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**DESIGN DESIGNATIONS**

	I-490 EB FROM I-71 TO I-77	I-490 EB FROM I-77 TO E. 55TH ST.	I-490 WB FROM I-71 TO E. 55TH ST.
CURRENT YEAR ADT (2023)	38,250	16,450	38,250
DESIGN YEAR ADT (2043)	44,250	9,750	44,250
DESIGN HOURLY VOLUME (2043)	8,050	900	8,050
DIRECTIONAL DISTRIBUTION	70%	52%	70%
TRUCKS (24 HOUR B & C)	8%	8%	8%
TD	4%	6%	4%
DESIGN SPEED	65 MPH	40 MPH	65 MPH
LEGAL SPEED	60 MPH	35 MPH	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	01 URBAN INTERSTATES	01 URBAN INTERSTATE	01 URBAN INTERSTATE
NHS PROJECT	YES	YES	YES

	I-71 SOUTH OF I-490	I-77	W. 7TH ST.
CURRENT YEAR ADT (2023)	86,000	52,000	6,000
DESIGN YEAR ADT (2043)	86,000	67,000	6,000
DESIGN HOURLY VOLUME (2043)	8,600	8,000	700
DIRECTIONAL DISTRIBUTION	70%	70%	53%
TRUCKS (24 HOUR B & C)	4%	9%	9%
TD	2%	3%	11%
DESIGN SPEED	65 MPH	55 MPH	30 MPH
LEGAL SPEED	60 MPH	50 MPH	25 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	01 URBAN INTERSTATE	01 URBAN INTERSTATE	05 URBAN MAJOR COLLECTOR
NHS PROJECT	YES	YES	NO

**BALLOON LEGEND**

- AB-# ABANDON
- B-# CONCRETE BARRIER
- BR-# CONCRETE BARRIER REMOVED
- D-# CATCH BASINS, MANHOLES AND INLETS
- DJ-# CATCH BASINS, MANHOLES AND INLETS ADJUSTED/RECONSTRUCTED TO GRADE
- DR-# CATCH BASINS, MANHOLES AND INLETS REMOVED
- DV-# DRIVEWAYS
- E-# EROSION CONTROL
- EX-# EXISTING CATCH BASINS, MANHOLES AND INLETS
- F-# FENCE
- FP-# FILL & PLUG
- FR-# FENCE REMOVED
- G-# GUARDRAIL
- GR-# GUARDRAIL REMOVED
- HR-# HEADWALL REMOVED
- HW-# HEADWALL
- LS-# LANDSCAPING
- P-# DRAINAGE PIPES
- PC-# PIPE CLEANOUT
- PR-# PIPES REMOVED
- R-# MISCELLANEOUS REMOVALS
- SA-# SANITARY MANHOLE
- SJ-# SANITARY STRUCTURE ADJUSTED/RECONSTRUCTED TO GRADE
- SL-# SANITARY LATERAL
- SM-# SEEDING AND MULCHING
- SP-# SANITARY PIPE
- SR-# SANITARY REMOVAL
- U-# UNDERDRAINS
- W-# WATER WORK
- WJ-# WATER WORK ADJUSTED TO GRADE
- WR-# WATER WORK REMOVALS

**EXISTING UTILITY SYMBOL LEGEND**

- Guy Pole
- Flag Pole
- Utility Pole
- Power Pole
- Yard Light
- Parking Meters
- Parking Meter
- Air Condition Unit
- Guy Wire w/Anchor
- Light Pole
- Light Pedestal
- Electric Marker Post
- Electric Meter
- Electric Transformer
- Electric Pedestal
- Electric Tower
- Electric Outlet
- Electric Pull Box
- Electric Manhole
- Gas Valve
- Gas Service
- Gas Marker Post
- Gas Meter/Regulator
- Tank (Gas, Propane)
- Fire Hydrant
- Water Valve
- Water Manhole
- Water Well
- Water Meter
- Water Spigot / Tap
- Cistern
- Sprinkler
- Sprinkler Control Box
- Monitoring Well
- Cable TV Pole
- Cable TV Marker Post
- Cable TV Pedestal
- Telephone Pole
- Telephone Marker Post
- Telephone Pedestal
- Telephone Booth/or Drive-Up
- Traffic Lighting Control Box
- Traffic Lighting Pull Box
- Sign
- Curb Inlet
- Catch Basin
- Cleanout
- Sanitary Manhole
- Storm Manhole
- Telephone Manhole

**PROPOSED UTILITY SYMBOL LEGEND**

- Proposed Catch Basins
- Proposed Manhole
- Manhole Adjusted To Grade
- Proposed Exfiltration Trench
- Proposed Water Valve
- Proposed Fire Hydrant
- Sanitary Manhole Adjusted To Grade
- Proposed Traffic Pullbox
- Proposed Conventional Luminaire
- Proposed Lighting Pullbox
- Proposed Decorative Luminaire
- Proposed Signal Pole Pedestal
- Proposed Signal Pole
- Test Hole location

**UTILITY LINE LEGEND**

- Water Line
- Gas Line
- Sanitary Line
- Underground Electric
- Propane Line
- Underground Telephone
- Diesel
- Cable TV
- Signal Wiring

DESIGN AGENCY



DESIGNER  
ATR

REVIEWER  
PJF 11-21-23

PROJECT ID  
107408

SHEET TOTAL  
2 1068

REVISIONS		
NO.	DATE	DESCRIPTION
1	01/15/24	ADDED SHEET 65A
2	02/26/24	ADDED SHEETS 493A-493F

**GENERAL (CONTINUED)**

**ITEM 619 FIELD OFFICE, TYPE C, AS PER PLAN**

ALL REQUIREMENTS OF C&MS 619 SHALL APPLY EXCEPT AS MODIFIED HEREIN:

THE FIELD OFFICE SHALL BE A SUITE TYPE OFFICE (NO TRAILER OR MODULAR OFFICE) WITH A MINIMUM OF 4,000 SQUARE FEET AND AT GROUND LEVEL WITH A MINIMUM CEILING HEIGHT OF EIGHT (8) FEET. PROVIDE TWO (2) OUTSIDE DOORS, LOCKABLE VANDAL PROOF CYLINDER TYPE DEAD BOLTS AND LOCKABLE WINDOWS. THE FLOOR SPACE WILL BE DIVIDED INTO TWO RESTROOMS, ONE GENERAL OFFICE AREA (MINIMUM 400 SQUARE FEET), NOT LESS THAN SEVEN INDIVIDUAL OFFICES (MINIMUM 300 SQUARE FEET EACH) AS SEPARATE ENCLOSED ROOMS (NO CUBICLE DIVIDERS WILL BE ACCEPTED), ONE KITCHEN SPACE INCLUDING SINK, REFRIGERATOR, AND MICROWAVE, AND ONE CONFERENCE ROOM (MINIMUM 1000 SQUARE FEET).

FURNISH NEAT, SANITARY, ENCLOSED TOILET ACCOMMODATIONS CONNECTED TO AN EXISTING SANITARY SEWER LINE FOR THE USE OF THE OCCUPANTS OF THE FIELD OFFICE, MEETING APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. FURNISH ASSOCIATED LAVATORY AND SANITARY SUPPLIES. POTABLE HOT AND COLD RUNNING WATER WILL BE PROVIDED IN THE RESTROOM FOR SANITARY PURPOSES.

FURNISH TRASH COLLECTION SERVICE/DUMPSTER.

FURNISH PROFESSIONAL, BONDED, AND INSURED JANITORIAL SERVICE WITH A WEEKLY CLEANING OF THE ENTIRE OFFICE TO INCLUDE THE RESTROOM FACILITIES FOR THE DURATION OF THE PROJECT,

FURNISH BOTTLED DRINKING WATER SERVICE WITH A HOT AND COLD DISPENSER AND ASSOCIATED SUPPLIES.

FURNISH A BOX FOR STORING A NUCLEAR DENSITY GAUGE WITH REQUIREMENTS AS SET FORTH IN C&MS 619.02.

FURNISH AND MAINTAIN A BROADBAND INTERNET CONNECTION CAPABLE OF MINIMUM DOWNLOAD SPEEDS OF 1.0 GB/S. PROVIDE A WIRELESS ROUTER THAT SUPPORTS WI-FI STANDARD 802.11AX (WIFI 6) AND A MINIMUM WIRELESS DATA TRANSFER RATE OF 4000 MB/S. PROVIDE PRE-WIRED ETHERNET ACCESS FOR ALL INDIVIDUAL OFFICES AND THE CONFERENCE ROOM.

FURNISH TEN (10) DESK AND CHAIR SETS, THIRTY (30) STACKABLE CHAIRS, TWENTY (20) WORK TABLES (30" x72"), AND TWELVE (12) 24- QUART WASTE BASKETS WITH APPROPRIATE SIZED TRASH BAGS.

FURNISH AND INSTALL TWO (2) WALL-MOUNTED 8' x 4' GLASS, MAGNETIC DRY ERASE BOARDS.

FURNISH ONE NEW TELEVISION WITH THE FOLLOWING SPECIFICATIONS:

- a) DIAGONAL SCREEN SIZE - 70" MINIMUM"
- b) NATIVE RESOLUTION - 4K
- c) HDMI PORTS: 3
- d) ALL ACCESSORIES NECESSARY TO OPERATE
- f) ALL HARDWARE AND INSTALLATION NECESSARY TO HANG THE TELEVISION ON THE WALL IN THE CONFERENCE ROOM

THE FIELD OFFICE WILL BE APPROVED IN ADVANCE BY THE ENGINEER AND FULLY OPERATIONAL WITHIN 30 DAYS AFTER THE SIGNING AND EXECUTION OF THE PROJECT OR PRIOR TO THE START OF ANY CONSTRUCTION WORK, WHICHEVER COMES FIRST.

THE DEPARTMENT WILL MEASURE FIELD OFFICE, TYPE C, AS PER PLAN BY THE NUMBER OF MONTHS THE OFFICE IS MAINTAINED. A PARTIAL MONTH AT THE END OF THE PROJECT WILL BE PAID AS A FULL MONTH.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
619	MONTH	FIELD OFFICE, TYPE C, AS PER PLAN

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 59

**ITEM SPECIAL - SURVEY CONTROL VERIFICATION**

THE CONTRACTOR SHALL PERFORM THIS WORK TO VERIFY THE PROVIDED SURVEY CONTROL. THE CONTRACTOR WILL PERFORM THE VERIFICATION USING ONE OF THE TWO METHODS BELOW DEPENDENT UPON THE CONTRACTOR'S CHOSEN MEANS OF SURVEY CONTROL TO BE USED ON THE PROJECT. THE WORK SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF AN OHIO LICENSED SURVEYOR.

- 1) IF USING GPS DEVICES TO ESTABLISH AND OR PROVIDE SUPPLEMENTAL HORIZONTAL AND VERTICAL SURVEY CONTROL:
  - a. LOCATE VERTICAL CONTROL POINTS PROVIDED IN THE PLANS AND PERFORM A DIFFERENTIAL LEVEL CIRCUIT.
  - b. PERFORM A SITE CALIBRATION UTILIZING THE AVAILABLE HORIZONTAL AND VERTICAL CONTROL POINTS PROVIDED IN THE PLAN.
  - c. PROVIDE A REPORT, SIGNED BY AN OHIO LICENSED SURVEYOR, TO THE PROJECT ENGINEER COMPARING THE OBSERVED DATA TO THE PLAN DATA ALONG WITH A NARRATIVE DETAILING ANY DISCREPANCIES FOUND.
- 2) IF USING CONVENTIONAL SURVEY INSTRUMENTATION TO ESTABLISH AND OR PROVIDE SUPPLEMENTAL HORIZONTAL AND VERTICAL SURVEY CONTROL:
  - a. LOCATE VERTICAL CONTROL POINTS PROVIDED IN THE PLANS AND PERFORM A DIFFERENTIAL LEVEL CIRCUIT.
  - b. LOCATE AND OBSERVE ANGLE AND DISTANCE TO ALL AVAILABLE HORIZONTAL CONTROL POINTS PROVIDED IN THE PLAN.
  - c. PROVIDE A REPORT, SIGNED BY AN OHIO LICENSED SURVEYOR, TO THE PROJECT ENGINEER COMPARING THE OBSERVED DATA TO THE PLAN DATA ALONG WITH A NARRATIVE DETAILING ANY DISCREPANCIES FOUND.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID ITEM.

**PERMIT**

IN THE CITY OF CLEVELAND, ALL PERMITS MUST BE OBTAINED FROM THE DIVISION OF ASSESSMENTS AND LICENSES PRIOR TO BEGINNING ANY WORK WITHIN THE CITY OF CLEVELAND RIGHT OF WAY. PERMITS INCLUDE BUT ARE NOT LIMITED TO STREET OPENING PERMIT, OVERLOAD PERMIT, OBSTRUCTION PERMIT AND/OR SIDEWALK PERMIT AND MAY BE OBTAINED THROUGH THE FOLLOWING CONTACT:

TRAVIS EVANS  
DEPARTMENT OF FINANCE  
DIVISION OF ASSESSMENTS AND LICENSES  
601 LAKESIDE AVENUE, ROOM 122  
CLEVELAND, OHIO 44114  
PHONE: (216) 664-2174  
EMAIL: DALPERMITS@CITY.CLEVELAND.OH.US

ALL STREET OPENING REPAIRS, CURB REPAIRS, AND/OR SIDEWALK REPAIRS EITHER INCIDENTAL TO THE PROJECT OR PART OF THE PROJECT MUST BE PERFORMED IN ACCORDANCE TO CITY OF CLEVELAND STANDARDS. A COPY OF THE STANDARDS CAN BE OBTAINED ON-LINE UNDER THE "FORMS AND PUBLICATIONS" TAB OF THE CAPITAL PROJECTS WEBSITE OR FROM THE DIVISION OF ENGINEERING AND CONSTRUCTION BY CALLING (216) 664-2381.

ALL PERMITS, FEES AND CHARGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THEIR ASSOCIATED COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THIS ITEM. THE COST BELOW MAY NOT BE FULLY INCLUSIVE OF ALL PERMIT FEES REQUIRED TO BE PAID. NOTE THAT CLEVELAND WATER DEPARTMENT CHARGES ARE PAID UNDER A SEPARATE ITEM.

FOR BIDDING PURPOSES, THE FOLLOWING FEES AND CHARGES HAVE BEEN ESTIMATED BY THE CITY OF CLEVELAND DIVISION OF ENGINEERING AND CONSTRUCTION ON BEHALF OF THE DIVISION OF ASSESSMENTS AND LICENSES (DAL): \$1,540

DAL HAS ASSIGNED RECORD NUMBER STP24-00196 TO THIS PROJECT. THE AWARDED CONTRACTOR SHALL CONTACT DAL AS DESCRIBED ABOVE, USING THE ASSIGNED STP NUMBER FOR REFERENCE. THE CONTRACTOR SHALL PROVIDE DAL WITH THEIR CERTIFICATE OF INSURANCE (COI) MEETING THE CITY OF CLEVELAND REQUIREMENTS. UPON SUBMITTAL OF THE COI AND RECEIPT OF PAYMENT, DAL WILL ISSUE THE PERMIT.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL NOTES SUBSUMMARY:

ITEM SPECIAL - PERMITS LUMP

REVISIONS		
NO.	DATE	DESCRIPTION
1	01/15/24	PERMITS NOTE ADDED
2	02/15/24	PERMITS NOTE UPDATED

**ROADWAY**

**ITEM 202 - PAVEMENT REMOVED**

AS SHOWN ON THE PAVEMENT REMOVAL CALCULATIONS (SHEET 489 TO 492), THE CONTRACTOR SHALL REMOVE ALL PAVEMENTS WHETHER ASPHALT, CONCRETE, OR COMPOSITE UNDER THE PRICE BID FOR ITEM 202 - PAVEMENT REMOVAL (SY).

**ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING**

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).  
  
IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.
3. COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.
4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.  
  
PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.
5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.
7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

**ITEM 204 - PROOF ROLLING**

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE TYPICAL PLAN SHEETS 24 - 46 FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING 81 HOUR

PAVEMENT SUBGRADE IMPROVEMENT SCHEDULE						
ALIGNMENT	BEGIN STATION	END STATION	SUBGRADE METHOD	DEPTH OF TREATMENT	SIDE	TREATMENT REASON
C/L R/W & CONST. I-490	933+23.03	985+67.50	CEMENT	14"	L/R	SILT PRESENT
	1020+69.29	1035+00.00	CEMENT	14"	L/R	SILT PRESENT
B/L CONST. EB I-490	2035+00.00	2050+87.73	CEMENT	14"	L/R	SILT PRESENT
B/L CONST. WB I-490	3035+00.00	3049+75.86	CEMENT	14"	L/R	SILT PRESENT
C/L CONST. W. 7TH ST.	10+24.33	14+47.65	CEMENT	14"	L	SILT PRESENT
	3036+66.35	3042+13.54	CEMENT	14"	L/R	
B/L CONST. RAMP E-S (I-71)	3047+21.36	3058+59.21	CEMENT	14"	L/R	
	3058+59.21	3064+68.90	CEMENT	14"	L/R	SILT PRESENT
B/L CONST. RAMP S-E (I-71)	2049+00.00	2052+23.15	CEMENT	14"	L/R	
	2052+23.15	2058+00.00	CEMENT	14"	L/R	SILT PRESENT
B/L CONST. RAMP 7-7C	68+37.92	80+59.02	CEMENT	14"	L/R	SILT PRESENT
B/L CONST. RAMP C-7	81+96.55	85+63.86	CEMENT	14"	L/R	SILT PRESENT
B/L EX. & CONST. RAMP B-C	14+98.42	18+18.79	CEMENT	14"	L/R	
B/L EX. & CONST. RAMP C-B	14+78.03	17+33.88	CEMENT	14"	L/R	
B/L CONST. RAMP E-N (I-77)	734+00.31	746+47.57	CEMENT	14"	L/R	
B/L CONST. RAMP E-S (I-77)	836+08.78	842+23.67	CEMENT	14"	L/R	
B/L CONST. RAMP N-E (I-77)	437+48.58	445+70.00	CEMENT	14"	L/R	
B/L CONST. RAMP N-W (I-77)	120+15.54	131+37.52	CEMENT	14"	L/R	
B/L CONST. RAMP S-E (I-77)	336+00.00	347+00.00	CEMENT	14"	L/R	
B/L CONST. RAMP S-W (I-77)	224+14.63	227+50.07	CEMENT	14"	L/R	
B/L CONST. RAMP W-N (I-77)	625+00.00	631+44.12	CEMENT	14"	L/R	
B/L CONST. RAMP W-S (I-77)	521+21.52	528+83.00	CEMENT	14"	L/R	

**PAVING IN THE VICINITY OF EXISTING UTILITIES**

CONTRACTOR SHALL SUSPEND THE CEMENT STABILIZED SUBGRADE LAYER WITHIN 10' OF THE EXISTING UTILITIES TO REMAIN, INCLUDING BUT NOT LIMITED TO ODOT I.T.S. FACILITIES.

**PHASED CONSTRUCTION SUBGRADE TREATMENT**

CONTRACTOR SHALL SUSPEND THE CEMENT STABILIZED SUBGRADE LAYER IN THOSE AREAS WHERE PART-WIDTH CONSTRUCTION RESULTS IN LIMITS WHICH ARE LESS THAN THE MINIMUM WIDTH OF 12' REQUIRED FOR THE CEMENT STABILIZATION EQUIPMENT.

BASED ON THE MAINTENANCE OF TRAFFIC SCHEME INCLUDED IN THESE PLANS, THE FOLLOWING WORK AREAS HAVE BEEN IDENTIFIED, BUT ARE NOT LIMITED TO, AS HAVING WIDTH LESS THAN 12':

MOT PHASE 2A:  
RAMP E-N (I-77) STA. 740+61.33 TO STA. 742+23.67  
RAMP E-S (I-77) STA. 840+60.61 TO STA. 842+23.67

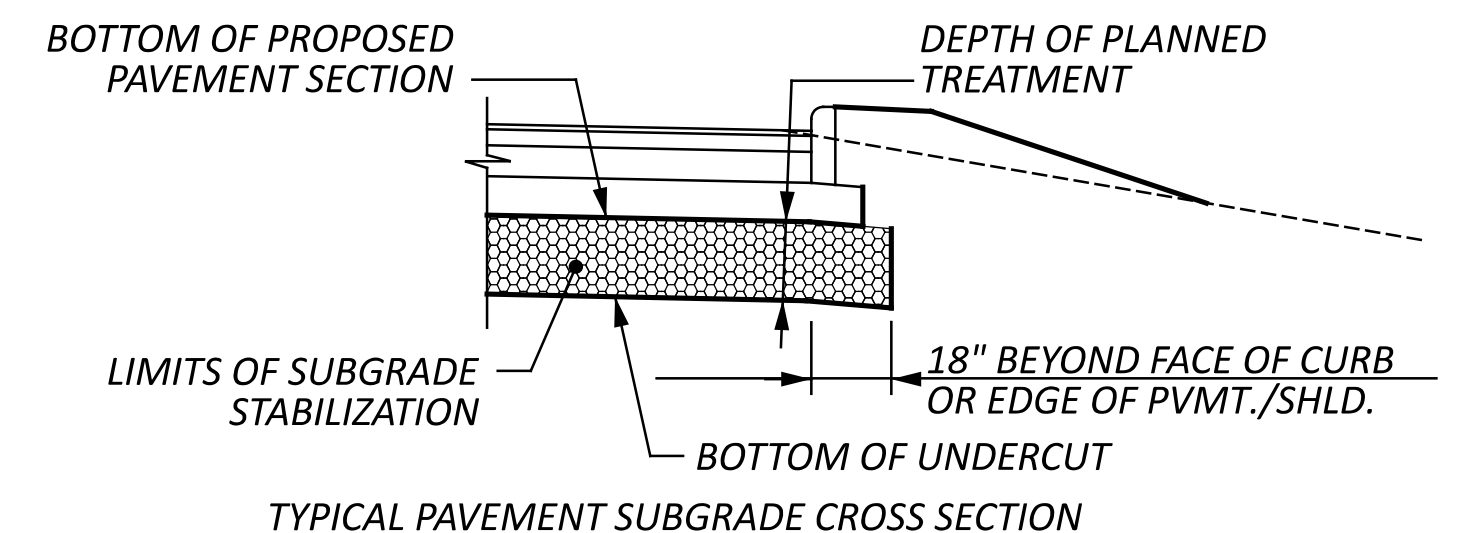
MOT PHASE 5A:  
RAMP W-S (I-77) STA. 525+00.00 TO STA. 526+23.93  
RAMP W-N (I-77) STA. 625+00.00 TO STA. 626+24.74

WHERE THE CEMENT STABILIZED SUBGRADE LAYER IS SUSPENDED DUE TO WIDTH, THE CONTRACTOR SHALL PROVIDE ITEM 204 - SUBGRADE COMPACTION AND ITEM 204 - GRANULAR EMBANKMENT FOR SUBGRADE TREATMENT IN THESE AREAS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

ITEM 204 - SUBGRADE COMPACTION	322 SQ. YD.
ITEM 204 - GRANULAR EMBANKMENT	125 CU. YD.

**SUBGRADE STABILIZATION**



CUY-490-0.00 PART 1

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GENERAL NOTES

DESIGN AGENCY



DESIGNER

ATR

REVIEWER

PJF 11-21-23

PROJECT ID

107408

SHEET TOTAL

51 1068

**EROSION CONTROL**

**ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN**

THIS ITEM SHALL CONSIST OF CONSTRUCTING CONCRETE PAVED GUTTER AS PER STANDARD CONSTRUCTION DRAWING DM-2.1 AND THE DETAILS AS SHOWN ON SHEET 46 AT THE LOCATIONS SHOWN IN THE PLANS. THE GUTTER SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN THE DETAIL. A SIDE CUTOFF WALL SHALL BE CONSTRUCTED AS SHOWN PER THE DETAIL FOR THE ENTIRE LENGTH OF THE GUTTER. END CUTOFF WALLS SHALL BE AS PER STANDARD DRAWING DM-2.1. PEJF (PERFORMED EXPANSION JOINT FILLER) SHALL BE PER CMS 516 AND IS INCLUDED IN THE COST OF THE PAVED GUTTER.

ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE-DESCRIBED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID PER FOOT FOR ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN.

**ITEM 601 - PAVED GUTTER, TYPE 3, AS PER PLAN**

THIS ITEM SHALL CONSIST OF CONSTRUCTING CONCRETE PAVED GUTTER AS PER STANDARD CONSTRUCTION DRAWING DM-2.1 AND THE DETAILS AS SHOWN ON SHEET 46 AT THE LOCATIONS SHOWN IN THE PLANS. THE GUTTER SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN THE DETAIL. PEJF (PERFORMED EXPANSION JOINT FILLER) SHALL BE PER CMS 516 AND IS INCLUDED IN THE COST OF THE PAVED GUTTER. BAFFLES ARE NOT TO BE CONSTRUCTED WITH THIS PAVED GUTTER.

ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE-DESCRIBED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID PER FOOT FOR ITEM 601 - PAVED GUTTER, TYPE 3, AS PER PLAN.

**SEEDING AND MULCHING**

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDING AREAS:

ITEM 659, SOIL ANALYSIS TEST	2 EACH
ITEM 659, MOWING	150 M. SQ. FT.
ITEM 659, TOPSOIL	7,419 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	3,490 SQ. YD.
ITEM 659, SEEDING AND MULCHING	63,346 SQ. YD.
ITEM 659, REPAIR SEEDING AND MULCHING	3,342 SQ. YD.
ITEM 659, INTER-SEEDING	3,342 SQ. YD.
ITEM 659, COMMERCIAL FERTILIZER	9.33 TON
ITEM 659, LIME	13.81 ACRES
ITEM 659, WATER	370 M. GAL.

APPLY SEEDING AND MULCHING TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

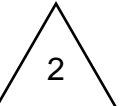
**EARTHWORK**

THE FOLLOWING IS A SUMMARY OF ALL EARTHWORK QUANTITIES. EARTHWORK END AREA CALCULATIONS HAVE BEEN PROVIDED ON SHEETS 493A-493F FOR REFERENCE ONLY.

<b>I-490 MAINLINE</b>	
ITEM 203, EXCAVATION	30,524 CU. YD.
ITEM 203, EMBANKMENT	1,978 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	1,525 SQ. YD.
ITEM 659, SEEDING AND MULCHING	17,190 SQ. YD.
<b>EB I-490 BASELINE</b>	
ITEM 203, EXCAVATION	4,243 CU. YD.
ITEM 203, EMBANKMENT	23 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	356 SQ. YD.
ITEM 659, SEEDING AND MULCHING	4,268 SQ. YD.
<b>WB I-490 BASELINE</b>	
ITEM 203, EXCAVATION	5,792 CU. YD.
ITEM 203, EMBANKMENT	290 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	208 SQ. YD.
ITEM 659, SEEDING AND MULCHING	7,533 SQ. YD.
<b>RAMP E-S (I-71)</b>	
ITEM 203, EXCAVATION	2,323 CU. YD.
ITEM 203, EMBANKMENT	140 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	766 SQ. YD.
ITEM 659, SEEDING AND MULCHING	3,694 SQ. YD.

**EARTHWORK - CONTINUED**

<b>RAMP S-E (I-71)</b>	
ITEM 203, EXCAVATION	1,880 CU. YD.
ITEM 203, EMBANKMENT	5 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	116 SQ. YD.
ITEM 659, SEEDING AND MULCHING	903 SQ. YD.
<b>RAMP 7-7C/W. 7TH STREET</b>	
ITEM 203, EXCAVATION	8,549 CU. YD.
ITEM 203, EMBANKMENT	408 CU. YD.
ITEM 659, SEEDING AND MULCHING	11,056 SQ. YD.
<b>RAMP C-7</b>	
ITEM 203, EXCAVATION	363 CU. YD.
ITEM 203, EMBANKMENT	9 CU. YD.
ITEM 659, SEEDING AND MULCHING	588 SQ. YD.
<b>RAMP B-C</b>	
ITEM 203, EXCAVATION	359 CU. YD.
ITEM 203, EMBANKMENT	8 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	29 SQ. YD.
ITEM 659, SEEDING AND MULCHING	260 SQ. YD.
<b>RAMP C-B</b>	
ITEM 203, EXCAVATION	386 CU. YD.
ITEM 203, EMBANKMENT	17 CU. YD.
ITEM 659, SEEDING AND MULCHING	325 SQ. YD.
<b>RAMP E-N (I-77)</b>	
ITEM 203, EXCAVATION	2,383 CU. YD.
ITEM 203, EMBANKMENT	5 CU. YD.
ITEM 659, SEEDING AND MULCHING	2,693 SQ. YD.
<b>RAMP E-S (I-77)</b>	
ITEM 203, EXCAVATION	693 CU. YD.
ITEM 203, EMBANKMENT	10 CU. YD.
ITEM 659, SEEDING AND MULCHING	1,430 SQ. YD.
<b>RAMP N-E (I-77)</b>	
ITEM 203, EXCAVATION	2,433 CU. YD.
ITEM 203, EMBANKMENT	4 CU. YD.
ITEM 659, SEEDING AND MULCHING	2,301 SQ. YD.
<b>RAMP N-W (I-77)</b>	
ITEM 203, EXCAVATION	2,308 CU. YD.
ITEM 203, EMBANKMENT	20 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	309 SQ. YD.
ITEM 659, SEEDING AND MULCHING	2,357 SQ. YD.
<b>RAMP S-E (I-77)</b>	
ITEM 203, EXCAVATION	4,148 CU. YD.
ITEM 203, EMBANKMENT	0 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 3B	181 SQ. YD.
ITEM 659, SEEDING AND MULCHING	4,010 SQ. YD.
<b>RAMP S-W (I-77)</b>	
ITEM 203, EXCAVATION	934 CU. YD.
ITEM 203, EMBANKMENT	2 CU. YD.
ITEM 659, SEEDING AND MULCHING	885 SQ. YD.
<b>RAMP W-N (I-77)</b>	
ITEM 203, EXCAVATION	716 CU. YD.
ITEM 203, EMBANKMENT	5 CU. YD.
ITEM 659, SEEDING AND MULCHING	2,064 SQ. YD.
<b>RAMP W-S (I-77)</b>	
ITEM 203, EXCAVATION	1,106 CU. YD.
ITEM 203, EMBANKMENT	7 CU. YD.
ITEM 659, SEEDING AND MULCHING	1,789 SQ. YD.
THE FOLLOWING GRAND TOTAL HAS BEEN CARRIED TO THE GENERAL NOTES SUBSUMMARY:	
ITEM 203, EXCAVATION	69,140 CU. YD.
ADD EXCAVATION FROM VBF	1,476 CU. YD.
	70,616 CU. YD.
ITEM 203, EMBANKMENT	2,931 CU. YD.



**WATER QUALITY**

**POST CONSTRUCTION STORM WATER TREATMENT**

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

**VEGETATED BIOFILTER**

THIS PLAN UTILIZES VEGETATED BIOFILTER(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AS SHOWN IN THE PLANS TO ANY DISTURBED AREA ON THE SHOULDER AND FORESLOPE DRAINING TO A VEGETATED BIOFILTER. THE DITCH FOR EACH VEGETATED BIOFILTER SHALL BE TRAPEZOIDAL, AS SHOWN IN THE PLAN CROSS SECTIONS. PROVIDE ITEM 670 AS SPECIFIED IN THE PLANS. ALL DITCHES LOCATED WITHIN LIMITS OF VEGETATED BIOFILTER SHALL BE TRAPEZOIDAL AND NOT HAVE ROUNDING.

**ENVIRONMENTAL**

**ENDANGERED BAT HABITAT REMOVAL**

NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO FEDERALLY AND STATE LISTED BAT SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSE OF THE NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

**BEST MANAGEMENT PRACTICES/SOIL EROSION AND SEDIMENTATION CONTROL**

ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER.

**WATER WORK**

**CLEVELAND WATER DEPARTMENT FEES AND CHARGES**

THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CLEVELAND WATER DEPARTMENT FEES AND CHARGES ASSOCIATED WITH THIS PROJECT. A LINE ITEM WITH A FIXED AMOUNT HAS BEEN ADDED TO THE BID FORM. A COPY OF THE CHARGE LETTER WILL BE PROVIDED UPON RECEIPT. PAYMENT WILL BE BASED ON THE CONTRACTOR'S PAID INVOICE TO CLEVELAND WATER DEPARTMENT. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 638 - WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT FEES AND CHARGES	LS
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**CLEVELAND WATER DEPARTMENT AS-BUILTS**

THIS ITEM SHALL INCLUDE ALL NECESSARY LABOR AND MATERIAL TO PROVIDE THE CITY OFFICIALS AND THE CITY OF CLEVELAND DIVISION OF WATER WITH ACCURATE AS-BUILT DRAWINGS. THESE DRAWINGS SHALL INCLUDE THE EXACT LOCATION OF ALL NEW VALVES AND HYDRANTS INSTALLED. THE DATE OF VALVE AND HYDRANT INSTALLATION SHALL BE INDICATED ON THE DRAWINGS. THE DRAWINGS SHALL SHOW THE EXACT LIMITS OF THE PIPE THAT WAS INSTALLED. ALL EXCAVATIONS SHALL BE RECORDED WITH LOCATION AND DIMENSIONS, DATE OPENED, DATE BACKFILLED, DATE PAVED AND SHALL BE SHOWN ON THE AS-BUILTS. A REGISTERED PROFESSIONAL ENGINEER SHALL SEAL THE DRAWINGS. AS-BUILTS WILL BE REQUIRED PRIOR TO DISINFECTING THE WATER MAIN. ALL WORK REQUIRED SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR "AS-BUILT DRAWINGS." THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 638 - WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT AS-BUILT DRAWINGS	LS
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**ITEM SPECIAL - 6" FIRE HYDRANT (CLEVELAND)**

ALL HYDRANTS SHALL BE "MUELLER-CENTURION", "KENNEDY-GUARDIAN", OR AN APPROVED EQUAL (PAINTED YELLOW). THIS ITEM SHALL INCLUDE ALL NECESSARY EXCAVATION, EMBANKMENT, DEWATERING, SHEETING, PREPARATION OF THE TRENCH BOTTOM, ROCK EXCAVATION, VALVE, VALVE BOX, HYDRANT, 12"x6" TEE, JOINT MATERIAL, BLOCKING, ADJUSTMENT, BEDDING, BACKFILL, TESTING, DISPOSAL OF WASTE AND ALL OTHER EXPENSES WHETHER SPECIFICALLY MENTIONED OR NOT, FOR THE INSTALLATION OF A 6" HYDRANT ASSEMBLY IN ACCORDANCE WITH CLEVELAND WATER DEPARTMENT STANDARDS. SEE SHEET 945 FOR CLEVELAND WATER DEPARTMENT STANDARD CONSTRUCTION DRAWING STD-H06.

HYDRANT ASSEMBLIES SHALL BE EQUIPPED WITH A 4" HPHA HARRINGTON PERMANENT HYDRANT STORZ COUPLING AS MANUFACTURED BY HARRINGTON, INC.

THREADS ON HYDRANTS MUST BE CLEVELAND STANDARD THREAD AND MUST BE APPROVED BY THE FIRE CHIEF. THE CONTRACTOR IS REQUIRED TO SCHEDULE AN INSPECTION WITH THE FIRE CHIEF TO REVIEW FUNCTIONALITY OF ALL HYDRANTS PRIOR TO RECEIVING FINAL APPROVAL.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH HYDRANT ASSEMBLY INSTALLED COMPLETE, TESTED, DISINFECTED, AND READY FOR SERVICE INCLUDING PERMANENT ADAPTERS.

**ITEM SPECIAL - FIRE HYDRANT SERVICE LINE EXTENDED AND ADJUSTED TO GRADE (CLEVELAND)**

ALL HYDRANTS SHALL BE "MUELLER-CENTURION", "KENNEDY-GUARDIAN", OR AN APPROVED EQUAL (PAINTED YELLOW). THIS ITEM SHALL INCLUDE ALL NECESSARY EXCAVATION, EMBANKMENT, DEWATERING, SHEETING, PREPARATION OF THE TRENCH BOTTOM, ROCK EXCAVATION, HYDRANT, JOINT MATERIAL, BLOCKING, ADJUSTMENT, BEDDING, BACKFILL, TESTING, DISPOSAL OF WASTE AND ALL OTHER EXPENSES WHETHER SPECIFICALLY MENTIONED OR NOT, FOR THE INSTALLATION OF A 6" HYDRANT ASSEMBLY IN ACCORDANCE WITH CLEVELAND WATER DEPARTMENT STANDARDS. SEE SHEET 945 FOR CLEVELAND WATER DEPARTMENT STANDARD CONSTRUCTION DRAWING STD-H02.

HYDRANT ASSEMBLIES SHALL BE EQUIPPED WITH A 4" HPHA HARRINGTON PERMANENT HYDRANT STORZ COUPLING AS MANUFACTURED BY HARRINGTON, INC.

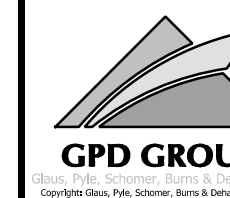
THREADS ON HYDRANTS MUST BE CLEVELAND STANDARD THREAD AND MUST BE APPROVED BY THE FIRE CHIEF. THE CONTRACTOR IS REQUIRED TO SCHEDULE AN INSPECTION WITH THE FIRE CHIEF TO REVIEW FUNCTIONALITY OF ALL HYDRANTS PRIOR TO RECEIVING FINAL APPROVAL.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH HYDRANT ASSEMBLY EXTENDED, SHORTENED AND ADJUSTED TO GRADE COMPLETE, TESTED, DISINFECTED, AND READY FOR SERVICE INCLUDING PERMANENT ADAPTERS.

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 59

REVISIONS		
NO.	DATE	DESCRIPTION
2	02/29/24	UPDATED EARTHWORK QUANTITIES

DESIGN AGENCY



DESIGNER

ATR

REVIEWER

PJF 11-21-23

PROJECT ID

107408

SHEET

58

TOTAL

1068

SHEET NO.	201		203	203	204	204	204	503		601		605		611	611	611	611	611		SPECIAL		
	CLEARING AND GRUBBING		EXCAVATION	EMBANKMENT	SUBGRADE COMPACTION	GRANULAR EMBANKMENT	PROOF ROLLING	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN		TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT		6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC		6" CONDUIT, TYPE B	6" CONDUIT, TYPE C	6" CONDUIT, TYPE E	6" CONDUIT, TYPE F	PRECAST REINFORCED CONCRETE OUTLET		MISCELLANEOUS METAL		
	LS		CY	CY	SY	CY	HOURL	LS		SY		FT		FT	FT	FT	FT	EACH		LB		
50	LS																					
51					322	125	81															
52																						
53																						
54																						
55										8		40		200	200	200	240	4		1000		
56																						
57		2	70616	2931				LS														
58																						
TOTALS CARRIED TO GENERAL SUMMARY	LS	2	70616	2931	322	125	81	LS		8		40		200	200	200	240	4		1000		
SHEET NO.	618			623		638	638		659	659	659	659	659	659	659	659	659				SPECIAL	SPECIAL
	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE), AS PER PLAN			MONUMENT ASSEMBLY, TYPE C		WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT FEES AND CHARGES	WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT AS-BUILT DRAWINGS		SOIL ANALYSIS TEST	TOPSOIL	SEEDING AND MULCHING, CLASS 3B	SEEDING AND MULCHING	REPAIR SEEDING AND MULCHING	INTER-SEEDING	COMMERCIAL FERTILIZER	LIME	WATER	MOWING			SURVEY CONTROL VERIFICATION	PERMITS
	MILE			EACH		LS	LS		EACH	CY	SY	SY	SY	TON	ACRE	MGAL	MSF				LS	LS
50				30																		
51																						
52																						
53																						
54	5.58																					
55																						
56																						
57																						
58						LS	LS		2	7419	3490	63346	3342	3342	9.33	13.81	370	150				
TOTALS CARRIED TO GENERAL SUMMARY	5.58			30		LS	LS		2	7419	3490	63346	3342	3342	9.33	13.81	370	150			LS	LS

GENERAL NOTES SUBSUMMARY

REVISIONS		
NO.	DATE	DESCRIPTION
1	01/15/24	PERMITS QUANTITY ADDED
2	02/29/24	UPDATED EARTHWORK QUANTITIES

DESIGN AGENCY



DESIGNER  
JAN

REVIEWER  
PJF 11-21-23

PROJECT ID  
107408

SHEET 59 TOTAL 1068

SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	59	457	459								01/MS/04	EXT	TOTAL				
	LS										LS	201	11000	LS		CLEARING AND GRUBBING	50
		148,926									148,926	202	23000	148,926	SY	PAVEMENT REMOVED	51
		1,225									1,225	202	30000	1,225	SF	WALK REMOVED	
		9									9	202	30600	9	SY	CONCRETE MEDIAN REMOVED	
		8,788									8,788	202	30700	8,788	FT	CONCRETE BARRIER REMOVED	
		140									140	202	30800	140	SY	TRAFFIC ISLAND REMOVED	
		17,482									17,482	202	32000	17,482	FT	CURB REMOVED	
		7,908									7,908	202	35100	7,908	FT	PIPE REMOVED, 24" AND UNDER	
		257									257	202	35200	257	FT	PIPE REMOVED, OVER 24"	
		13,152									13,152	202	38000	13,152	FT	GUARDRAIL REMOVED	
		2									2	202	47800	2	EACH	IMPACT ATTENUATOR REMOVED	
		13									13	202	58000	13	EACH	MANHOLE REMOVED	
		28									28	202	58100	28	EACH	CATCH BASIN REMOVED	
		61									61	202	58200	61	EACH	INLET REMOVED	
			163								163	SPECIAL	20270110	163	FT	PIPE CLEANOUT, 24" AND UNDER	55
			798								798	SPECIAL	20270120	798	FT	PIPE CLEANOUT, 27" TO 48"	55
		10,034									10,034	202	75000	10,034	2 FT	FENCE REMOVED	
	2	70,616									70,616	203	10000	70,616	CY	EXCAVATION	
		2,931									2,931	203	20000	2,931	CY	EMBANKMENT	
		750									750	203	35120	750	CY	GRANULAR MATERIAL, TYPE C	
		322	205								527	204	10000	527	SY	SUBGRADE COMPACTION	51
		125									125	204	21000	125	CY	GRANULAR EMBANKMENT	51
		81									81	204	45000	81	HOUR	PROOF ROLLING	51
4,411											4,411	206	10500	4,411	TON	CEMENT	
145,861											145,861	206	11000	145,861	SY	CURING COAT	
145,861											145,861	206	15020	145,861	SY	CEMENT STABILIZED SUBGRADE, 14 INCHES DEEP	
145											145	209	15001	145	STA	RESHAPING UNDER GUARDRAIL, AS PER PLAN	52
		12,078									12,078	606	15050	12,078	FT	GUARDRAIL, TYPE MGS	
		125									125	606	15150	125	FT	GUARDRAIL, TYPE MGS HALF POST SPACING	
		2									2	606	26050	2	EACH	ANCHOR ASSEMBLY, MGS TYPE B	52
		23									23	606	26150	23	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	52
		16									16	606	26550	16	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
		26									26	606	35002	26	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		11									11	606	35102	11	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
		1									1	606	60050	1	EACH	IMPACT ATTENUATOR, TYPE 3 (BIDIRECTIONAL) (72" WIDTH)	52
		11,119									11,119	607	23000	11,119	FT	FENCE, TYPE CLT	
		11,119									11,119	607	70000	11,119	FT	FENCELINE SEEDING AND MULCHING	
		1,152									1,152	608	10000	1,152	SF	4" CONCRETE WALK	
		687									687	608	52000	687	SF	CURB RAMP	
720											720	622	10100	720	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1	
		640									640	622	10120	640	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C	
		31									31	622	10121	31	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C, AS PER PLAN	52
4,973											4,973	622	10140	4,973	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	
30											30	622	10141	30	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	52
		712									712	622	10160	712	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
		78									78	622	10161	78	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	52
27											27	622	10200	27	EACH	BARRIER TRANSITION	
		3									3	622	24840	3	EACH	CONCRETE BARRIER END SECTION, TYPE B	
1											1	622	24850	1	EACH	CONCRETE BARRIER END SECTION, TYPE B1	
		14									14	622	25000	14	EACH	CONCRETE BARRIER END SECTION, TYPE D	
		2									2	622	25001	2	EACH	CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN	52
2											2	622	25006	2	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	
		1									1	622	25009	1	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C, AS PER PLAN	53

GENERAL SUMMARY

REVISIONS		
NO.	DATE	DESCRIPTION
2	02/29/24	UPDATED EARTHWORK QUANTITIES

DESIGN AGENCY



DESIGNER  
JAN

REVIEWER  
PJF 11-21-23

PROJECT ID  
107408

SHEET TOTAL  
452 1068

C/L R/W & CONST. I-490					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
932+00.00	0.00	0.00	100.00	0.00	0.00
933+00.00	0.00	0.00	23.05	10.16	1.75
933+23.05	23.80	4.10	76.95	69.66	14.05
934+00.00	25.08	5.76	100.00	85.59	29.66
935+00.00	21.14	10.26	100.00	93.28	41.86
936+00.00	29.24	12.35	100.00	107.58	52.60
937+00.00	28.86	16.06	100.00	108.37	56.80
938+00.00	29.66	14.61	100.00	122.02	44.08
939+00.00	36.23	9.19	100.00	158.27	33.82
940+00.00	49.24	9.07	100.00	281.56	23.68
941+00.00	102.80	3.72	100.00	515.44	6.94
942+00.00	175.54	0.04	50.00	363.74	0.03
942+50.00	217.30	0.00	50.00	434.42	0.00
943+00.00	251.87	0.00	50.00	485.09	0.06
943+50.00	272.03	0.06	50.00	493.75	0.06
944+00.00	261.22	0.00	50.00	455.08	0.13
944+50.00	230.27	0.14	50.00	428.64	0.29
945+00.00	232.66	0.17	50.00	439.36	0.20
945+50.00	241.84	0.05	50.00	376.37	0.06
946+00.00	164.64	0.02	50.00	269.59	0.33
946+50.00	126.52	0.33	50.00	240.87	0.80
947+00.00	133.62	0.53	50.00	236.88	0.75
947+50.00	122.21	0.29	50.00	219.40	0.84
948+00.00	114.74	0.63	50.00	208.40	0.79
948+50.00	110.33	0.23	50.00	199.53	0.48
949+00.00	105.17	0.29	50.00	182.78	0.63
949+50.00	92.24	0.40	50.00	248.48	2.16
950+00.00	176.12	1.94	50.00	281.66	4.34
950+50.00	128.07	2.75	50.00	209.71	4.64
951+00.00	98.42	2.26	50.00	207.92	4.95
951+50.00	126.13	3.09	50.00	209.70	10.95
952+00.00	100.34	8.74	50.00	172.03	14.60
952+50.00	85.45	7.03	50.00	145.31	11.40
953+00.00	71.48	5.28			
SUBTOTAL - COLUMN 1				8060.62	363.73

C/L R/W & CONST. I-490					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
953+00.00	71.48	5.28	100.00	272.04	12.30
954+00.00	75.42	1.36	100.00	229.18	25.50
955+00.00	48.33	12.41	100.00	204.23	100.30
956+00.00	61.95	41.75	100.00	235.67	118.65
957+00.00	65.31	22.32	100.00	307.89	71.70
958+00.00	100.95	16.40	100.00	391.01	31.14
959+00.00	110.20	0.41	100.00	447.58	1.38
960+00.00	131.50	0.34	100.00	504.76	0.63
961+00.00	141.08	0.00	100.00	533.26	0.10
962+00.00	146.88	0.05	50.00	275.84	0.05
962+50.00	151.03	0.00	50.00	270.57	0.00
963+00.00	141.19	0.00	50.00	257.90	0.00
963+50.00	137.34	0.00	50.00	245.30	0.02
964+00.00	127.59	0.02	50.00	240.18	0.02
964+50.00	131.80	0.00	50.00	281.20	0.00
965+00.00	171.90	0.00	50.00	316.89	0.00
965+50.00	170.35	0.00	50.00	330.11	0.00
966+00.00	186.17	0.00	50.00	368.07	0.01
966+50.00	211.35	0.01	50.00	385.82	0.01
967+00.00	205.34	0.00	50.00	353.73	1.53
967+50.00	176.68	1.65	50.00	284.46	16.64
968+00.00	130.53	16.33	100.00	427.75	108.02
969+00.00	100.45	42.00	100.00	376.21	158.67
970+00.00	102.70	43.68	100.00	440.04	134.98
971+00.00	134.92	29.21	100.00	577.50	56.54
972+00.00	176.93	1.33	100.00	735.38	2.46
973+00.00	220.18	0.00	100.00	755.75	0.86
974+00.00	187.93	0.47	100.00	644.11	24.75
975+00.00	159.89	12.90	50.00	286.40	25.52
975+50.00	149.42	14.66	50.00	264.83	32.21
976+00.00	136.59	20.13	50.00	243.10	42.08
976+50.00	125.96	25.32	50.00	226.18	51.57
977+00.00	118.31	30.38	50.00	220.60	58.38
977+50.00	119.94	32.67			
SUBTOTAL - COLUMN 2				11933.54	1076.03

C/L R/W & CONST. I-490					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
977+50.00	119.94	32.67	50.00	262.38	67.42
978+00.00	163.43	40.14	50.00	259.37	77.16
978+50.00	116.69	43.19	50.00	186.98	85.14
979+00.00	85.25	48.76	50.00	151.99	90.11
979+50.00	78.90	48.55	50.00	139.65	80.01
980+00.00	71.92	37.86	50.00	141.81	53.95
980+50.00	81.24	20.40	50.00	169.13	32.04
981+00.00	101.42	14.20	50.00	212.13	17.82
981+50.00	127.68	5.04	50.00	237.59	5.81
982+00.00	128.92	1.23	50.00	232.30	1.18
982+50.00	121.97	0.05	50.00	221.02	0.07
983+00.00	116.73	0.03	50.00	206.88	0.76
983+50.00	106.70	0.80	50.00	183.79	1.52
984+00.00	91.80	0.84	50.00	159.39	1.09
984+50.00	80.34	0.34	50.00	154.79	0.44
985+00.00	86.84	0.14	50.00	156.39	0.70
985+50.00	82.07	0.62	50.00	75.99	0.58
986+00.00	0.00	0.00			
1020+00.00	0.00	0.00	50.00	11.39	2.44
1020+50.00	12.30	2.64	50.00	67.80	3.80
1021+00.00	60.92	1.46	50.00	133.82	1.90
1021+50.00	83.61	0.59	50.00	167.24	3.06
1022+00.00	97.00	2.71	50.00	201.43	4.23
1022+50.00	120.54	1.85	51.26	247.27	1.79
1024+00.00	139.95	0.03	50.00	259.53	0.15
1024+50.00	140.35	0.13	50.00	282.00	0.41
1025+00.00	164.21	0.32	50.00	258.75	0.68
1025+50.00	115.24	0.42	50.00	217.39	0.65
1026+00.00	119.54	0.29	50.00	230.23	0.45
1026+50.00	129.11	0.20	50.00	254.83	0.26
1027+00.00	146.11	0.08	50.00	283.56	0.15
1027+50.00	160.14	0.08	50.00	290.91	0.23
1028+00.00	154.05	0.17	50.00	296.27	0.20
1028+50.00	165.92	0.05			
SUBTOTAL - COLUMN 3				6354.01	536.20

C/L R/W & CONST. I-490					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
1028+50.00	165.92	0.05	50.00	326.00	0.11
1029+00.00	186.16	0.07	50.00	296.47	0.16
1029+50.00	134.04	0.10	50.00	250.34	0.41
1030+00.00	136.34	0.35	50.00	247.44	0.38
1030+50.00	130.90	0.06	50.00	244.27	0.27
1031+00.00	132.91	0.24	100.00	540.09	0.44
1032+00.00	158.74	0.00	100.00	652.63	0.00
1033+00.00	193.69	0.00	100.00	764.39	0.00
1034+00.00	219.08	0.00	100.00	854.41	0.00
1035+00.00	242.30	0.00			
SUBTOTAL - COLUMN 4				4176.05	1.77
SUBTOTAL - COLUMN 1				8060.62	363.73
SUBTOTAL - COLUMN 2				11933.54	1076.03
SUBTOTAL - COLUMN 3				6354.01	536.20
TOTALS TO GENERAL NOTES SHEET 58				30524	1978

NOTE: EARTHWORK END AREA CALCULATIONS PROVIDED FOR REFERENCE ONLY.

REVISIONS		
NO.	DATE	DESCRIPTION
2	02/29/24	ADDED EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY



DESIGNER  
NRB

REVIEWER  
PJF 11-21-23

PROJECT ID  
107408

SHEET TOTAL  
493A | 1068

B/L CONST. WB I-490					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
3035+00.00	126.28	0.00	100.00	583.19	0.00
3036+00.00	188.65	0.00	100.00	585.05	0.18
3037+00.00	127.28	0.10	100.00	404.52	0.75
3038+00.00	91.16	0.31	100.00	347.15	6.24
3039+00.00	96.30	3.06	100.00	365.88	14.11
3040+00.00	101.27	4.56	100.00	410.76	24.73
3041+00.00	120.53	8.80	100.00	505.93	32.12
3042+00.00	152.67	8.55	100.00	580.60	32.75
3043+00.00	160.86	9.14	50.00	269.18	17.71
3043+50.00	129.86	9.98	50.00	248.23	16.64
3044+00.00	138.23	7.99	50.00	234.35	13.00
3044+50.00	114.87	6.05	50.00	190.50	16.08
3045+00.00	90.87	11.32	100.00	290.22	45.05
3046+00.00	65.85	13.01	100.00	229.85	39.94
3047+00.00	58.27	8.56	100.00	205.29	21.19
3048+00.00	52.59	2.88	100.00	174.00	5.96
3049+00.00	41.37	0.34	75.85	101.47	2.40
3049+75.85	30.87	1.37	24.15	20.87	0.63
3050+00.00	15.80	0.03	50.00	31.57	0.03
3050+50.00	18.30	0.00	12.68	6.68	0.00
3050+62.68	10.13	0.00	37.32	7.00	0.00
3051+00.00	0.00	0.00			
TOTALS TO GENERAL NOTES SHEET 58				5792	290

B/L CONST. EB I-490					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
2035+00.00	96.88	0.00	50.00	185.74	0.00
2035+50.00	103.72	0.00	50.00	284.75	0.00
2036+00.00	203.81	0.00	50.00	322.33	0.00
2036+50.00	144.31	0.00	50.00	389.75	0.00
2037+00.00	276.62	0.00	100.00	679.41	0.00
2038+00.00	90.26	0.00	50.00	164.78	0.00
2038+50.00	87.71	0.00	50.00	146.33	0.02
2039+00.00	70.33	0.02	50.00	129.62	0.02
2039+50.00	69.66	0.00	50.00	127.97	0.00
2040+00.00	68.55	0.00	50.00	122.11	0.00
2040+50.00	63.33	0.00	50.00	121.55	0.00
2041+00.00	67.95	0.00	50.00	118.24	0.00
2041+50.00	59.75	0.00	50.00	118.02	0.00
2042+00.00	67.72	0.00	50.00	137.02	0.00
2042+50.00	80.26	0.00	50.00	140.22	0.00
2043+00.00	71.18	0.00	50.00	135.02	5.91
2043+50.00	74.65	6.38	50.00	152.65	5.91
2044+00.00	90.21	0.00	50.00	150.76	0.00
2044+50.00	72.61	0.00	50.00	111.74	0.00
2045+00.00	48.06	0.00	50.00	91.08	0.00
2045+50.00	50.30	0.00	50.00	86.70	0.00
2046+00.00	43.34	0.00	50.00	71.01	0.00
2046+50.00	33.35	0.00	50.00	54.46	0.00
2047+00.00	25.46	0.00	50.00	41.29	0.00
2047+50.00	19.13	0.00	50.00	31.90	0.00
2048+00.00	15.32	0.00	50.00	27.15	0.11
2048+50.00	14.01	0.12	50.00	27.95	0.11
2049+00.00	16.18	0.00	50.00	26.20	1.78
2049+50.00	12.11	1.92	50.00	18.97	3.34
2050+00.00	8.38	1.69	50.00	15.60	2.52
2050+50.00	8.47	1.03	37.73	11.27	2.54
2050+87.73	7.66	2.61	12.27	1.74	0.59
2051+00.00	0.00	0.00			
TOTALS TO GENERAL NOTES SHEET 58				4243	23

C/L CONST. W. 7TH ST.					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
10+00.00	0.00	0.00	50.00	2.59	1.67
10+50.00	2.80	1.81	50.00	2.95	1.67
11+00.00	0.39	0.00	50.00	7.49	0.00
11+50.00	7.70	0.00	50.00	44.43	0.78
12+00.00	40.28	0.85	50.00	97.36	5.93
12+50.00	64.86	5.56	50.00	140.10	9.59
13+00.00	86.45	4.80	50.00	176.56	14.06
13+50.00	104.23	10.38	50.00	139.67	15.34
14+00.00	46.61	6.18	50.00	43.16	5.73
14+50.00	0.00	0.00	50.00	0.00	0.00
15+00.00	0.00	0.00			
TOTALS TO GENERAL NOTES SHEET 58				654	55

EARTHWORK END AREA CALCULATIONS

NOTE:  
 EARTHWORK END AREA CALCULATIONS  
 PROVIDED FOR REFERENCE ONLY.

REVISIONS		
NO.	DATE	DESCRIPTION
2	02/29/24	ADDED EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY



DESIGNER	NRB
REVIEWER	PJF
PROJECT ID	107408
SHEET	493B
TOTAL	1068

B/L CONST. RAMP E-S (I-71)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
3036+00.00	0.00	0.00			
			50.00	0.00	0.00
3036+50.00	0.00	0.00			
			16.35	6.03	0.99
3036+66.35	19.92	3.27			
			33.65	26.46	2.06
3037+00.00	22.54	0.04			
			50.00	43.40	2.16
3037+50.00	24.33	2.29			
			50.00	53.97	2.44
3038+00.00	33.97	0.34			
			50.00	68.75	0.51
3038+50.00	40.29	0.21			
			50.00	81.98	0.19
3039+00.00	48.25	0.00			
			50.00	84.98	0.01
3039+50.00	43.52	0.01			
			50.00	81.06	0.01
3040+00.00	44.03	0.00			
			50.00	73.92	0.21
3040+50.00	35.81	0.23			
			50.00	42.37	0.31
3041+00.00	9.95	0.11			
			50.00	66.30	0.28
3041+50.00	61.65	0.19			
			50.00	95.84	0.18
3042+00.00	41.85	0.00			
			13.54	22.12	0.00
3042+13.54	46.37	0.00			
3047+21.36	15.40	0.00			
			28.64	16.97	0.00
3047+50.00	16.61	0.00			
			50.00	37.78	0.00
3048+00.00	24.20	0.00			
			50.00	48.83	1.21
3048+50.00	28.54	1.30			
			50.00	60.90	2.77
3049+00.00	37.24	1.69			
			50.00	80.14	1.56
3049+50.00	49.31	0.00			
			50.00	103.96	0.00
3050+00.00	62.97	0.00			
			50.00	110.70	0.00
3050+50.00	56.58	0.00			
			50.00	91.92	0.00
3051+00.00	42.69	0.00			
			50.00	66.45	0.00
3051+50.00	29.08	0.00			
			50.00	43.70	0.10
3052+00.00	18.12	0.11			
			50.00	34.45	0.42
3052+50.00	19.09	0.34			
			50.00	32.99	0.64
3053+00.00	16.54	0.35			
			50.00	31.38	1.34
3053+50.00	17.35	1.10			
			50.00	34.26	2.18
3054+00.00	19.66	1.25			
			50.00	26.48	2.13
3054+50.00	8.94	1.04			
			50.00	10.30	18.20
3055+00.00	2.18	18.62			
			50.00	4.06	39.71
3055+50.00	2.20	24.27			
			50.00	3.96	33.77
3056+00.00	2.07	12.19			
				1586.41	113.39
SUBTOTAL - COLUMN 1				1586.41	113.39

B/L CONST. RAMP E-S (I-71)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
3056+00.00	2.07	12.19			
			50.00	6.08	13.41
3056+50.00	4.49	2.28			
			50.00	18.67	3.39
3057+00.00	15.67	1.38			
			50.00	27.03	2.61
3057+50.00	13.52	1.44			
			50.00	25.68	2.68
3058+00.00	14.21	1.46			
			50.00	20.15	3.13
3058+50.00	7.55	1.92			
			50.00	16.74	1.79
3059+00.00	10.53	0.01			
			50.00	19.53	0.01
3059+50.00	10.56	0.01			
			50.00	19.10	0.01
3060+00.00	10.06	0.00			
			50.00	27.54	0.00
3060+50.00	19.68	0.00			
			50.00	28.18	0.00
3061+00.00	10.76	0.00			
			50.00	24.25	0.00
3061+50.00	15.43	0.00			
			50.00	30.02	0.00
3062+00.00	16.99	0.00			
			50.00	63.98	0.00
3062+50.00	52.11	0.00			
			50.00	116.66	0.00
3063+00.00	73.88	0.00			
			50.00	108.57	0.00
3063+50.00	43.37	0.00			
			50.00	83.48	0.00
3064+00.00	46.78	0.00			
			50.00	76.24	0.00
3064+50.00	35.55	0.00			
			18.90	24.26	0.00
3064+68.90	33.75	0.00			
SUBTOTAL - COLUMN 2				736.13	27.03
SUBTOTAL - COLUMN 1				1586.41	113.39
TOTALS TO GENERAL NOTES SHEET 58				2323	140

B/L CONST. RAMP S-E (I-71)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
2049+00.00	16.35	0.00			
			50.00	63.13	0.72
2049+50.00	51.83	0.77			
			50.00	89.69	0.72
2050+00.00	45.04	0.00			
			50.00	117.26	0.00
2050+50.00	81.60	0.00			
			50.00	179.31	0.00
2051+00.00	112.05	0.00			
			50.00	221.68	0.00
2051+50.00	127.36	0.00			
			50.00	239.40	0.00
2052+00.00	131.19	0.00			
			50.00	226.38	0.00
2052+50.00	113.30	0.00			
			50.00	176.98	0.00
2053+00.00	77.83	0.00			
			50.00	125.12	0.00
2053+50.00	57.29	0.00			
			50.00	80.45	0.00
2054+00.00	29.59	0.00			
			50.00	43.72	0.20
2054+50.00	17.63	0.22			
			50.00	31.00	0.22
2055+00.00	15.85	0.01			
			50.00	38.07	0.23
2055+50.00	25.26	0.23			
			50.00	45.55	0.81
2056+00.00	23.93	0.64			
			50.00	46.30	0.99
2056+50.00	26.08	0.43			
			50.00	48.51	0.76
2057+00.00	26.31	0.40			
			50.00	50.58	0.50
2057+50.00	28.31	0.15			
			50.00	56.65	0.14
2058+00.00	32.87	0.00			
TOTALS TO GENERAL NOTES SHEET 58				1880	5

B/L CONST. RAMP 7-7C					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
68+50.00	96.05	1.76			
			50.00	303.13	53.32
69+00.00	231.33	55.83			
			50.00	601.56	64.84
69+50.00	418.35	14.20			
			50.00	717.55	14.80
70+00.00	356.61	1.78			
			50.00	729.08	1.80
70+50.00	430.80	0.16			
			50.00	787.66	0.15
71+00.00	419.88	0.01			
			50.00	886.00	0.02
71+50.00	537.01	0.02			
			50.00	883.95	0.63
72+00.00	417.67	0.66			
			50.00	678.18	1.87
72+50.00	314.77	1.36			
			50.00	503.92	1.84
73+00.00	229.46	0.62			
			50.00	350.34	0.79
73+50.00	148.91	0.24			
			50.00	215.61	1.10
74+00.00	83.95	0.95			
			50.00	123.49	13.97
74+50.00	49.41	14.14			
			50.00	64.81	31.48
75+00.00	20.58	19.86			
			50.00	40.94	35.93
75+50.00	23.63	18.94			
			50.00	43.89	39.83
76+00.00	23.78	24.08			
			50.00	55.04	35.37
76+50.00	35.67	14.12			
			50.00	81.17	21.36
77+00.00	52.00	8.95			
			50.00	132.50	11.33
77+50.00	91.10	3.29			
			50.00	128.40	4.33
78+00.00	47.57	1.39			
			50.00	103.52	1.90
78+50.00	64.23	0.66			
			50.00	123.75	1.62
79+00.00	69.42	1.09			
			50.00	130.85	3.77
79+50.00	71.91	2.98			
			50.00	117.41	5.98
80+00.00	54.89	3.48			
			50.00	84.91	4.97
80+50.00	36.81	1.89			
			9.02	7.25	0.32
80+59.02	6.60	0.00			
TOTALS TO GENERAL NOTES SHEET 58				7895	353

NOTE:  
 EARTHWORK END AREA CALCULATIONS  
 PROVIDED FOR REFERENCE ONLY.

REVISIONS		
NO.	DATE	DESCRIPTION
2	02/29/24	ADDED EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY	NRB
DESIGNER	NRB
REVIEWER	PJF 11-21-23
PROJECT ID	107408
SHEET	493C
TOTAL	1068



B/L EX. & CONST. RAMP C-7					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
81+84.55	0.00	0.00	15.45	12.40	0.00
82+00.00	43.34	0.00	50.00	56.00	1.38
82+50.00	17.15	1.49	50.00	41.76	2.74
83+00.00	27.95	1.47	50.00	51.44	1.55
83+50.00	27.61	0.20	50.00	46.79	0.31
84+00.00	22.93	0.13	50.00	44.93	0.20
84+50.00	25.60	0.08	50.00	46.36	0.59
85+00.00	24.48	0.55	50.00	50.02	1.77
85+50.00	29.54	1.36	24.93	13.64	0.63
85+74.93	0.00	0.00	25.07	0.00	0.00
86+00.00	0.00	0.00			
TOTALS TO GENERAL NOTES SHEET 58				363	9

B/L EX. & CONST. RAMP B-C					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
14+96.55	0.00	0.00	3.45	1.40	0.00
15+00.00	21.90	0.00	50.00	48.29	0.00
15+50.00	30.25	0.00	50.00	52.80	2.65
16+00.00	26.78	2.86	50.00	56.26	2.66
16+50.00	33.98	0.01	50.00	53.19	1.21
17+00.00	23.47	1.30	50.00	48.29	1.33
17+50.00	28.68	0.14	50.00	62.75	0.13
18+00.00	39.09	0.00	50.31	36.42	0.00
18+50.31	0.00	0.00			
TOTALS TO GENERAL NOTES SHEET 58				359	8

B/L EX. & CONST. RAMP C-B					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
14+75.44	26.74	0.00	24.56	28.28	0.00
15+00.00	35.45	0.00	50.00	68.79	0.00
15+50.00	38.84	0.00	50.00	90.85	0.21
16+00.00	59.28	0.23	50.00	102.05	8.40
16+50.00	50.94	8.85	50.00	63.42	8.53
17+00.00	17.55	0.37	50.00	24.48	0.34
17+50.00	8.88	0.00	47.46	7.81	0.00
17+97.46	0.00	0.00			
TOTALS TO GENERAL NOTES SHEET 58				386	17

B/L CONST. RAMP E-N (I-77)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
734+00.31	24.24	0.12	49.69	54.66	0.11
734+50.00	35.16	0.00	50.00	66.81	0.00
735+00.00	36.99	0.00	50.00	68.83	0.00
735+50.00	37.35	0.00	50.00	75.17	0.00
736+00.00	43.83	0.00	50.00	82.12	0.00
736+50.00	44.86	0.00	50.00	82.56	0.04
737+00.00	44.31	0.04	50.00	75.85	0.06
737+50.00	37.61	0.02	50.00	64.27	0.02
738+00.00	31.81	0.00	50.00	70.77	0.00
738+50.00	44.62	0.00	50.00	79.06	2.29
739+00.00	40.76	2.47	50.00	88.62	2.29
739+50.00	54.95	0.00	50.00	102.06	0.00
740+00.00	55.27	0.00	50.00	81.96	0.00
740+50.00	33.25	0.00	50.00	71.05	0.00
741+00.00	43.48	0.00	50.00	88.56	0.00
741+50.00	52.17	0.00	50.00	97.26	0.00
742+00.00	52.87	0.00	50.00	130.07	0.00
742+50.00	87.61	0.00	50.00	193.33	0.00
743+00.00	121.19	0.00	50.00	208.71	0.00
743+50.00	104.22	0.00	50.00	169.58	0.01
744+00.00	78.93	0.01	50.00	122.18	0.01
744+50.00	53.02	0.00	50.00	87.66	0.00
745+00.00	41.65	0.00	50.00	72.99	0.00
745+50.00	37.18	0.00	50.00	69.43	0.00
746+00.00	37.81	0.00	54.31	79.94	0.00
746+54.31	41.68	0.00			
TOTALS TO GENERAL NOTES SHEET 58				2383	5

B/L CONST. RAMP E-S (I-77)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
836+08.78	0.00	0.00	41.22	31.83	2.11
836+50.00	41.70	2.77	50.00	73.23	2.70
837+00.00	37.39	0.15	50.00	64.28	0.21
837+50.00	32.03	0.08	50.00	70.69	0.18
838+00.00	44.32	0.12	50.00	95.77	0.32
838+50.00	59.11	0.23	50.00	82.29	1.28
839+00.00	29.76	1.15	50.00	40.44	1.41
839+50.00	13.91	0.38	50.00	21.99	0.81
840+00.00	9.84	0.49	50.00	21.76	0.61
840+50.00	13.66	0.16	50.00	37.76	0.15
841+00.00	27.12	0.00	50.00	54.43	0.00
841+50.00	31.66	0.00	50.00	63.53	0.00
842+00.00	36.95	0.00	23.67	34.94	0.00
842+23.67	42.75	0.00			
TOTALS TO GENERAL NOTES SHEET 58				693	10

NOTE:  
 EARTHWORK END AREA CALCULATIONS  
 PROVIDED FOR REFERENCE ONLY.

REVISIONS		
NO.	DATE	DESCRIPTION
2	02/29/24	ADDED EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY



DESIGNER

NRB

REVIEWER

PJF 11-21-23

PROJECT ID

107408

SHEET TOTAL

493D 1068

B/L CONST. RAMP N-E (I-77)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
437+48.58	65.57	0.00	1.42	3.10	0.00
437+50.00	52.32	0.00	50.00	96.21	0.14
438+00.00	51.59	0.16	50.00	91.72	0.18
438+50.00	47.47	0.04	50.00	96.39	1.65
439+00.00	56.64	1.74	50.00	108.95	1.67
439+50.00	61.03	0.06	50.00	144.87	0.06
440+00.00	95.43	0.00	50.00	209.85	0.00
440+50.00	131.22	0.00	50.00	255.94	0.00
441+00.00	145.20	0.00	50.00	268.01	0.00
441+50.00	144.25	0.00	50.00	262.56	0.00
442+00.00	139.32	0.00	50.00	233.68	0.00
442+50.00	113.06	0.00	50.00	173.24	0.00
443+00.00	74.04	0.00	50.00	121.23	0.00
443+50.00	56.89	0.00	50.00	104.29	0.00
444+00.00	55.75	0.00	50.00	97.35	0.00
444+50.00	49.40	0.00	50.00	83.51	0.00
445+00.00	40.79	0.00	50.00	63.16	0.00
445+50.00	27.42	0.00	20.00	19.24	0.00
445+70.00	24.54	0.00			
TOTALS TO GENERAL NOTES SHEET 58				2433	4


B/L CONST. RAMP N-W (I-77)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
120+13.58	66.56	0.00	36.42	74.05	0.28
120+50.00	43.23	0.41	50.00	87.36	0.64
121+00.00	51.12	0.28	50.00	103.64	0.26
121+50.00	60.81	0.01	50.00	118.66	0.01
122+00.00	67.35	0.00	50.00	132.51	0.00
122+50.00	75.76	0.00	50.00	134.15	2.45
123+00.00	69.12	2.65	50.00	126.52	4.52
123+50.00	67.52	2.23	50.00	146.57	2.07
124+00.00	90.78	0.00	50.00	133.28	0.00
124+50.00	53.16	0.00	50.00	87.31	0.00
125+00.00	41.13	0.00	50.00	74.22	0.00
125+50.00	39.02	0.00	50.00	80.54	0.00
126+00.00	47.96	0.00	50.00	89.83	0.00
126+50.00	49.06	0.00	50.00	86.25	0.24
127+00.00	44.09	0.26	50.00	106.19	0.34
127+50.00	70.60	0.11	50.00	129.26	0.68
128+00.00	69.00	0.63	50.00	108.84	3.60
128+50.00	48.54	3.26	50.00	96.42	3.28
129+00.00	55.59	0.28	50.00	93.85	0.48
129+50.00	45.77	0.23	50.00	84.45	0.40
130+00.00	45.44	0.20	50.00	81.83	0.30
130+50.00	42.94	0.12	50.00	79.75	0.20
131+00.00	43.19	0.09	37.52	52.07	0.06
131+37.52	31.75	0.00			
TOTALS TO GENERAL NOTES SHEET 58				2308	20

B/L CONST. RAMP S-E (I-77)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
336+00.00	32.01	0.00	50.00	89.46	0.02
336+50.00	64.61	0.02	50.00	136.72	0.03
337+00.00	83.05	0.00	50.00	144.08	0.00
337+50.00	72.56	0.00	50.00	132.40	0.00
338+00.00	70.44	0.00	50.00	141.97	0.00
338+50.00	82.89	0.00	50.00	168.48	0.04
339+00.00	99.07	0.05	50.00	194.68	0.04
339+50.00	111.18	0.00	50.00	216.01	0.00
340+00.00	122.11	0.00	50.00	248.26	0.00
340+50.00	146.01	0.00	50.00	292.18	0.00
341+00.00	169.55	0.00	50.00	337.60	0.00
341+50.00	195.06	0.00	50.00	338.92	0.00
342+00.00	170.97	0.00	50.00	308.74	0.00
342+50.00	162.46	0.00	50.00	298.03	0.00
343+00.00	159.41	0.00	50.00	241.48	0.00
343+50.00	101.38	0.00	50.00	173.27	0.00
344+00.00	85.75	0.00	50.00	149.13	0.00
344+50.00	75.31	0.00	50.00	134.59	0.00
345+00.00	70.05	0.00	50.00	119.71	0.00
345+50.00	59.24	0.00	50.00	114.19	0.00
346+00.00	64.09	0.00	50.00	110.93	0.03
346+50.00	55.72	0.04	50.00	57.34	0.29
347+00.00	6.21	0.28			
TOTALS TO GENERAL NOTES SHEET 58				4148	0

B/L CONST. RAMP S-W (I-77)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
224+14.63	49.34	0.00	35.37	65.54	0.00
224+50.00	50.72	0.00	50.00	85.19	0.00
225+00.00	41.29	0.00	50.00	69.10	0.00
225+50.00	33.34	0.00	50.00	61.94	0.00
226+00.00	33.56	0.00	50.00	52.79	0.00
226+50.00	23.45	0.00	50.00	50.64	0.00
227+00.00	31.24	0.00	50.00	62.95	0.00
227+50.00	36.75	0.00	50.00	89.22	0.01
228+00.00	59.61	0.02	50.00	102.05	0.01
228+50.00	50.60	0.00	50.00	91.71	0.00
229+00.00	48.44	0.00	50.00	86.30	0.87
229+50.00	44.76	0.94	50.00	83.96	0.89
230+00.00	45.92	0.03	18.15	32.65	0.24
230+18.15	51.21	0.68			
TOTALS TO GENERAL NOTES SHEET 58				934	2

NOTE:  
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REVISIONS		
NO.	DATE	DESCRIPTION
2	02/29/24	ADDED EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY  
  
 GPD GROUP  
 DESIGNER  
 NRB  
 REVIEWER  
 PJF 11-21-23  
 PROJECT ID  
 107408  
 SHEET TOTAL  
 493E 1068

B/L CONST. RAMP W-N (I-77)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
625+00.00	23.81	0.00			
			50.00	42.48	0.00
625+50.00	22.07	0.00			
			50.00	41.98	0.00
626+00.00	23.27	0.00			
			50.00	35.29	0.03
626+50.00	14.85	0.04			
			50.00	23.95	0.62
627+00.00	11.01	0.63			
			50.00	19.32	1.44
627+50.00	9.85	0.92			
			50.00	30.18	1.26
628+00.00	22.74	0.43			
			50.00	61.04	0.91
628+50.00	43.18	0.55			
			50.00	75.20	0.51
629+00.00	38.03	0.00			
			50.00	84.10	0.00
629+50.00	52.80	0.00			
			50.00	90.56	0.00
630+00.00	45.01	0.00			
			50.00	87.70	0.00
630+50.00	49.71	0.00			
			50.00	87.71	0.00
631+00.00	45.02	0.00			
			44.12	36.78	0.00
631+44.12	0.00	0.00			
TOTALS TO GENERAL NOTES SHEET 58				716	5

B/L CONST. RAMP W-S (I-77)					
STATION	CUT AREA (SF)	FILL AREA (SF)	LENGTH (FT)	CUT VOLUME (CY)	FILL VOLUME (CY)
521+19.22	0.00	0.00			
			30.78	15.06	0.00
521+50.00	26.41	0.00			
			50.00	52.31	1.50
522+00.00	30.08	1.62			
			50.00	63.52	2.26
522+50.00	38.52	0.82			
			50.00	78.89	0.76
523+00.00	46.69	0.00			
			50.00	90.53	0.00
523+50.00	51.09	0.00			
			50.00	93.65	0.00
524+00.00	50.05	0.00			
			50.00	101.71	0.01
524+50.00	59.80	0.01			
			50.00	85.23	0.09
525+00.00	32.25	0.08			
			50.00	51.57	0.50
525+50.00	23.44	0.45			
			50.00	42.16	0.49
526+00.00	22.09	0.07			
			50.00	45.97	0.49
526+50.00	27.56	0.46			
			50.00	59.27	0.47
527+00.00	36.46	0.05			
			50.00	81.38	0.05
527+50.00	51.43	0.00			
			50.00	94.91	0.00
528+00.00	51.08	0.00			
			50.00	97.06	0.00
528+50.00	53.75	0.00			
			33.00	53.23	0.00
528+83.00	33.35	0.00			
TOTALS TO GENERAL NOTES SHEET 58				1106	7

NOTE:  
 EARTHWORK END AREA CALCULATIONS  
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REVISIONS		
NO.	DATE	DESCRIPTION
2	02/29/24	ADDED EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY	GPD GROUP*	
DESIGNER	NRB	
REVIEWER	PJF	
PROJECT ID	107408	
SHEET	493F	TOTAL 1068