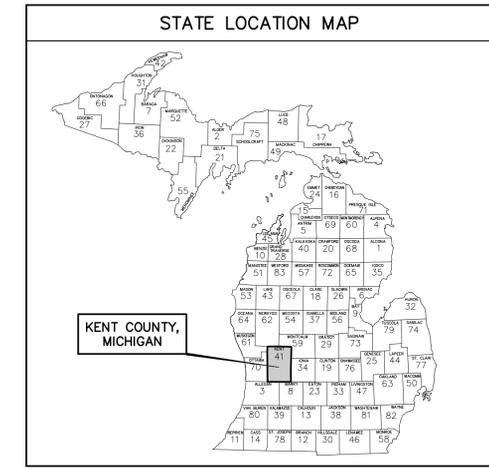
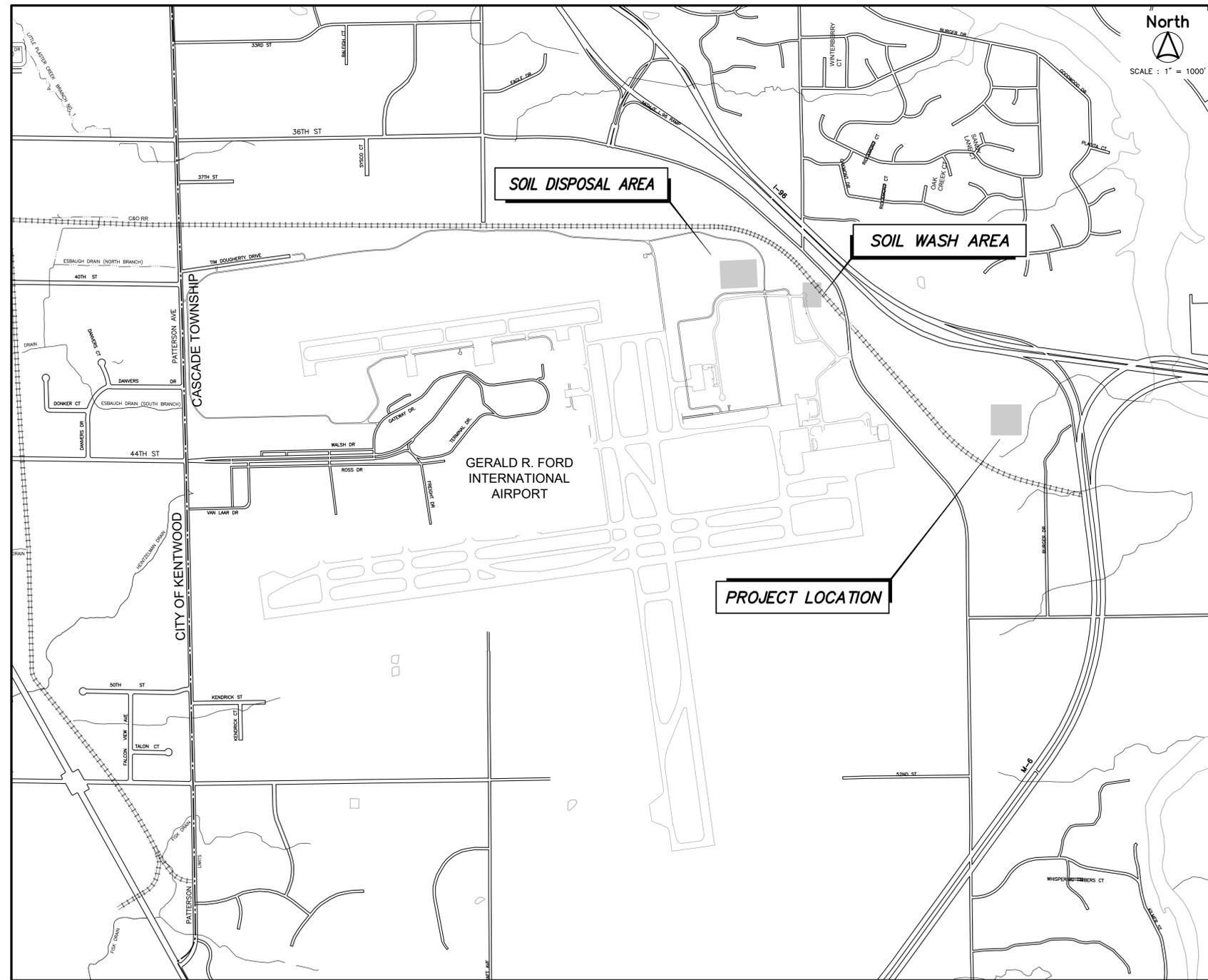


GERALD R. FORD INTERNATIONAL AIRPORT AUTHORITY

KENT COUNTY, MICHIGAN

C-437 NATURAL TREATMENT SYSTEM IMPROVEMENTS

REHABILITATE CELLS 1E AND 1F



GENERAL NOTES

- 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.
- 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.
- 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

<p>SANITARY SEWER</p> <p>GERALD R. FORD INT'L AIRPORT 5500 44TH ST SE GRAND RAPIDS, MICHIGAN 49512 ATTN: CLINT NEMETH PHONE : (616) 233-6000</p> <p>WATER</p> <p>CITY OF GRAND RAPIDS 1900 OAK INDUSTRIAL DR NE GRAND RAPIDS, MI 49505 ATTN: JAMES PARR PHONE : (616) 456-4059</p> <p>STORM SEWER</p> <p>GERALD R. FORD INT'L AIRPORT 5500 44TH ST SE GRAND RAPIDS, MICHIGAN 49512 ATTN: CLINT NEMETH PHONE : (616) 233-6000</p> <p>OTHER COMMUNICATION</p> <p>FAA ATTN: PETE WILKE PHONE : (616) 464-5371</p>	<p>GAS</p> <p>DTE ENERGY 444 WEALTHY STREET GRAND RAPIDS, MI 49503 ATTN: ADAM SCRIPPS PHONE : (616) 632-2631</p> <p>ELECTRIC-DISTRIBUTION</p> <p>CONSUMERS ENERGY 4000 CLAY AVENUE SW GRAND RAPIDS, MI 49508 ATTN: ANDREW ALDRICH PHONE : (616) 215-3609</p> <p>COMMUNICATION</p> <p>AT&T 955 36TH STREET SE, ROOM 5 GRAND RAPIDS, MI 49508 ATTN: CORY VANTIL PHONE : (616) 246-7573</p> <p>CABLE TELEVISION</p> <p>COMCAST CABLE 3500 PATTERSON AVE GRAND RAPIDS, MICHIGAN 49512 ATTN: JIM ZAWACKI PHONE : (616) 575-0501</p>
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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
GEOID :	GEOID 12B
UNITS :	INTERNATIONAL FEET
PROJECT COMBINED SCALE FACTOR (PCSF) =	X.XXXXXXXXXXX
GROUND DISTANCE =	GRID DISTANCE/PCSF

SHEET INDEX	
SHEET No.	DESCRIPTION
C-000	COVER SHEET
C-001	CONSTRUCTION SAFETY PHASING PLAN
C-002	CONSTRUCTION NOTES
C-100	CELLS 1E & 1F GENERAL ABBREVIATIONS
C-101	CELLS 1E & 1F HYDRAULIC PROFILE
C-103	CELLS 1E & 1F DEMOLITION PLAN
C-202	CELLS 1E & 1F GRADING PLAN
C-203	CELLS 1E & 1F PIPING PLAN
C-204	CELLS 1E & 1F PIPING PROFILES
C-210	CELLS 1E & 1F PROFILE BASELINES E AND BASELINE F
C-220	SOIL DISPOSAL AREA GRADING PLAN
C-221	SOIL WASH AREA GRADING PLAN
C-501	CELLS 1E & 1F DETAILS & TYPICAL SECTION



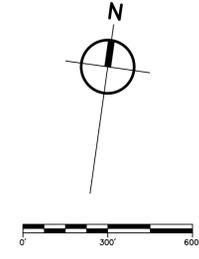
ISSUED FOR BIDS MARCH 16, 2026

	PROJECT NO. 2250383
	SHEET NO. C-000

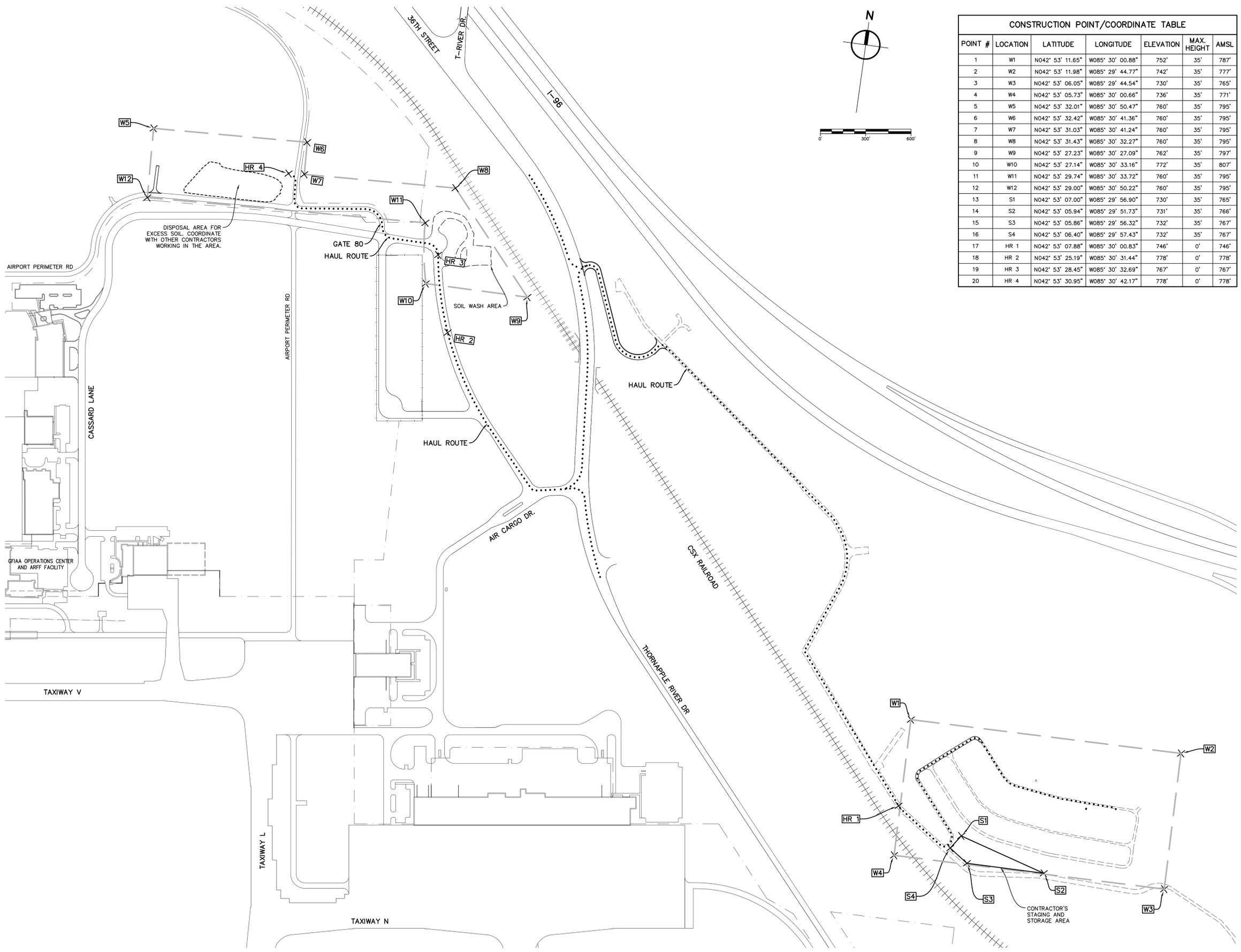
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PHASING NOTES

- GENERAL**
- FOR ALL PHASES HEREIN, CONTRACTOR'S EQUIPMENT MUST ENTER THE WORK AREA THROUGH THE HAUL ROUTE SHOWN.
 - CONTRACTOR SHALL PROVIDE, PLACE, AND MAINTAIN LOW PROFILE BARRICADES OR OTHER TRAFFIC CONTROL DEVICES AT THE LOCATIONS SHOWN IMMEDIATELY UPON STARTING WORK.
 - MAXIMUM EQUIPMENT HEIGHT IS 35 FEET.
 - 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.)
 - COORDINATE LOCATION OF AGGREGATE STOCKPILES AND WASHING DEVICES WITH GFIAA OPERATIONS AND ENVIRONMENTAL STAFF. NO STOCKPILES MAY BE STARTED UNTIL HEIGHT AND CONTAINMENT CONTROL PLANS HAVE BEEN ACCEPTED BY GFIAA STAFF.
 - WORK IN THE NATURAL TREATMENT SYSTEM (NTS) AND WASH AREA IS ANTICIPATED TO BE OUTSIDE THE AIRPORT SECURITY FENCE. THE DISPOSAL AREA FOR EXISTING NTS MATERIAL IS LOCATED INSIDE THE AIRPORT SECURITY FENCE.
 - 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 CONTRACTOR'S RESPONSIBILITY WHENEVER THE GATE IS OPEN FOR CONSTRUCTION OF THIS PROJECT.
 - THIS PROJECT INCLUDES REHABILITATION OF NTS CELLS 1E AND 1F INCLUDING REMOVAL OF EXISTING MATERIALS, PARTIAL REMOVAL OF THE DRAINAGE SYSTEM, PLACEMENT OF NEW AGGREGATE BEDS, BED DRAINAGE SYSTEM AND RESTORATION.
 - 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.
 - A LOCATION TO WASH BED AGGREGATES TO THE REQUIRED STANDARDS IS SHOWN AT THE END OF OLD THORNAPPLE RIVER DRIVE AND SOUTH OF THE CSX RAILROAD. A CITY OF GRAND RAPIDS WATER MAIN EXISTS ON THE WEST SIDE OF OLD THORNAPPLE RIVER DRIVE. THE WASHING AREA IS LOCATED ON THE EAST SIDE OF OLD THORNAPPLE RIVER DRIVE. THE DRIVE MAY NOT BE OBSTRUCTED BY WASHING OPERATIONS, EQUIPMENT VEHICLES OR ANY OTHER PROJECT RELATED ITEM AT ANY TIME.
 - 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' 32.01"	W085° 30' 50.47"	760'	35'	795'
6	W6	N042° 53' 32.42"	W085° 30' 41.36"	760'	35'	795'
7	W7	N042° 53' 31.03"	W085° 30' 41.24"	760'	35'	795'
8	W8	N042° 53' 31.43"	W085° 30' 32.27"	760'	35'	795'
9	W9	N042° 53' 27.23"	W085° 30' 27.09"	762'	35'	797'
10	W10	N042° 53' 27.14"	W085° 30' 33.16"	772'	35'	807'
11	W11	N042° 53' 29.74"	W085° 30' 33.72"	760'	35'	795'
12	W12	N042° 53' 29.00"	W085° 30' 50.22"	760'	35'	795'
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'	0'	746'
18	HR 2	N042° 53' 25.19"	W085° 30' 31.44"	778'	0'	778'
19	HR 3	N042° 53' 28.45"	W085° 30' 32.69"	767'	0'	767'
20	HR 4	N042° 53' 30.95"	W085° 30' 42.17"	778'	0'	778'



LEGEND

- CONSTRUCTION AREA PHASE 1
- CONSTRUCTION AREA PHASE 2
- STAGING & STORAGE AREA
- ACCESS ROUTE
- ROFA - RUNWAY OBJECT FREE AREA (ROFA)
- RPZ - RUNWAY PROTECTION ZONE (RPZ)
- RSA - RUNWAY SAFETY AREA (RSA)
- ROFZ - RUNWAY OBJECT FREE ZONE (ROFZ)
- TOFA - TAXIWAY OBJECT FREE AREA (TOFA)
- TSA - TAXIWAY SAFETY AREA (TSA)
- BRL - BUILDING RESTRICTION LINE
- 1013 - PART 77 SURFACE
- PROJECT COORDINATE LOCATION
- LOW PROFILE BARRICADE
- EXISTING PAVEMENT
- EXISTING BUILDING

NO.	REVISIONS	BY	DATE

DRAWN: STAFF
 DATE: MAR. '26
 CHECKED: JAS
 DATE: MAR. '26



GERALD R. FORD INTERNATIONAL AIRPORT
 KENT COUNTY, MICHIGAN
 C-437 NATURAL TREATMENT SYSTEM
 IMPROVEMENTS
CONSTRUCTION SAFETY PHASING PLAN

PROJECT NO. 2250383
 SHEET NO. C-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, 2026. SURFACE RESTORATION AND PUNCH LIST ITEMS MUST BE COMPLETE BY SEPTEMBER 30, 2026.
2. THE "NOTICE TO PROCEED" WILL BE ISSUED FOR JUNE 1, 2026.
3. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL WORK WITHIN THE TIMES SPECIFIED IN ITEMS 1 AND 2 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/hubs/PDFs/rules%20regs2019.pdf?hl=eng=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 ADVISOR 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 WILL BE PROVIDED TO THE CONTRACTOR.
7. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE SAFETY AND OPERATIONS PLAN.
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 FAA OR 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 HIS OWN HAUL ROUTES AS NECESSARY TO COMPLETE HIS 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 C-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 AND WASH AREAS ARE LOCATION 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 WEBSITE (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 WEBSITE. 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 SAFETY & OPERATIONS PLAN. 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 MDOOT MIXTURE "TUF" MULCHED AND ANCHORED IN ACCORDANCE WITH SECTION 816 OF MDOOT 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 RSA OR TSA DIMENSIONS ARE ASSOCIATED WITH THIS CONTRACT.
34. CONTRACTOR SHALL NOT CROSS, PROTRUDE, ENTER OR BREAK THE PLANE OF AN OPEN RUNWAY OR TAXIWAY SAFETY AREAS (RSA, TSA), OBJECT FREE ZONE (OFZ), OBJECT FREE AREA (ROFA, TOFA) OR APPROACH SURFACES 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 PERMITTED, USE OF OPEN FLAME WELDERS OR TORCHES SHALL BE IN ACCORDANCE WITH THE CONTRACTOR'S CORPORATE POLICY AND CONTRACTOR'S SAFETY PLAN FOR THEIR ACTIONS ON THIS PROJECT. 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
 NOTAMS – 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 HIS OWN MEANS OF DETECTION.
3. 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. 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 SECTION 110 OF THE 2020 MDOOT STANDARD SPECIFICATIONS FOR CONSTRUCTION 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.

SOIL EROSION AND SEDIMENTATION CONTROL

5. 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 OWNER WITH A COPY OF THE APPROVED PERMIT.
6. 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".
7. 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.
8. 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.

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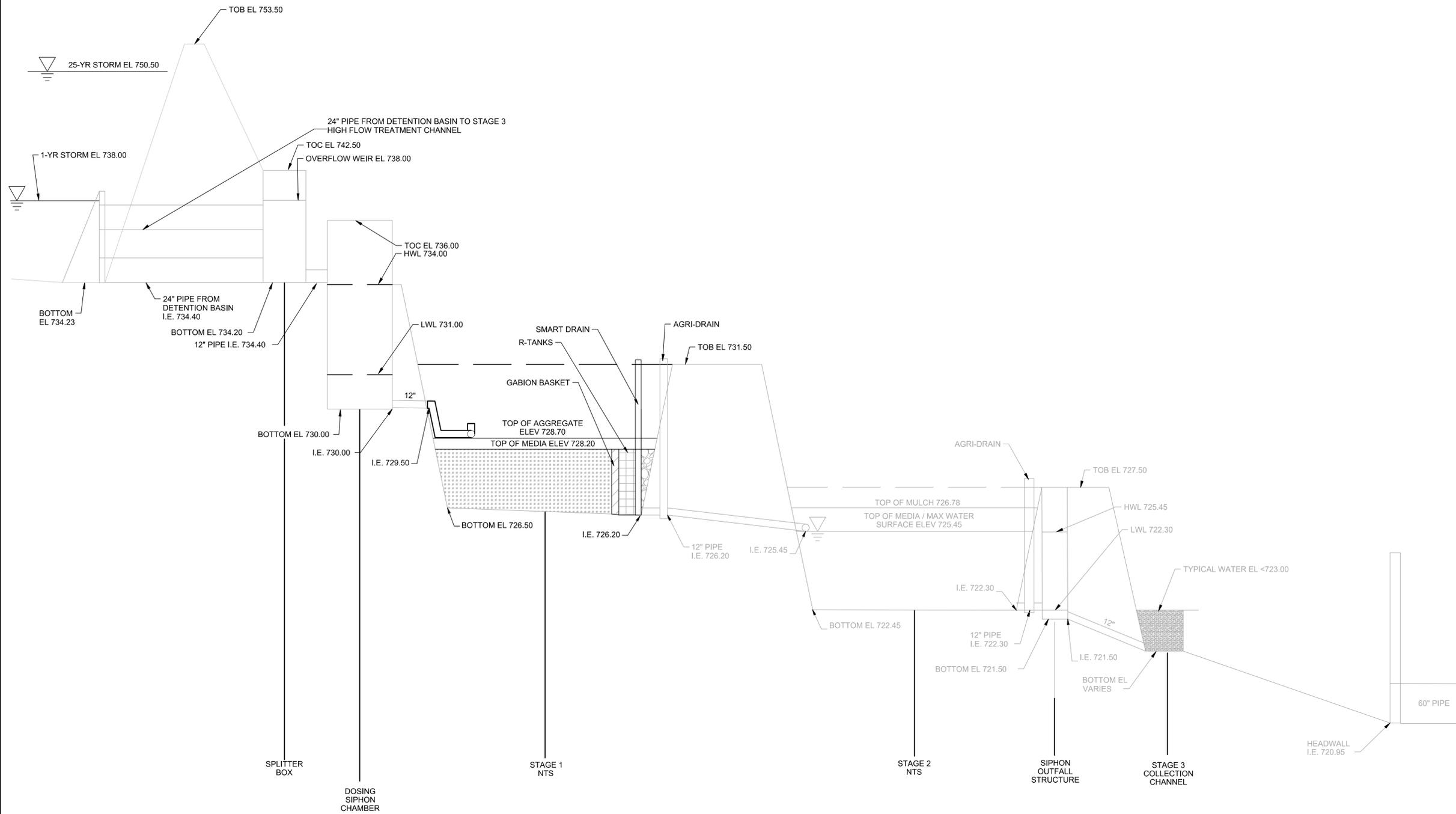
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DATE	MAR. '26
CHECKED	JAS
DATE	MAR. '26



GERALD R. FORD INTERNATIONAL AIRPORT
 KENT COUNTY, MICHIGAN
 C-437 NATURAL TREATMENT SYSTEM
 IMPROVEMENTS
CONSTRUCTION NOTES

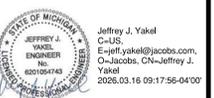
PROJECT NO.
2250383
 SHEET NO.
C-002

- NOTE:
- A. PROFILE IS THE FINAL POST CONSTRUCTION.
 - B. DRAWING IS NOT TO SCALE.



HYDRAULIC PROFILE
NOT TO SCALE

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				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 1E & 1F
HYDRAULIC PROFILE

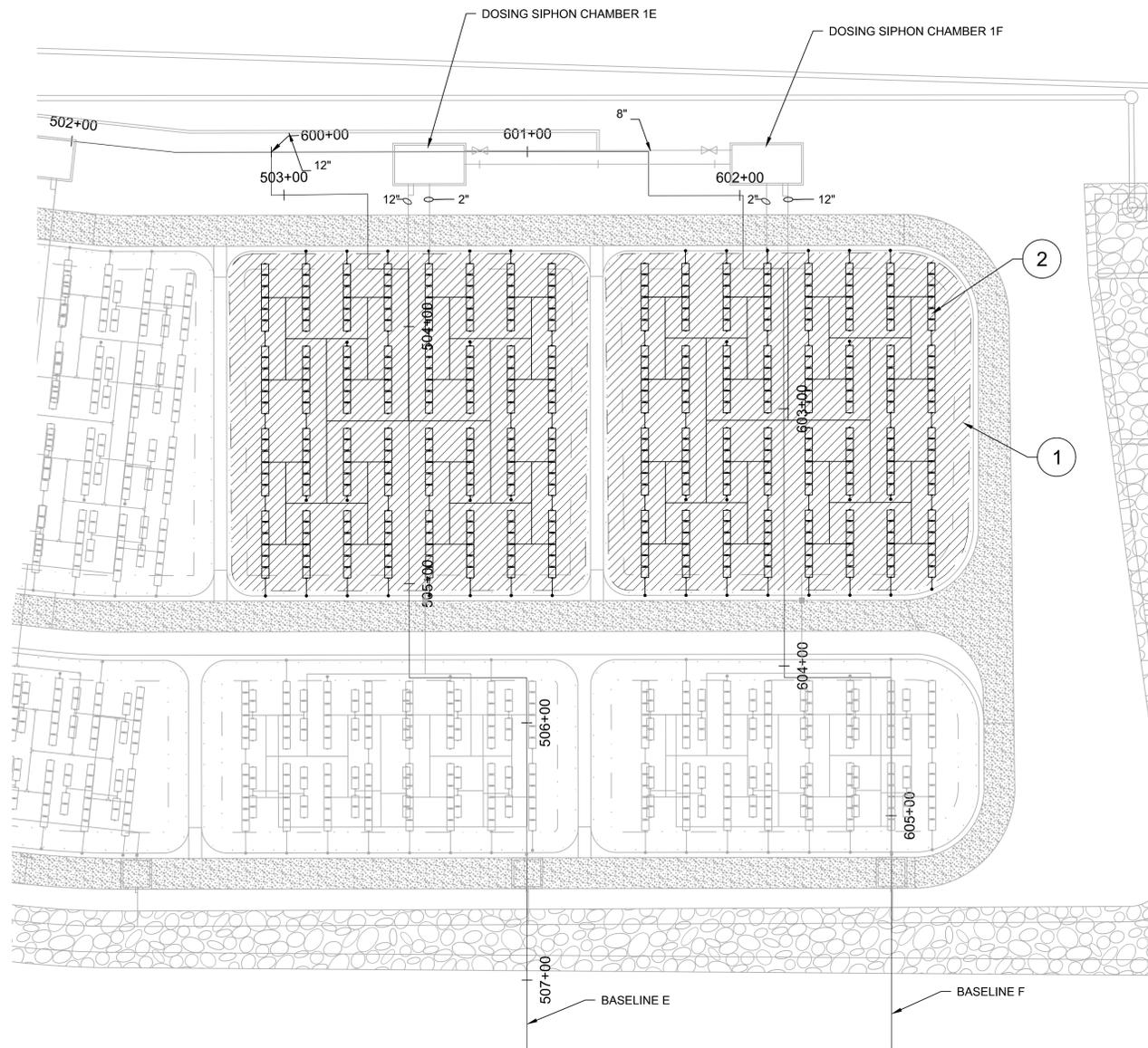
PROJECT NO.
2250383
SHEET NO.
C-101

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

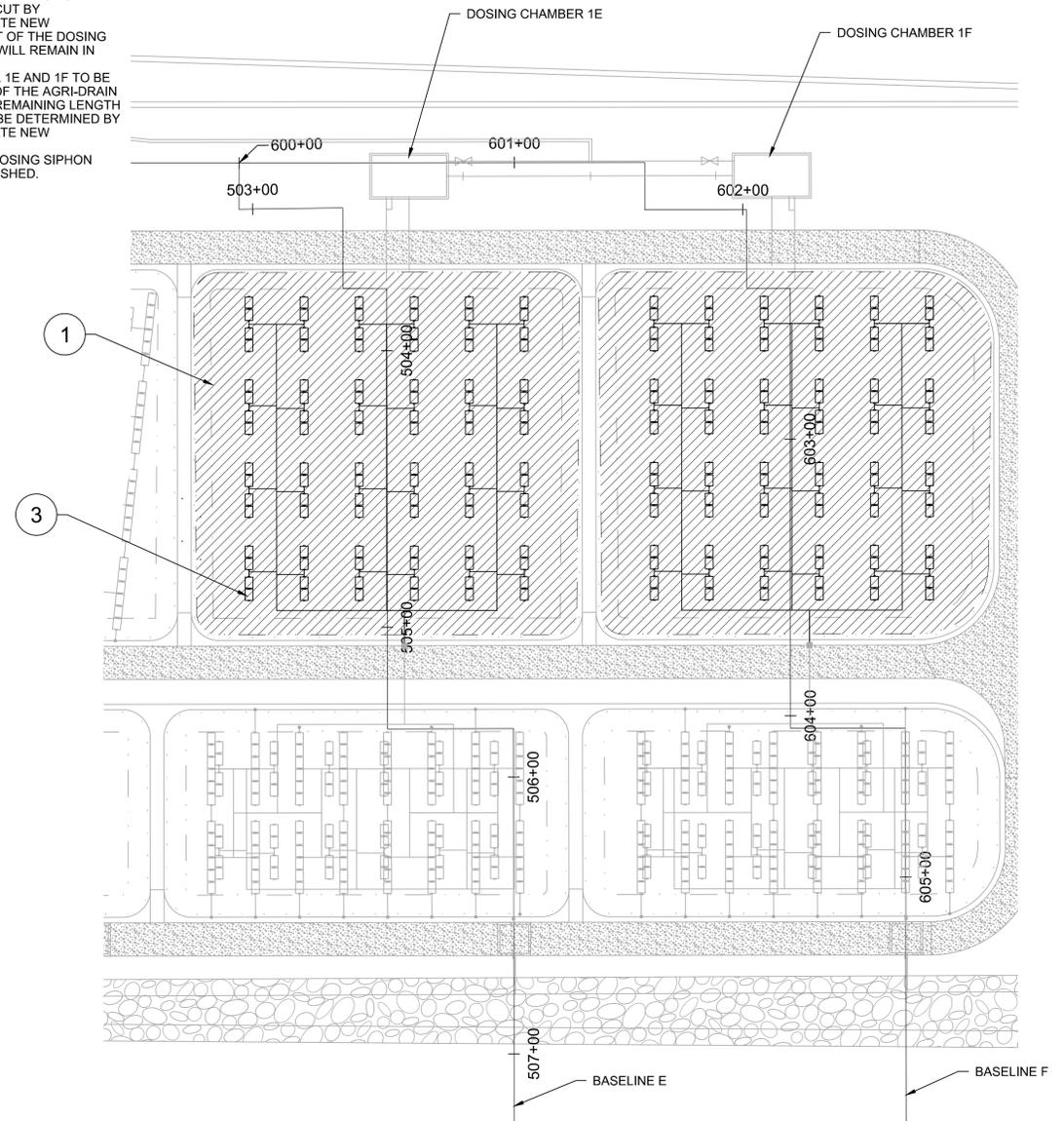
NOTE:

- A. EXISTING MATERIALS THAT ARE REMOVED DURING DEMOLITION TO REMAIN ONSITE AND STOCKPILED AS SHOWN ON SHEET C-220.
- B. 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 1E AND 1F WILL REMAIN IN PLACE.
- C. COLLECTION PIPE OUT OF CELL 1E AND 1F 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 SMART-DRAIN
- D. 2-INCH DRAINAGE PIPE FROM DOSING SIPHON CHAMBER WILL NOT BE DEMOLISHED.



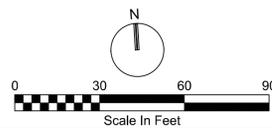
DISTRIBUTION PIPING SYSTEM

1"=30"



COLLECTION PIPING SYSTEM

1"=30"



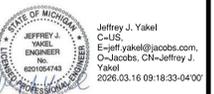
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				DATE 03/06/2026

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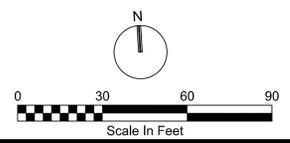
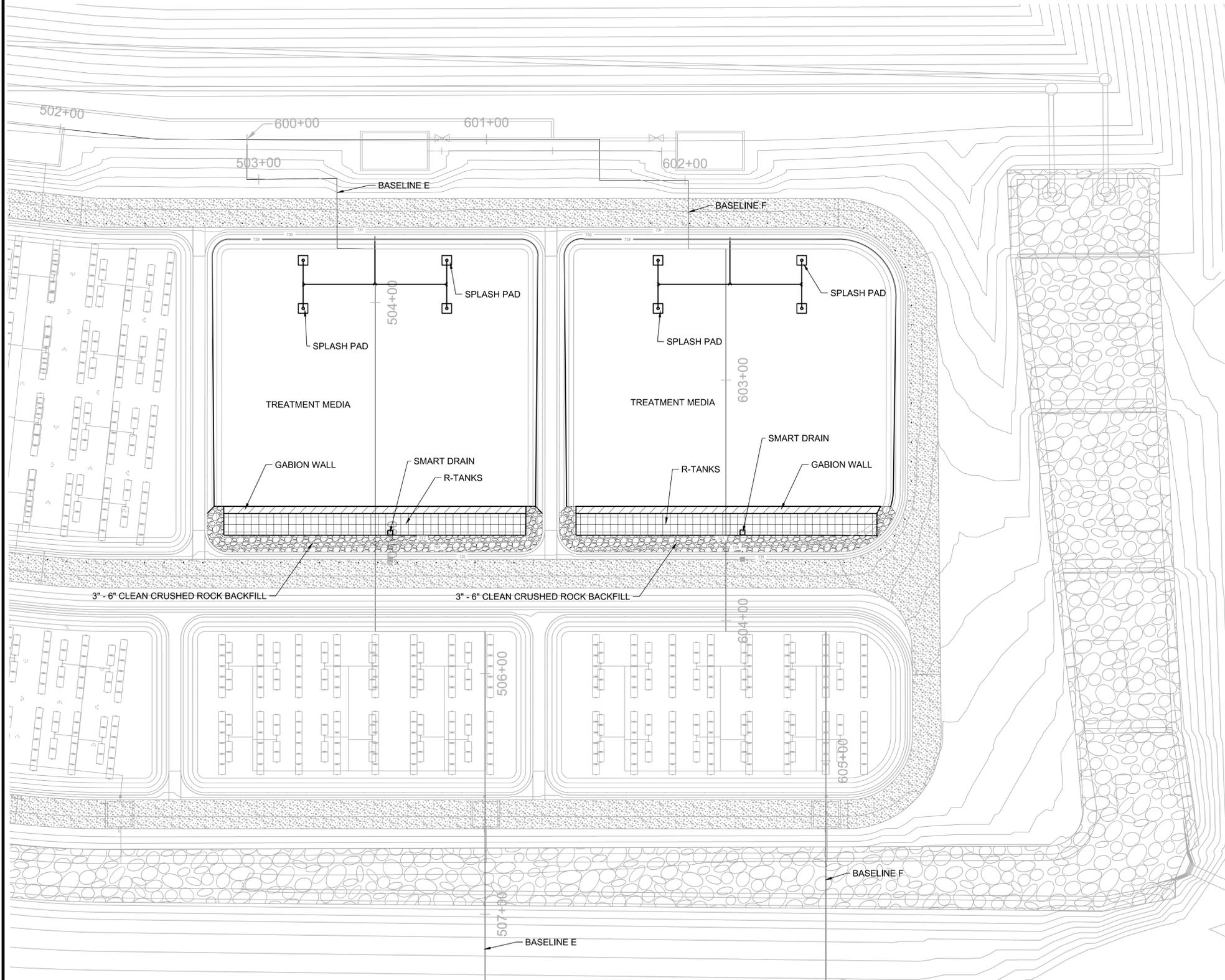
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GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-437 NATURAL TREATMENT SYSTEM
IMPROVEMENTS
CELLS 1E & 1F
DEMOLITION PLAN

PROJECT NO.
2250383
SHEET NO.
C-103



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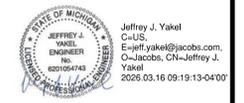
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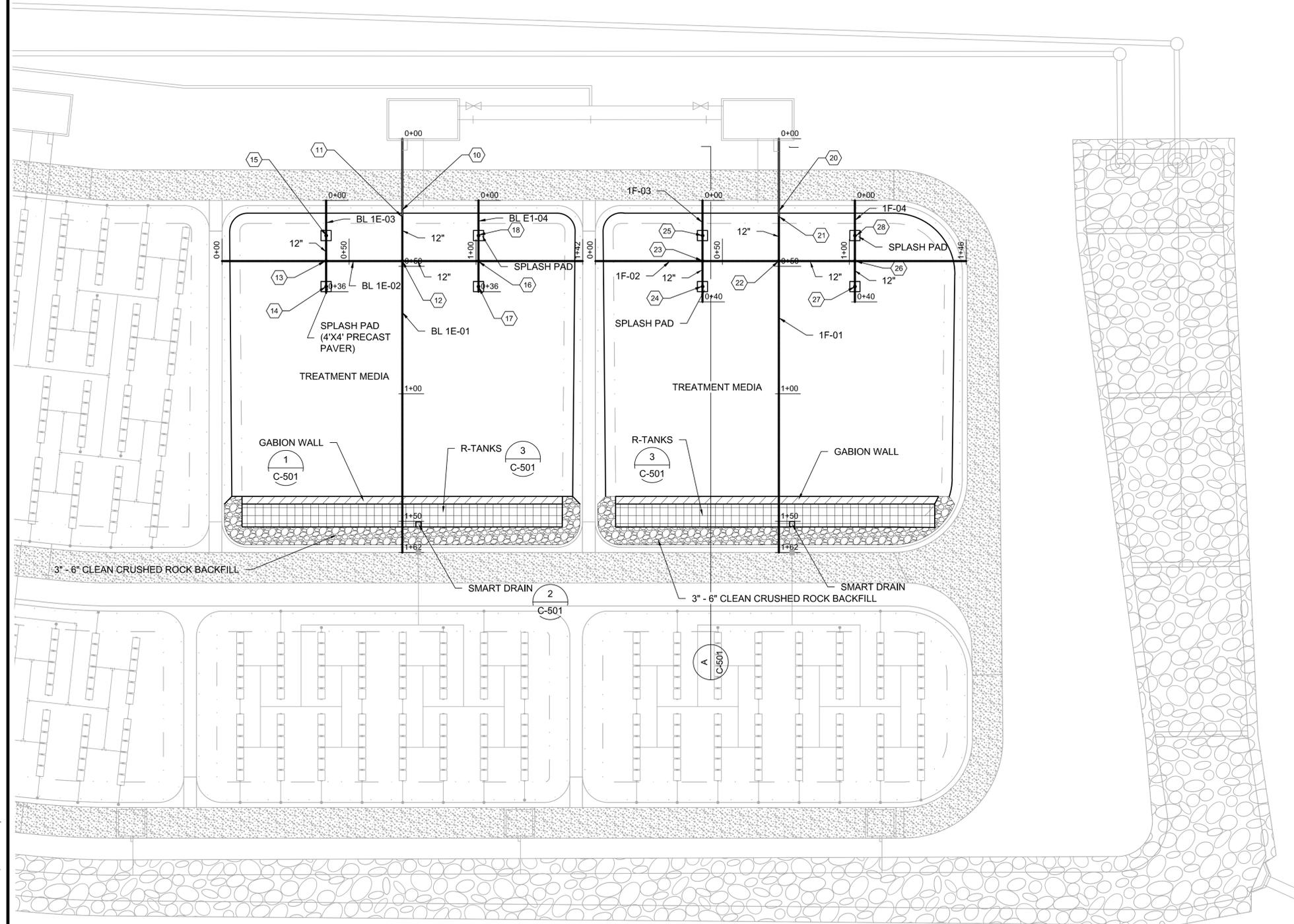
GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-437 NATURAL TREATMENT SYSTEM
IMPROVEMENTS
CELLS 1E & 1F
GRADING PLAN

PROJECT NO.
2250383
SHEET NO.
C-202

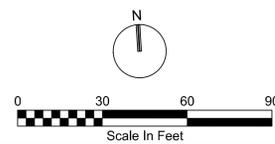


- NOTES:
1. NEW DISTRIBUTION PIPING WILL CONNECT TO THE EXISTING 12-INCH PIPE THAT REMAINS IN PLACE OUT OF THE EXISTING DOSING SIPHON CHAMBER.
 2. NEW SMART DRAIN SHALL BE INSTALLED IN MIDDLE OF R-TANK SYSTEM AND CONNECT TO EXISTING MAIN COLLECTION PIPE INTO THE EXISTING AGRI-DRAIN THAT IS REMAINING IN PLACE.
 3. FOR PIPING PROFILES SEE DWG. C-204.
 4. SIPHON AND DOSING SIPHON CHAMBERS SHALL BE CLEANED FROM DEBRIS AND OBSTRUCTIONS DURING CONSTRUCTION. PIPES LEADING FROM DOSING SIPHON CHAMBERS SHALL BE CHECKED AND REMOVE OBSTRUCTIONS.

STRUCTURE TABLE	
#	DESCRIPTION
10	45° VERT. BEND I.E. = 729.50 N: 507082.39 E: 12820401.26
11	45° VERT. BEND I.E. = 728.70 N: 507080.15 E: 12820401.20
12	12" TEE I.E. = 728.70 N: 507062.41 E: 12820400.69
13	12" TEE I.E. = 728.70 N: 507063.27 E: 12820370.70
14	90° BEND TURNED UP I.E. = 728.70 N: 507053.28 E: 12820370.41
15	90° BEND TURNED UP I.E. = 728.70 N: 507073.27 E: 12820370.99
16	12" TEE I.E. = 728.70 N: 507061.55 E: 12820430.67
17	90° BEND TURNED UP I.E. = 728.70 N: 507051.55 E: 12820430.39
18	90° BEND TURNED UP I.E. = 728.70 N: 507071.54 E: 12820430.96
20	45° VERT. BEND I.E. = 729.50 N: 507077.62 E: 12820549.43
21	45° VERT. BEND I.E. = 728.70 N: 507075.90 E: 12820549.38
22	12" TEE I.E. = 728.70 N: 507058.15 E: 12820548.88
23	12" TEE I.E. = 728.70 N: 507059.02 E: 12820518.85
24	90° BEND TURNED UP I.E. = 728.70 N: 507049.02 E: 12820518.56
25	90° BEND TURNED UP I.E. = 728.7 N: 507069.01 E: 12820519.14
26	12" TEE I.E. = 728.70 N: 507057.29 E: 12820578.82
27	90° BEND TURNED UP I.E. = 728.70 N: 507047.30 E: 12820578.54
28	90° BEND TURNED UP I.E. = 728.70 N: 507067.29 E: 12820579.11



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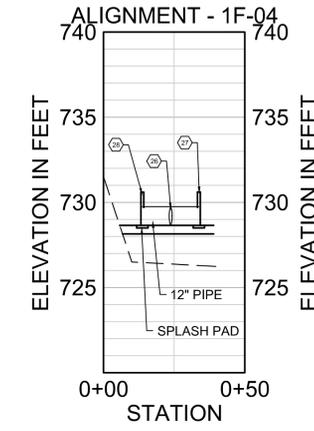
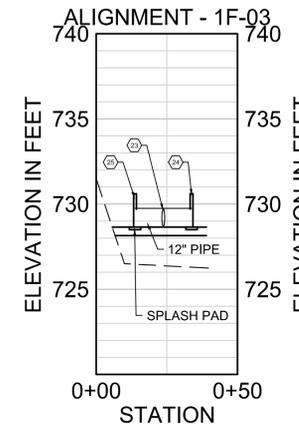
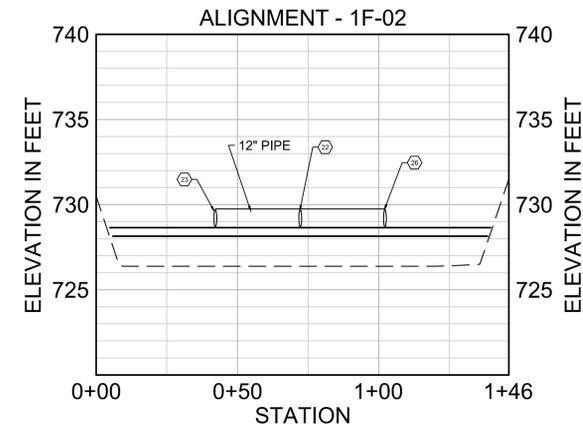
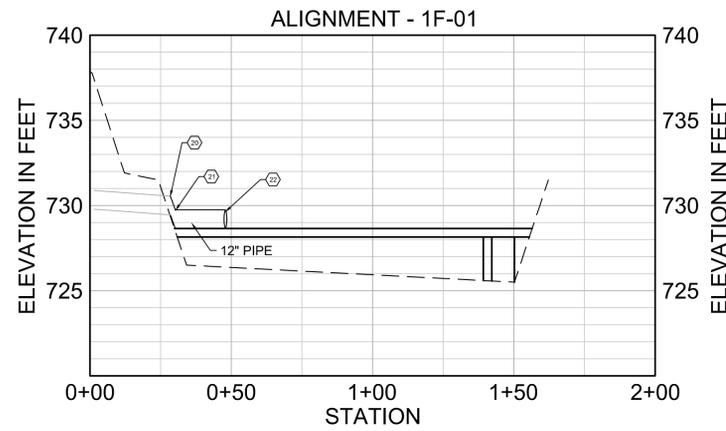
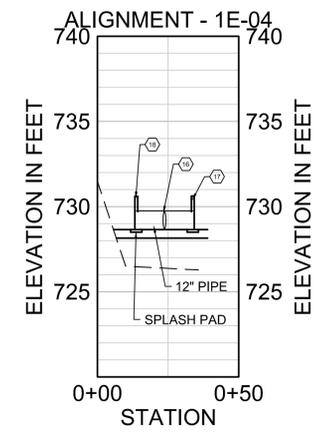
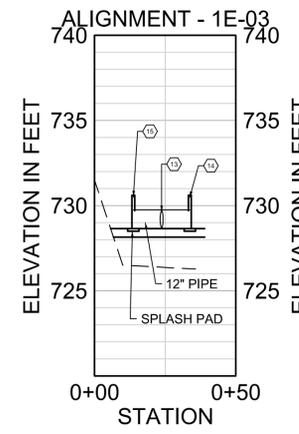
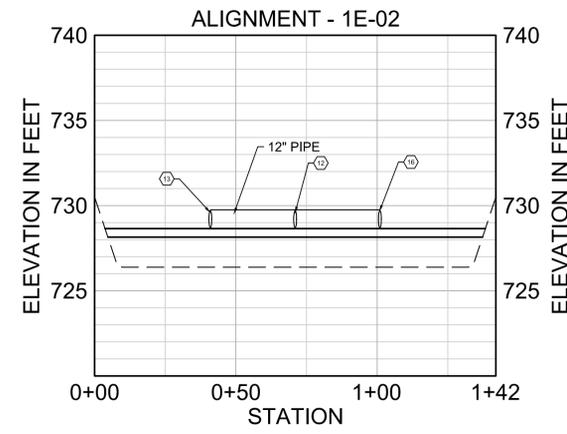
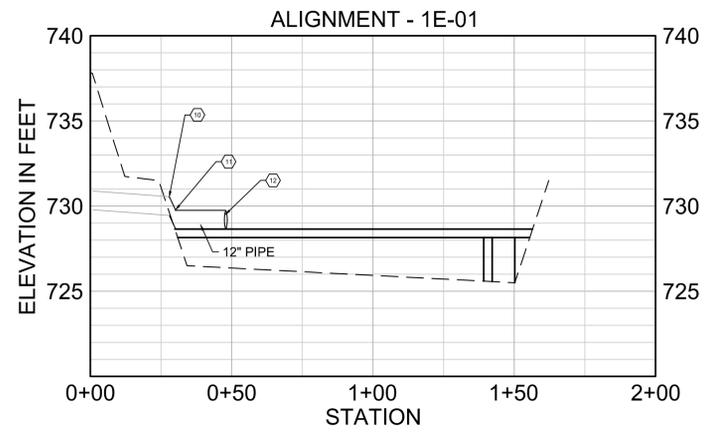
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KENT COUNTY, MICHIGAN
C-437 NATURAL TREATMENT SYSTEM
IMPROVEMENTS
CELLS 1E & 1F
PIPING PLAN

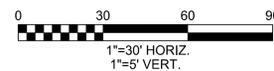
PROJECT NO.
2250383
SHEET NO.
C-203





STRUCTURE TABLE	
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10	45° VERT. BEND I.E. = 729.50 N: 507082.39 E: 12820401.26
11	45° VERT. BEND I.E. = 728.70 N: 507080.15 E: 12820401.20
12	12" TEE I.E. = 728.70 N: 507062.41 E: 12820400.69
13	12" TEE I.E. = 728.70 N: 507063.27 E: 12820370.70
14	90° BEND TURNED UP I.E. = 728.70 N: 507053.28 E: 12820370.41
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25	90° BEND TURNED UP I.E. = 728.7 N: 507069.01 E: 12820519.14
26	12" TEE I.E. = 728.70 N: 507057.29 E: 12820578.82
27	90° BEND TURNED UP I.E. = 728.70 N: 507047.30 E: 12820578.54
28	90° BEND TURNED UP I.E. = 728.70 N: 507067.29 E: 12820579.11

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DATE 03/06/2026
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DATE 03/06/2026

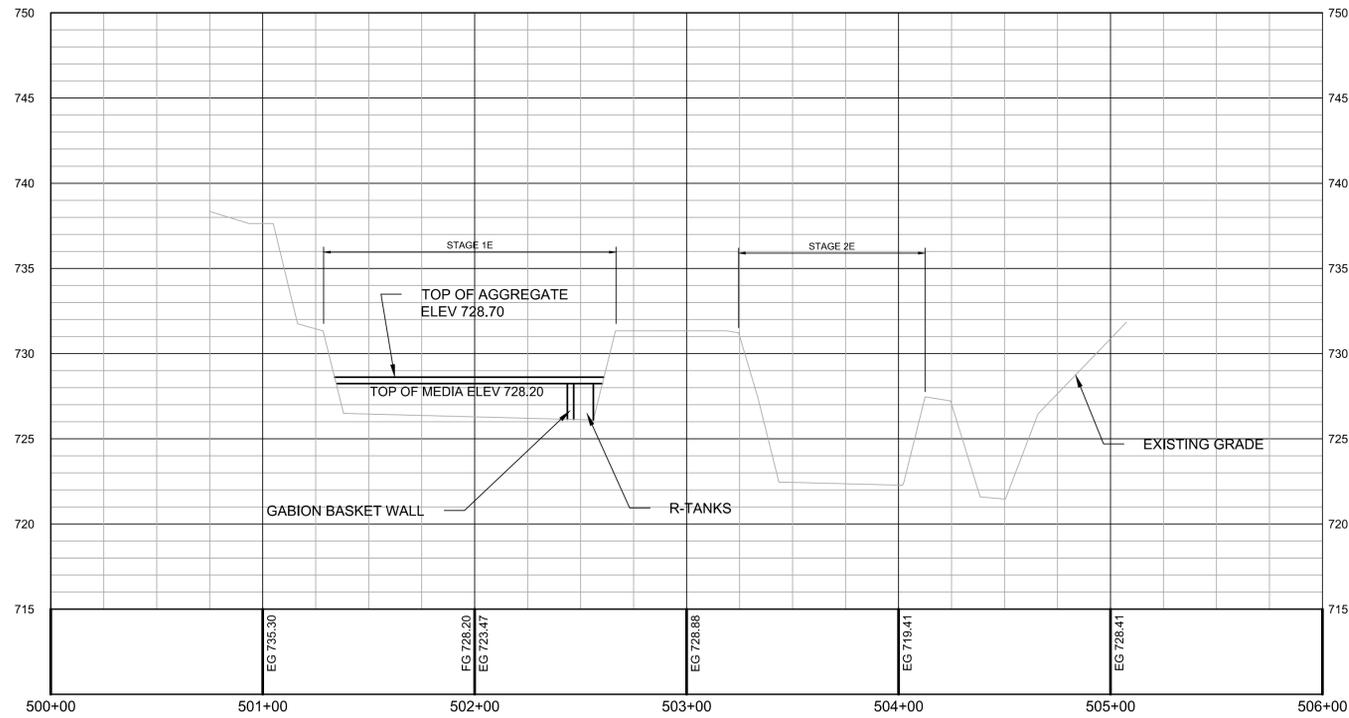
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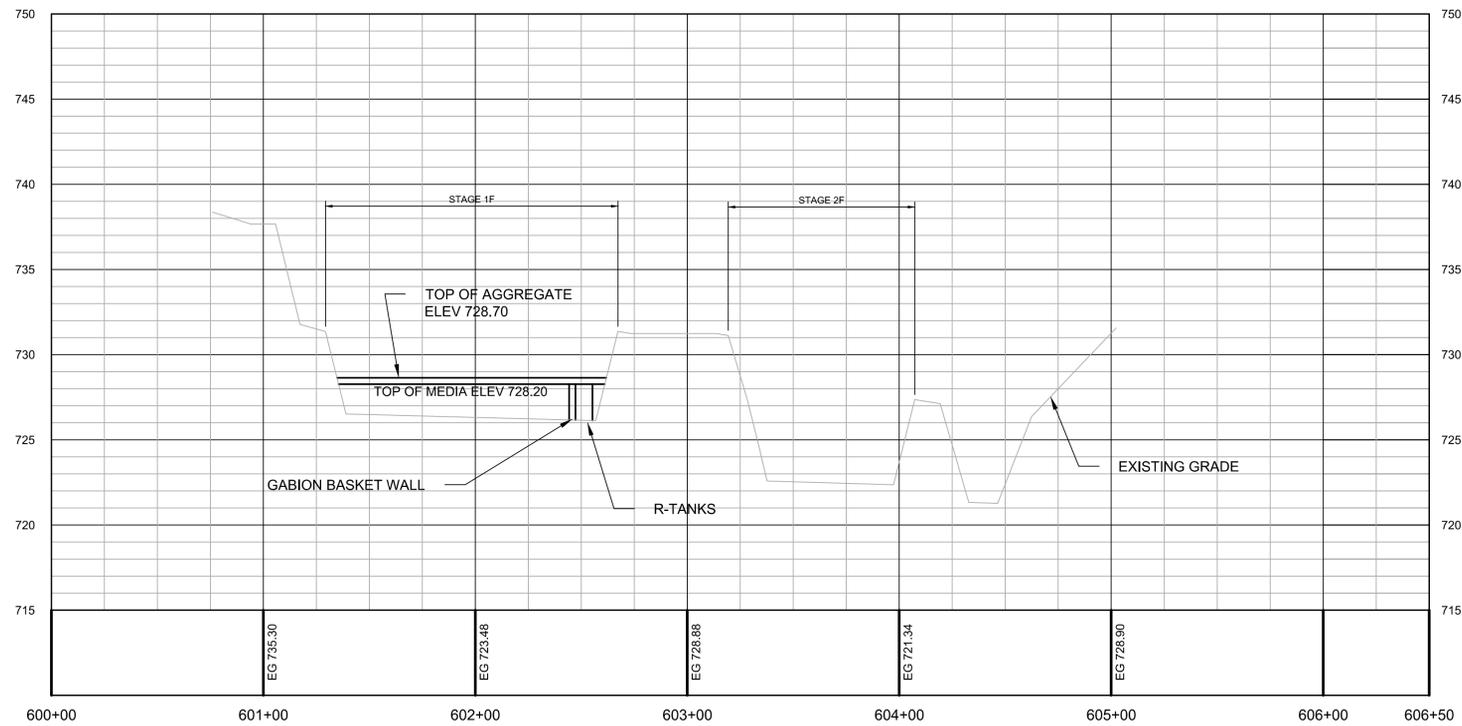
GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-437 NATURAL TREATMENT SYSTEM
IMPROVEMENTS
CELLS 1E & 1F
PIPING PROFILES

PROJECT NO.
2250383
SHEET NO.
C-204

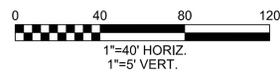




PROFILE BASELINE E
1"=40'



PROFILE BASELINE F
1"=40'



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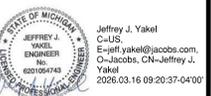
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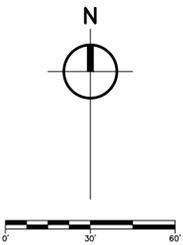
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KENT COUNTY, MICHIGAN
C-437 NATURAL TREATMENT SYSTEM
IMPROVEMENTS
CELLS 1E & 1F
PROFILE BASELINES E & F

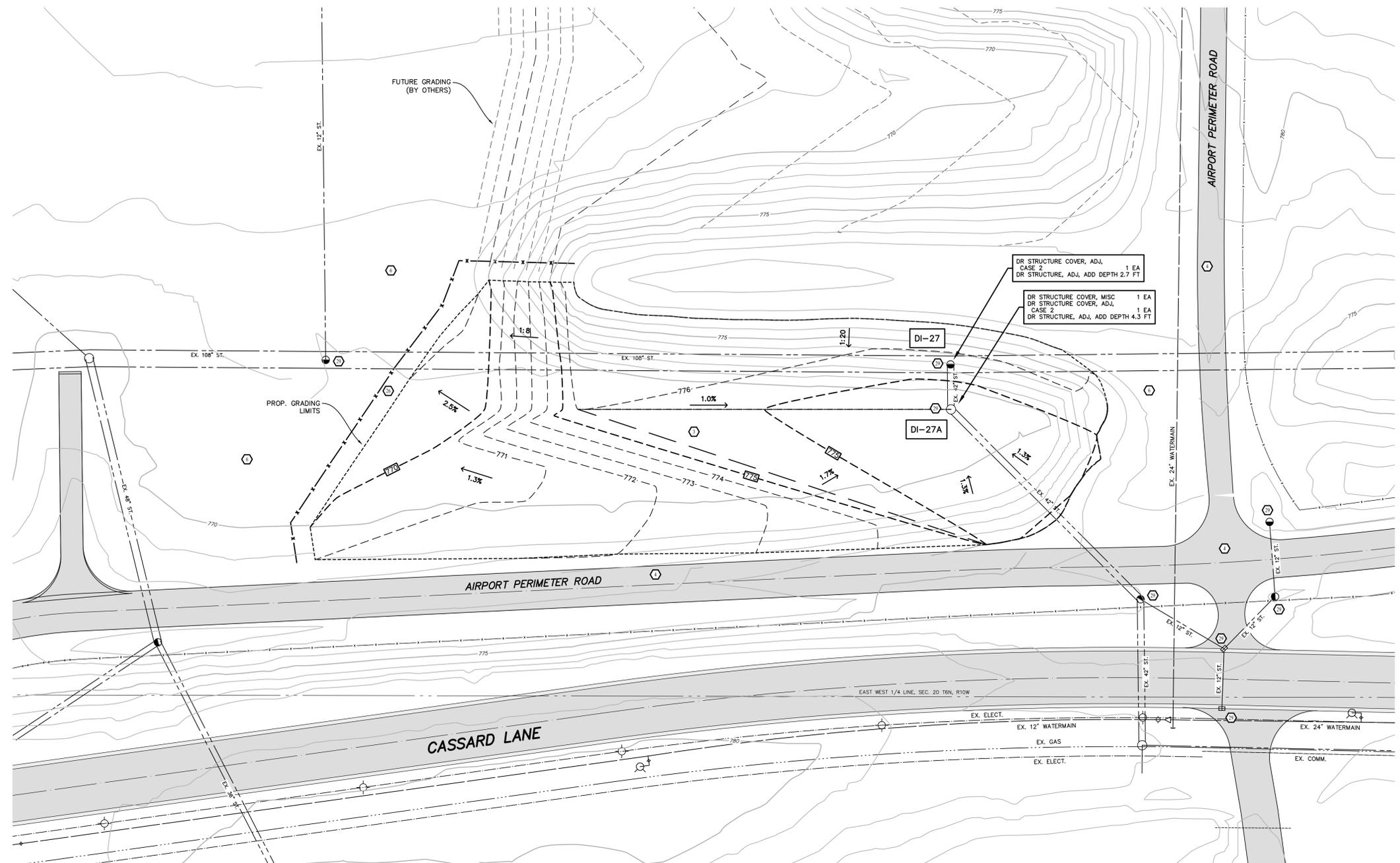
PROJECT NO.
2250383
SHEET NO.
C-210





CONSTRUCTION NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE MDT 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 MDT STANDARD SPECIFICATIONS.
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-SREADING. EXCESS TOPSOIL MAY BE USED TO CONSTRUCT EMBANKMENTS AS SHOWN IN THE DETAILS.
3. 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".
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".
5. EXISTING DRAINAGE STRUCTURE ADJUSTMENT SHALL BE IN ACCORDANCE WITH SECTION 403 OF THE MDT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
6. THE ITEM FOR "DR STRUCTURE COVER, MISC" SHALL INCLUDE REMOVAL OF THE EXISTING GRATE AND REPLACEMENT WITH EAST JORDAN IRON WORK (EJW) MODEL 00132009 OPEN GRATE WITH "JUMP NO WASTE, DRAINS TO WATERS" STAMPED ON THE COVER. GRATE SHALL BE A BOLT DOWN GRATE WITH NEW BOLTS.
7. FERTILIZER, SEED, AND MULCH SHALL CONFORM WITH MDT, 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTIONS 816 AND 917 EXCEPT AS DESCRIBED HEREIN.
8. FERTILIZER SHALL BE CLASS B.
9. SEED SHALL BE MIXTURE THV AND SOWN USING THE MECHANICAL DRILL METHOD.
10. 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 MDT QUALIFIED PRODUCTS LIST. MULCH AND MULCH ANCHORING SHALL BE MIXED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS OR AS DESCRIBED IN SECTION 816.
11. 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.



LINETYPE LEGEND

EX. CONTOUR	PROP. CONTOUR
EX. CONTOUR (INDEX)	PROP. CONTOUR (INDEX)
EX. PAVEMENT (HMA)	PROP. CONTOUR (BY OTHERS)
EX. CURB & GUTTER (CONC.)	PROP. CONTOUR (INDEX-BY OTHERS)
EX. PAVEMENT (GRAV.)	PROP. GRADING LIMITS
EX. FENCE	PROP. UNDERDRAIN (BY OTHERS)
EX. STORM SEWER	PROP. SILT FENCE
EX. CULVERT	PROP. WATERMAIN (TEMP.)
EX. UNDERDRAIN	PROP. CONCRETE PAD
EX. WATERMAIN	RIGHT-OF-WAY
EX. ELECTRIC (U.G.)	
EX. COMMUNICATIONS (U.G.)	
EX. GAS	

SOIL EROSION CONTROL KEY INDEX

	PERMANENT SEEDING
	DUST CONTROL
	VEGETATIVE BUFFER STRIP
	SILT FENCE
	INLET PROTECTION FABRIC DROP

GRADING PLAN

SCALE : 1" = 30'

STRUCTURE DI-27 4' DIA. TEE MANHOLE ON 108" DIA. CONC. PIPE EX. RIM EL. 769.2 ± PROP. RIM EL. 775.60 108" E. & W. INV. 753.69 42" S. INV. 755.94	STRUCTURE DI-27A 4' DIA. TEE MANHOLE (CONC.) DIA. CONC. PIPE EX. RIM EL. 769.3 ± PROP. RIM EL. 774.00 42" N. INV. 756.80 42" S. INV. 764.06
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NO.	REVISIONS	BY	DATE	DRAWN
				STAFF
				DATE
				MAR. '26
				CHECKED
				JAS
				DATE
				MAR. '26

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GERALD R. FORD INTERNATIONAL AIRPORT
 KENT COUNTY, MICHIGAN
 C-437 NATURAL TREATMENT SYSTEM
 IMPROVEMENTS
SOIL DISPOSAL AREA GRADING PLAN

PROJECT NO.
2250383
 SHEET NO.
C-220

CONSTRUCTION NOTES

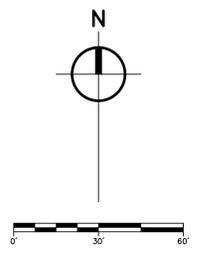
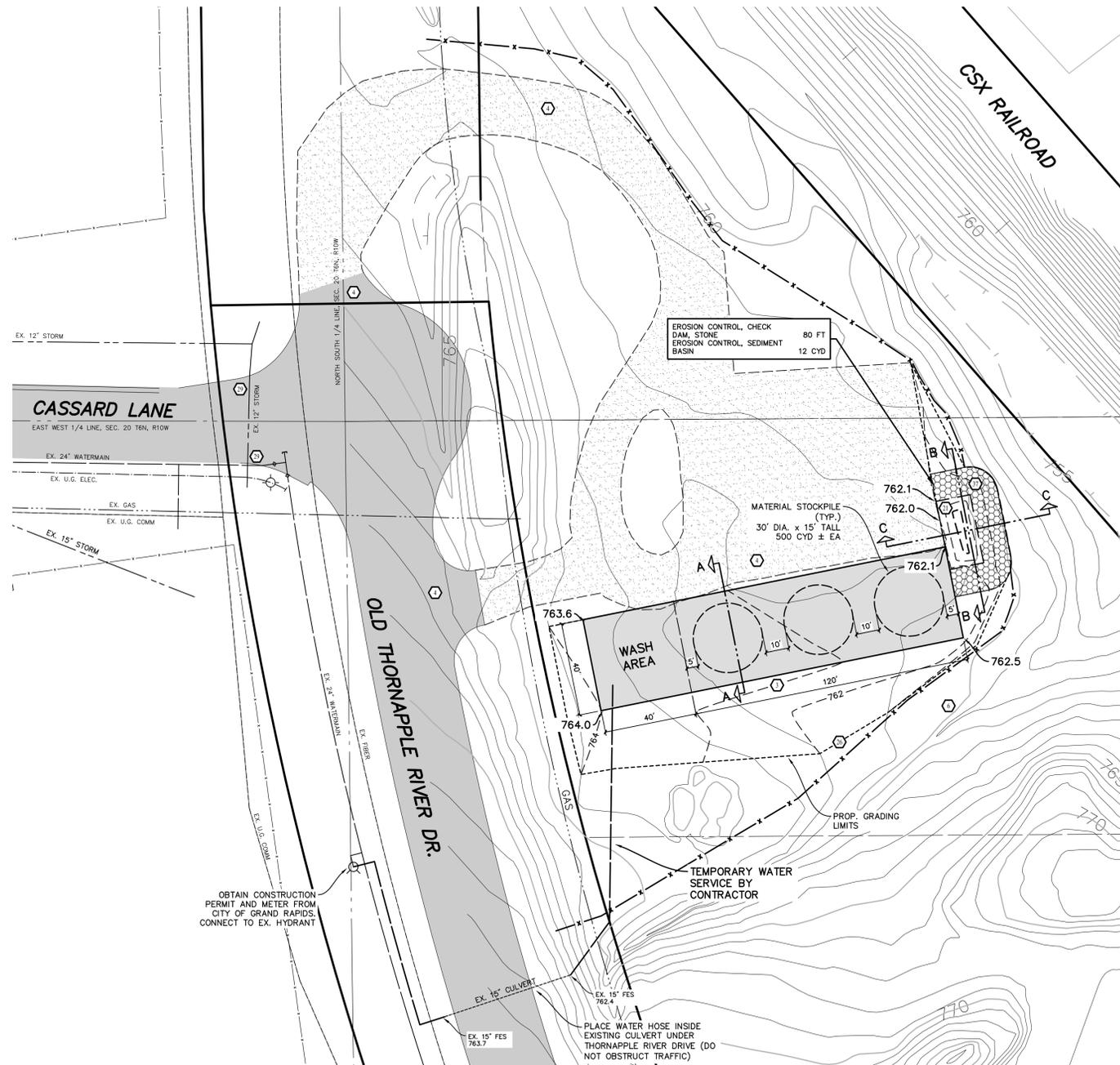
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED HEREIN. ABBREVIATIONS AND PAY ITEM DESCRIPTIONS SHOWN ON THIS PAGE ARE BASED ON DEFINITIONS FOUND IN THE MDOT STANDARD SPECIFICATIONS.
2. TOPSOIL SHALL BE REMOVED PRIOR TO CONSTRUCTING ANY 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.
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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".
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6. FERTILIZER SHALL BE CLASS B.
7. SEED SHALL BE MIXTURE THV AND SOWN USING THE MECHANICAL DRILL METHOD.
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.

LINETYPE LEGEND

---	EX. CONTOUR	---	PROP. CONTOUR
---	EX. CONTOUR (INDEX)	---	PROP. CONTOUR (INDEX)
---	EX. PAVEMENT (HMA)	---	PROP. CONTOUR (BY OTHERS)
---	EX. CURB & GUTTER (CONC.)	---	PROP. CONTOUR (INDEX-BY OTHERS)
---	EX. PAVEMENT (GRAV.)	---	PROP. GRADING LIMITS
---	EX. FENCE	---	PROP. UNDERDRAIN (BY OTHERS)
---	EX. STORM SEWER	---	PROP. SILT FENCE
---	EX. CULVERT	---	PROP. WATERMAIN (TEMP.)
---	EX. UNDERDRAIN	---	PROP. CONCRETE PAD
---	EX. WATERMAIN	---	RIGHT-OF-WAY
---	EX. ELECTRIC (U.G.)		
---	EX. COMMUNICATIONS (U.G.)		
---	EX. GAS		

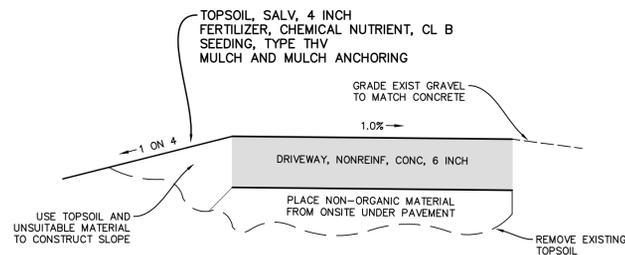
SOIL EROSION CONTROL KEY INDEX

- ① PERMANENT SEEDING
- ② DUST CONTROL
- ③ VEGETATIVE BUFFER STRIP
- ④ SEDIMENT BASIN
- ⑤ SILT FENCE
- ⑥ INLET PROTECTION FABRIC DROP
- ⑦ STONE CHECK DAM



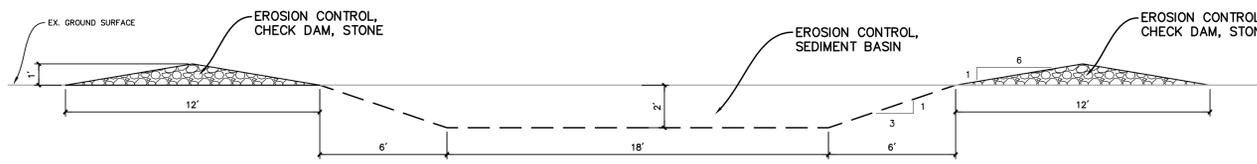
GRADING PLAN

SCALE: 1" = 30'



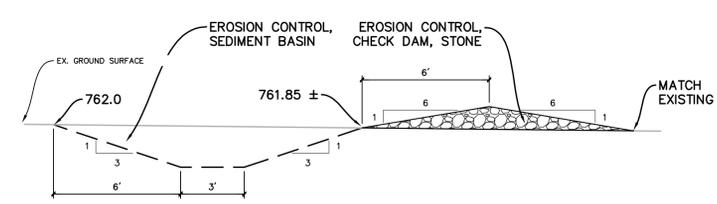
CONCRETE PAD SECTION (A-A)

SCALE: NONE



SEDIMENT BASIN / CHECK DAM (B-B)

SCALE: NONE



SEDIMENT BASIN / CHECK DAM (C-C)

SCALE: NONE

NO.	REVISIONS	BY	DATE	DRAWN
				STAFF
				DATE MAR. '26
				CHECKED JAS
				DATE MAR. '26

Prein & Newhof
Engineers • Surveyors • Environmental • Laboratory

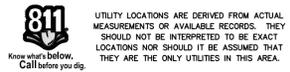
GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN
C-437 NATURAL TREATMENT SYSTEM
IMPROVEMENTS

PROJECT NO.
2250383

SHEET NO.
C-221

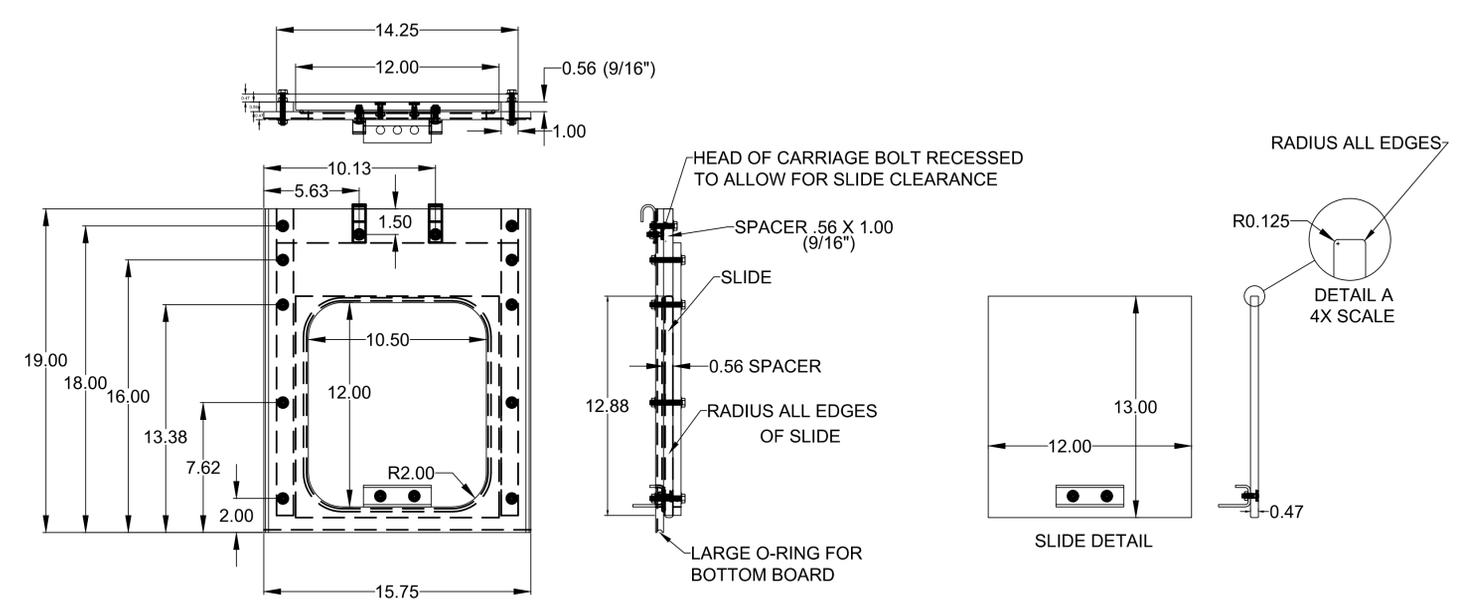
SOIL WASH AREA GRADING PLAN

T:\04\10 PROJECTS\2025\2250383_C-221 SOIL DISPOSAL.DWG - JSTR00 - Mar. 12 2025 - 10:17pm - Prein&Newhof

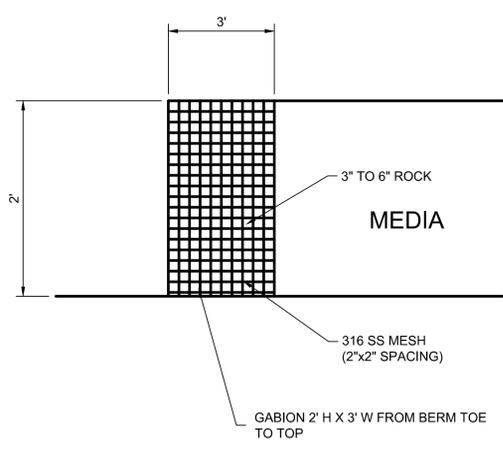


R-TANK HD UNIT INFORMATION					
UNIT TYPE	WIDTH	LENGTH	HEIGHT	STORAGE VOLUME	WEIGHT
MINI	15.75"	28.15"	9.45"	2.30 CF	19.90 LBS.
SINGLE	15.75"	28.15"	17.32"	4.22 CF	17.30 LBS.
SINGLE+MINI	15.75"	28.15"	25.98"	6.33 CF	25.90 LBS.
DOUBLE	15.75"	28.15"	33.86"	8.25 CF	32.30 LBS.
DOUBLE+MINI	15.75"	28.15"	42.52"	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.

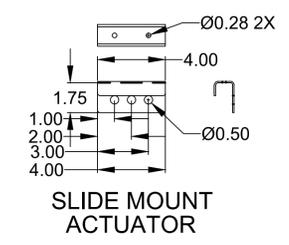
NOTES:
 1. R-TANK HD HAS AN INTERNAL VOID SPACE OF 95% AND A SURFACE AREA VOID OF 90%.
 2. R-TANK HD HAS A MAXIMUM COMPRESSION STRENGTH OF 33.4 PSI. (MODULE ONLY).
 3. R-TANK HD IS MADE FROM 100% RECYCLED POLYPROPYLENE.
 4. R-TANK HD IS COMPRISED OF 5 SMALL WALLS PER UNITS.



3 R-TANK HD DETAIL
C-501 NTS

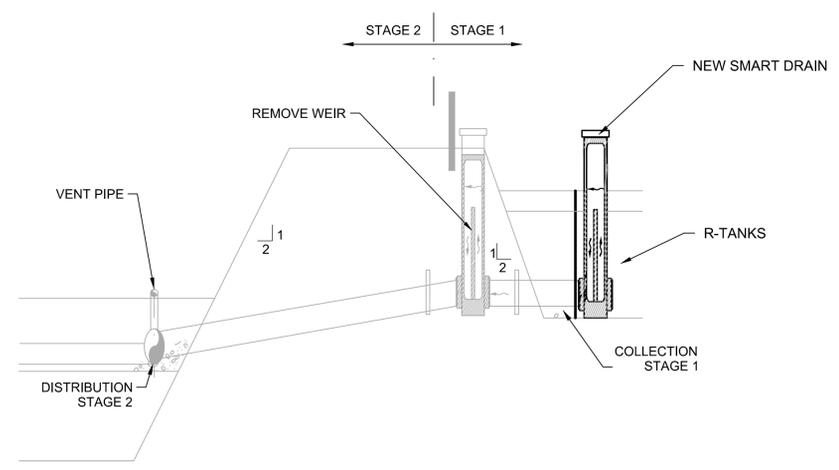


1 GABION BASKET
C-501 NTS

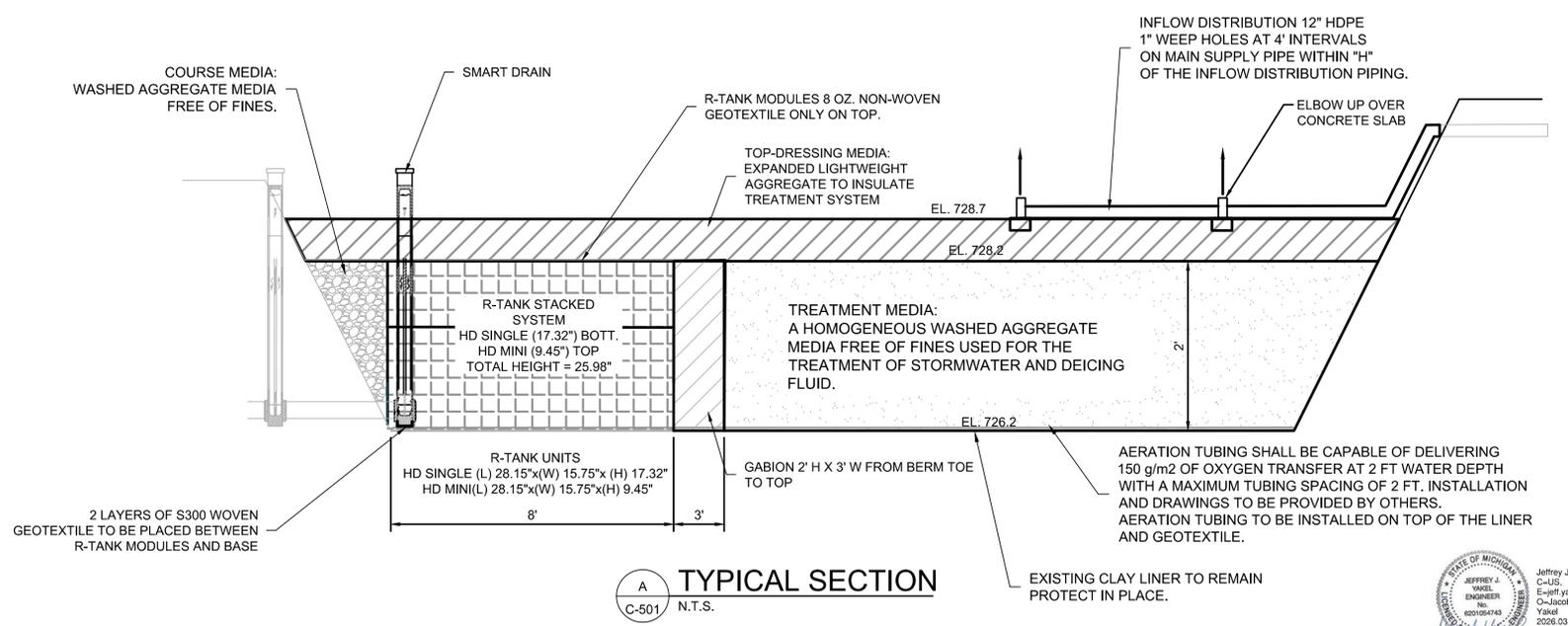


NOTE:
DIMENSIONS ARE IN INCHES

12-IN SLIDE GATE - SMART DRAIN
NTS



2 SMART DRAIN
1\"/>



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

C:\PA\WORK\PROJECTS\AEP-WP\01202823\05-C-501-DETAIL.DWG - GRIMLES - Mr., 15/2026 - 12:29pm - ProjectSheet

NO.	REVISIONS	BY	DATE	DRAWN	G.F.B.			GERALD R. FORD INTERNATIONAL AIRPORT KENT COUNTY, MICHIGAN C-437 NATURAL TREATMENT SYSTEM IMPROVEMENTS CELLS 1E & 1F DETAILS & TYPICAL SECTION	PROJECT NO. 2250383
				DATE	03/06/2026				SHEET NO. C-501
				CHECKED	VJ				
				DATE	03/06/2026				