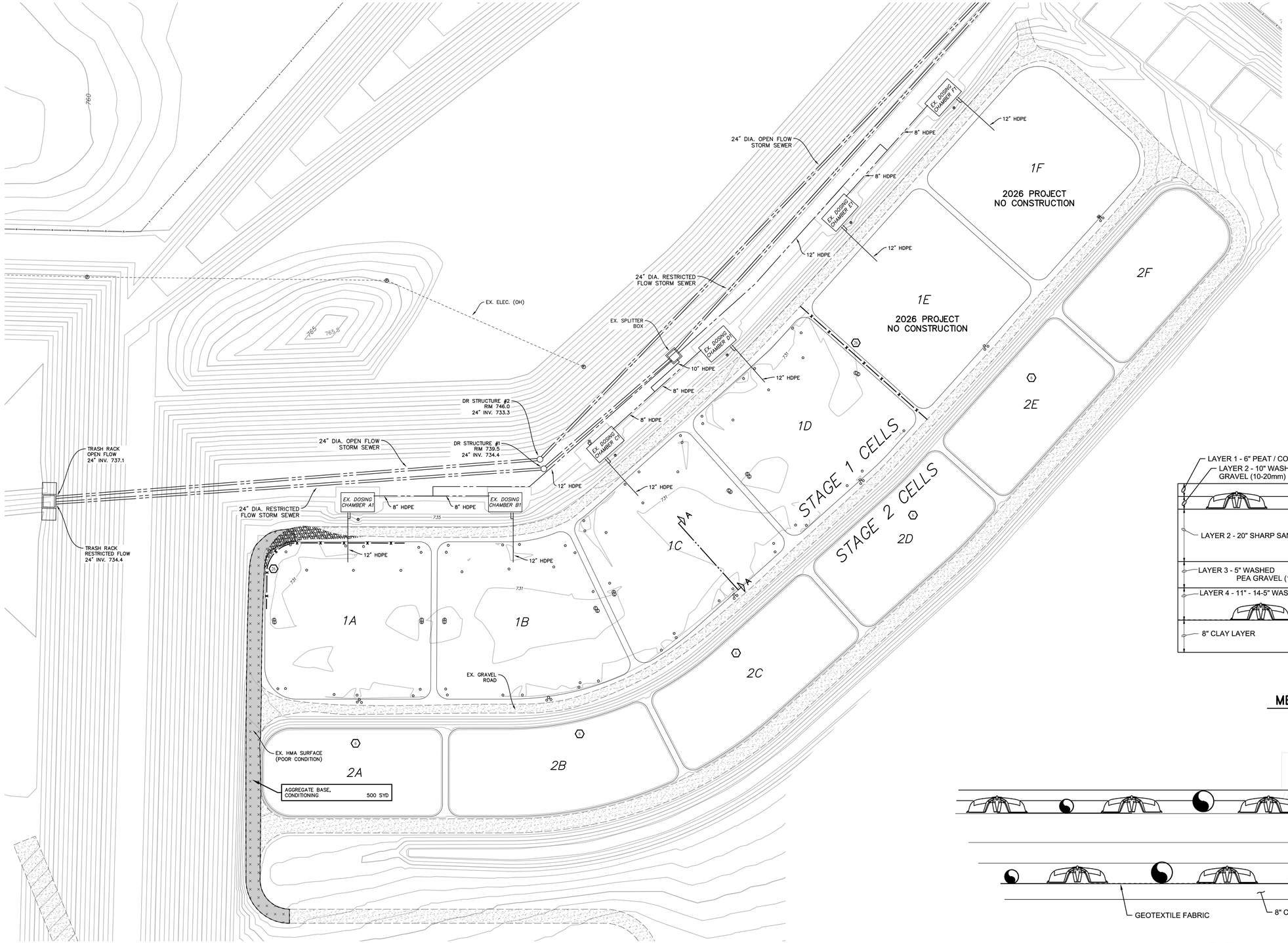
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GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2

CONSTRUCTION NOTES

PROJECT NO. 2250383
SHEET NO. G-002

T:\DWG\30 PROJECTS\2025\2250383_GFIAA_NTS PHASE 2\X_PROD\2250383_02 03 CSPP Plot.DWG - SHELDER - Sep. 25 2026 - 03:34pm - PreinNewhof



EXISTING SITE CONDITIONS

SCALE : 1" = 40'

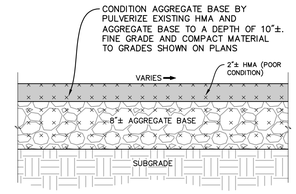
North

LINETYPE LEGEND

- EX. CONTOUR
- EX. CONTOUR (INDEX)
- EDGE OF CELL
- EX. GRAVEL ROAD
- EX. ASPHALT PAVEMENT
- EX. FENCE
- EX. OVERHEAD ELECTRIC
- EX. STORM SEWER
- SILT FENCE
- EX. INFILTRATORS
- EX. CLEANOUT

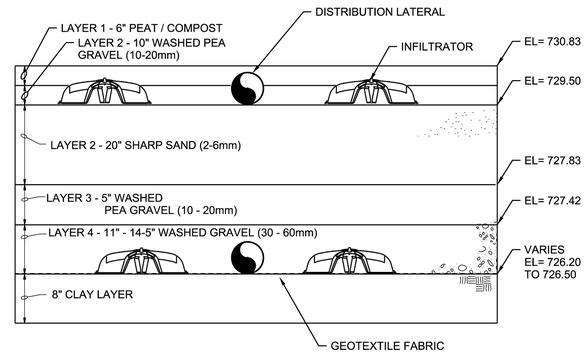
SOIL EROSION CONTROL KEY INDEX

- VEGETATIVE BUFFER STRIP
- SILT FENCE



EXISTING ROAD CROSS SECTION

SCALE: NONE



TYPICAL EXISTING BED MEDIA SECTION – STAGE 1

SCALE : NONE

SECTION A – A

SCALE : NONE

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NO.	REVISIONS	BY	DATE

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DATE: SEPT. '26
CHECKED: JAS
DATE: MAR. '26

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KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2
EXISTING SITE CONDITIONS

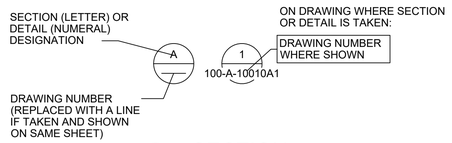
PROJECT NO. 2250383
SHEET NO. C-000

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ABBREVIATIONS

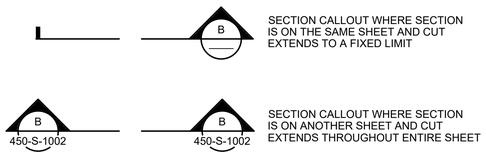
AB	ANCHOR BOLT
AC	ASPHALTIC CONCRETE
ADDL	ADDITIONAL
ADJ	ADJACENT
AFG	ABOVE FINISHED GRADE
AGGR	AGGREGATE
AHR	ANCHOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AJ	ADJUSTABLE
AL	ALUMINUM
ALTN	ALTERNATE
APPROX	APPROXIMATE
APVD	APPROVED
AS	AS SELECTED
AVG	AVERAGE
@	AT
BETW	BETWEEN
BF	BLIND FLANGE
BL	BASELINE
BM	BENCHMARK
BO	BOTTOM OF
BOP	BOTTOM OF PIPE
BOT	BOTTOM
C TO C	CENTER TO CENTER
CB	CATCH BASIN
CC	CENTER OF CIRCLE
CDF	CONTROLLED DENSITY FILL
CE	CONSTRUCTION ENTRANCE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHKD	CHECKERED
CI	CAST IRON
CIP	CAST IN PLACE
CIP	CULVERT INLET PROTECTION
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLDI	CEMENT LINED DUCTILE IRON
CLR	CLEAR, CLEARANCE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUED, CONTINUOUS, CONTINUATION
COORD	COORDINATE
CPLG	COUPLING
CPVC	CHLORINATED PVC
CRS	CONSTRUCTION ROAD STABILIZATION
CTR	CENTER
CTRD	CENTERED
CU	CUBIC
CU FT	CUBIC FOOT
CV	CHECK VALVE
CY, CU YD	CUBIC YARD
D	DRAIN
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG	DEGREE
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DISCH	DISCHARGE
DN	DOWN
DWG	DRAWING
DWL	DOWEL
△	DELTA
E	EAST, EMPTY
EA	EACH, EXHAUST AIR
ECC	ECCENTRIC
EF	EACH FACE, EXHAUST FAN
EFF	EFFICIENCY, EFFICIENT
EFL	EFFLUENT
EG	EXISTING GRADE
EL	ELEVATION
ELB	ELBOW
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EP	EDGE OF PAVING
EQL	EQUAL
EQL SP	EQUALLY SPACED
EQPT	EQUIPMENT
ESC	EROSION AND SEDIMENT CONTROL
EW	EACH WAY
EXP	EXPANSION, EXPOSED
EXP AB	EXPANSION ANCHOR BOLT
EXP JT	EXPANSION JOINT
EXST, EXIST	EXISTING
EXT	EXTERIOR
FB	FLAT BAR
F, FX	FIXED
FCA	FLANGED COUPLING ADAPTER
FDN	FOUNDATION
FF	FINISHED FLOOR
FG	FINISH GRADE, FLOAT GLASS
FIG	FIGURE
FL	FLOW LINE
FLG	FLANGE
FLEX	FLEXIBLE
FNSH	FINISH
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPM	FEET PER MINUTE
FT	FOOT OR FEET
FTG	FOOTING
FWD	FORWARD
GAL	GALLON
GALV	GALVANIZED
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GLOBAL POSITION SYSTEM
GRTG	GRATING
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GVL	GRAVEL
H.A.S.	HEADED ANCHOR STUD
HDR	HEADER
HGL	HYDRAULIC GRADE LINE
HGT	HEIGHT
HH	HANDHOLE
HK	HOOK
HORIZ	HORIZONTAL
HPT	HIGH POINT
HWL	HIGH WATER LEVEL
ID	INSIDE DIAMETER
I.E.	INVERT ELEVATION
I.F.	INSIDE FACE
IN	INCH
INFL	INFLUENT
INV	INVERT
IP	INLET PROTECTION
JCT	JUNCTION
JT	JOINT
KIP	THOUSAND POUNDS
L	ANGLE, LENGTH
LAT	LATITUDE
LB	POUND
LF	LINEAR FEET
LG	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LPT	LOW POINT
LR	LONG RADIUS
LT	LEFT
LWL	LOW WATER LEVEL
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFD	MANUFACTURED
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MP	METAL PANEL
MS	MANUFACTURER'S STANDARD
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MU	MULCHING
MWS	MAXIMUM WATER SURFACE
N	NORTH
NA	NOT APPLICABLE
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
NO., #	NUMBER
NOM	NOMINAL
NTS	NATURAL TREATMENT SYSTEM
O TO O	OUT TO OUT
OC	ON CENTER
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OPER	OPERATOR
OPNG	OPENING
OPP	OPPOSITE
OZ	OUNCE
P	PIPE
PE	PLAIN END
PEP	POLYETHYLENE PIPE
PFC	POUNDS PER CUBIC FOOT
PI	POINT OF INTERSECTION
PL	PLATE (STEEL), PROPERTY LINE
PR	PAIR
PRCST	PRECAST
PREFAB	PREFABRICATION
PRM	PERMANENT REFERENCED MARKER
PROJ	PROJECTION
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
QAA	AVERAGE FLOW
R	RISER
R OR RAD	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDCR	REDUCER
REF	REFER OR REFERENCE
REINF	REINFORCED, REINFORCING, REINFORCE
REQD	REQUIRED
RH	RIGHT HAND
RO	ROUGH OPENING
RR	RIPRAP
RST	REINFORCING STEEL
RT	RIGHT
RTN	RETURN
R/W	RIGHT OF WAY
S	SLOPE, SOUTH
SB	SEDIMENT BASIN
SCFM	STANDARD CUBIC FEET PER MINUTE
SCHED	SCHEDULE
SDWK	SIDEWALK
SEC	SECONDARY
SECT	SECTION
SED	SEDIMENTATION
SH	SHEET
SIM	SIMILAR
SP	SPACE OR SPACES
SPEC, SPECS	SPECIFICATIONS
SPG	SPACING
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT, FEET
SQ IN	SQUARE INCH
SST	STAINLESS STEEL
ST	STORM DRAIN
STA	STATION
STD	STANDARD
STIF	STIFFENER
STIRR	STIRRUP
STL	STEEL
STRL	STRUCTURAL
STRUCT	STRUCTURE
SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENT
TECH	TECHNICAL
TBG	TUBING
TEMP	TEMPORARY
TF	TOP FACE
TH	TOP-HINGED
THD	THREAD
THK	THICKNESS
THRU	THROUGH
TOB	TOP OF BERM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOG	TOP OF GRATE
TOS	TOP OF SLAB
TOW	TOP OF WALL
TP	TURNING POINT
TRANSV	TRANSVERSE
TS	TEMPORARY SEEDING
TST	TOP OF STEEL
TURB	TURBIDITY
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UNO	UNLESS NOTED OTHERWISE
V	VALVE
VEL	VELOCITY
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	WEST
W/	WITH
WS	WATER SURFACE, WATERSTOP, WELDED STEEL
WWF	WELDED WIRE FABRIC

SECTION / DETAIL DESIGNATIONS



DRAWING TITLE
SCALE

ON DRAWING WHERE ONLY A TITLE IS REQUIRED WITH NO REFERENCE (eg: ELEVATIONS)



NOTE:
1. CONTACT ENGINEER FOR ABBREVIATIONS USED BUT NOT SHOWN ON THIS DRAWING.

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KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2
CELLS 1E & 1F
GENERAL ABBREVIATIONS

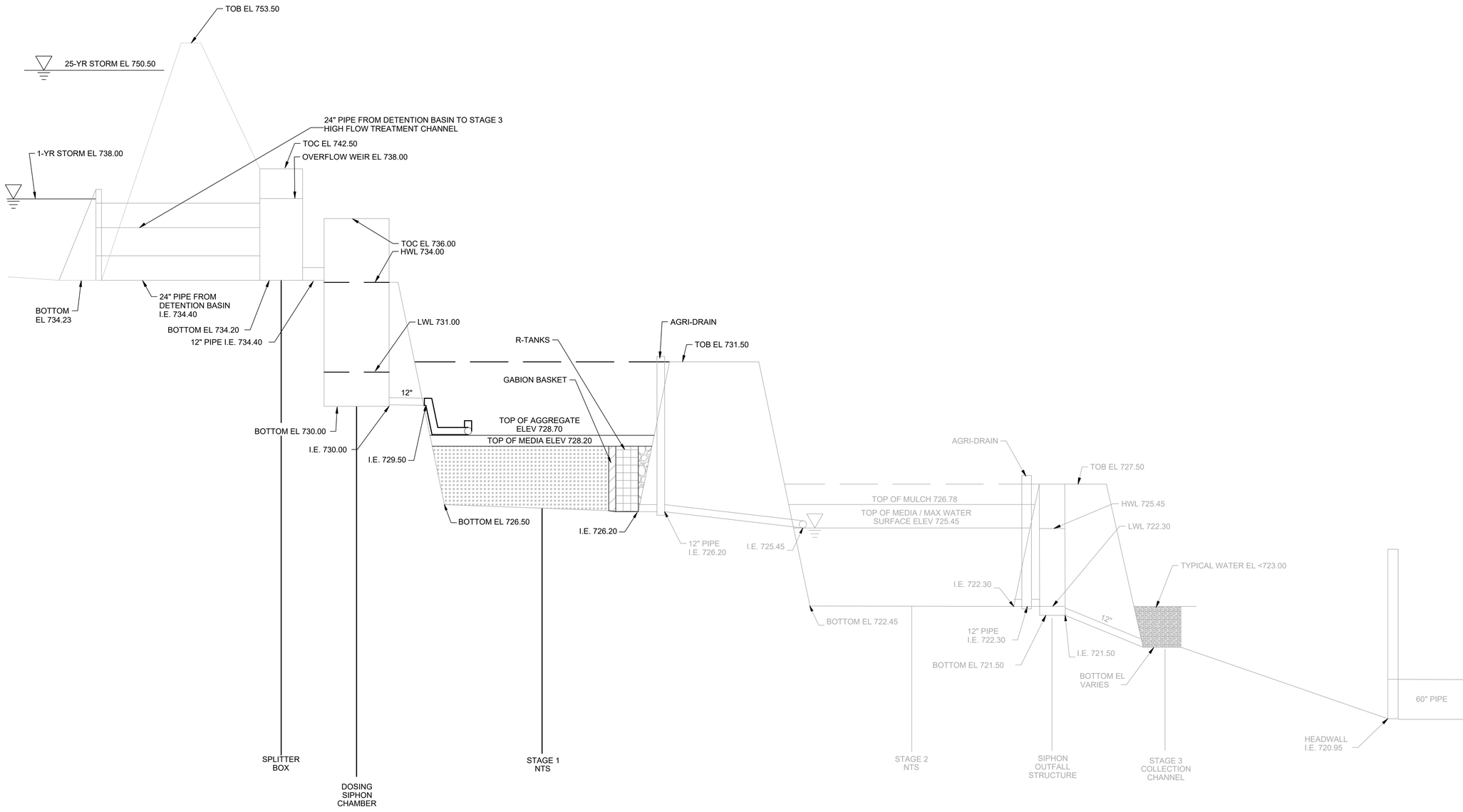
PROJECT NO. 2250383
SHEET NO. C-001

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NOTE:

A. PROFILE IS THE FINAL POST CONSTRUCTION.

B. DRAWING IS NOT TO SCALE.



HYDRAULIC PROFILE

NOT TO SCALE

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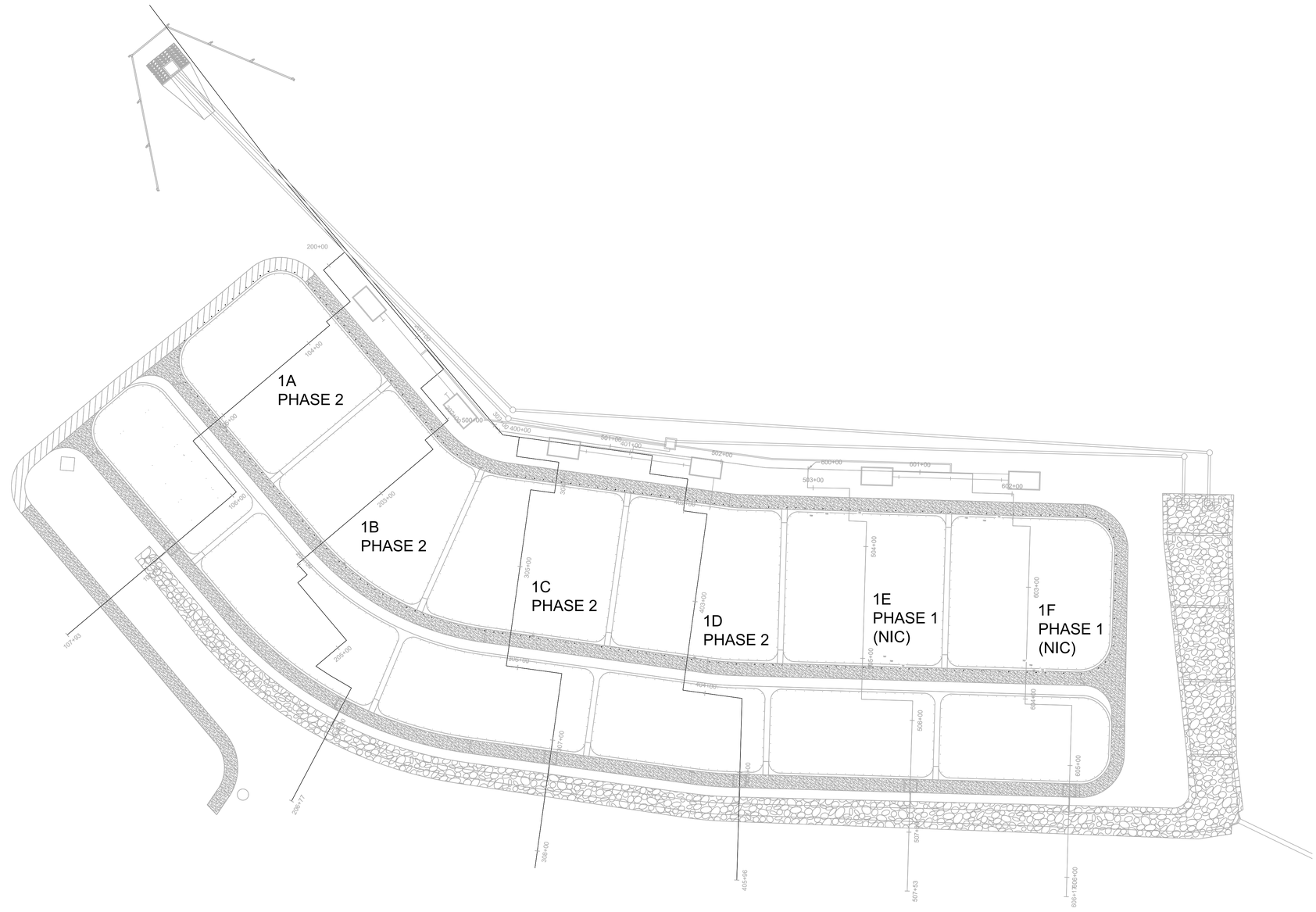
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KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1A,1B,1C & 1D
HYDRAULIC PROFILE

PROJECT NO. 2250383
SHEET NO. C-002

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N

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Scale In Feet

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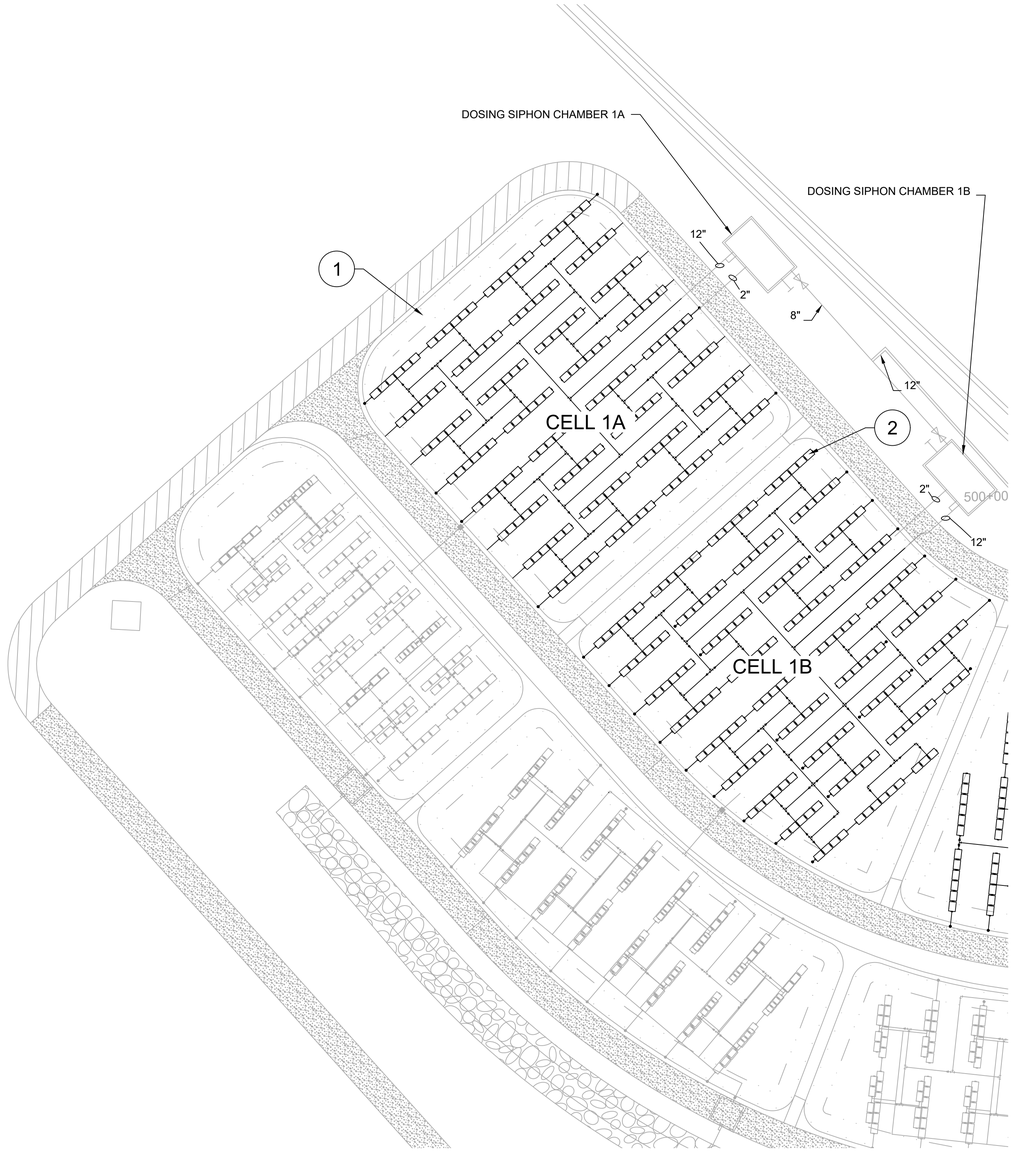
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KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
OVERALL
SITE PLAN

PROJECT NO. 2250383
SHEET NO. C-100

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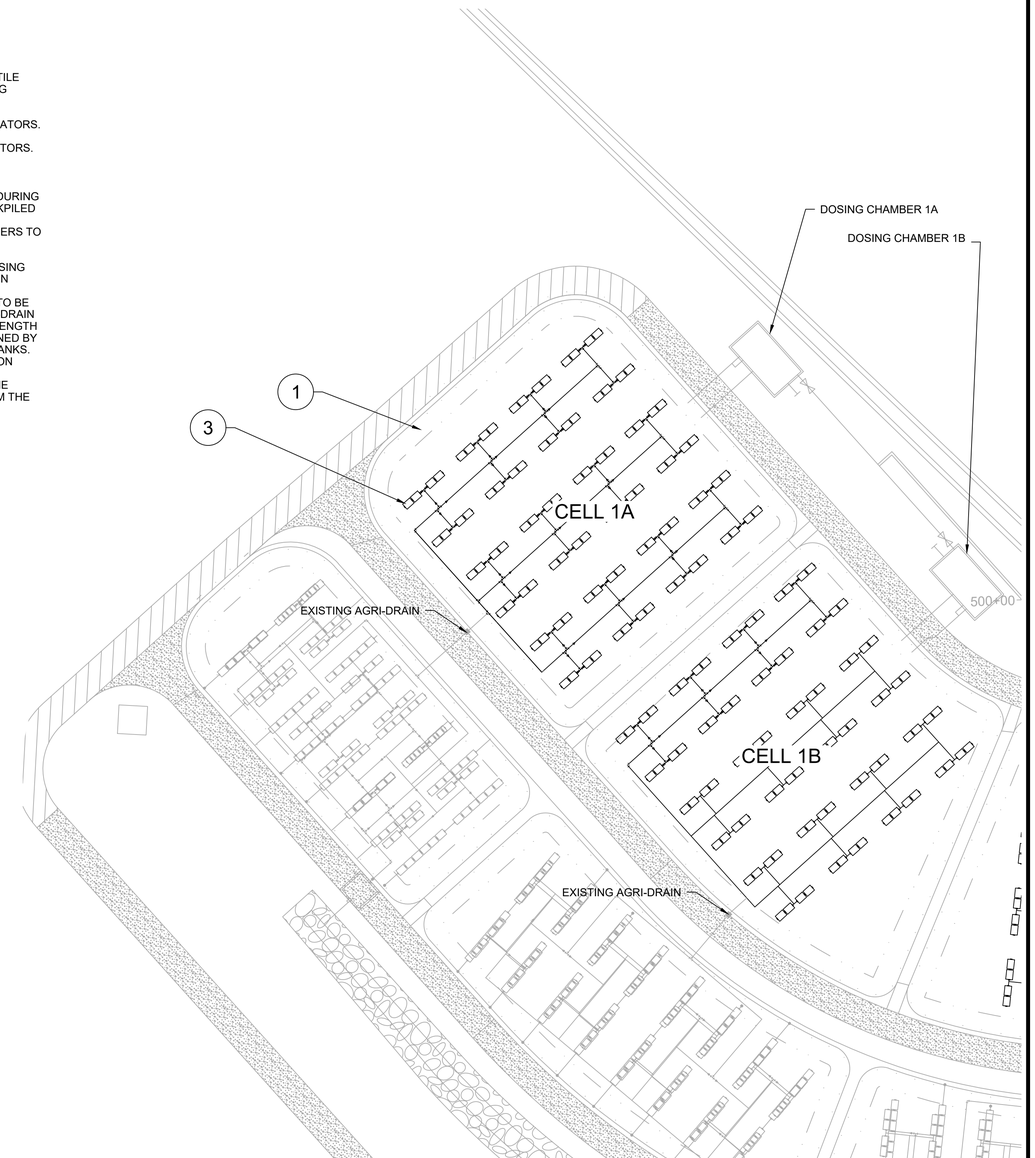
DISTRIBUTION PIPING SYSTEM
1"=30"

KEYNOTE

1. REMOVE MEDIA AND UNDERLYING GEOTEXTILE COMPLETELY. PROTECT CLAY LINER DURING REMOVAL ACTIVITIES.
2. REMOVE DISTRIBUTION PIPING AND INFILTRATORS.
3. REMOVE COLLECTION PIPING AND INFILTRATORS.

NOTE:

A. EXISTING MATERIALS THAT ARE REMOVED DURING DEMOLITION TO REMAIN ONSITE AND STOCKPILED AS SHOWN ON SHEET C-211.
B. 12-INCH PIPE FROM DOSING SIPHON CHAMBERS TO THE DISTRIBUTION PIPING WILL BE CUT BY CONTRACTOR TO ACCOMMODATE NEW DISTRIBUTION PIPING. PIPE OUT OF THE DOSING SIPHON CHAMBER 1A AND 1B WILL REMAIN IN PLACE.
C. COLLECTION PIPE OUT OF CELL 1A AND 1B TO BE CUT BY CONTRACTOR NORTH OF THE AGRI-DRAIN THAT IS REMAINING IN PLACE. REMAINING LENGTH OF COLLECTION PIPE MAIN TO BE DETERMINED BY CONTRACTOR TO ACCOMMODATE NEW R-TANKS.
D. 2-INCH DRAINAGE PIPE FROM DOSING SIPHON CHAMBER WILL NOT BE DEMOLISHED.
E. ALL PIPING WILL NEED TO BE TESTED BY THE ENGINEER PRIOR TO BEING REMOVED FROM THE SITE.



COLLECTION PIPING SYSTEM
1"=30"

N
0 30 60 90
Scale In Feet

NO.	REVISIONS	BY	DATE

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CHECKED VJ
DATE 9/25/2026

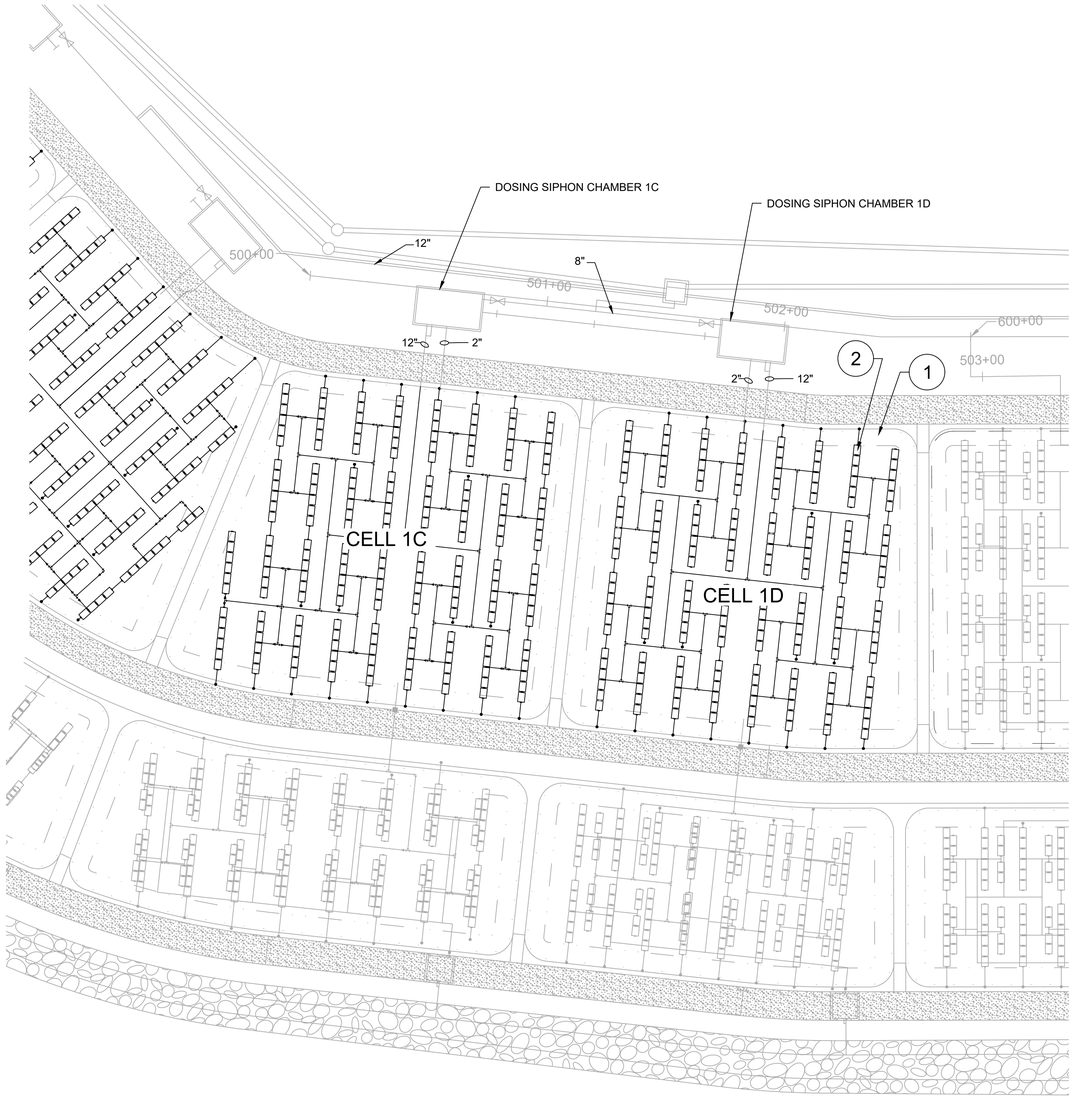
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KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1A & 1B
DEMOLITION PLAN

PROJECT NO. 2250383
SHEET NO. C-101

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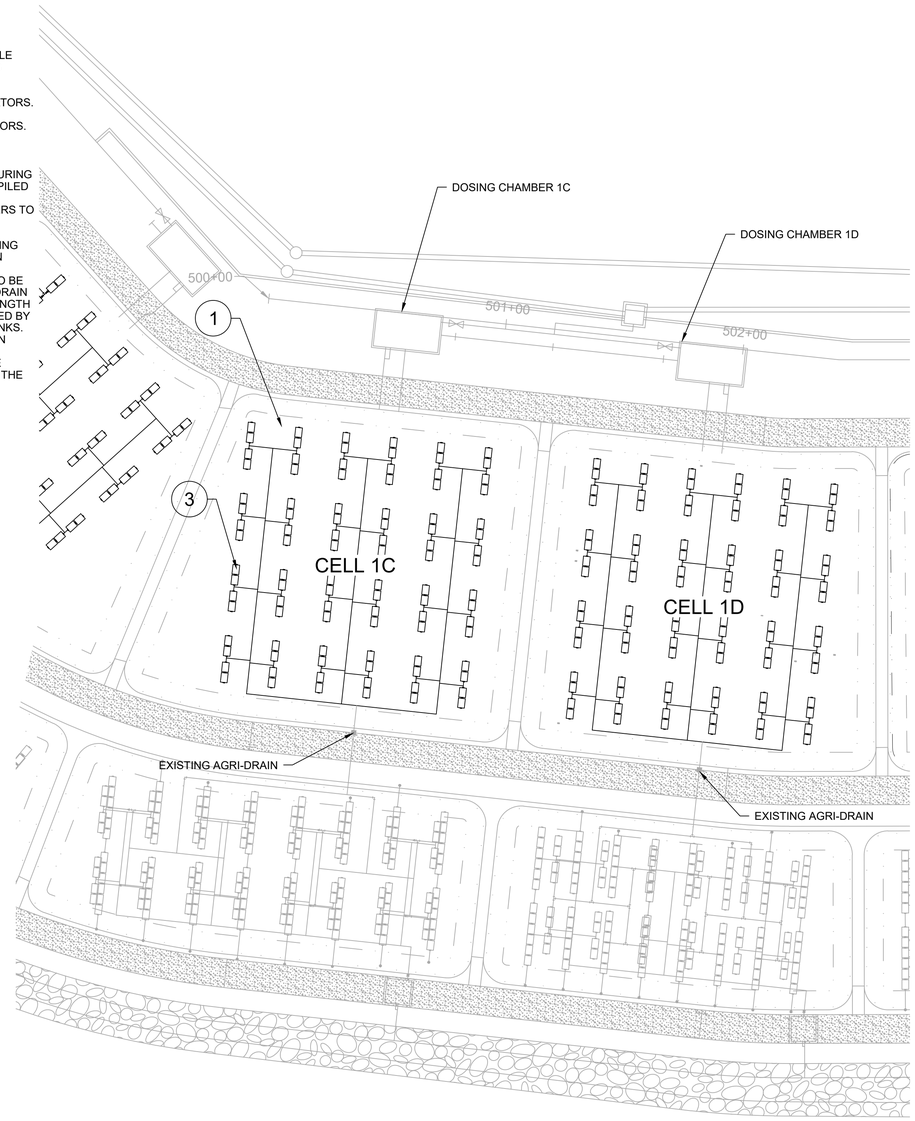


KEYNOTE

1. REMOVE MEDIA AND UNDERLYING GEOTEXTILE COMPLETELY. PROTECT CLAY LINER DURING REMOVAL ACTIVITIES.
2. REMOVE DISTRIBUTION PIPING AND INFILTRATORS.
3. REMOVE COLLECTION PIPING AND INFILTRATORS.

NOTE:

A. EXISTING MATERIALS THAT ARE REMOVED DURING DEMOLITION TO REMAIN ONSITE AND STOCKPILED AS SHOWN ON SHEET C-211.
B. 12-INCH PIPE FROM DOSING SIPHON CHAMBERS TO THE DISTRIBUTION PIPING WILL BE CUT BY CONTRACTOR TO ACCOMMODATE NEW DISTRIBUTION PIPING. PIPE OUT OF THE DOSING SIPHON CHAMBER 1C AND 1D WILL REMAIN IN PLACE.
C. COLLECTION PIPE OUT OF CELL 1C AND 1D TO BE CUT BY CONTRACTOR NORTH OF THE AGRI-DRAIN THAT IS REMAINING IN PLACE. REMAINING LENGTH OF COLLECTION PIPE MAIN TO BE DETERMINED BY CONTRACTOR TO ACCOMMODATE NEW R-TANKS.
D. 2-INCH DRAINAGE PIPE FROM DOSING SIPHON CHAMBER WILL NOT BE DEMOLISHED.
E. ALL PIPING WILL NEED TO BE TESTED BY THE ENGINEER PRIOR TO BEING REMOVED FROM THE SITE.



DISTRIBUTION PIPING SYSTEM

1"=30"

COLLECTION PIPING SYSTEM

1"=30"

N

0 30 60 90

Scale In Feet

NO.	REVISIONS	BY	DATE

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DATE 9/25/2026

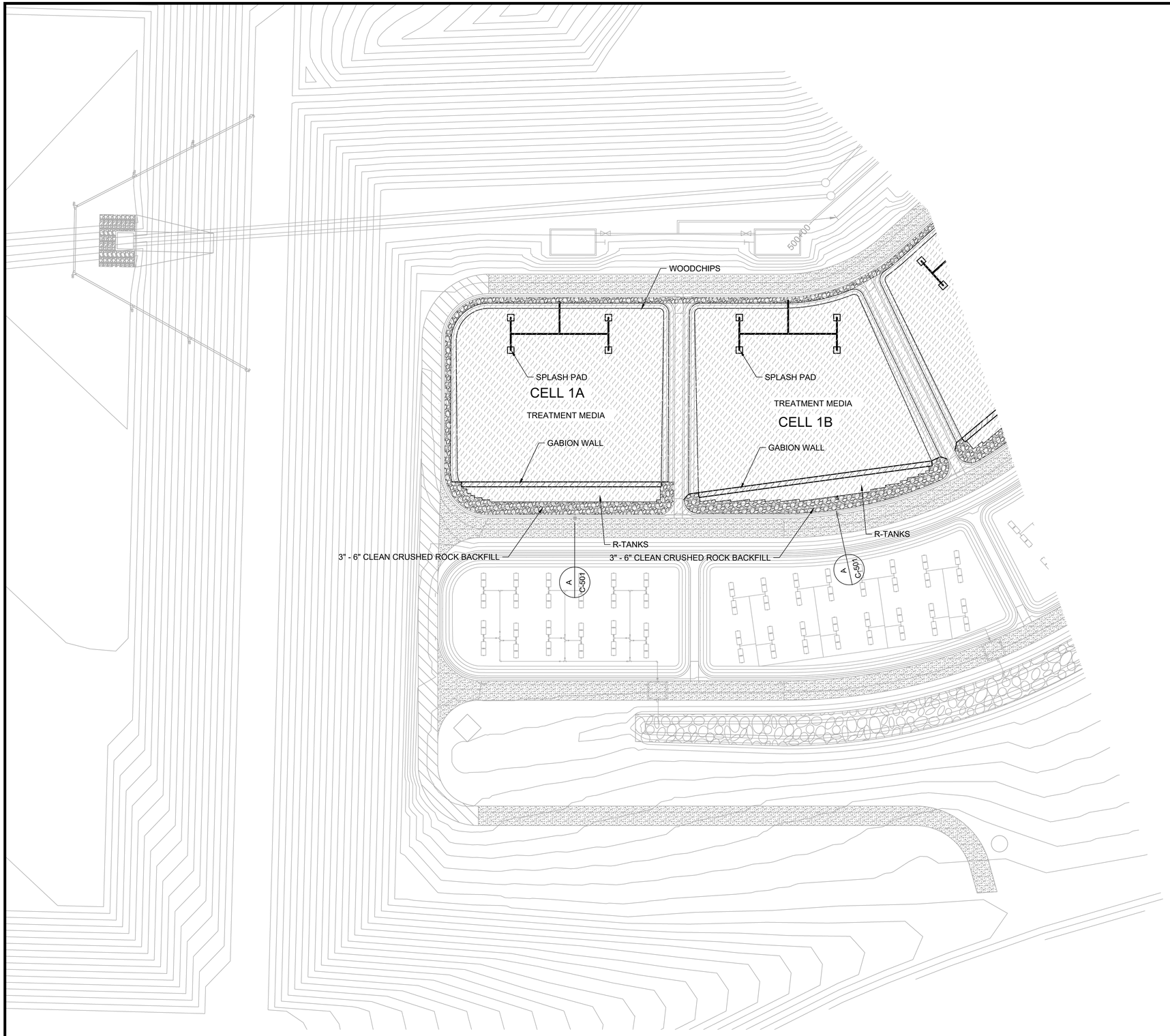
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C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1C & 1D
DEMOLITION PLAN

PROJECT NO. 2250383
SHEET NO. C-102

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Scale In Feet

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DATE 9/25/2026

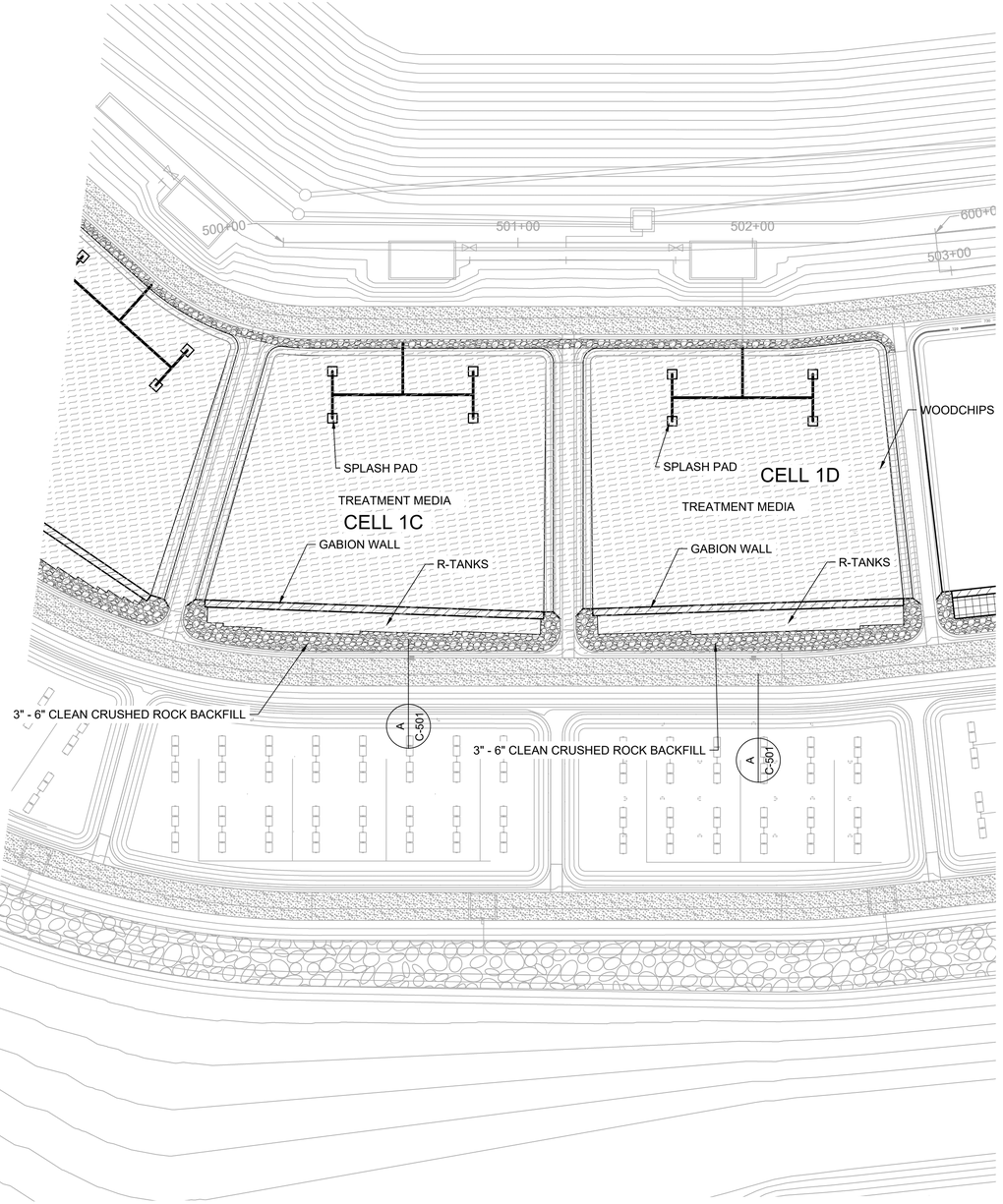
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KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1A & 1B
GRADING PLAN

PROJECT NO. 2250383
SHEET NO. C-103

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N

0 30 60 90

Scale In Feet

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CHECKED VJ
DATE 9/25/2026

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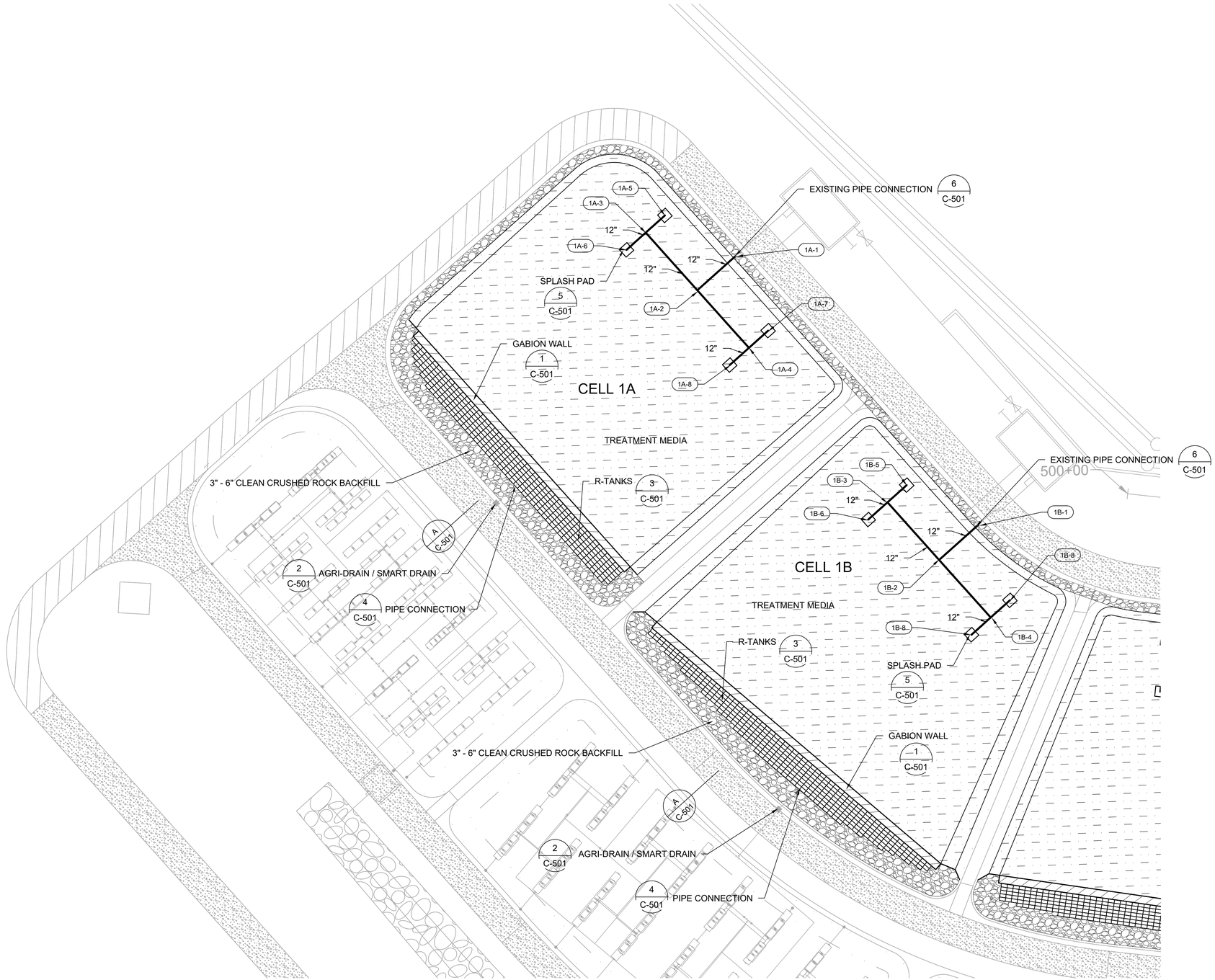
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KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1C & 1D
GRADING PLAN

PROJECT NO. 2250383
SHEET NO. C-104

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NOTES:

1. NEW DISTRIBUTION PIPING WILL CONNECT TO THE EXISTING 12-INCH PIPE THAT REMAINS IN PLACE OUT OF THE EXISTING DOSING SIPHON CHAMBER.
2. FOR PIPING PROFILES SEE DWG. C-201.
3. SIPHON AND DOSING SIPHON CHAMBERS SHALL BE CLEANED OF DEBRIS AND OBSTRUCTIONS DURING CONSTRUCTION. PIPES LEADING FROM DOSING SIPHON CHAMBERS SHALL BE CHECKED AND OBSTRUCTIONS REMOVED.



STRUCTURE TABLE	
#	DESCRIPTION
1A-1	COUPLING TO EXISTING PIPE N: 507254.62 E: 12819923.47
1A-2	12" TEE N: 507241.89 E: 12819908.43
1A-3	12" TEE N: 507264.80 E: 12819889.06
1A-4	Null Structure N: 507218.99 E: 12819927.80
1A-5	90° BEND ROTATED UP N: 507271.26 E: 12819896.69
1A-6	90° BEND ROTATED UP N: 507258.35 E: 12819881.42
1A-7	90° BEND ROTATED UP N: 507225.44 E: 12819935.43
1A-8	90° BEND ROTATED UP N: 507212.53 E: 12819920.16

STRUCTURE TABLE	
#	DESCRIPTION
1B-1	COUPLING TO EXISTING N: 507147.84 E: 12820014.83
1B-2	12" TEE N: 507134.63 E: 12819999.16
1B-3	12" TEE N: 507157.54 E: 12819979.79
1B-4	12" TEE N: 507111.72 E: 12820018.53
1B-5	12" 90° BEND ROTATED UP N: 507163.99 E: 12819987.43
1B-6	12" 90° BEND ROTATED UP N: 507151.08 E: 12819972.16
1B-7	12" 90° BEND ROTATED UP N: 507118.17 E: 12820026.17
1B-8	12" 90° BEND ROTATED UP N: 507105.26 E: 12820010.90

N

0 30 60 90

Scale In Feet

NO.	REVISIONS	BY	DATE

DRAWN GFB
DATE 9/25/2026
CHECKED VJ
DATE 9/25/2026

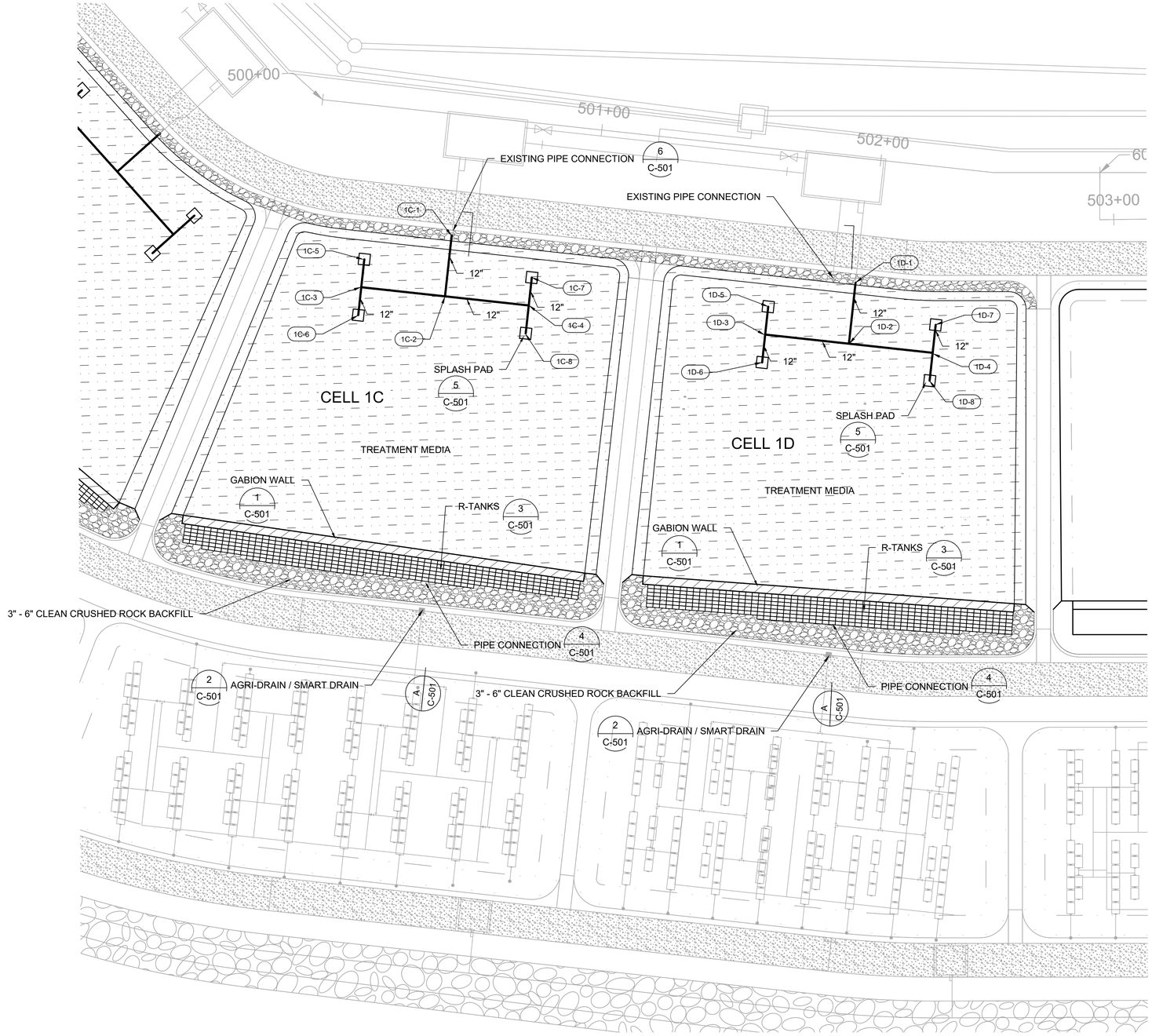
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GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1A & 1B
PIPING PLAN

PROJECT NO. 2250383
SHEET NO. C-105

C:\PW_WORKDIR\JACOBS-AMER-WRK\D0412858\05-C-105_GR1A-P2.DWG - GBOWLES - Sep, 25 2026 - 09:42am - PreinANewhof



NOTES:

1. NEW DISTRIBUTION PIPING WILL CONNECT TO THE EXISTING 12-INCH PIPE THAT REMAINS IN PLACE OUT OF THE EXISTING DOSING SIPHON CHAMBER.
2. FOR PIPING PROFILES SEE DWG. C-202.
3. SIPHON AND DOSING SIPHON CHAMBERS SHALL BE CLEANED OF DEBRIS AND OBSTRUCTIONS DURING CONSTRUCTION. PIPES LEADING FROM DOSING SIPHON CHAMBERS SHALL BE CHECKED AND OBSTRUCTIONS REMOVED.

STRUCTURE TABLE	
#	DESCRIPTION
1C-1	COUPLING TO EXISTING PIPE N: 507108.50 E: 12820117.58
1C-2	12" TEE N: 507086.90 E: 12820114.58
1C-3	12" TEE N: 507091.00 E: 12820084.86
1C-4	12" TEE N: 507082.80 E: 12820144.30
1C-5	90° BEND ROTATED UP N: 507100.90 E: 12820086.23
1C-6	90° BEND ROTATED UP N: 507081.09 E: 12820083.50
1C-7	90° BEND ROTATED UP N: 507092.70 E: 12820145.67
1C-8	90° BEND ROTATED UP N: 507072.89 E: 12820142.93

STRUCTURE TABLE	
#	DESCRIPTION
1D-1	COUPLING TO EXISTING PIPE N: 507087.62 E: 12820260.88
1D-2	12" TEE N: 507065.90 E: 12820257.88
1D-3	12" TEE N: 507070.00 E: 12820228.16
1D-4	12" TEE N: 507061.80 E: 12820287.60
1D-5	12" 90° BEND ROTATED UP N: 507079.91 E: 12820229.53
1D-6	12" 90° BEND ROTATED UP N: 507060.10 E: 12820226.80
1D-7	12" 90° BEND ROTATED UP N: 507071.71 E: 12820288.97
1D-8	12" 90° BEND ROTATED UP N: 507051.90 E: 12820286.24

N

0 30 60 90

Scale In Feet

NO.	REVISIONS	BY	DATE

DRAWN GFB
DATE 9/25/2026
CHECKED VJ
DATE 9/25/2026

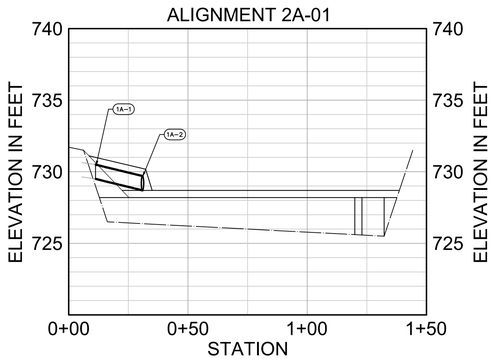
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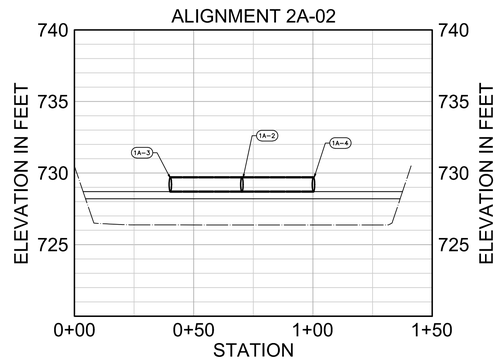
Jacobs

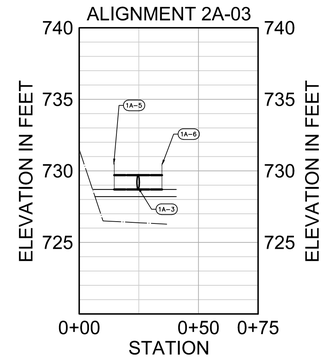
GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1C & 1D
PIPING PLAN

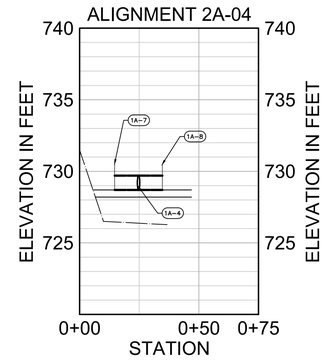
PROJECT NO. 2250383
SHEET NO. C-106

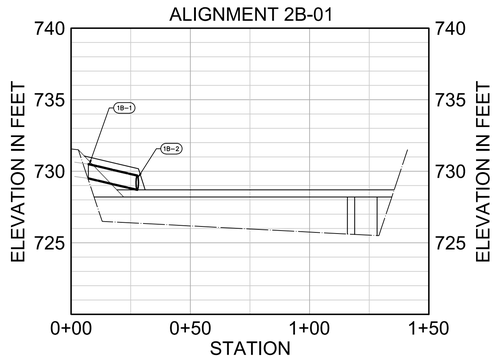
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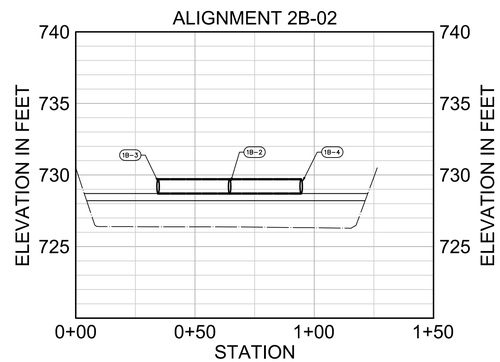


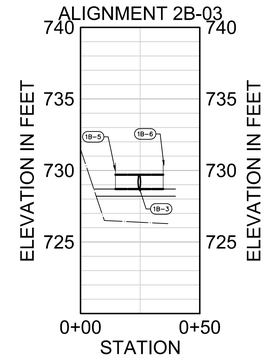


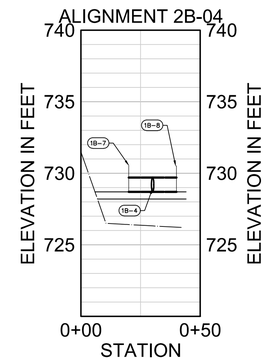












0 30 60 90
1"=30' HORIZ.
1"=5' VERT.

NO.	REVISIONS	BY	DATE

DRAWN GFB
DATE 9/25/2026
CHECKED VJ
DATE 9/25/2026

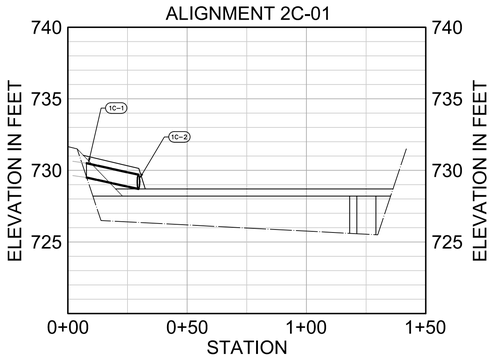
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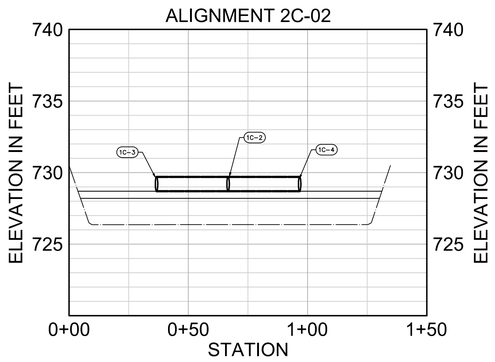
Jacobs

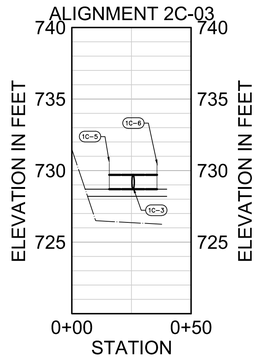
GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1A & 1B
PIPING PROFILES

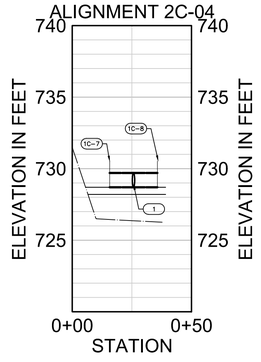
PROJECT NO. 2250383
SHEET NO. C-201

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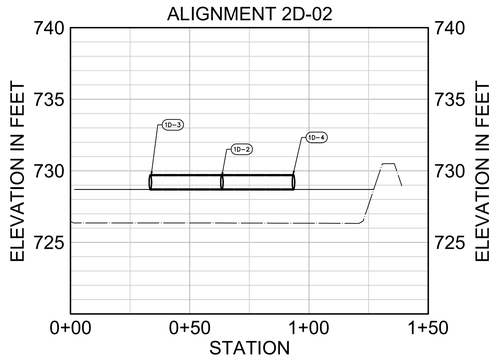


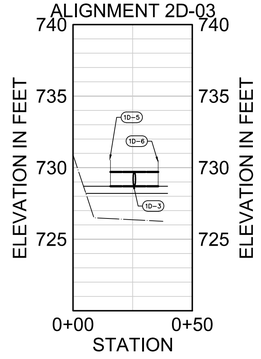


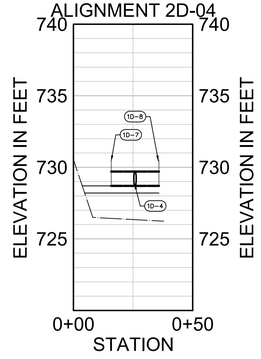












0 30 60 90
1"=30' HORIZ.
1"=5' VERT.

NO.	REVISIONS	BY	DATE

DRAWN GFB
DATE 9/25/2026
CHECKED VJ
DATE 9/25/2026

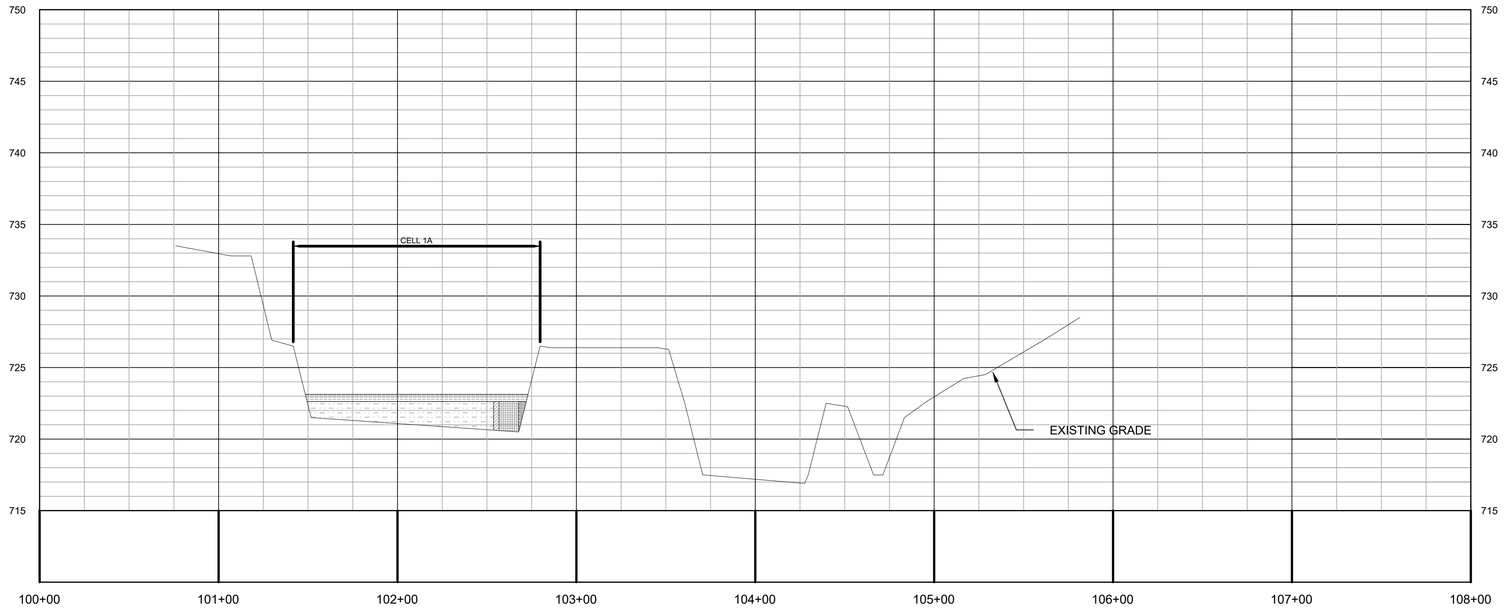
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KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1C & 1D
PIPING PROFILES

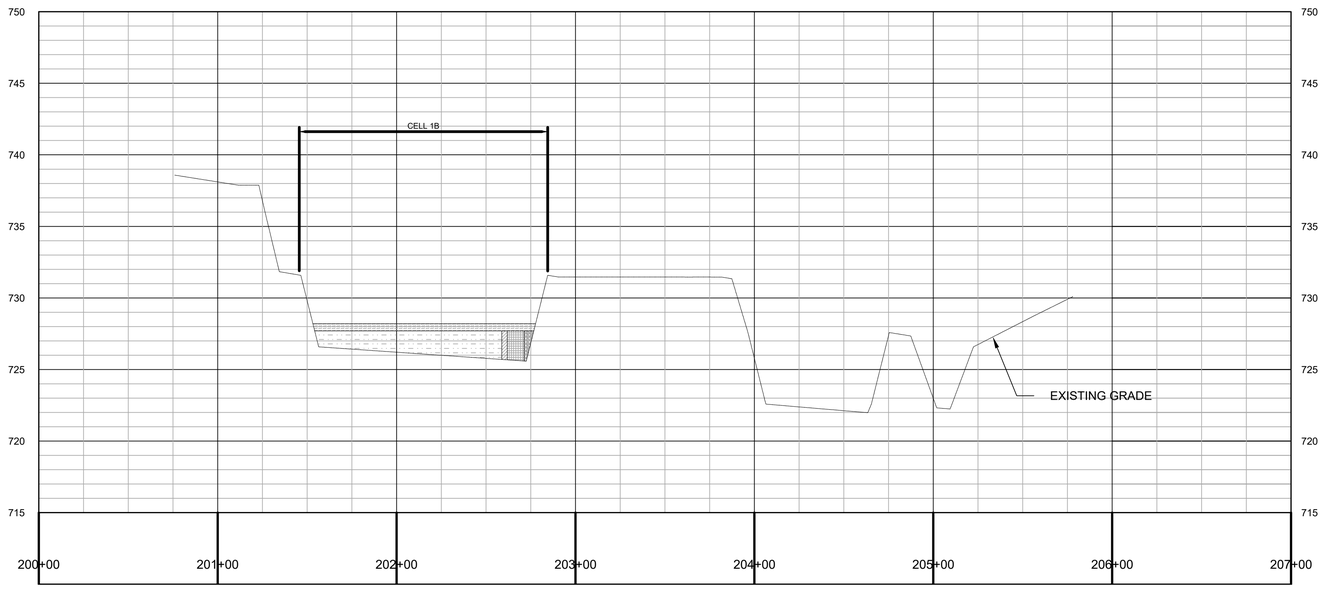
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SHEET NO. C-202

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PROFILE BASELINE A

1"=40'



PROFILE BASELINE B

1"=40'

0 40 80 120

1"=40' HORIZ.
1"=5' VERT.

NO.	REVISIONS	BY	DATE

DRAWN GFB
DATE 9/25/2026
CHECKED VJ
DATE 9/25/2026

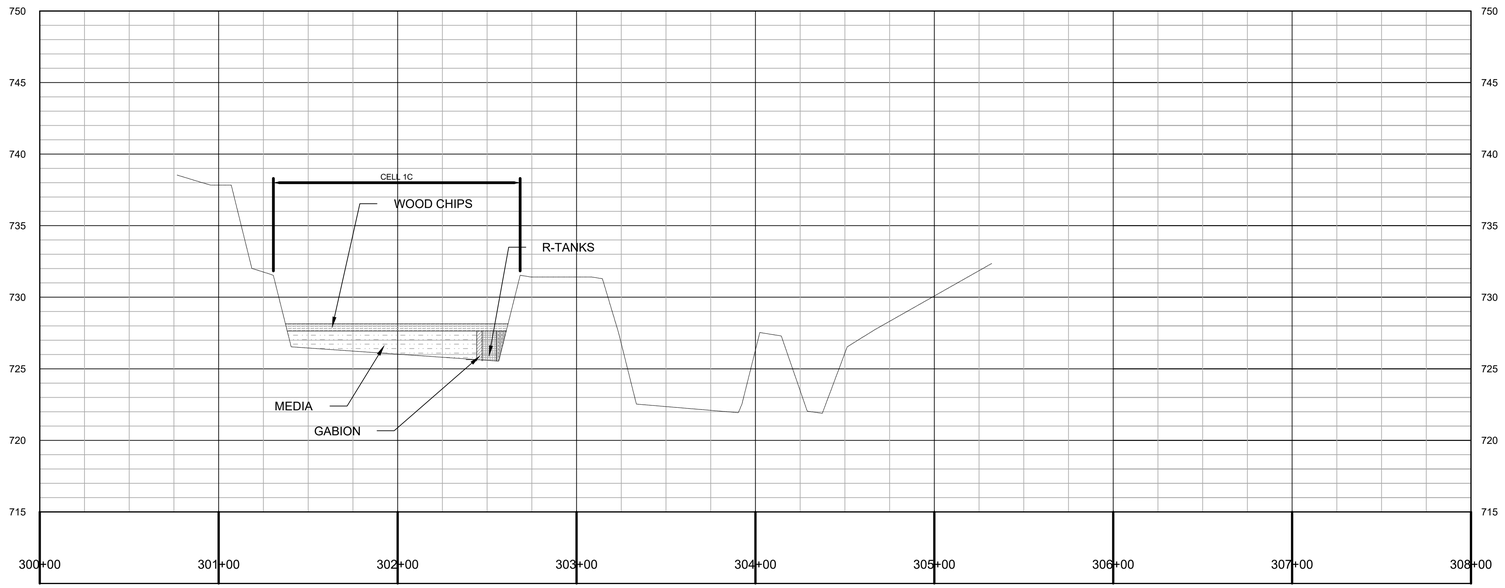
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GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM
MAINTENANCE, PHASE 2
CELLS 1A & 1B
PROFILE BASELINES A & B

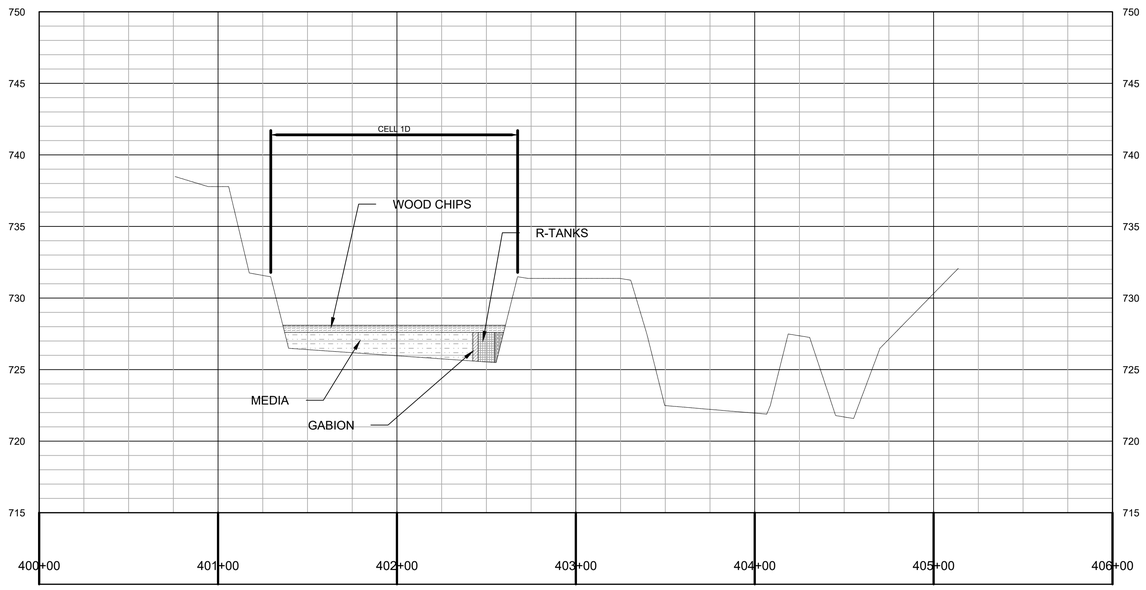
PROJECT NO. 2250383
SHEET NO. C-203

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PROFILE BASELINE C

1"=40'



PROFILE BASELINE D

1"=40'

0 40 80 120

1"=40' HORIZ.
1"=5' VERT.

NO.	REVISIONS	BY	DATE
1	FOR CONSTRUCTION	GFB	7/10/2026

DRAWN G.F.B.
DATE 03/06/2026
CHECKED VJ
DATE 03/06/2026

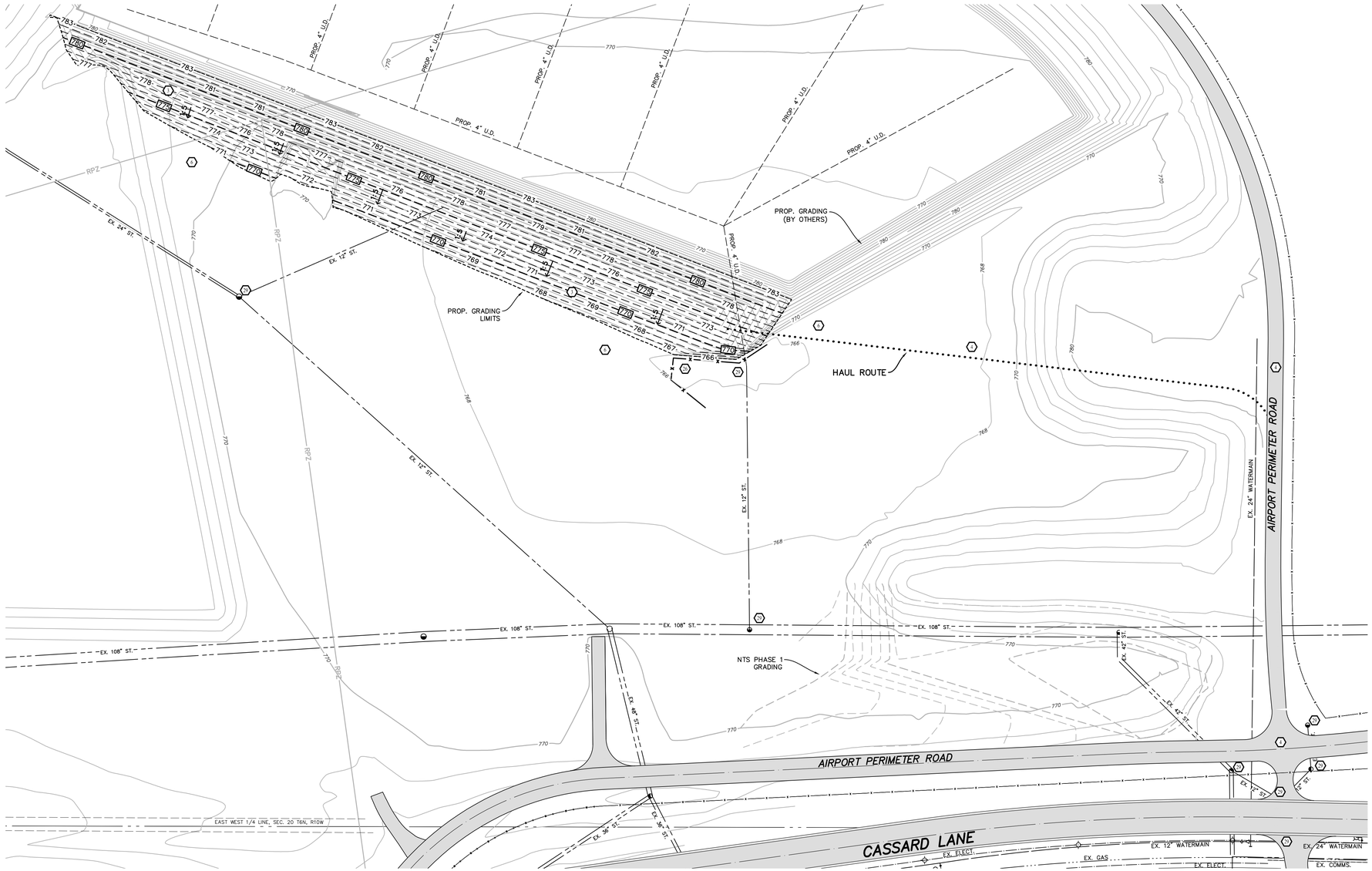
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GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-437 NATURAL TREATMENT SYSTEM IMPROVEMENTS
CELLS 1C & 1D
PROFILE BASELINES E & F

PROJECT NO. 2250383
SHEET NO. C-210

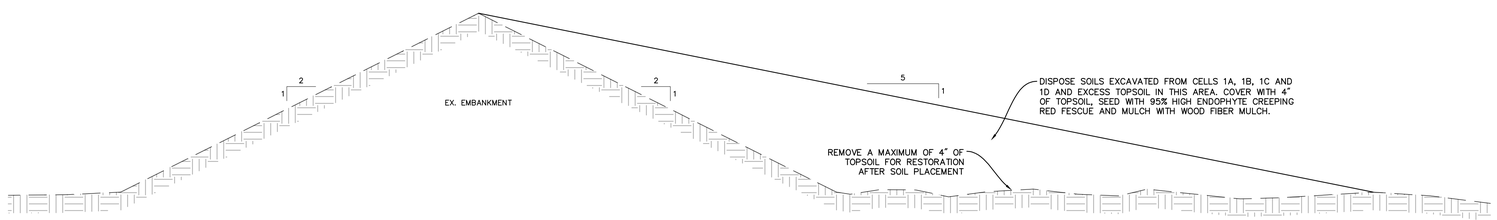
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GRADING PLAN

SCALE : 1" = 50'

North



DISPOSAL AREA TYPICAL SECTION

NOT TO SCALE

SOIL EROSION CONTROL KEY INDEX

1. PERMANENT SEEDING
2. DUST CONTROL
3. VEGETATIVE BUFFER STRIP
4. SILT FENCE
5. INLET PROTECTION FABRIC DROP

CONSTRUCTION NOTES

1. EXCAVATION
   - 1.1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 205 OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED HEREIN.
   - 1.2. TOPSOIL SHALL BE REMOVED PRIOR TO CONSTRUCTING ANY IMPROVEMENTS SHOWN ON THIS SHEET. TOPSOIL SHALL BE SALVAGED AND STOCKPILED. STOCKPILES SHALL BE USED FOR RE-SPREADING. EXCESS TOPSOIL MAY BE USED TO CONSTRUCT EMBANKMENTS AS SHOWN IN THE DETAILS.
   - 1.3. TOPSOIL REMOVAL SHALL BE CONSIDERED PART OF "EXCAVATION, EARTH". ALL COSTS SHALL BE INCLUDED INTO THE PER CUBIC YARD ITEM FOR "EXCAVATION, EARTH, AS SPECIFIED".
   - 1.4. TOPSOIL REMOVAL, REMOVAL OF BRUSH, SHRUBS, MISCELLANEOUS ITEMS, AND TREES WITH DIAMETERS OF LESS THAN SIX INCHES SHALL BE CONSIDERED PART OF "EXCAVATION, EARTH". ALL COSTS SHALL BE INCLUDED INTO THE PER CUBIC YARD ITEM FOR "EXCAVATION, EARTH, AS SPECIFIED".
   - 1.5. EMBANKMENT WILL NOT BE PAID AS A SEPARATE ITEM. ALL COSTS TO HAUL, PLACE, GRADE AND COMPACT MATERIAL IN THE LOCATIONS SHOWN SHALL BE INCLUDED INTO THE PER CUBIC YARD ITEM FOR "EXCAVATION, EARTH, AS SPECIFIED".
2. TURF ESTABLISHMENT
   - 2.1. FERTILIZER, SEED, AND MULCH SHALL BE PERFORMED IN ACCORDANCE WITH THE MDOT, 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTIONS 816 AND 917 EXCEPT AS DESCRIBED HEREIN.
   - 2.2. FERTILIZER SHALL BE CLASS B.
   - 2.3. SEED SHALL BE A MIXTURE OF 95% HIGH ENDOPHYTE CREEPING RED FESCUE AND 5% PERENNIAL RYE AND SOWN USING THE BRILLION OR DRILL SEED METHOD.
   - 2.4. MULCH SHALL BE WOOD FIBER MULCH AND APPLIED USING THE HYDROMULCH METHOD. MULCH ANCHORING SHALL BE APPROPRIATE FOR WOOD FIBER MULCH, AND LISTED ON THE MDOT QUALIFIED PRODUCTS LIST. MULCH AND MULCH ANCHORING SHALL BE MIXED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS OR AS DESCRIBED IN SECTION 816..
3. EXISTING SOILS IN THE VICINITY OF THE DISPOSAL AREA ARE A MIXTURE OF IN-SITU SOILS AND MATERIALS HAULED FROM OTHER AREAS OF THE AIRPORT. REFER TO www.grr.org/environmental-commitment-pfas FOR ADDITIONAL INFORMATION.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NO.	REVISIONS	BY	DATE

DRAWN: SXH
DATE: SEPT. '26
CHECKED: JAS
DATE: MAR. '26

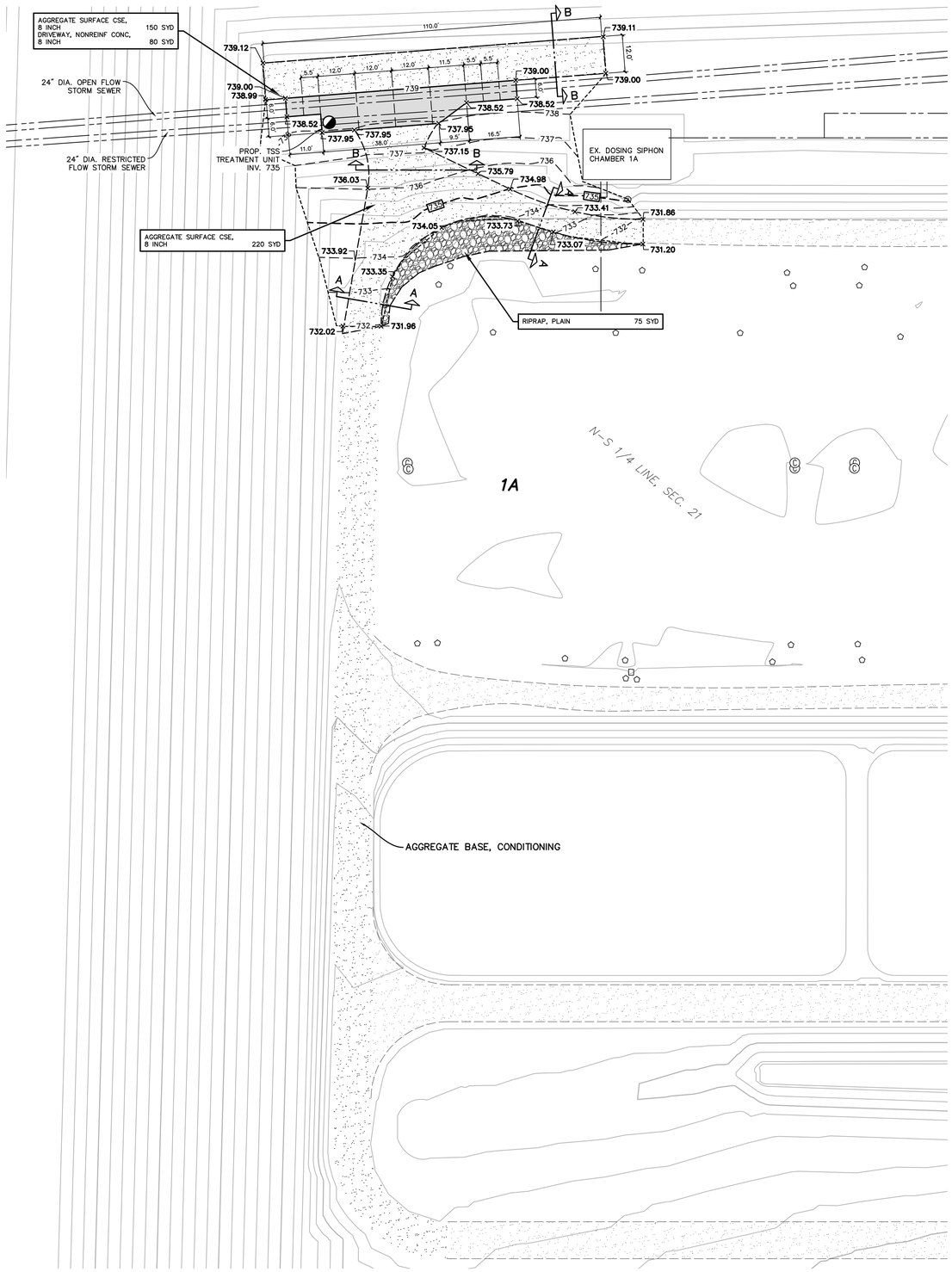
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GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2

SOIL DISPOSAL AREA GRADING PLAN

PROJECT NO. 2250383
SHEET NO. C-211

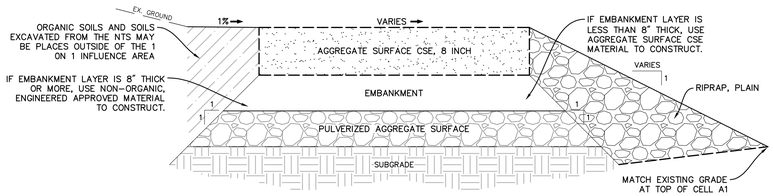
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ACCESS DRIVE

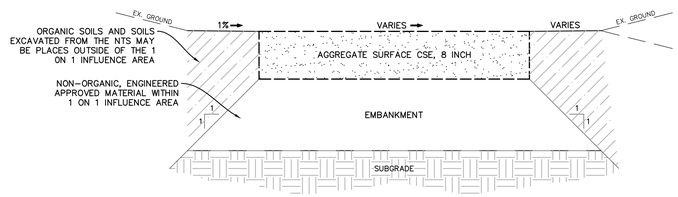
SCALE : 1" = 20'

North



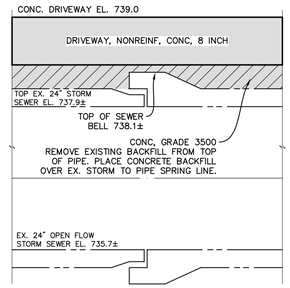
PROPOSED AGGREGATE ROAD SECTION A – A

NOT TO SCALE



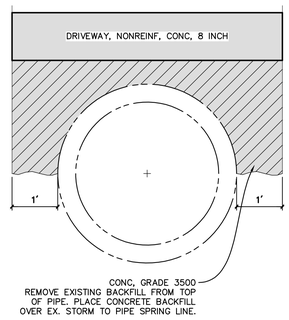
PROPOSED AGGREGATE ROAD SECTION B – B

NOT TO SCALE



PROPOSED CONCRETE DRIVEWAY SECTION

NOT TO SCALE



PIPE BACKFILL DETAIL

NOT TO SCALE

CONSTRUCTION NOTES:

1. TOTAL SUSPENDED SOLIDS (TSS) REMOVAL UNIT
   - 1.1. FLOW RATES
     - 24" RESTRICTED FLOW STORM SEWER
       - 1–YEAR: 7.5 CUBIC FEET/SECOND (CFS)
       - 2–YEAR: 8.3 CFS
       - 5–YEAR: 11.2 CFS
       - 10–YEAR: 12.5 CFS
     - 24" OPEN FLOW STORM SEWER
       - 1–YEAR: 17.5 CFS
       - 2–YEAR: 22.5 CFS
       - 5–YEAR: 37.4 CFS
       - 10–YEAR: 43.8 CFS
   - 1.2. ELEVATIONS
     - 1.2.1. TREATMENT UNIT INLET = 734.4
     - 1.2.2. TREATMENT UNIT OUTLET = 734.4
     - 1.2.3. DETENTION BASIN OVERFLOW = 752.0±
   - 1.3. TREATMENT – TREATMENT UNIT SHALL BE DESIGNED ON A SITE SPECIFIC BASIS AND ACHIEVE EITHER A MINIMUM OF 80% TSS REMOVAL, AS COMPARED TO UNCONTROLLED RUNOFF, OR A DISCHARGE CONCENTRATION OF TSS THAT DOES NOT EXCEED 80 MILLIGRAMS PER LITER (MG/L) FOR THE FLOW RATES SHOWN IN SECTION 1.1 FOR THE 24" RESTRICTED FLOW STORM SEWER.
   - 1.4. TREATMENT UNIT SHALL BE CAPABLE OF SUPPORTING AN H20 LOADING.
   - 1.5. IF A SEPARATE DRAINAGE STRUCTURE IS NEEDED FOR THE TREATMENT UNIT, THE DRAINAGE STRUCTURE SHALL BE IN ACCORDANCE WITH SECTION 403 OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
   - 1.6. ALL CASTING SHALL BE CAPABLE OF SUPPORTING AN H20 LOADING AND BE IN ACCORDANCE WITH SECTION 403 OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
   - 1.7. ALL COSTS FOR THE TSS TREATMENT UNIT INCLUDING THE TREATMENT SYSTEM, DRAINAGE STRUCTURE, CASTING, REMOVAL OF EXISTING SEWER PIPE, CONNECTION OF THE NEW STRUCTURE TO THE EXISTING PIPE, EXCAVATION, BACKFILL AND ALL ITEMS OF WORK NECESSARY TO INSTALL AND PLACE INTO OPERATION A FULLY FUNCTIONAL STORMWATER TREATMENT UNIT SHALL BE INCLUDED INTO THE PER EACH UNIT PRICE FOR "DR STRUCTURE, TSS REMOVAL".

2. EXCAVATION
   - 2.1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 205 OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED HEREIN. ABBREVIATIONS AND PAY ITEM DESCRIPTIONS SHOWN ON THIS PAGE ARE BASED ON DEFINITIONS FOUND IN THE MDOT STANDARD SPECIFICATIONS.
   - 2.2. TOPSOIL SHALL BE REMOVED PRIOR TO CONSTRUCTING ANY IMPROVEMENTS SHOWN ON THIS SHEET. TOPSOIL SHALL BE SALVAGED AND STOCKPILED. STOCKPILES SHALL BE USED FOR RE–SPREADING. EXCESS TOPSOIL MAY BE USED TO CONSTRUCT EMBANKMENTS AS SHOWN IN THE DETAILS.
   - 2.3. TOPSOIL REMOVAL SHALL BE CONSIDERED PART OF "EXCAVATION, EARTH". ALL COSTS SHALL BE INCLUDED INTO THE PER CUBIC YARD ITEM FOR "EXCAVATION, EARTH, AS SPECIFIED".
   - 2.4. EMBANKMENT WILL NOT BE PAID AS A SEPARATE ITEM. ALL COSTS TO HAUL, PLACE, GRADE AND COMPACT MATERIAL IN THE LOCATIONS SHOWN SHALL BE INCLUDED INTO THE PER CUBIC YARD ITEM FOR "EXCAVATION, EARTH, AS SPECIFIED".
   - 2.5. FERTILIZER, SEED, AND MULCH SHALL CONFORM WITH MDOT, 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTIONS 816 AND 917 EXCEPT AS DESCRIBED HEREIN.
   - 2.6. FERTILIZER SHALL BE CLASS B.
   - 2.7. SEED SHALL BE A MIXTURE OF 95% HIGH ENDOPHYTE CREEPING RED FESCUE AND 5% PERENNIAL RYE AND SOWN USING THE BRILLION OR DRILL SEED METHOD.
   - 2.8. MULCH SHALL BE WOOD FIBER MULCH AND APPLIED USING THE HYDROMULCH METHOD. MULCH ANCHORING SHALL BE APPROPRIATE FOR WOOD FIBER MULCH, AND LISTED ON THE MDOT QUALIFIED PRODUCTS LIST. MULCH AND MULCH ANCHORING SHALL BE MIXED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS OR AS DESCRIBED IN SECTION 816.

3. AGGREGATE BASE COURSE
   - 3.1. AGGREGATE BASE COURSE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 302 OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED HEREIN.
   - 3.2. THE EXISTING/FORMER HMA SURFACE SHALL BE PULVERIZED AND MIXED INTO THE EXISTING BASE COURSE MATERIAL SO THAT NO PIECES GREATER THAN 2 INCHES REMAIN.
   - 3.3. EXISTING AGGREGATE BASE COURSE SHALL BE GRADED TO DRAIN TOWARDS TREATMENT CELLS 1A AND 1B. BASE COURSE SHALL BE COMPACTED TO 98% OF MAXIMUM DENSITY BASED ON MDOT THREE POINT CONE METHOD.
   - 3.4. ALL COSTS FOR PULVERIZING, GRADING AND COMPACTING THE EXISTING AGGREGATE BASE COURSE SHALL BE INCLUDED IN TO THE PER SQUARE YARD ITEM FOR "AGGREGATE BASE COURSE CONDITIONING".

4. CONCRETE
   - 4.1. CONCRETE USED TO BACKFILL PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 706 OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED IN THE FOLLOWING NOTES.
     - 4.1.1. CONCRETE SHALL BE GRADE 3500.
     - 4.1.2. NO MODIFICATIONS WILL BE MADE TO THE UNIT PRICE BASED ON METHOD OF PLACEMENT.
     - 4.1.3. VOLUME OF CONCRETE WILL BE BASED ON THE LENGTH, WIDTH AND DEPTH(S) OF THE EXCAVATION. EXCESS CONCRETE DELIVERED TO THE SITE WILL NOT BE CONSIDERED FOR PAYMENT.
   - 4.2. CONCRETE DRIVEWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 801 OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED IN THE FOLLOWING NOTES.
     - 4.2.1. CONCRETE SHALL BE GRADE 3500.
     - 4.2.2. JOINTS SHALL BE TROWELED AT THE LOCATIONS SHOWN.

5. SLOPE PROTECTION
   - 5.1. SLOPE PROTECTION SHALL BE IN ACCORDANCE WITH SECTION 813 OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED IN THE FOLLOWING NOTES.
   - 5.2. GEOTEXTILE FABRIC SHALL BE PLACED OVER THE SUBGRADE PRIOR TO PLACING RIPRAP.
   - 5.3. RIPRAP SHALL BE CLEAN AND FREE OF SOIL PARTICLES ATTACHED TO THE ROCK SURFACE PRIOR TO PLACEMENT. RIPRAP SHALL BE WASHED PRIOR TO PLACEMENT. SUPPLIER SHALL CERTIFY RIPRAP WAS WASHED AT LEAST ONCE MORE THAN STANDARD QUARRY PROCEDURES.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NO.	REVISIONS	BY	DATE

DRAWN SXH
DATE SEPT. '26
CHECKED JAS
DATE MAR. '26

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GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2

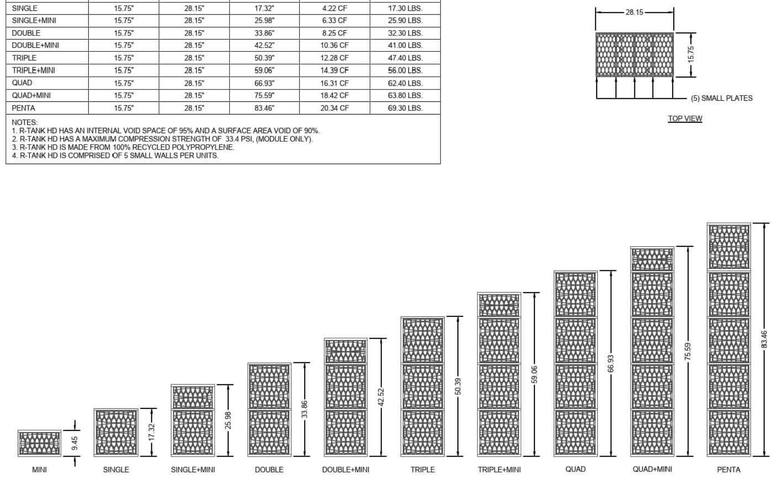
SITE PLAN

PROJECT NO. 2250383
SHEET NO. C–212

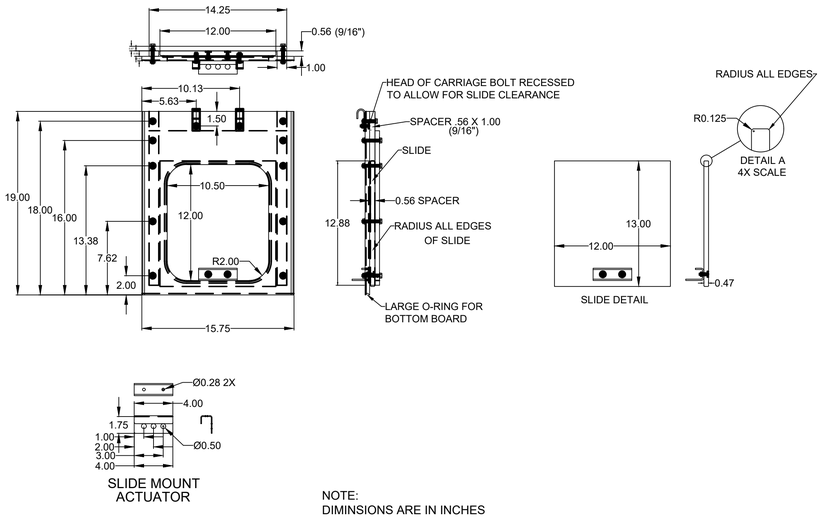
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R-TANK HD UNIT INFORMATION					
UNIT TYPE	WIDTH	LENGTH	HEIGHT	STORAGE VOLUME	WEIGHT
MINI	15.75"	28.15"	9.45"	2.30 CF	10.90 LBS.
SINGLE	15.75"	28.15"	17.32"	4.22 CF	17.30 LBS.
SINGLE+MINI	15.75"	28.15"	25.98"	6.33 CF	25.90 LBS.
DOUBLE	15.75"	28.15"	33.86"	8.25 CF	32.30 LBS.
DOUBLE+MINI	15.75"	28.15"	42.52"	10.36 CF	41.00 LBS.
TRIPLE	15.75"	28.15"	50.39"	12.28 CF	47.40 LBS.
TRIPLE+MINI	15.75"	28.15"	59.06"	14.39 CF	56.00 LBS.
QUAD	15.75"	28.15"	66.93"	16.31 CF	62.40 LBS.
QUAD+MINI	15.75"	28.15"	75.59"	18.42 CF	63.80 LBS.
PENTA	15.75"	28.15"	83.46"	20.34 CF	69.30 LBS.

NOTES:
1. R-TANK HD HAS AN INTERNAL VOID SPACE OF 95% AND A SURFACE AREA VOID OF 90%.
2. R-TANK HD HAS A MAXIMUM COMPRESSION STRENGTH OF 33.4 PSI, (MODULE ONLY).
3. R-TANK HD IS MADE FROM 100% RECYCLED POLYPROPYLENE.
4. R-TANK HD IS COMPRISED OF 5 SMALL WALLS PER UNITS.



3 C-501 **R-TANK HD DETAIL**
NTS

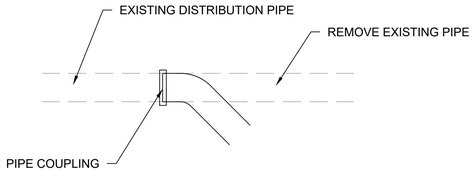


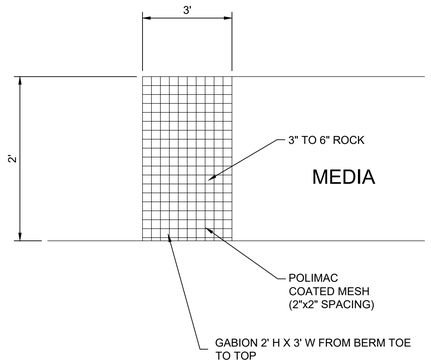
NOTE:
DIMINSIONS ARE IN INCHES

12-IN SLIDE GATE - SMART DRAIN
NTS

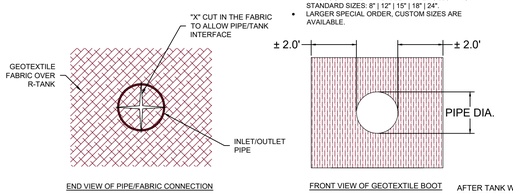


5 C-501 **4'x4' PRECAST SLAB**
NTS



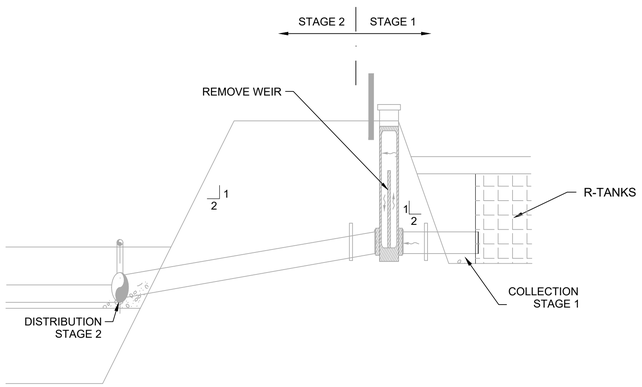


1 C-501 **GABION BASKET**
NTS

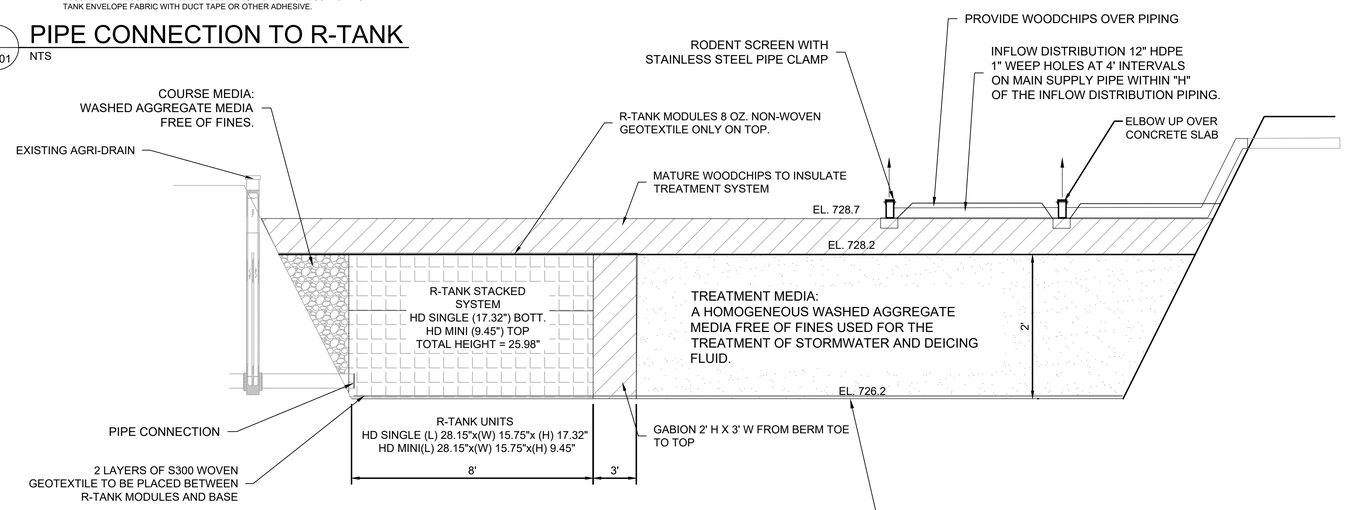


4 C-501 **PIPE CONNECTION TO R-TANK**
NTS

6 C-501 **CONNECTION TO EXISTING PIPE**
NTS



2 C-501 **SMART DRAIN**
1"=30"



A C-501 **TYPICAL SECTION**
N.T.S.

NO.	REVISIONS	BY	DATE

DRAWN GFB
DATE 9/25/2026
CHECKED VJ
DATE 9/25/2026

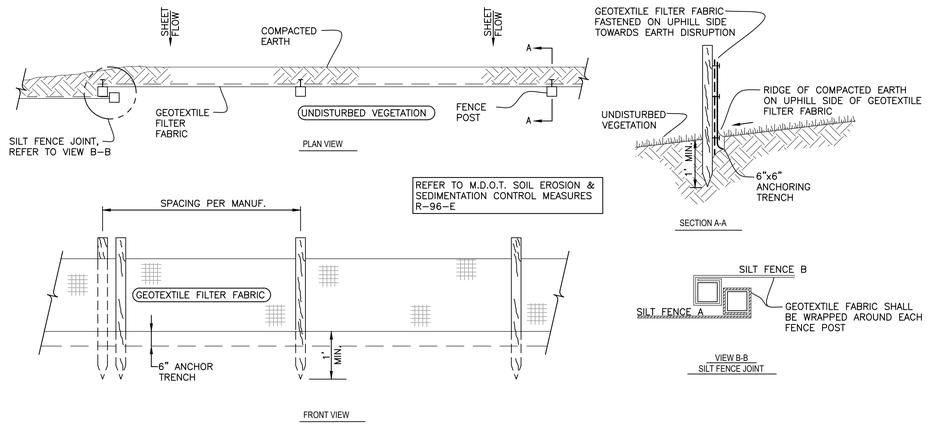
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Jacobs

GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-449 NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2
CELLS 1A,1B,1C & 1D
DETAILS & TYPICAL SECTION

PROJECT NO. 2250383
SHEET NO. C-501

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26 SOIL EROSION CONTROL GEOTEXTILE SILT FENCING

NOT TO SCALE

NO.	REVISIONS	BY	DATE

DRAWN: SXH
DATE: SEPT. '26
CHECKED: JAS
DATE: MAR. '26

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KENT COUNTY, MICHIGAN
C–449 NATURAL TREATMENT SYSTEM MAINTENANCE, PHASE 2

SITE DETAILS

PROJECT NO. 2250383
SHEET NO. C–502

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