2022/03/24

ADDENDUM NO. 1
TO CONTRACT DOCUMENT PLANS SPECIFICATIONS

PROJECT: **MWA METRO PARK EAST LANDFILL**
P-63 CELL E AND PHASE 1 COVER IMPROVEMENTS
TO: **PROSPECTIVE BIDDERS AND OTHER INTERESTED PARTIES**

The Contract Documents and Specifications, including the Contract Drawings, are hereby modified by the following items:

CHANGES TO DRAWINGS

AD-1 Item 1 SHEET 00G001

A. REPLACE Sheet 00G001 with the Sheet 00G001 attached as a part of this Addendum No. 1. The replaced sheet includes revision to Note 6 in which the 12-in corrugated plastic pipe culvert at the diversion berm was replaced with an 18-in corrugated plastic pipe.

AD-1 Item 2 SHEET 00G002

A. REPLACE Sheet 00G002 with the Sheet 00G002 attached as a part of this Addendum No. 1. The replaced sheet includes the preferred location of stockpiled animal bedding on site for use as amended topsoil.

AD-1 Item 3 SHEET 01C101

A. REPLACE Sheet 01C101 with the Sheet 01C101 attached as a part of this Addendum No. 1. The replaced sheet includes updates to Note 11 in which the 12-in corrugated plastic pipe culvert at the diversion berm was replaced with an 18-in corrugated plastic pipe.

AD-1 Item 4 SHEET 01C102

A. REPLACE Sheet 01C102 with the Sheet 01C102 attached as a part of this Addendum No. 1. The replaced sheet includes updates to Note 10 in which the 12-in corrugated plastic pipe culvert at the diversion berm was replaced with an 18-in corrugated plastic pipe.

AD-1 Item 5 SHEET 01C103

A. REPLACE Sheet 01C103 with the Sheet 01C103 attached as a part of this Addendum No. 1. The replaced sheet includes the updated Note 1 referring to Detail 3/01C502 for revisions to the eastern access road surfacing profile and the updated earthwork quantity table.

AD-1 Item 6 SHEET 01C501

A. REPLACE Sheet 01C501 with the Sheet 01C501 attached as a part of this Addendum No. 1. The replaced sheet includes:

    a. Detail 2/01C501 to revise the stormwater diversion piping to an 18-in diameter corrugated plastic pipe.

b. Detail 3/01C501 reference to Detail 3/01C502 for revisions to the eastern access road surfacing profile.

AD-1 Item 7 SHEET 01C502

A. REPLACE Sheet 01C502 with the Sheet 01C502 attached as a part of this Addendum No. 1. The replaced sheet includes:

a. Detail 2/01C502 to include the reference to the Iowa DOT gradation table for the 8-in thick aggregate base course. Base course shall be gradation 13a per the referenced Iowa DOT gradation table.

b. Added Detail 3/01C502 – Shingle Surfacing for requirements of the ground shingle surfacing to be installed at the eastern access road. The surface course thickness is increased to 4-in thick from the previously indicated 2-in thickness. The surface course shall be comprised of a mix of surfacing aggregate (gradation 14 per Iowa DOT Gradation Table 4109.02-1) and ground recycled asphalt shingles. Shingles are available on site. Contractor shall grind shingles.

CHANGES TO SPECIFICATIONS

AD-1 Item 8 TABLE OF CONTENTS

A. ADD to the Table of Contents Specification Section 03 00 05 – Concrete as noted below.

AD-1 Item 9 SECTION 00 10 00 – NOTICE OF HEARING AND LETTING

B. The bid opening will be conducted virtually on March 30, 2022 at 3:00 PM local time. A virtual meeting invite will be distributed to all Bidders registered on the planholder's list through QuestCDN. Requests can be made via email to the issuing office for the virtual meeting invite if Bidders are not registered as a planholder through QuestCDN.

AD-1 Item 10 SECTION 00 45 10 QUALIFICATION STATEMENT

A. The Qualification Statement included within Section 00 45 10 is not required to be submitted with the Bid. The Qualification Statement will be requested by the Engineer to the apparent low bidder, and additional bidders if requested, following the bid opening in which the Qualification Statement within 00 45 10 will be required to be submitted by Bidders within 5 days of the bid opening.

AD-1 Item 11 SECTION 03 00 05 CONCRETE

C. ADD Specification Section 03 00 05 – Concrete to the Project Manual.

ADDITIONAL CLARIFICATIONS & INFORMATION

AD-1 Item 12 PROSPECTIVE BIDDER QUESTIONS AND RESPONSES NOT INCLUDED IN ABOVE ADDENDUM ITEMS

Question 1: Can you clarify what earthwork testing will be completed by the Owner versus the Contractor?
Answer 1: All earthwork testing is required to be completed by the Contractor. The only testing the Owner will be providing is the subcontracted electrostatic leak location testing of the geomembrane liner.

Question 2: The bid form states we are to submit project references with the bid and is also requested within the Qualification Statement. Should project references be submitted within both the bid and the qualification statement?
Answer 2: See Addendum No. 1 Item 10 above. The project references are only required to be submitted within the Qualification Statement and will be requested by the apparent low bidder to be submitted within 5 days of the bid opening.

Question 3: The specification section on the TCBM calls out the use of anchor blocks on the uphill slope but are not included in the drawings within Section 31 37 01 on page 4.
Answer 3: As anchor blocks to be buried on the uphill slope are not shown on the detail drawings on page 4 of the Specification Section 31 37 01, they will not be required for installation of the tied concrete block matting. Anchoring primarily requires U-anchors and burial of leading edges of the matting and edges exposed to sheet flow.

Question 4: Can the bid form, qualification, and bid bond be submitted in one envelope or do they need to be submitted in separate envelopes?
Answer 4: The bid form and bid bond shall be submitted in separate envelopes.

Question 5: For the sandbagging of the rain cover system - what diameter nylon rope? (we typically use ½ inch). Would you allow UV stable, ½" twisted polypropylene? Please confirm that the rope is only required on the >5:1 side slope area, and placed at 10' centers in one direction down the slope.
Answer 5: If ½" diameter in UV stable, twisted polypropylene is suitable to meet the warranty requirements that the rain cover system will not fail within 2 years of installation, then it would be accepted. Correct regarding the sideslope requirements.

AD-1 Item 13 PRE-BID MEETING NOTES

For Bidders' convenience a copy of the meeting notes from the pre-bid meeting are included with this addendum. Pre-bid meeting notes are not a part of the contract documents.

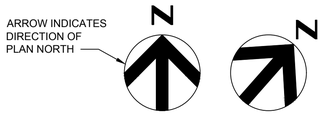
ALL ITEMS IN CONFLICT WITH THIS ADDENDUM ARE HEREBY DELETED.

THIS ADDENDUM IS MADE PART OF THE CONTRACT DOCUMENTS AND SHALL BE NOTED ON THE BID FORM.

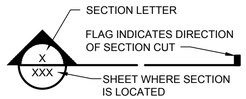
HDR Engineering, Inc.

Garrett Williams, P.E.
Certified copy provided to Owner on March 24, 2022

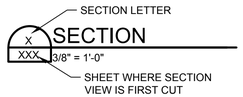
GENERAL SYMBOLOGY



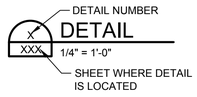
NORTH ARROW



SECTION CUT MARKER



SECTION TITLE



DETAIL TITLE

CIVIL MAPPING SYMBOLOGY

SURVEY CONTROL POINT	
MW-X	GROUNDWATER MONITORING WELL
GEW-X	GAS EXTRACTION WELL
DEW-X	DUAL EXTRACTION WELL
LEW	LEACHATE EXTRACTION WELL
MMP	METHANE MONITORING PROBE
PZ-X	GROUNDWATER PIEZOMETER
SP-X	GROUNDWATER CONTROL TRENCH STAND PIPE
	ISOLATION VALVE
MH	UTILITY MANHOLE
	LEACHATE COLLECTION PIPE CLEANOUT
Lx	LEACHATE LIFT STATION
	OVERHEAD POWER POLE
	GUY WIRE
	LFG CONDENSATE HIGH POINT
	SURFACE DRAINAGE FLOW DIRECTION

MATERIALS IN PLAN / SECTION

- STRUCTURAL FILL (SECTION)
- PLACED SOIL (SECTION)
- NATIVE SOIL (SECTION)
- DAILY / INTERMEDIATE COVER (SECTION)
- WASTE (SECTION)
- RECOMPACTED CLAY (SECTION)
- VEGETATIVE SOIL LAYER (SECTION)
- PROTECTIVE SOIL COVER (SECTION)
- DRAINAGE LAYER (SECTION)
- RIP-RAP / REVETMENT STONE (PLAN/SECTION)
- SAND (SECTION)
- COARSE AGGREGATE (SECTION)
- LETDOWN (PLAN)
- HAUL ROAD (PLAN)
- RECOMPACTED CLAY LINER (SECTION)
- CAREFULLY COMPACTED BACKFILL (SECTION)

UTILITY/CIVIL LINE SYMBOLOGY

PROP	PROPERTY BOUNDARY
WASTE	LIMITS OF WASTE
	INTERNAL CELL/PHASE BOUNDARY
	FENCE - BARB WIRE
	FENCE - CHAIN LINK
	FENCE - WOOD
	EXISTING MINOR CONTOUR
25	EXISTING MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
25	PROPOSED MAJOR CONTOUR
	VEGETATION/BRUSH LINE
	TREES / SHRUBBERY
LEA	LEACHATE PIPE - SOLID WALL
LEA	LEACHATE PIPE - PERFORATED
FM	LEACHATE FORCEMAIN
GWT	GROUNDWATER PIPE / TRENCH
	LARGE PIPELINE
SD	STORMWATER PIPING
	STORMWATER CULVERT
> >	DRAINAGE TERRACE
>> >>	DRAINAGE DITCH / SWALE
G	GAS HEADER PIPE
G G G	GAS COLLECTOR PIPE
UGE	UNDERGROUND POWER
OHE	OVERHEAD POWER LINE
FO	FIBER OPTIC SERVICE
W	WATER MAIN
WTL	WETLANDS DELINEATION

SYMBOLOGY NOTES

1. THIS IS A STANDARD SHEET SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

ABBREVIATIONS

&	AND
@	AT
ADS	ADVANCED DRAINAGE SYSTEMS, INC.
AISI	AMERICAN IRON & STEEL INSTITUTE
APPROX	APPROXIMATE
℄	
L or CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CWTS	CONSTRUCTED WETLANDS TREATMENT SYSTEM
CPP	CORRUGATED PLASTIC PIPE
Ø or DIA	DIAMETER
E	EAST or ELECTRICAL
EL or ELEV	ELEVATION
EXST	EXISTING
EXT	EXTENSION
FES	FLARED END SECTION
FL	FLOWLINE
FT	FOOT or FEET
GALV	GALVANIZED
GAL	GALLON
GEW	GAS EXTRACTION WELL
GW	GROUNDWATER
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
ID	INNER DIAMETER
IE	INVERT ELEVATION
IN	INCH or INCHES
L	ANGLE
LB or LBS	POUND/S
LLDPE	LINEAR LOW DENSITY POLYETHYLENE
MAX	MAXIMUM
MFG'S	MANUFACTURER'S
MH	MANHOLE
MIN	MINIMUM
MPE	METRO PARK EAST
MWA	METRO WASTE AUTHORITY
N	NORTH
NA	NOT APPLICABLE
NO.	NUMBER
OD	OUTER DIAMETER
OZ	OUNCE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PL	PLATE
POB	POINT OF BEGINNING
POE	POINT OF END
PP	POLYPROPYLENE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R or RAD	RADIUS
REQ'D	REQUIRED
ROW	RIGHT OF WAY
SEC	SECTION
S	SOUTH
SPA	SPACING
SS	STAINLESS STEEL
STA	STATION
STL	STEEL
TEMP	TEMPORARY
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WEST
W/	WITH

GENERAL NOTES

1. SITE TOPOGRAPHY AERIAL SURVEY PROVIDED BY AEROVIEW SERVICES, DATED JUNE 30, 2021. SITE LINEWORK IS A COMPILATION OF HISTORIC SITE INFORMATION PROVIDED BY METRO WASTE AUTHORITY AND RECORD DRAWING INFORMATION.
2. SITE COORDINATES ARE BASED UPON IOWA STATE PLANE SOUTH, NAVD88.THIS SYSTEM SHALL BE USED FOR ALL PROJECT SURVEYING AND RECORD DOCUMENT PRODUCTION.
3. DO NOT OBSTRUCT LANDFILL SITE ACCESS ROADS, MAIN ACCESS ROADS, OR PROJECT ACCESS/EGRESS ROUTE. COORDINATE ALL ROADWAY WORK TO ENSURE CONTINUOUS SITE ACCESS. SEE SPECIFICATIONS.
4. OBTAIN ALL REQUIRED BORROW FROM WITHIN APPROVED SOIL BORROW AREA, UNLESS OTHERWISE APPROVED BY OWNER.
5. BULK EXCAVATION AND SOIL PLACEMENT AREAS SHALL BE GRADED AS SHOWN ON PLANS OR AS OTHERWISE APPROVED BY OWNER. B
6. CONTRACTOR SHALL PROVIDE AND MAINTAIN THROUGHOUT CONSTRUCTION SIX (6) DIESEL POWERED PUMPS, CAPABLE OF PUMPING 1,200 GPM AT 30' TDH, TO REMOVE ALL ACCUMULATED STORM WATER FROM WITHIN CELL E COORDINATE BOUNDARY INCLUDING AT ALL TIMES OUTSIDE OF NORMAL WORK HOURS. STANDING WATER WITHIN THE CELL E LINER AREA IS NOT PERMITTED. NON-COMPLIANCE WITH THIS REQUIREMENT WILL RESULT IN OWNER HIRING A THIRD-PARTY TO COMPLETE CONSTRUCTION DEWATERING AT CONTRACTOR'S SOLE COST. STORM WATER SHALL BE DISCHARGED TO 18" DIA. CPP PIPE TO BE INSTALLED ON THE PROPOSED STORM WATER DIVERSION BERM ON THE EAST SIDE OF CELL D NORTH AND CELL D SOUTH. SEE SHEET 01C101, 01C102, AND DETAIL 2/01C501.
7. LOCATE AND PROTECT SITE UTILITIES AND STRUCTURES (INCLUDING MONITORING WELLS, PIEZOMETERS, GROUNDWATER CONTROL STANDPIPES, RISERS, TRENCHES, BURIED UTILITIES, LEACHATE MANHOLES, ELECTRICAL, ETC.). ANY STRUCTURES REMOVED OR DAMAGED SHALL BE REPAIRED AND REPLACED AT CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL WORK FROM EROSION AND SEDIMENT CAUSED BY THE ADJACENT EXISTING LANDFILL. SEDIMENT ACCUMULATION WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED AT CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE EROSION CONTROL MEASURES MEET MINIMUM FEDERAL, STATE, AND LOCAL REGULATIONS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING DRAINAGE CHANNELS, CULVERTS, SEDIMENT BASINS, AND TRAPS AFFECTED BY THE CONTRACTOR SHALL REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM THE CONTROL MEASURES AND ANY AFFECTED STRUCTURES FOLLOWING COMPLETION OF THE WORK AND PLACE AT LOCATION APPROVED BY OWNER.
10. TERMINATION BERMS SHOWN ON SHEET 02C105 AND 02C106 ARE PROVIDED TO BALLAST AND COMPLETE THE LINER SYSTEM. CONTRACTOR WILL PROVIDE ADDITIONAL TEMPORARY AND INTERMEDIATE BALLASTING UNTIL ALL TERMINATION BERMS ARE INSTALLED/COMPLETED. CONTRACTOR SHALL ALSO PROVIDE BALLASTING OF RAIN COVER. SEE SHEET 02C501, 02C503, 02C504, AND SPECIFICATIONS.
11. WHERE DESIGNATED ACCESS ROADS TO SPECIFIC CONSTRUCTION AREAS ARE NOT SHOWN, COORDINATE PLANNED ACCESS ROUTES WITH OWNER AND ENGINEER AT THE PRE-CONSTRUCTION CONFERENCE.
12. IN ALL CASES CONTRACTOR SHALL TAKE CARE TO PREVENT DAMAGE TO ESTABLISHED VEGETATION DUE TO CONTRACTOR VEHICLE TRAFFIC. CONTRACTOR SHALL REPAIR ALL VEGETATION AND SOIL DAMAGE (I.E. RUTTING) CAUSED BY CONSTRUCTION ACTIVITIES IN MANNER SUITABLE TO OWNER PRIOR TO COMPLETION OF PROJECT WORK.
13. CONTRACTOR ACCESS ROAD FROM STAGING/LAYDOWN AREA INTO CELL E AREA TO BE CONSTRUCTED FOLLOWING COORDINATION WITH AND APPROVED BY OWNER IN THE APPROXIMATE ALIGNMENT SHOWN ON SHEET 00G002.

PROJECT SERIES DESCRIPTION

1. CELL E BULK EXCAVATION, INCLUDING:
   a. SITE PREPARATION.
   b. EARTHWORK AND STORM WATER IMPROVEMENTS.
   c. EXCAVATION AND FINE GRADING OF CELL PERIMETER FEATURES AND NORTH PERIMETER ACCESS.
   d. PLACEMENT AND STOCKPILE OF EXCAVATED SOIL (IN ORDER OF OWNER'S PREFERENCE) PHASE I MSW COVER IMPROVEMENTS, EAST PERIMETER BERM HAUL ROAD, CELLS ABC STOCKPILES, EAST PERIMETER BERM, MISCELLANEOUS AREAS AS APPROVED BY OWNER.
   e. OTHERS - SEE DRAWINGS AND SPECIFICATIONS.
2. CELL E LINER & LEACHATE COLLECTION SYSTEM, INCLUDING:
   a. EXCAVATION AND FINE GRADING TO BASE GRADE.
   b. GROUNDWATER COLLECTION SYSTEM.
   c. RECOMPACTED CLAY LINER.
   d. 60-MIL GEOMEMBRANE.
   e. GEOTEXTILE.
   f. TERMINATION BERMS ON THE SOUTH AND EAST SIDES.
   g. DRAINAGE LAYER AND COARSE AGGREGATE.
   h. SOLID WALL AND PERFORATED PVC LEACHATE COLLECTION PIPES WITH INTERNAL CABLE.
   i. 12-MIL SCRIM REINFORCED HDPE RAINCOVER.
   j. MISCELLANEOUS STRUCTURES AND APPURTENANCES.
   k. OTHERS - SEE DRAWINGS AND SPECIFICATIONS.
3. NORTH ACCESS ROAD PAVING AND EASTERN CELL E ACCESS ROAD, INCLUDING:
   a. FINE GRADING OF NORTH PERIMETER ACCESS ROAD.
   b. ASPHALT SURFACING OF NORTH PERIMETER ACCESS ROAD.
   c. GROUND SHINGLE AND AGGREGATE SURFACING OF CELL E ACCESS ROAD.
   d. MUCK OUT BASIN INSTALLATION
   e. EROSION CONTROLS
   f. CULVERT INSTALLATION
4. PHASE I DRAINAGE AND COVER IMPROVEMENTS, INCLUDING:
   a. CULVERT REMOVAL.
   b. FINE GRADING OF WEST ROADWAY.
   c. AGGREGATE SURFACING OF WEST ROADWAY.
   d. GENERAL EARTHWORK INCLUDING SEDIMENT REMOVAL AND TERRACE REPAIR AND INSTALLATION.
   e. COMPACTED AND GEOSYNTHETIC CLAY LINERS.
   f. TIED CONCRETE BLOCK MATTING LETDOWN STRUCTURE INSTALLATION.
   g. BOX CULVERT STRUCTURE AND RIP-RAP PLACEMENT.
   h. EROSION CONTROL, SEEDING AND FERTILIZING.

ISSUE	DATE	DESCRIPTION
B	03/23/2022	BID ADDENDUM NO. 1
A	03/07/2022	ISSUED FOR BID

PROJECT MANAGER	G. WILLIAMS
CIVIL	G. WILLIAMS
CIVIL	A. BROSHAR
DRAWN BY	M. BICKFORD
PROJECT NUMBER	10333320

Metro Waste Authority

METRO PARK EAST
MWA PROJECT P-63
PHASE II CELL E LINER CONSTRUCTION
PHASE I COVER IMPROVEMENTS

CIVIL LEGEND AND GENERAL NOTES

0 1" 2"

FILENAME 00G001.dwg
SCALE AS NOTED

SHEET 00G001

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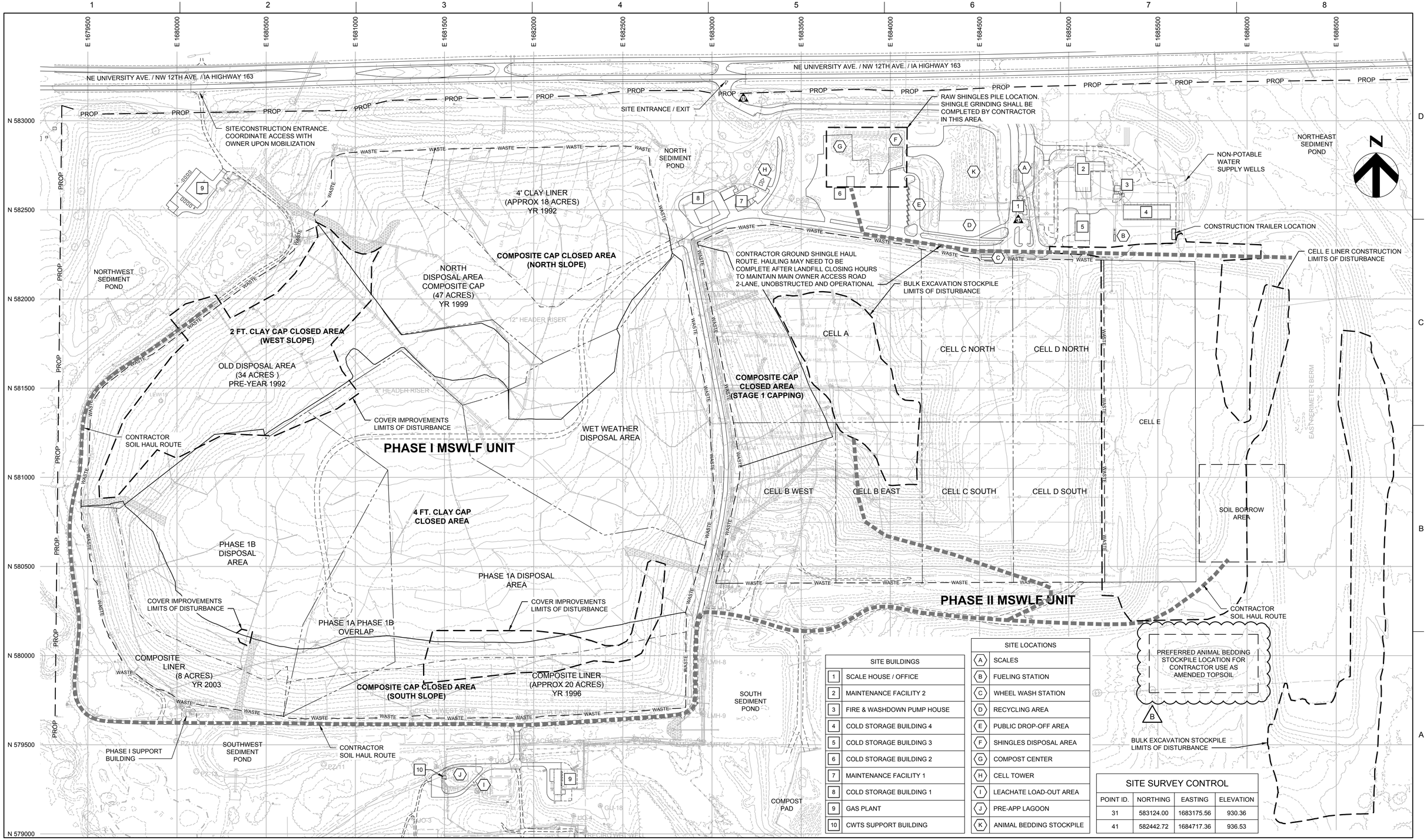

SITE BUILDINGS	
1	SCALE HOUSE / OFFICE
2	MAINTENANCE FACILITY 2
3	FIRE & WASHDOWN PUMP HOUSE
4	COLD STORAGE BUILDING 4
5	COLD STORAGE BUILDING 3
6	COLD STORAGE BUILDING 2
7	MAINTENANCE FACILITY 1
8	COLD STORAGE BUILDING 1
9	GAS PLANT
10	CWTS SUPPORT BUILDING

SITE LOCATIONS	
A	SCALES
B	FUELING STATION
C	WHEEL WASH STATION
D	RECYCLING AREA
E	PUBLIC DROP-OFF AREA
F	SHINGLES DISPOSAL AREA
G	COMPOST CENTER
H	CELL TOWER
I	LEACHATE LOAD-OUT AREA
J	PRE-APP LAGOON
K	ANIMAL BEDDING STOCKPILE

SITE SURVEY CONTROL			
POINT ID.	NORTHING	EASTING	ELEVATION
31	583124.00	1683175.56	930.36
41	582442.72	1684717.36	936.53

ISSUE	DATE	DESCRIPTION
B	03/23/2022	BID ADDENDUM NO. 1
A	03/07/2022	ISSUED FOR BID

PROJECT MANAGER	G. WILLIAMS
CIVIL	G. WILLIAMS
CIVIL	A. BROSHAR
DRAWN BY	M. BICKFORD
PROJECT NUMBER	10333320

Metro Waste Authority

METRO PARK EAST
MWA PROJECT P-63
PHASE II CELL E LINER CONSTRUCTION
PHASE I COVER IMPROVEMENTS

EXISTING CONDITIONS PHASE I & PHASE II MSW LANDFILL

0 1" 2"

FILENAME 00G002.dwg

SCALE 1" = 250'

SHEET 00G002

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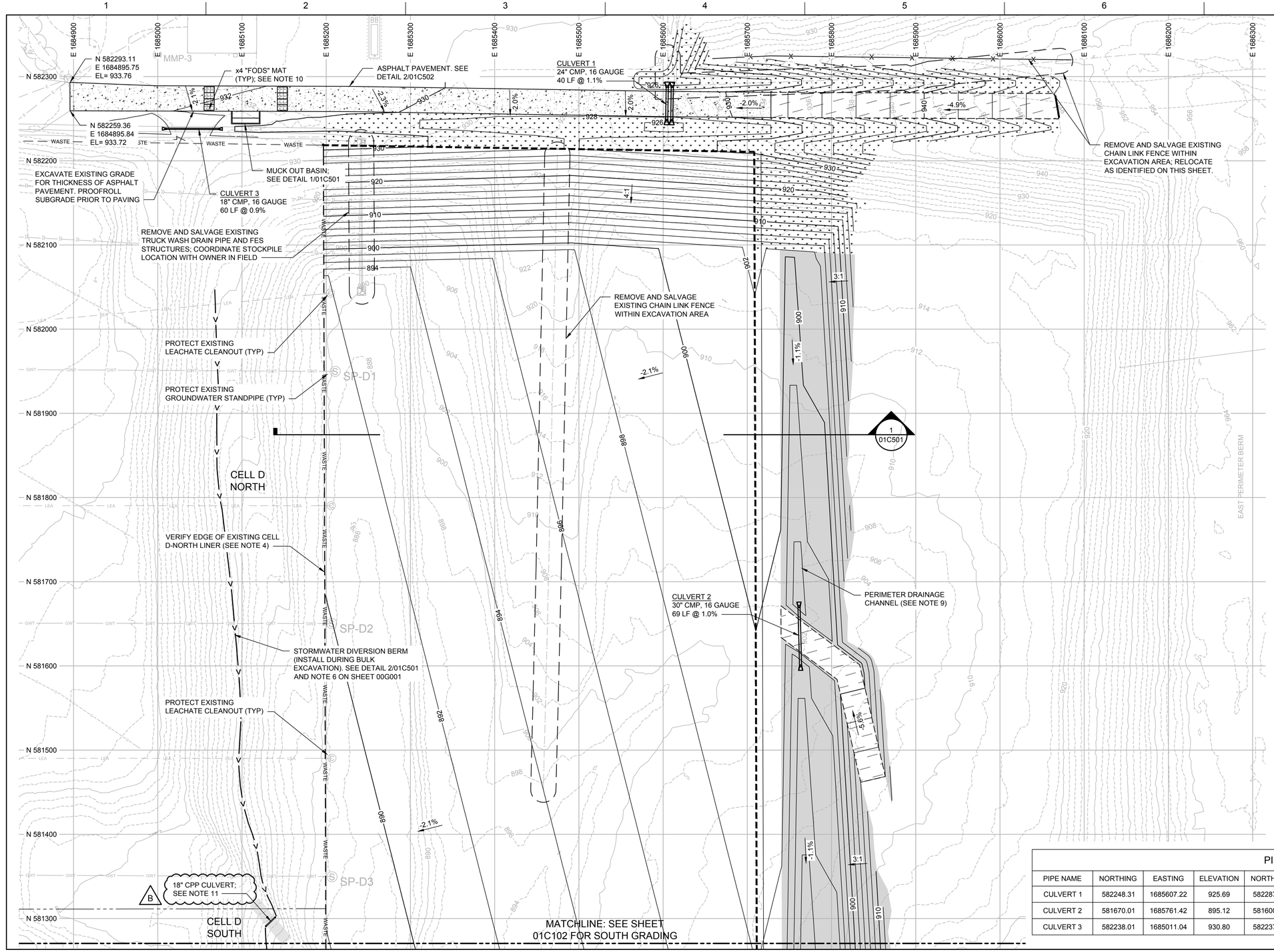

LEGEND

- TOPSOIL, SEED AND FERTILIZE; SEE SPECIFICATIONS
- MULCH AND CRIMP WITH STRAW MULCH; SEE SPECIFICATIONS
- ASPHALT PAVEMENT
- SHINGLE SURFACING; SEE NOTE 12
- STORM CONTROL DRAINAGE TERRACE, MAINTAIN MIN. 1% SLOPE ALONG FLOW LINE

NOTES

1. PROPOSED GRADES WITHIN CELL E COORDINATE BOUNDARY ARE AT LEAST 2 FEET ABOVE TOP OF RECOMPACTED CLAY LINER DESIGN GRADES. DO NOT EXCAVATE BELOW DESIGN GRADES SHOWN IN APPROVED SOIL BORROW AREA.
2. CONTRACTOR SHALL COORDINATE LOCATION OF ACCESS ROADS WITH OWNER TO AVOID IMPACTS TO OPERATIONS AND LIMIT DISTURBANCE TO EXISTING VEGETATION. INCLUDE PROPOSED SOIL HAUL ROUTES IN WORK PLAN SUBMITTAL, SEE SPECIFICATIONS. LEAVE CONSTRUCTED ACCESS ROADS IN PLACE FOR FUTURE OWNER USE AFTER COMPLETION.
3. STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS OF EXCAVATION WITHIN LIMITS OF CONSTRUCTION. REUSE EXCAVATED TOPSOIL ON AREAS OF INTERIM SOIL COVER ONLY. COORDINATE STOCKPILE LOCATIONS WITH OWNER.
4. FIELD VERIFY CELL D NORTH AND SOUTH EDGE OF LINER (WEST LIMITS OF CELL E LINER) PRIOR TO START OF EXCAVATION OF SITE. EXCAVATION OF SOIL AND WASTE SHALL NOT DAMAGE THE EXISTING LINER SYSTEM. IMMEDIATELY AFTER COMPLETION OF BULK EXCAVATION CONTRACTOR SHALL INSTALL SACRIFICIAL RAIN FLAP, SEE DETAIL 2/02C504.
5. DO NOT REMOVE TRUCK WASH DRAIN PIPE UNTIL ALTERNATE DRAINAGE IS PROVIDED, SEE SHEET 02C101.
6. COORDINATE ALL REMOVAL OF JERSEY BARRIERS, CHAIN LINK FENCE, AND CONCRETE PAVEMENT WITH OWNER. STOCKPILE REMOVED JERSEY BARRIERS, FENCE, FABRIC, BRACES, AND RAILS IN REUSABLE CONDITION AT ONSITE LOCATION IDENTIFIED BY OWNER OR DISPOSE IN LANDFILL AT OWNER'S DISCRETION.
7. EXCAVATION OF SOIL WITHIN AND ADJACENT TO THE APPROVED SOIL BORROW AREA WILL BE CONTINUOUSLY COMPLETED BY OWNER UNTIL START OF CONTRACT TIME. TOPOGRAPHIC SURVEY WILL BE COMPLETED BY OWNER IMMEDIATELY PRIOR TO START OF THE WORK, AND EARTHWORK CONTRACT QUANTITIES WILL BE ADJUSTED ACCORDINGLY.
8. SMOOTHLY TRANSITION STORM WATER DIVERSION BERM FLOW LINE INTO 24" CPP PIPE WITH FLARED END SECTIONS AND OUTLET INTO THE PERIMETER DRAINAGE CHANNEL. INSTALL CULVERT PER MANUFACTURER'S SPECIFICATIONS AND IN A LOCATION APPROVED BY OWNER.
9. BORROW AREA STORM WATER CHANNEL TO BE TRAPEZOIDAL CHANNEL 18 IN DEEP WITH 8:1 SIDE SLOPES AND 10-FOOT FLAT CHANNEL BOTTOM.
10. INSTALL TWO (2) SETS OF FOUR (4) 12'x7' "FODS" MATS CENTERED IN 30-FOOT WIDE ASPHALT PAVEMENT. SUBMIT DATA AND SHOP DRAWING TO ENGINEER FOR REVIEW AND APPROVAL. ANCHOR PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
11. INSTALL 18" DIA. C.P.P. CULVERT ACROSS EXISTING HAUL ROAD. PLACE 2-FOOT MIN. SOIL COVER OVER TOP OF CULVERT AND TRANSITION TO EXISTING GRADE SO AS TO CREATE APPROX. 8%-10% SLOPE. INVERT ELEVATIONS TO BE ESTABLISHED IN THE FIELD SO AS TO MAINTAIN POSITIVE DRAINAGE THROUGH PIPE FROM NORTH TO SOUTH.
12. PLACE GROUND SHINGLE SURFACING, TO BE COMPRISED OF GROUND RECYCLED ASPHALT SHINGLES. CONTRACTOR SHALL GRIND ON-SITE, OWNER-PROVIDED SHINGLES TO MEET IDOT GRADATION SPECIFICATIONS, SEE DETAIL 3/01C502.

B

PIPE TABLE

PIPE NAME	NORTHING	EASTING	ELEVATION	NORTHING	EASTING	ELEVATION	PIPE SIZE	PIPE MATERIAL
CULVERT 1	582248.31	1685607.22	925.69	582287.89	1685607.81	925.27	24"	DOUBLE C.M.P., 16 GAUGE
CULVERT 2	581670.01	1685761.42	895.12	581600.60	1685763.23	894.42	30"	C.M.P., 16 GAUGE
CULVERT 3	582238.01	1685011.04	930.80	582237.78	1685071.23	930.21	18"	C.M.P., 16 GAUGE

ISSUE	DATE	DESCRIPTION
B	03/23/2022	BID ADDENDUM NO. 1
A	03/07/2022	ISSUED FOR BID

PROJECT MANAGER	G. WILLIAMS
CIVIL	G. WILLIAMS
CIVIL	A. BROSHAR
DRAWN BY	M. BICKFORD
PROJECT NUMBER	10333320

Metro Waste Authority

METRO PARK EAST
MWA PROJECT P-63
PHASE II CELL E LINER CONSTRUCTION
PHASE I COVER IMPROVEMENTS

BULK EXCAVATION GRADING PLAN - NORTH

0 1" 2"

FILENAME 01C101.dwg
SCALE 1" = 60'

SHEET 01C101

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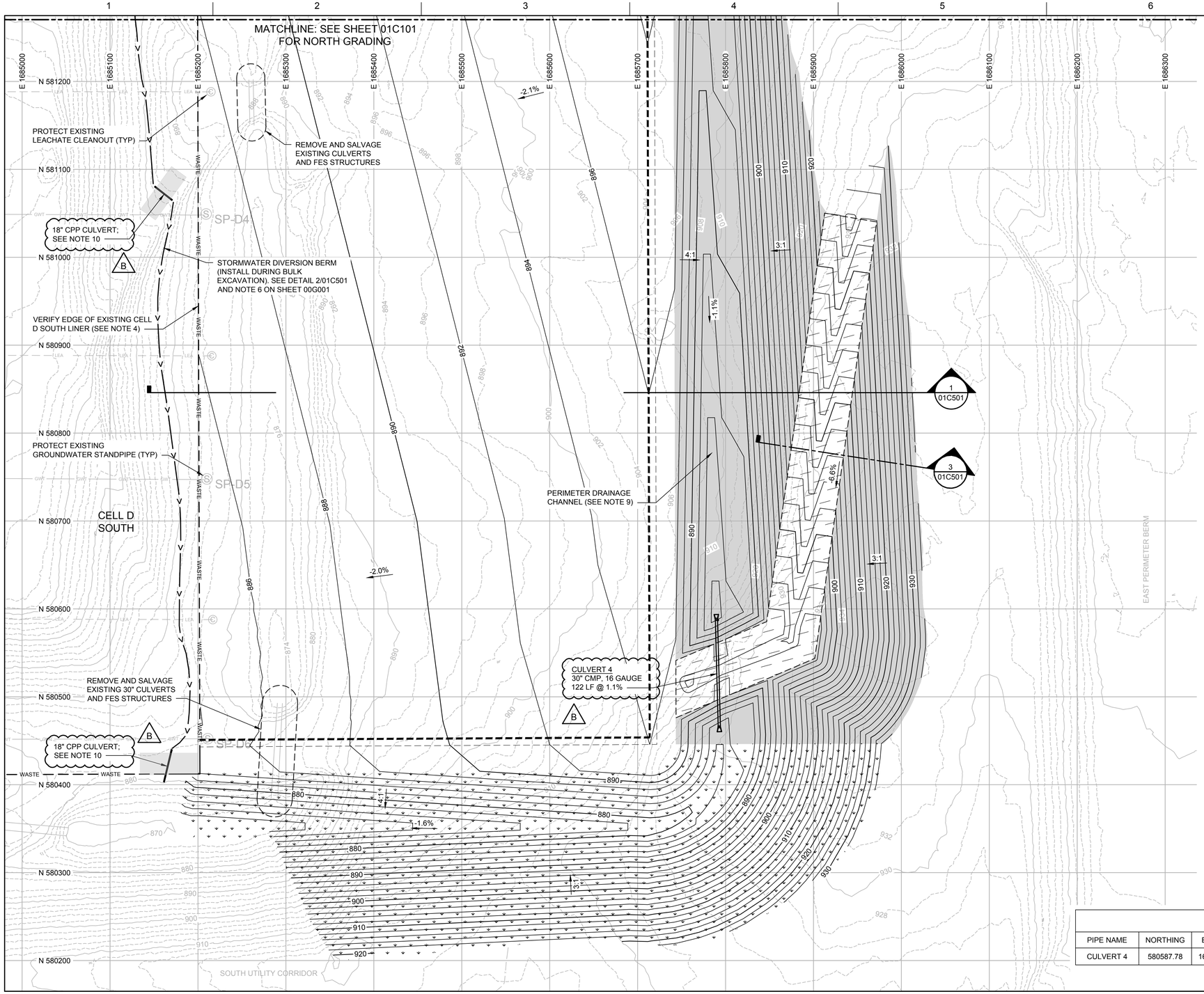

LEGEND

- TOPSOIL, SEED AND FERTILIZE; SEE SPECIFICATIONS
- MULCH AND CRIMP WITH STRAW MULCH; SEE SPECIFICATIONS
- SHINGLE SURFACING; SEE NOTE 11
- STORM CONTROL DRAINAGE TERRACE, MAINTAIN MIN. 1% SLOPE ALONG FLOW LINE

NOTES

1. PROPOSED GRADES WITHIN CELL E COORDINATE BOUNDARY ARE AT LEAST 2 FEET ABOVE TOP OF RECOMPACTED CLAY LINER DESIGN GRADES. DO NOT EXCAVATE BELOW DESIGN GRADES SHOWN IN APPROVED SOIL BORROW AREA.
2. CONTRACTOR SHALL COORDINATE LOCATION OF ACCESS ROADS WITH OWNER TO AVOID IMPACTS TO OPERATIONS AND LIMIT DISTURBANCE TO EXISTING VEGETATION. INCLUDE PROPOSED SOIL HAUL ROUTES IN WORK PLAN SUBMITTAL, SEE SPECIFICATIONS. LEAVE CONSTRUCTED ACCESS ROADS IN PLACE FOR FUTURE OWNER USE AFTER COMPLETION.
3. STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS OF EXCAVATION WITHIN LIMITS OF CONSTRUCTION. REUSE EXCAVATED TOPSOIL ON AREAS OF INTERIM SOIL COVER ONLY. COORDINATE STOCKPILE LOCATIONS WITH OWNER.
4. FIELD VERIFY CELL D NORTH AND SOUTH EDGE OF LINER (WEST LIMITS OF CELL E LINER) PRIOR TO START OF EXCAVATION OF SITE. EXCAVATION OF SOIL AND WASTE SHALL NOT DAMAGE THE EXISTING LINER SYSTEM. IMMEDIATELY AFTER COMPLETION OF BULK EXCAVATION CONTRACTOR SHALL INSTALL SACRIFICIAL RAIN FLAP, SEE DETAIL 2/02C504.
5. DO NOT REMOVE TRUCK WASH DRAIN PIPE UNTIL ALTERNATE DRAINAGE IS PROVIDED, SEE SHEET 02C101.
6. COORDINATE ALL REMOVAL OF JERSEY BARRIERS, CHAIN LINK FENCE, AND CONCRETE PAVEMENT WITH OWNER. STOCKPILE REMOVED JERSEY BARRIERS, FENCE, FABRIC, BRACES, AND RAILS IN REUSABLE CONDITION AT ONSITE LOCATION IDENTIFIED BY OWNER OR DISPOSE IN LANDFILL AT OWNER'S DISCRETION.
7. EXCAVATION OF SOIL WITHIN AND ADJACENT TO THE APPROVED SOIL BORROW AREA WILL BE CONTINUOUSLY COMPLETED BY OWNER UNTIL START OF CONTRACT TIME. TOPOGRAPHIC SURVEY WILL BE COMPLETED BY OWNER IMMEDIATELY PRIOR TO START OF THE WORK, AND EARTHWORK CONTRACT QUANTITIES WILL BE ADJUSTED ACCORDINGLY.
8. SMOOTHLY TRANSITION STORM WATER DIVERSION BERM FLOW LINE INTO 24" CPP PIPE WITH FLARED END SECTIONS AND OUTLET INTO THE PERIMETER DRAINAGE CHANNEL. INSTALL CULVERT PER MANUFACTURER'S SPECIFICATIONS AND IN A LOCATION APPROVED BY OWNER.
9. BORROW AREA STORM WATER CHANNEL TO BE TRAPEZOIDAL CHANNEL 18 IN DEEP WITH 8:1 SIDE SLOPES AND 10-FOOT FLAT CHANNEL BOTTOM.
10. INSTALL 18" DIA. C.P.P. CULVERT ACROSS EXISTING HAUL ROAD. PLACE 2-FOOT MIN. SOIL COVER OVER TOP OF CULVERT AND TRANSITION TO EXISTING GRADE SO AS TO CREATE APPROX. 8%-10% SLOPE. INVERT ELEVATIONS TO BE ESTABLISHED IN THE FIELD SO AS TO MAINTAIN POSITIVE DRAINAGE THROUGH PIPE FROM NORTH TO SOUTH.
11. PLACE GROUND SHINGLE SURFACING, TO BE COMPRISED OF GROUND RECYCLED ASPHALT SHINGLES. CONTRACTOR SHALL GRIND ON-SITE. OWNER-PROVIDED SHINGLES TO MEET IDOT GRADATION SPECIFICATIONS, SEE DETAIL 3/01C502.

B

PIPE TABLE

PIPE NAME	NORTHING	EASTING	ELEVATION	NORTHING	EASTING	ELEVATION	PIPE SIZE	PIPE MATERIAL
CULVERT 4	580587.78	1685789.70	883.50	580466.24	1685792.87	882.21	30"	C.M.P., 16 GAUGE

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METRO PARK EAST
MWA PROJECT P-63
PHASE II CELL E LINER CONSTRUCTION
PHASE I COVER IMPROVEMENTS

BULK EXCAVATION GRADING PLAN - SOUTH

0 1" 2"

FILENAME 01C102.dwg
SCALE 1" = 60'

SHEET 01C102

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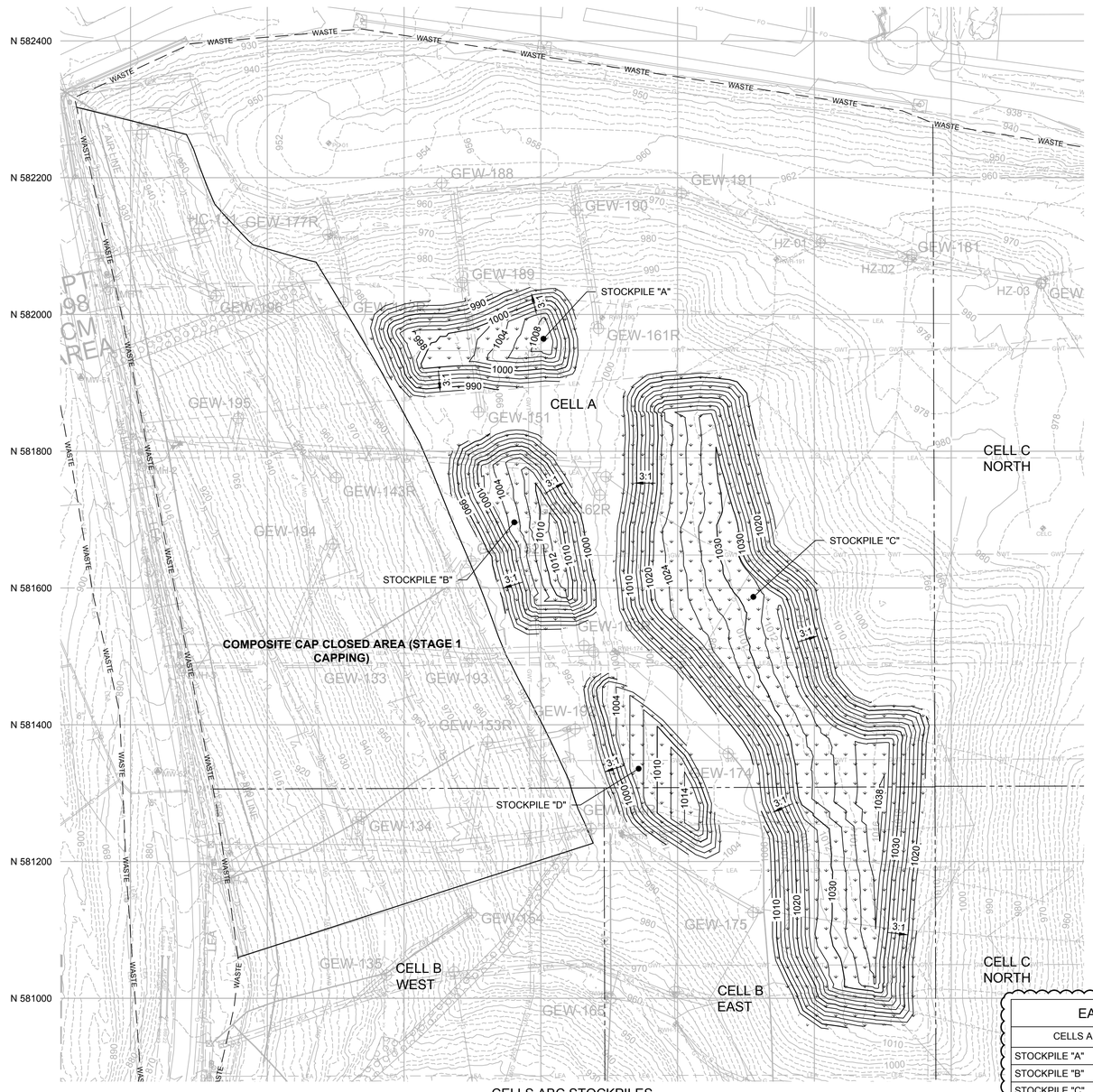
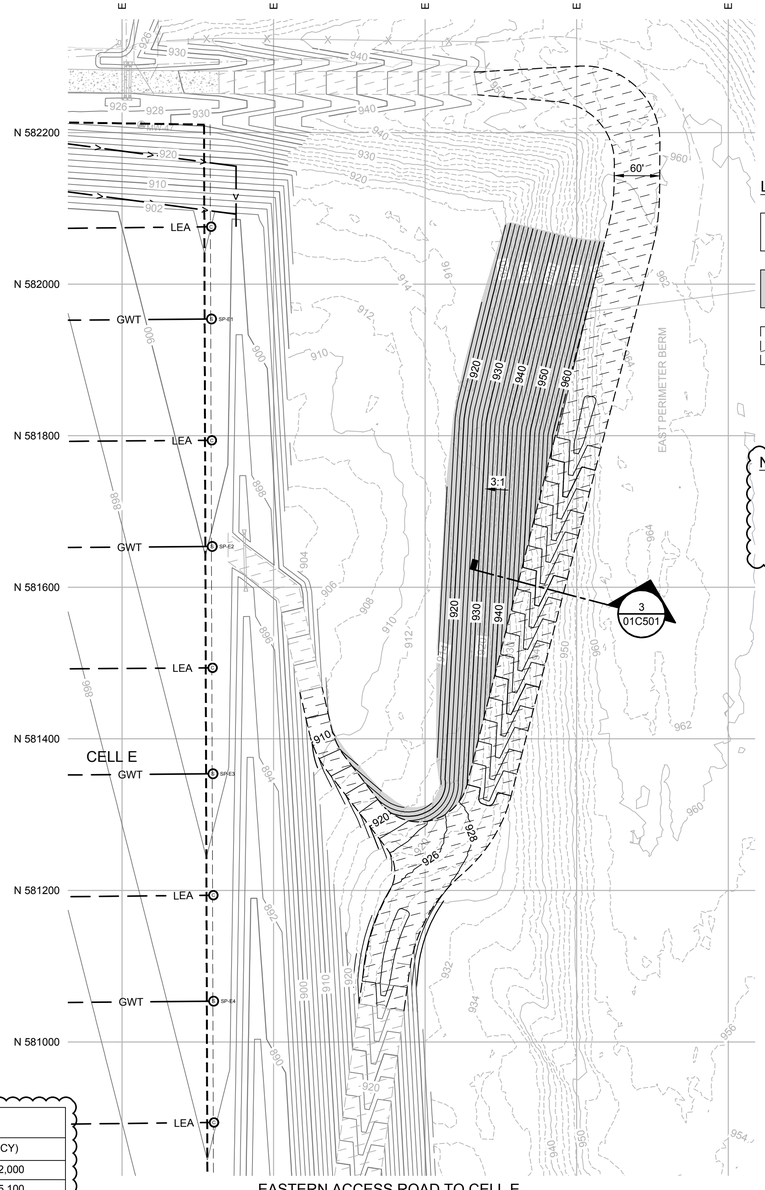


CELLS ABC STOCKPILES



EASTERN ACCESS ROAD TO CELL E

LEGEND

- SEED AND FERTILIZE; SEE SPECIFICATIONS
- MULCH AND CRIMP WITH STRAW MULCH; SEE SPECIFICATIONS
- SHINGLE SURFACING; SEE NOTE 1

NOTES

1. PLACE GROUND SHINGLE SURFACING, TO BE COMPRISED OF GROUND RECYCLED ASPHALT SHINGLES. CONTRACTOR SHALL GRIND ON-SITE, OWNER-PROVIDED SHINGLES TO MEET IDOT GRADATION SPECIFICATIONS, SEE DETAIL 3/01C502.

B

EARTHWORK	
CELLS ABC STOCKPILES (CY)	
STOCKPILE "A"	12,000
STOCKPILE "B"	15,100
STOCKPILE "C"	109,000
STOCKPILE "D"	6,000
CELLS ABC TOTAL FILL	142,100
EASTERN ACCESS ROAD TO CELL E (CY)	
FILL	41,461

B

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MWA PROJECT P-63
PHASE II CELL E LINER CONSTRUCTION
PHASE I COVER IMPROVEMENTS

BULK EXCAVATION SOIL PLACEMENT PLAN CELL STOCKPILE AND HAUL ROAD

0 1" 2"

FILENAME 01C103.dwg
SCALE 1" = 100'

SHEET 01C103

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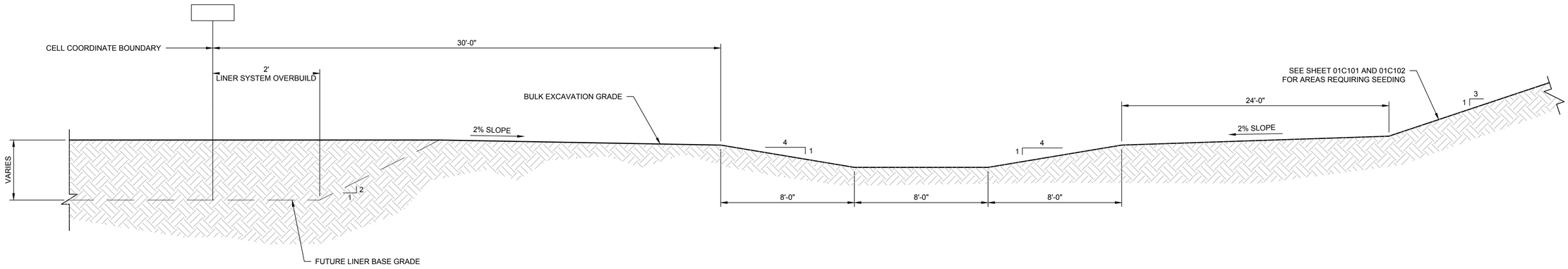
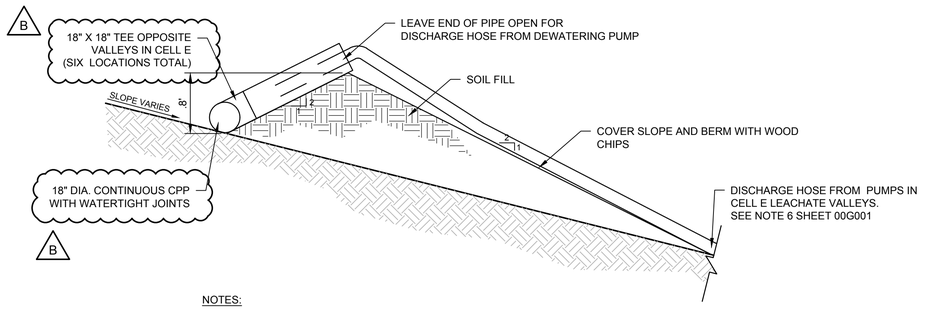


1 / 01C101 — TYPICAL BULK EXCAVATION TERMINATION

NO SCALE

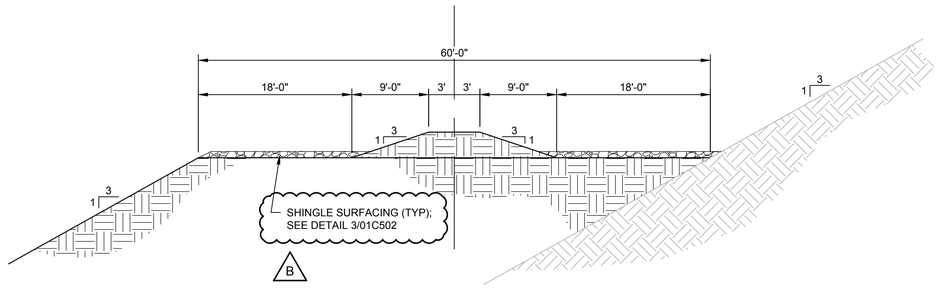


NOTES:

1. SLOPE BERM AND PIPE AT 1% MIN. TO DISCHARGE AT EXISTING DRAINAGE CHANNEL AS SHOW ON SHEET 01C102.

2 / 01C101 — STORM WATER DIVERSION BERM

NO SCALE



3 / 01C102 — 60-FOOT HAUL ROAD TYPICAL SECTION

NO SCALE

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METRO PARK EAST
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PHASE II CELL E LINER CONSTRUCTION
PHASE I COVER IMPROVEMENTS

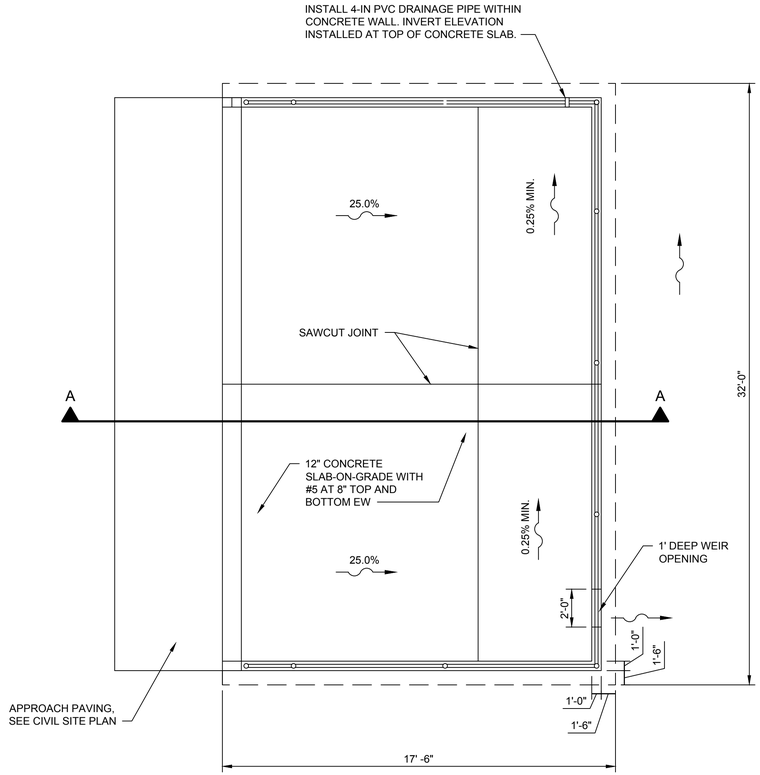
BULK EXCAVATION DETAILS

0 1" 2"

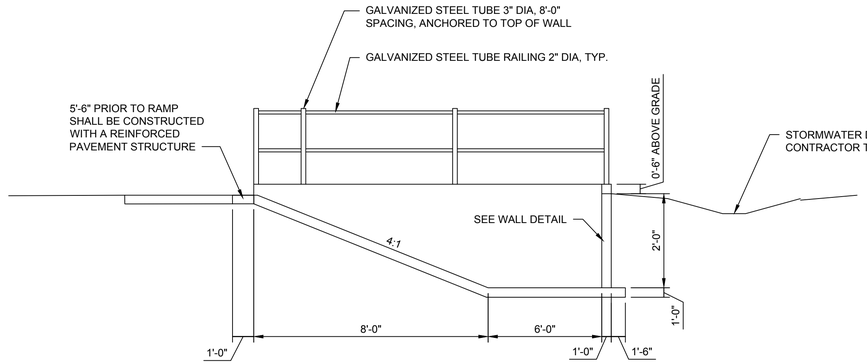
FILENAME 01C501.dwg

SCALE AS NOTED

SHEET 01C501



PLAN

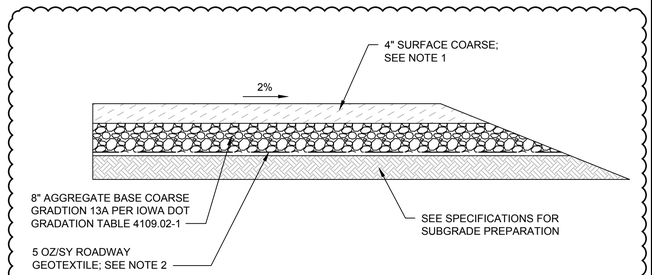


SECTION A-A

NOTES

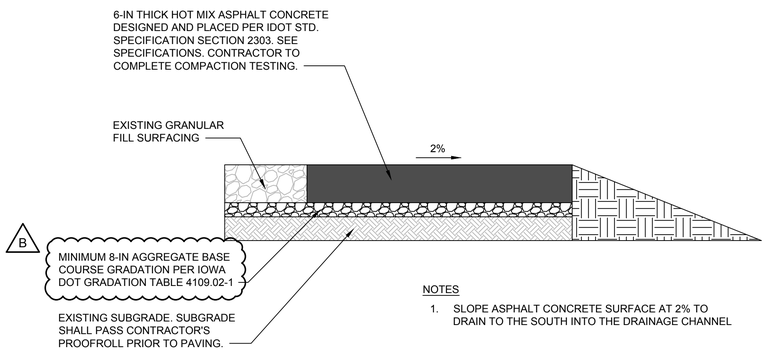
1. EXPANSION JOINTS ON FLOOR AND WALLS TO BE SET BY CONTRACTOR PER SUDAS WITH ENGINEER APPROVAL PRIOR TO INSTALLATION.
2. CONCRETE MIX 4,500 PSI OR BETTER SEE SPECIFICATIONS.
3. ALL WELDS CONTINUOUS AND GROUND SMOOTH FOR PLATE TO WALL ANCHOR

WALL DETAIL



NOTES
1. SURFACE COARSE TO BE COMPRISED OF A MIX OF SURFACING AGGREGATE (GRADATION 14 PER IOWA DOT GRADATION TABLE 4109.02-1) AND GROUND RECYCLED ASPHALT SHINGLES. CONTRACTOR TO GRIND OWNER-PROVIDED SHINGLES. MIX TO BE EQUAL PARTS (50/50) BY VOLUME AND CONSISTENTLY BLENDED AND EVENLY SPREAD ACROSS ENTIRE ROAD SURFACE.
2. ROADWAY GEOTEXTILE TO BE MIRAFI 500X OR EQUAL AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND SUDAS SPECIFICATION 9040.

3 / 01C101 SHINGLE SURFACING
NO SCALE



NOTES
1. SLOPE ASPHALT CONCRETE SURFACE AT 2% TO DRAIN TO THE SOUTH INTO THE DRAINAGE CHANNEL

1 / 01C101 MUCK-OUT BASIN
NO SCALE

2 / 01C101 PAVEMENT DETAIL
NO SCALE

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BULK EXCAVATION DETAILS

0 1" 2"

FILENAME 01C502.dwg
SCALE AS NOTED

SHEET 01C502

SECTION 03 00 05
CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Cast-in-place concrete and grout.

B. Related Specification Sections include but are not necessarily limited to:
   1. Division 00 - Procurement and Contracting Requirements.
   2. Division 01 - General Requirements.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American Concrete Institute (ACI):
      a. 117, Specification for Tolerances for Concrete Construction and Materials.
      b. 211.1, Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
      c. 212.3R, Chemical Admixtures for Concrete.
      d. 304R, Guide for Measuring, Mixing, Transporting, and Placing Concrete.
      e. 304.2R, Placing Concrete by Pumping Methods.
      f. 305.1, Hot Weather Concreting.
      g. 306.1, Cold Weather Concreting.
      h. 318, Building Code Requirements for Structural Concrete.
      i. 347, Guide to Formwork for Concrete.
      j. CT-13, Concrete Terminology.
   2. ASTM International (ASTM):
      a. A82, Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
      b. A185, Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
      c. A615, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
      d. A1064, Standard Specification for Steel Wire and Welded Wire Replacement, Plain and Deformed, for Concrete.
      e. C31, Standard Practice for Making and Curing Concrete Test Specimens in the Field.
      f. C33, Standard Specification for Concrete Aggregates.
      g. C39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
      h. C94/C94M, Standard Specification for Ready-Mixed Concrete.
      i. C138, Standard Method of Test for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.
      j. C143, Standard Test Method for Slump of Hydraulic Cement Concrete.
      k. C150, Standard Specification for Portland Cement.
      l. C172, Standard Practice for Sampling Freshly Mixed Concrete.
      m. C173, Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
      n. C231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
      o. C260, Standard Specification for Air-Entraining Admixtures for Concrete.
      p. C309, Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
      q. C494, Standard Specification for Chemical Admixtures for Concrete.

r. C618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
s. C1293, Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction.
t. C1315, Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
u. D882, Standard Test Method for Tensile Properties of Thin Plastic Sheeting.
v. D994, Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
w. D1056, Standard Specification for Flexible Cellular Materials-Sponge or Expanded Rubber.
x. D1709, Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method.
y. D1751, Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
z. E96, Standard Test Methods for Water Vapor Transmission of Materials.
aa. E329, Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.

3. Corps of Engineers (COE):
   a. CRD-C621, Standard Specification for Packaged, Dry, Hydraulic-Cement Grout (Nonshrink).
4. National Ready Mixed Concrete Association (NRMCA).
5. National Sanitation Foundation (NSF):
   a. 61, Drinking Water System Components - Health Effects.

B. Quality Control:
1. Concrete testing agency:
   a. Contractor to employ and pay for services of a testing laboratory to:
      1) Perform materials evaluation.
      2) Design concrete mixes.
      3) Perform testing of concrete placed during construction.
   b. Concrete testing agency to meet requirements of ASTM E329.
2. Do not begin concrete production until proposed concrete mix design has been approved by Engineer.
   a. Approval of concrete mix design by Engineer does not relieve Contractor of his responsibility to provide concrete that meets the requirements of this Specification.
3. Adjust concrete mix designs when material characteristics, job conditions, weather, strength test results or other circumstances warrant.
   a. Do not use revised concrete mixes until submitted to and approved by Engineer.
4. Perform structural calculations as required to prove that all portions of the structure in combination with remaining forming and shoring system has sufficient strength to safely support its own weight plus the loads placed thereon.

C. Qualifications:
1. Ready mixed concrete batch plant certified by NRMCA.
2. Formwork, shoring and reshoring for slabs and beams except where cast on ground to be designed by a professional engineer currently registered in the state where the Project is located.

1.3 DEFINITIONS

A. Per ACI CT-13 except as modified herein:
1. Concrete Testing Agency: Testing agency employed to perform materials evaluation, design of concrete mixes or testing of concrete placed during construction.
2. Exposed concrete: Exposed to view after construction is complete.
3. Indicated: Indicated by Contract Documents.
4. Required: Required by Contract Documents.

5. Specified strength: Specified compressive strength at 28 days.
6. Submitted: Submitted to Engineer.

1.4 SUBMITTALS

A. Shop Drawings:
1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
2. Concrete mix designs proposed for use.
   a. Concrete mix design submittal to include the following information:
      1) Sieve analysis and source of fine and coarse aggregates.
      2) Test for aggregate organic impurities.
      3) Test for deleterious aggregate per ASTM C1293.
      4) Proportioning of all materials.
      5) Type of cement with mill certificate for cement.
      6) Type of fly ash with certificate of conformance to specification requirements.
      7) Slump.
      8) Air content.
      9) Brand, type, ASTM designation, and quantity of each admixture proposed for use.
      10) 28-day cylinder compressive test results of trial mixes per ACI 318 and as indicated herein.
3. Product technical data including:
   a. Acknowledgement that products submitted meet requirements of standards referenced.
   b. Manufacturer's installation instructions.
   c. Manufacturers and types:
      1) Joint fillers.
      2) Curing agents.
      3) Chemical sealer.
      4) Bonding and patching mortar.
      5) Construction joint bonding adhesive.
      6) Nonshrink grout with cure/seal compound.
      7) Epoxy bonding agent.
4. Reinforcing steel:
   a. Show grade, sizes, number, configuration, spacing, location and all fabrication and placement details.
   b. In sufficient detail to permit installation of reinforcing without having to make reference to Contract Drawings.
   c. Obtain approval of Shop Drawings by Engineer before fabrication.
   d. Mill certificates.
5. Scaled (minimum 1/8 IN per foot) drawings showing proposed locations of construction joints, control joints, expansion joints (as applicable) and joint dimensions.
6. Strength test results of in place concrete including slump, air content and concrete temperature.
7. Certifications:
   a. Certification of standard deviation value in psi for ready mix plant supplying the concrete.
   b. Certification that the material and sources submitted in the mix design will be used in the concrete for this project.
8. Test reports:
   a. Cement mill reports for all cement to be supplied.
9. Concrete Strength Test Results.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Storage of Material:
1. Cement and pozzolan:
   a. Store in moistureproof, weathertight enclosures.

b. Do not use if caked or lumpy.

2. Aggregate:
   a. Store to prevent segregation and contamination with other sizes or foreign materials.
   b. Obtain samples for testing from aggregates at point of batching.
   c. Do not use frozen or partially frozen aggregates.
   d. Do not use bottom 6 IN of stockpiles in contact with ground.
   e. Allow sand to drain until moisture content is uniform prior to use.
3. Admixtures:
   a. Protect from contamination, evaporation, freezing, or damage.
   b. Maintain within temperature range recommended by manufacturer.
   c. Completely mix solutions and suspensions prior to use.
4. Reinforcing steel: Support and store all rebars above ground.

B. Delivery:
1. Concrete:
   a. Prepare a delivery ticket for each load for ready-mixed concrete.
   b. Truck operator shall hand ticket to Owner's Representative/Engineer at the time of delivery.
   c. Ticket to show:
      1) Mix identification mark.
      2) Quantity delivered.
      3) Amount of each material in batch.
      4) Outdoor temp in the shade.
      5) Time at which cement was added.
      6) Numerical sequence of the delivery.
      7) Amount of water added.
2. Reinforcing steel:
   a. Ship to jobsite with attached plastic or metal tags with permanent mark numbers.
   b. Mark numbers to match Shop Drawing mark number.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following products and manufacturers are acceptable:
1. Nonshrink, nonmetallic grout:
   a. Sika "SikaGrout 212."
   b. Euclid Chemial "NS Grout."
   c. BASF Admixtures, Inc. "Masterflow 713."
2. Expansion joint fillers:
   a. Permaglaze Co.
   b. Rubatex Corp.
   c. Williams Products, Inc.
3. Form coating:
   a. Richmond "Rich Cote."
   b. Industrial Lubricants "Nox-Crete Form Coating."
   c. Euclid Chemical "Kurez DR VOX."
4. Cementitious concrete coating:
   a. Aquafin International.
   b. BASF Building Systems.
   c. Euclid Chemical Company.
5. Chemical sealer:
   a. L&M Construction Chemicals, Inc.
   b. Euclid Chemical Company.
   c. Dayton Superior.

6. Epoxy bonding adhesive/agent:
    a. Euco No. 452 MV by Euclid Chemical Co.
    b. Sikadur 32, Hi-Mod by Sika Corporation

B. Submit request for substitution in accordance with Specifications.

2.2 MATERIALS

A. Portland Cement: Conform to ASTM C150 Type I/II.

B. Fly Ash:
1. ASTM C618, Class F or Class C.
2. Nonstaining.
    a. Hardened concrete containing fly ash to be uniform light gray color.
3. Maximum loss on ignition: 4 PCT.
4. Compatible with other concrete ingredients.
5. Obtain proposed fly ash from a source approved by the State Highway Department in the state where the Project is located for use in concrete for bridges.

C. Admixtures:
1. Air entraining admixtures: ASTM C260.
2. Water reducing, retarding, and accelerating admixtures:
    a. ASTM C494 Type A through E.
    b. Conform to provisions of ACI 212.3R.
    c. Do not use retarding or accelerating admixtures unless specifically approved in writing by Engineer and at no cost to Owner.
    d. Follow manufacturer's instructions.
    e. Use chloride free admixtures only.
3. Maximum total water soluble chloride ion content contributed from all ingredients of concrete including water, aggregates, cementitious materials and admixtures by weight percent of cement:
    a. 0.10 all concrete.
4. Do not use calcium chloride.
5. Pozzolanic admixtures: ASTM C618.
6. Provide admixtures of same type, manufacturer and quantity as used in establishing required concrete proportions in the mix design.

D. Water: Potable, clean, free of oils, acids and organic matter.

E. Aggregates:
1. Normal weight concrete: ASTM C33, except as modified below.
2. Fine aggregate:
    a. Clean natural sand.
    b. No manufactured or artificial sand.
3. Coarse aggregate:
    a. Crushed rock, natural gravel, or other inert granular material.
    b. Maximum amount of clay or shale particles: 1 PCT.
4. Gradation of coarse aggregate:
    a. Lean concrete and concrete topping: Size #7.
    b. All other concrete: Size #57 or #67.

F. Concrete Grout:
1. Nonshrink, nonmetallic grout:
    a. Nonmetallic, noncorrosive, nonstaining, premixed with only water to be added.
    b. Grout to produce a positive but controlled expansion.
    c. Mass expansion not to be created by gas liberation.
    d. Minimum compressive strength of nonshrink grout at 28 days: 6500 PSI.
    e. In accordance with COE CRD-C621.

G. Reinforcing Steel:

1. Reinforcing bars: ASTM A615, Grade 60.
2. Welded wire reinforcement:
    a. ASTM A185 or ASTM A1064.
    b. Minimum yield strength: 60,000 PSI.
3. Column spirals: ASTM A82 or ASTM A1064.

H. Forms:
1. Prefabricated or job built.
2. Wood forms:
    a. 5/8 or 3/4 IN 5-ply structural plywood of concrete form grade.
    b. Built-in-place or prefabricated type panel.
3. Metal forms:
    a. Metal forms may be used except for aluminum in contact with concrete.
    b. Forms to be tight to prevent leakage, free of rust and straight without dents to provide members of uniform thickness.
4. Chamfer strips: Clear white pine, surface against concrete planed.

I. Form Ties:
1. Commercially fabricated for use in form construction.
    a. Field fabricated ties are unacceptable.
2. Constructed so that ends or end fasteners can be removed without causing spalling at surfaces of the concrete.
3. 3/4 IN minimum to 1 IN maximum diameter cones on both ends.
4. Embedded portion of ties to be not less than 1-1/2-IN from face of concrete after ends have been removed.
5. Cone size:
    a. 3/4 IN minimum to 2-1/2 IN maximum diameter cones on both ends.
    b. Depth of cone not to exceed the concrete reinforcing cover.
6. Form release: Nonstaining and shall not prevent bonding of future finishes to concrete surface.

J. Chairs, Runners, Bolsters, Spacers, and Hangers:
1. Stainless steel, epoxy coated, or plastic coated metal.
    a. Plastic coated: Rebar support tips in contact with the forms only.

K. Membrane Curing Compound:
1. ASTM C309, Type 1D, Class A or B.
2. Fugitive dye shall dissipate over time and exposure.
3. Curing compound shall not prevent bonding of any future coverings, coatings or finishes.

L. Expansion Joint Filler:
1. In contact with water or sewage:
    a. Closed cell neoprene.
    b. ASTM D1056, Class SC (oil resistant and medium swell) of 2 to 5 PSI compression deflection (Grade SCE41).

2.3 CONCRETE MIXES

A. General:
1. All concrete to be ready mixed concrete conforming to ASTM C94/C94M.
2. Provide concrete of specified quality capable of being placed without segregation and, when cured, of developing all properties required.
3. All concrete to be normal weight concrete.
4. Provide pozzolan content for all cast-in-place construction.

B. Strength:
1. Provide specified strength and type of concrete for each use in structure(s) as follows:

TYPE	WEIGHT	SPECIFIED STRENGTH*
Muck Basin	Normal weight	4500 PSI
All other general use concrete	Normal weight	4000 PSI

* Minimum 28-day compressive strength.

C. Air Entrainment:
1. Provide air entrainment in all concrete resulting in a total air content percent by volume as follows:

MAX AGGREGATE SIZE	TOTAL AIR CONTENT PERCENT
1 IN or 3/4 IN	6 ±1-1/2
<3/4 IN	6-1/2 ±1-1/2

2. Air content to be measured in accordance with ASTM C231, ASTM C173, or ASTM C138.

D. Slump - 4 IN maximum, 1 IN minimum:
1. Measured at point of discharge of the concrete into the concrete construction member.
2. 8 IN maximum after addition of superplasticizer (if used).
3. Concrete of lower than minimum slump may be used provided it can be properly placed and consolidated.
4. Pumped concrete:
   a. Provide additional water at batch plant to allow for slump loss due to pumping.
   b. Provide only enough additional water so that slump of concrete at discharge end of pump hose does not exceed maximum slump specified and the maximum specified water-cement ratio is not exceeded.
5. Slump may be adjusted in the field through the use of water reducers.
   a. Coordinate dosage and mixing requirements with concrete supplier.
6. Determine slump per ASTM C143.

E. Selection of Proportions:
1. General:
   a. Proportion ingredients to:
      1) Produce proper workability, durability, strength, and other required properties.
      2) Prevent segregation and collection of excessive free water on surface.
2. Minimum cement contents and maximum water cement ratios for concrete to be as follows:

SPECIFIED STRENGTH	TARGET CEMENT, MAXIMUM AGGREGATE SIZE			MAXIMUM WATER CEMENT RATIO BY WEIGHT
	1/2 IN	3/4 IN	1 IN	
4000	564	564	564	0.45
4500	611	611	--	0.42

3. Fly ash:
   a. For cast-in-pace concrete only, a maximum of 25 PCT by weight of Portland cement content per cubic yard may be replaced with fly ash at rate of 1 LB fly ash for 1 LB of cement.
   b. When fly ash is used, the water to cementitious materials ratio shall not exceed the maximum value specified herein.
4. Concrete mix proportioning methods for normal weight concrete:
   a. Proportion mixture to provide desired characteristics using one of methods described below:

1) Method 1 (Trial Mix):
    a) Per ACI 318, Chapter 5, except as modified herein.
    b) Air content within range specified above.
    c) Record and report temperature of trial mixes.
    d) Proportion trial mixes per ACI 211.1.
2) Method 2 (Field Experience):
    a) Per ACI 318, Chapter 5, except as modified herein:
    b) Field test records must be acceptable to Engineer to use this method.
    c) Test records shall represent materials, proportions and conditions similar to those specified.

5. Required average strength to exceed the specified 28-day compressive strength by the amount determined or calculated in accordance with the requirements of Chapter 5 of ACI 318 using the standard deviation of the proposed concrete production facility.

PART 3 - EXECUTION

3.1 FORMING AND PLACING CONCRETE

A. Formwork:
1. Contractor is responsible for design and erection of formwork.
2. Construct formwork so that concrete members and structures are of correct size, shape, alignment, elevation and position.
    a. Allowable tolerances: As recommended in ACI 347.
3. Provide slabs and beams of minimum indicated depth when sloping foundation base slabs or elevated floor slabs to drains.
    a. For slabs on grade, slope top of subgrade to provide floor slabs of minimum uniform indicated depth.
    b. Do not place floor drains through beams.
4. Openings:
    a. Provide openings in formwork to accommodate work of other trades.
    b. Accurately place and securely support items built into forms.
5. Chamfer strips: Place 3/4 IN chamfer strips in forms to produce 3/4 IN wide beveled edges on permanently exposed corners of members.
6. Clean and adjust forms prior to concrete placement.
7. Tighten forms to prevent mortar leakage.
8. Coat form surfaces with form release agents prior to placing reinforcing bars in forms.

B. Reinforcement:
1. Position, support and secure reinforcement against displacement.
2. Locate and support with chairs, runners, bolsters, spacers and hangers, as required.
3. Set wire ties so ends do not touch forms and are directed into concrete, not toward exposed concrete surfaces.
4. Lap splice lengths: ACI 318 Class B top bar tension splices unless indicated otherwise on the Drawings.
5. Extend reinforcement to within 2 IN of concrete perimeter edges.
    a. If perimeter edge is earth formed,
        1) Maximum clearance distance from earth form to bar is 3 inches.
        2) Maximum clearance distance from formwork is 2 inches.
6. Minimum concrete protective covering for reinforcement: As shown on Drawings.
7. Do not weld reinforcing bars.
8. Welded wire reinforcement:
    a. Install welded wire reinforcement in maximum practical sizes.
    b. Splice sides and ends with a splice lap length measured between outermost cross wires of each fabric sheet not less than:
        1) One spacing of cross wires plus 2 IN.
        2) 1.5 x development length.

3) 6 IN.

c. Development length: ACI 318 basic development length for the specified fabric yield strength.

C. Construction, Expansion, and Contraction Joints:
1. Unplanned construction joints will not be allowed.
2. Locate wall vertical construction joints at 30 FT maximum.
3. Locate construction joints in floor slabs and foundation base slabs so that concrete placements are approximately square and do not exceed 2500 SQFT.
4. Locate construction joints in columns and walls:
   a. At the underside of beams, girders, haunches, drop panels, column capitals, and at floor panels.
   b. Haunches, drop panels, and column capitals are considered part of the supported floor or roof and shall be placed monolithically therewith.
   c. Column based need not be placed monolithically with the floor below.
5. Install construction joints perpendicular to main reinforcement with all reinforcement continued across construction joints.
6. At least 48 HRS shall elapse between placing of adjoining concrete construction.
7. Thoroughly clean and remove all laitance and loose and foreign particles from construction joints.
8. Before new concrete is placed, dampen concrete surfaces.

D. Embedments:
1. Set and build in anchorage devices and other embedded items required for other work that is attached to, or supported by concrete.
2. Use setting diagrams, templates and instructions for locating and setting.

E. Placing Concrete:
1. Place concrete in compliance with ACI 304R and ACI 304.2R.
2. Place in a continuous operation within planned joints or sections.
3. Begin placement when work of other trades affecting concrete is completed.
4. Place concrete by methods which prevent aggregate segregation.
5. Do not allow concrete to free fall more than 4 FT.
6. Where free fall of concrete will exceed 4 FT, place concrete by means of tremie pipe or chute.

F. Consolidation: Consolidate all concrete using mechanical vibrators supplemented with hand rodding and tamping, so that concrete is worked around reinforcement and embedded items into all parts of forms.

G. Protection:
1. Protect concrete from physical damage or reduced strength due to weather extremes.
2. In cold weather comply with ACI 306.1 except as modified herein.
   a. Do not place concrete on frozen ground or in contact with forms or reinforcing bars coated with frost, ice or snow.
      Do not place heated concrete that is warmer than 80 DEGF.
   b. If freezing temperatures are expected during curing, maintain the concrete temperature at or above 50 DEGF for seven days or 70 DEGF for 3 days.
   c. Do not allow concrete to cool suddenly.
3. In hot weather comply with ACI 305.1 except as modified herein.
   a. At air temperature of 90 DEGF and above, keep concrete as cool as possible during placement and curing.
   b. Do not allow concrete temperature to exceed 90 DEGF at placement.
   c. Prevent plastic shrinkage cracking due to rapid evaporation of moisture.
   d. Do not place concrete when the actual or anticipated evaporation rate equals or exceeds 0.2 LBS/SF/HR as determined from ACI 305.1, Figure 2.1.5.

H. Curing:

1. Begin curing concrete as soon as free water has disappeared from exposed surfaces.
2. Cure concrete by use of moisture retaining cover, burlap kept continuously wet or by membrane curing compound.
3. Provide protection as required to prevent damage to concrete and to prevent moisture loss from concrete during curing period.
4. Provide curing for minimum of 14 days.
5. Form materials left in place may be considered as curing materials for surfaces in contact with the form materials except in periods of hot weather.
6. In hot weather follow curing procedures outlined in ACI 305.1.
7. In cold weather follow curing procedures outlined in ACI 306.1.
8. Curing vertical surfaces with a curing compound:
    a. Cover vertical surfaces with a minimum of two coats of the curing compound.
    b. Allow the preceding coat to completely dry prior to applying the next coat.
    c. Apply the first coat of curing compound immediately after form removal.
    d. Vertical surface at the time of receiving the first coat shall be damp with no free water on the surface.
    e. A vertical surface is defined as any surface steeper than 1 vertical to 4 horizontal.

I. Form Removal:
1. Remove forms after concrete has hardened sufficiently to resist damage from removal operations or lack of support.
2. Where no reshoring is planned, leave forms and shoring used to support concrete until it has reached its specified 28-day compressive strength.

3.2 CONCRETE FINISHES

A. Tolerances:
1. Class A: 1/8 IN in 10 FT.
2. Class B: 1/4 IN in 10 FT.

B. Surfaces Exposed to View:
1. Provide a smooth finish for exposed concrete surfaces and surfaces that are:
    a. To be covered with a coating or covering material applied directly to concrete.
    b. Scheduled for grout cleaned finish.
2. Remove fins and projections, and patch voids, air pockets, and honeycomb areas with cement grout.
3. Cementitious concrete coating:
    a. Form facing material shall produce a smooth, hard, uniform texture.
        1) Use forms specified for surfaces exposed to view.
    b. Prepare the surface in accordance with manufactures printed installation instructions.
    c. Brush on coating to entire surface.
        1) As a mixing liquid for the coating, use bonding agent and water mixture as recommended by the manufacture.
        2) Apply two coats at 2 LB/SQYD per coat.
    d. When second coat is set, float to a uniform texture with a sponge coat.
    e. Provide this finish at the following locations:
        1) Walls, columns, exposed to view.

C. Surfaces Not Exposed to View:
1. Patch voids, air pockets and honeycomb areas with cement grout.
2. Fill tie holes with nonshrink, nonmetallic grout.

D. Slab Float Finish:
1. After concrete has been placed, consolidated, struck off, and leveled, do no further work until ready for floating.
2. Do not use water to aid in finishing.
3. Begin floating when water sheen has disappeared and surface has stiffened sufficiently to permit operation.

4. During or after first floating, check planeness of entire surface with a 10 FT straightedge applied at not less than two different angles.
5. Cut down all high spots and fill all low spots during this procedure to produce a surface within Class B tolerance throughout.
6. Refloat slab immediately to a uniform sandy texture.

E. Troweled Finish:
1. Float finish surface.
2. Next power trowel, and finally hand trowel.
3. Do not use water to aid in finishing.
4. Produce a smooth surface which is relatively free of defects with first hand troweling.
5. Perform additional trowelings by hand after surface has hardened sufficiently.
6. Final trowel when a ringing sound is produced as trowel is moved over surface.
7. Thoroughly consolidate surface by hand troweling.
8. Leave finished surface essentially free of trowel marks, uniform in texture and appearance and plane to a Class A tolerance.
9. On surfaces intended to support floor coverings remove any defects of sufficient magnitude that would show through floor covering by grinding.

F. Broom Finish: Immediately after concrete has received a float finish as specified, give it a transverse scored texture by drawing a broom across surface.

G. Painting and Striping:
1. Stripe and mark pavement per the Drawings following sufficient cure time for pavement.
2. Lay out markings with guidelines, templates, and forms.
3. Apply 6 IN wide stripe with self-contained striping machine to a clean and dry pavement surface.
4. Temperature must be above 40 DEGF and precipitation should not be expected during drying period.
5. Use thermoplastic paint; color as approved by the local reviewing authority for the specific use (i.e., white, yellow, blue) complying with the Drawings.

3.3 GROUT

A. Preparation:
1. Nonshrinking, nonmetallic grout:
a. Clean concrete surface to receive grout.
b. Saturate concrete with water for 24 HRS prior to grouting.

B. Application:
1. Nonshrinking, nonmetallic grout:
a. Mix in a mechanical mixer.
b. Use no more water than necessary to produce flowable grout.
c. Place in accordance with manufacturer's instructions.
d. Completely fill all spaces and cavities below the bottom of baseplates.
e. Provide forms where baseplates and bedplates do not confine grout.
f. Where exposed to view, finish grout edges smooth.
g. Except where a slope is indicated on Drawings, finish edges flush at the baseplate, bedplate, member, or piece of equipment.
h. Protect against rapid moisture loss by covering with wet rags or polyethylene sheets.
i. Wet cure grout for seven days, minimum.

3.4 FIELD QUALITY CONTROL

A. Contractor will employ and pay for services of a concrete testing laboratory to perform testing of concrete placed during construction.
1. Contractor to cooperate with Owner in obtaining and testing samples.

B. Tests During Construction:
1. Strength test:

a. For each strength test, mold and cure cylinders from each sample in accordance with ASTM C31.
    1) Cylinder size: Per ASTM C31.
        a) 4 IN cylinders may not be used for concrete mixes with concrete aggregate size larger than 1 IN.
    2) Quantity:
        a) 4 IN DIA by 8 IN high: Six cylinders.
b. Field cure one cylinder for the seven day test.
    1) Laboratory cure the remaining.
c. Test cylinders in accordance with ASTM C39.
    1) 4 IN DIA cylinders:
        a) Test three cylinders at 28 days for strength test result and the one field cured cylinder at seven days for information.
        b) Hold remaining cylinders in reserve.
d. Strength test result:
    1) Average of strengths of three 4 IN DIA cylinders from the same sample tested at 28 days.
    2) If one cylinder in a test manifests evidence of improper sampling, molding, handling, curing, or testing, discard and test reserve cylinder(s); average strength of remaining cylinders shall be considered strength test result.
    3) Should all cylinders in any test show any of above defects, discard entire test.
e. Frequency of tests:
    1) One strength test to be taken not less than once a day, nor less than once for each 50 CUYD or fraction thereof placed in any one day.
    2) Once for each 5000 SQFT of slab or wall surface area placed each day.
    3) If total volume of concrete on Project is such that frequency of testing required in above paragraph will provide less than five strength tests for each concrete mix, tests shall then be made from at least five randomly selected batches or from each batch if fewer than five batches are provided.

2. Slump test:
    a. Per ASTM C143.
    b. Determined for each strength test sample.
    c. Additional slump tests may be taken.
3. Air content:
    a. Per ASTM C231, ASTM C173, and ASTM C138.
    b. Determined for each strength test sample.
4. Temperature: Determined for each strength test sample.

C. Evaluation of Tests:
1. Strength test results:
    a. Average of 28-day strength of two cylinders from each sample.
        1) If one cylinder manifests evidence of improper sampling, molding, handling, curing or testing, strength of remaining cylinder will be test result.
        2) If both cylinders show any of above defects, test will be discarded.

D. Acceptance of Concrete:
1. Strength level of each type of concrete shall be considered satisfactory if both of the following requirements are met:
    a. Average of all sets of three consecutive strength tests equals or exceeds the required specified 28-day compressive strength.
    b. No individual strength test falls below the required specified 28-day compressive strength by more than 500 PSI.
2. If tests fail to indicate satisfactory strength level, perform additional tests and/or corrective measures as directed by Engineer.
    a. Perform additional tests and/or corrective measures at no additional cost to Owner.

E. Concrete tolerances per ACI 117.

3.5 SCHEDULES

A. Form Types:
   1. Surfaces exposed to view:
      a. Prefabricated or job-built wood forms.
      b. Laid out in a regular and uniform pattern with long dimensions vertical and joints aligned.
      c. Produce finished surfaces free from offsets, ridges, waves, and concave or convex areas.
      d. Construct forms sufficiently tight to prevent leakage of mortar.
   2. Surfaces normally submerged or not normally exposed to view: Wood or steel forms sufficiently tight to prevent leakage of mortar.
   3. Other types of forms may be used:
      a. For surfaces not restricted to plywood or lined forms.
      b. As backing for form lining.

B. Grout:
   1. Nonshrinking, nonmetallic grout: General use.

C. Concrete:
   1. Normal weight concrete: all concrete

D. Concrete Finishes:
   1. Slab finishes:
      a. Use following finishes as applicable, unless otherwise indicated:
         1) Broom finish

END OF SECTION

Meeting Minutes

Project:	Metro Waste Authority P-63 Cell E and Phase 1 Cover Improvements
Subject:	Pre-Bid Conference Agenda-***Minutes***
Date:	Wednesday, March 16, 2022 10:30 AM
Location:	Metro Park East Landfill Administrative Office

The Pre-Bid conference is for informational purposes and nothing said is binding; only addenda can alter the Bid Documents. See Article 7 of Instructions to Bidders (See Section 00 20 00).

A site tour of Metro Park East will be conducted immediately following this meeting.

Discussion items from the meeting included in the minutes are bold and italicized.

1. **BID OPENING DATE AND TIME:**
    a. The date of the bid opening is Wednesday, March 30, 2022 at 3:00 PM local time. See Notice of Hearing and Letting for submittal requirements (Section 00 10 00).
    b. Submit bids to 12181 NE University Avenue, Mitchellville, IA 50169 with attention to Jon Penheiter

2. **WORK INCLUDES:**
    a. Cell E Bulk Excavation of Soils of ~600,000 CY to 700,000 CY
    b. Soil Stockpiling and Access Road Construction
    c. Cell E Liner Construction
        i. ~21-acre cell
        ii. Consists of 2 ft thick recompacted clay liner and 60-mil HDPE Geosynthetic Liner
    d. Access Road Surfacing and Small Section of Asphalt Concrete Paving
    e. Stormwater Conveyance Structures
    f. Cover Improvements to the Phase 1 Closed Landfill
        i. Existing culvert/outfall removal
        ii. New letdown structure
        iii. Box culvert/roadway
            1. Box culvert can be poured cast in place in lieu of precast. Concrete and reinforcement shop drawings will need to be certified by a Structural Engineer, licensed in the State of Iowa, and hired by the Contractor if cast in place is used.
        iv. Terracing
            1. 2% slope
        v. Topsoiling, erosion control, seeding

Discussion

- ***Jon (MWA): This site is unique in requiring grinding shingles for aggregate material.***
    - ***Alternative road surfacing on site has historically been a mix of ground shingles and a modified subbase aggregate blended 50% by volume. The contract currently***

specifies just ground shingles for the surfacing but may be revised within Addendum No. 1 to incorporate an aggregate blend.
    - ***MWA reported that Petticord previously grinded shingles on site about 4 years ago.***
- ***Electronic CAD files for the site will be available upon request to the issuing office. Bidders requesting CAD files will need to fill out an electronic media release agreement.***

3. BID:

a. Use Bid Form in Construction Documents Project Manual.
b. See Construction Documents Project Manual for specific protocols.
c. Attach: Bid Security, Statement of Bidder's Qualifications, and other required attachments.
d. Basis of Bid: Lump Sum and Unit Price for respective Bid Items.

Discussion

- ***A question was asked about lump sum bidding and quantities for subcontractors such as liner material. This project will be bid as a combination of lump sum and unit price for respective bid items. Bidders should complete their own takeoff from the bid documents for quantities necessary to complete the work.***

4. PAYMENTS:

a. See Section 01 29 01.
b. Monthly.
c. 5 Percent Retainage (See Section 00 52 00).

5. EVALUATION OF BID AND AWARD OF CONTRACT:

a. See Section 00 20 00.
b. Lowest responsible, responsive Bidder whose Bid is in the best interests of the Owner.
c. Documents are structured to award one contract, not multiple contracts.
d. MWA has the right to conduct an investigation as part of the evaluation.

6. INTERPRETATIONS:

a. No addenda have been issued to date.
b. Only addenda can modify documents (See Section 00 20 00).
c. Addendum to be issued following Pre-Bid Meeting to include meeting notes and attendance list, and any potential changes to the Bidding Documents from Contractor questions.

7. SUBSTITUTIONS AND "OR-EQUAL" ITEMS:

a. Substitutions considered after the Effective Date of the Agreement (See Sections 00 20 00 and 01 25 13).
b. Please note difference between "Substitutions" and "Or-Equals". (General Conditions Articles 7.04 and 7.05)

8. SOIL/GEOTECHNICAL INFORMATION:

a. Previous soil testing reports are available through Owner. (See Section 00 80 00, SC-5.03.C)
b. Bidders responsible to interpret and/or obtain their own data.
c. Soil borrow source location is shown on sheet 00G002. Area within the location of soil borrow to be coordinated with owner/engineer.

i. Animal bedding for use in amended topsoil
ii. Site/project location access/right of way
iii. Stockpiles for operational fill as daily cover to be placed within Cell D north and Cell D south as coordinated with owner at the active landfill face

Discussion: Stockpiles for operational fill as daily cover shall be hauled and stockpiled at a frequency of 300 CY/Day, 6 days per week for 27 weeks. There is no compactive effort or fine grading required on the operation fill as daily cover stockpiles. The stockpiles will be generally windrowed along the exterior of the active landfill working disposal area and spread by the Owner.

d. Note: Section 31 23 00 "Not all glacial till material on-site should be considered suitable for use in the recompacted clay liner or recompacted clay layer." And "If sand, cobbles and rocks or silt lenses are encountered during excavations in the Glacial Till, these materials should be removed, …. do not use in the construction of the recompacted clay liner." Historic liner construction has encountered such materials in the glacial till.
e. Note requirements for soil processing for Recompacted Clay Liner including: processing with soil reclaimer to pass a 1 inch sieve, moisture control and removal of rocks. Historic construction has required manual removal of rocks.
f. Specifications require Recompacted Clay Liner to meet maximum hydraulic conductivity requirements. This will be determined through test pads and the establishment of an acceptable zone of moisture and density. In addition to compaction and density established to meet hydraulic conductivity requirements, there are specified minimum densities and limits on the range of moisture content. Again, the actual minimum density and range of acceptable moisture contents will be established via testing and the acceptable zone analysis.
g. Contractor will perform testing to establish the Acceptable Zone, based on Contractor's selected soil for liner construction and constructed test pads. An Acceptable Zone will need to be established for each soil type used to construct the Recompacted Clay Liner (i.e. if multiple soil types or combinations thereof are used this will require multiple test pads).

Discussion: Test results shall be submitted to HDR from the Contractor in order for HDR to establish the Acceptable Zone of moisture and density of the recompacted clay liner.

h. Various portions of Work involve excavation above lined landfill areas (liner systems) and buried utilities. Carefully excavate to avoid damage to existing landfill liners and buried utilities.

Discussion: Any damage to the existing liner systems or utilities done by the Contractor will be repaired by contractor at no additional cost to the Owner.

9. PERMITS, FEES, & UTILITIES:

a. See Section 01 35 05.
b. Contractor responsible to comply with Owner's NPDES General Permit No.1. See Section 01 35 05 on Storm Water Pollution Prevention Plan (SWPPP) and compliance requirements.
    i. Owner provided ponds are considered suitable for sediment control. Other options are Contractor's responsibility.
    ii. Contractor shall obtain all required permits.
c. MWA will not be providing water to the project. Contractor may require a permit to remove water from adjacent creeks or municipal/rural water lines.

Discussion: There is water available on site for use as dust suppression and recompacted clay liner moisture control at the stormwater pond south of the Phase 1 landfill. Historically, Contractors have been able to pump out of the stormwater pond south of the Phase 1 landfill to fill their water trucks. If the stormwater pond is dry there is an alternative location west of the stormwater pond from Camp Creek. There are limits for pumping out of Camp Creek that if exceeded, will require a permit through Polk County and is the responsibility of the Contractor.

10. SUBCONTRACTS:

a. Requirements for low Bidder (and others, as requested) listing subcontractors and suppliers and estimated dollar amount of services within five (5) days of Bid opening. See Instructions to Bidders (Section 00 20 00) Article 12.03 and Exhibit A.

11. OWNER'S BIDDING RIGHTS:

a. See Section 00 20 00.
b. Owner reserves the right to reject any and all bids. Owner may waive irregularities.
c. Owner will consider qualification of Bidder and may consider qualifications and experience of subcontractors; Owner may conduct investigations.

12. TIME OF COMPLETION:

a. See Section 00 52 00. Note: this is a calendar day project not a working day project.
b. Note the following contract times (See Section 00 52 00).
    i. Substantial Completion by November 11, 2022.
    ii. Final Completion of Work by December 12, 2022.
c. Official Notice of Award is expected to be issued following the April 20, 2022 MWA hearing; Work is expected to start on or before May 9, 2022.
d. Liquidated Damages $2,000/day to Substantial Completion; $1,100/day to Final Completion. See Section 00 52 00 for how this applies to each project site.

13. PERFORMANCE AND PAYMENT BONDS:

a. See Bond Forms in Construction Documents Project Manual. Forms in the Contract Documents Project Manual to be used.
b. See General Conditions – Section 00 70 00.
c. Bid Bond Form is provided.

14. CONSTRUCTION SCHEDULE:

a. Due within 10 days after the Effective Date of the Agreement (See General Conditions).
b. See Section 01 11 20 for schedule requirements, and Section 01 31 19 on update requirements.
c. Provide minimum of two (2) week notice if work is anticipated to be undertaken simultaneously for both phases (Cell E development and Phase 1 Cover Improvements) to allow Owner and Engineer necessary time for staffing adjustments.

15. SCHEDULE OF VALUES:

a. Due within 10 days after the Effective Date of the Agreement.
b. See Section 01 29 01 on Format and Content and a template Schedule of Values for Contractor's use.

i. Schedule of values shall be broken out per attachment 01 29 01A per the included tasks at a minimum. Additional breakout by contractor if necessary for purposes of progress payments.

c. Approval is required prior to submittal of first progress payment. See General Conditions.

16. SHOP DRAWING AND MISCELLANEOUS SUBMITTALS LIST AND SCHEDULE:

a. See Section 01 33 00.
b. The Contractor's Schedule of Shop Drawing submittals is to be submitted and approved within 10 days of Notice to Proceed.
c. Shop Drawings and Miscellaneous Submittals will be submitted to owner's contract administrator.

17. TESTING:

a. See Section 02 65 00 and 31 23 00 for Soils and 33 34 61 for HDPE Geomembrane test requirements.
b. Contractor responsible for testing to pre-qualify material brought onto the site.
c. Contractor responsible for production control testing and compliance testing.
d. Contractor is responsible for failed tests. See Specifications.
e. CQA Consultant will coordinate testing locations with contractor and contractor's testing agency.
f. Owner or CQA Consultant will subcontract electrostatic leak location testing.

18. PRECONSTRUCTION CONFERENCE:

a. See Section 01 31 19.
b. Within 10 days after Contract Time starts to run, and before Work at the site is started.
c. Required attendance (See Section 01 31 19).

19. COORDINATION AND RESTRICTIONS:

a. See Section 01 11 00.
b. Coordination with existing operation of the landfill and Work by Others, including ongoing soil borrow operations.
    i. Coordination with electrostatic leak location contractor with respect to work within cell coordinate boundaries and drainage layer wetting requirements (See Section 01 71 24).

Discussion: Contractor's preconstruction survey will mark the point in time where MWA will halt their soil excavation within the area of Cell E for daily cover hauling and the responsibility will be transferred to the Contractor to haul operational fill material to the owner for daily cover at the active face of the landfill.

c. Work Coordination and Sequence: roadways and leachate handling (Sections 01 11 00 and 01 35 05).
d. Environmental Protection and Special Controls, including Traffic Control Plans (01 35 05) are subject to Owner approval.
e. Use of the Premises – identifies typical operating days and hours (See Section 01 11 00).
f. Requirements for Temporary Support Facilities (See Section 01 50 00).
g. Access/egress points shown on Drawings. Note specifically designated haul routes.

h. Note Section 00 80 00 - Supplementary Conditions SC-7.02.C.1 on reimbursement of Owner for CQA services where work exceeds 60 hours per week.

Discussion: Note the requirements for the Contractor to provide a trailer for the Owner's representative/CQA consultant. Contractor shall actively keep record drawings up to date at the onsite field office. Locations for field office trailers are shown on the Drawings North of the Cell E footprint at the existing power panel.

i. Note specific requirements to keep storm water from entering the leachate collection system. This includes installation of HDPE rain flap, temporary pipe terminations, scrim reinforced geomembrane, and pumping of water.

20. ENVIRONMENTAL PROTECTION AND SPECIAL CONSIDERATIONS:

a. Metro Park East Phase 1 has an existing landfill cap. Disturbances to the cap are not anticipated to occur beyond the removal of the existing culvert and shall be avoided.

Discussion: Any rutting or disturbance to existing conditions at haul roads or other site locations impacted by Contractor operations shall be repaired by the Contractor at no additional cost to the Owner.

b. Bidders shall be aware of existing infrastructure such as leachate collection lines, gas wells, and other utilities shown within the drawings.

Discussion: Utilities shown on the drawings are reasonably thought to be correct but exact utility locations cannot be guaranteed.

c. See Section 01 35 05 on Submittals and Record Keeping.
d. Land protection requirements.
e. See Section 01 11 20 on Job Conditions: Site-specific Health and Safety Plan; Owner Safety requirements; no smoking areas, etc.
f. Dust control is required by the contractor for all construction activities.

21. PROGRESS AND PRE-INSTALLATION MEETINGS:

a. Bi-weekly progress meetings.
b. See 01 31 19 on Attendance.
c. Pre-Installation Meeting for key activities.

Discussion: Preinstallation meeting will minimally be held for geosynthetics installation and prior to seeding.

22. FIELD ENGINEERING:

a. See Section 01 71 23.
b. Note: Engineering Surveys to be provided by Contractor, including pre-construction survey.
c. Note: Level of Detail is important. Specifications define requirements for contractor surveying.

Discussion: Submittals, testing, surveying results will all be pulled into a CQA report to be submitted to the IDNR for approval of the cell construction so level of detail and timeliness is important.

d. Engineer will provide coordinate tables for key staking elements. Coordinates are currently shown for various layers at coordinate boundaries, grade breaks, and other critical locations within the cell construction coordinate boundaries (See Drawings).

23. CLOSEOUT PROCEDURES:

a. See Section 01 77 01.
b. Note Supplementary Conditions SC-15.03.B.1 and 15.06.D regarding inspection and payment conditions for Substantial and Final Completion.
c. Note process for Substantial and Final Completion.
d. Note requirement for Project Record Drawings and Record Specifications - level of detail (coordinated with Section 01 71 23).

24. OWNER COMMENTS

25. OTHERS (TOPICS FROM THE FLOOR)

- ***Question: Referring to diversion on west side of Cell E, is there any problem with the 12-inch pipe taking the specified amount of water from the six temporary pump locations?***
    - ***HDR will evaluate the pipe size and issue a change in Addendum No. 1 if necessary.***
- ***Question: Are there any liner installers at the pre-bid meeting?***
    - ***No liner subcontractors were present at the meeting but historically there has been numerous different liner subs that have constructed cells on site at Metro Park East.***
- ***Question: We have always had items for everything, we haven't had lump sum so that is a concern for sub-contractors.***
- ***Question: The quantity tables for stockpile volumes do not note a unit for the volume. Is it cubic yards?***
    - ***Yes, the tables within the Drawings are indicating cubic yards as a volume. Addendum No. 1 will include an update to the quantity tables to clarify.***
- ***There was a general question asked to Bidders if there were concerns with material availability this year. There was no concerns noted from any of the Bidders present at the meeting.***
- ***Question: What is the tracking method for payment for different stockpiles?***
    - ***Volumes for unit price items will be measured in the cut and compared to pre and post construction surveys to be completed by the Contractor. Daily load counts should also be submitted for use in tracking stockpiling items such as the operation fill as daily cover stockpiles.***
    - ***If there are concerns with settlement at the stockpile locations at Cells ABC for quantity tracking purposes, the Contractor may elect to use additional measurement techniques such as settlement plates if agreed upon between the Contractor, Engineer, and Owner.***
- ***Tour of Metro Park East – Additional Discussion***
- ***There are two locations onsite of stockpiled animal bedding. The preferred stockpile for Contractor use will be the stockpile located south of the Cell E footprint. The location of the animal bedding stockpile will be updated in Addendum No. 1.***
- ***MWA is currently picking litter from the project limits in preparation of the start of construction. Windblown litter within the project limits during construction is the responsibility of the contractor for removal. Note the requirements within the specifications.***

Metro Waste Authority (MWA) P-63 Cell E and Phase 1 Cover Improvements
HDR Project #: 10333320
PRE-BID MEETING
March 16, 2022; 10:30 a.m. at the MPE Admin Building
SIGN-IN REGISTER

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