

**ROADWAY**

**MONUMENT ASSEMBLIES (G110)**

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET 32 OF THE PLANS.

**FENCE LENGTHS (G119)**

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 202.

**ITEM 201 – CLEARING AND GRUBBING (G108)**

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED. THE TREES LISTED BELOW ARE TO BE REMOVED WITH A SEPARATE TREE PRUNING CONTRACT BY APRIL 1, 2022.

MED-42-6.10: ALL EXISTING TREES WITHIN CONSTRUCTION LIMITS.

MED-252-5.51:

SIZES	NO. TREES	NO. STUMPS	TOTAL
6"	6	0	6
18"	2	0	2
24"	1	0	1

A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201 – CLEARING AND GRUBBING FOR AREAS NOT INCLUDED IN THE ABOVE LIST. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 201 – CLEARING AND GRUBBING.

**PAVEMENT**

**ITEM 442 – ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448), AS PER PLAN**  
**ITEM 442 – ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448) (DRIVEWAYS), AS PER PLAN**

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE PLACED IMMEDIATELY AFTER THE JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 – MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING PAVED BERMS, DRIVES, INTERSECTIONS, ETC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:  
MIX DESIGN: FOR NDES USE 50 GYRATIONS, FOR NMAX USE 75 GYRATIONS.  
CHOOSE OPTIMUM BINDER CONTENT AT DESIGN AIR VOIDS OF 3.5%.  
MINIMUM TOTAL PG BINDER CONTENT IS 6.3%.  
MINIMUM VIRGIN PG BINDER CONTENT IS 5.2%.  
USE A PG64-22 BINDER.  
WHEN AN AGGREGATE SOURCE IS SPECIALLY DESIGNED WITH AN SR ON THE AGGREGATE GRAVITY LIST, DO NOT USE THE AGGREGATE EXCEPT AS ALLOWED FOR MEDIUM TRAFFIC IN THE GUIDELINES FOR MAINTAINING ADEQUATE PAVEMENT FRICTION IN SURFACE PAVEMENT.  
QUALITY CONTROL: DO NOT PERFORM NMAX IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN C&MS 442.05.

**DRAINAGE**

**REVIEW OF DRAINAGE FACILITIES (D114)**

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

**EXISTING CULVERT VERIFICATION**

DETAILS AND DIMENSIONS SHOWN ON THESE PROPOSED PLANS PERTAINING TO THE EXISTING CULVERT HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING CULVERT AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, SUCH DETAILS AND DIMENSIONS ARE INDICATIVE OF THE EXISTING CULVERT AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS SECTIONS 102.05 AND 105.02. BASE THE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING CULVERT. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**ITEM 611 – RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS**

EXISTING ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

PAYMENT FOR ALL LABOR AND MATERIALS WILL BE PERFORMED BY CHANGE ORDER.

**ITEM 202 – PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (MED-42)**

USE THIS ITEM TO REMOVE THE EXISTING DAMAGED INTERNAL JOINT SEALS AS DETAILED IN THIS PLAN. EFFECT A SMOOTH AND CLEAN BASE ON WHICH TO APPLY THE PROPOSED INTERNAL JOINT SEALS. COMPLETELY REMOVE ALL METAL BANDING, SEALING MATERIAL, AND HARDWARE FROM THE STRUCTURE USING A METHOD DEEMED SUITABLE BY THE ENGINEER. ALL REMOVED JOINT SEALS BECOME THE PROPERTY OF THE CONTRACTOR.

TAKE EXTREME CARE NOT TO DAMAGE THE EXISTING STRUCTURE WHILE PERFORMING THIS ITEM. SHOULD THE STRUCTURE BE DAMAGED, MAKE SUFFICIENT REPAIRS AS ACCEPTABLE TO THE ENGINEER, AT NO COST TO THE DEPARTMENT.

TAKE CARE TO NOT LET DEBRIS FROM THE REMOVAL PROCESS ENTER THE STREAM. SHOULD DEBRIS ENTER THE STREAM, REMOVE IT IMMEDIATELY.

PAYMENT FOR THE ABOVE ITEM SHALL BE MADE AT THE CONTRACT PRICE BID PER EACH FOR ITEM 202 – PORTIONS OF STRUCTURE REMOVED, AS PER PLAN AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES (D104)**

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

**ITEM 611 – FARM DRAINS (D107)**

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 611 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 611 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 611, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

PAYMENT FOR ALL LABOR AND MATERIALS WILL BE PERFORMED BY CHANGE ORDER.

**ITEM 611 – 8' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN (MED-252)**

THIS ITEM IS FOR THE INSTALLATION OF THE FIRST 25 FEET OF CONDUIT FROM THE INLET HEADWALL ON THE MED-252-5.51 CULVERT. THE CONDUIT SHALL BE CAST-IN-PLACE TO AVOID CONFLICTS WITH OVERHEAD AND UNDERGROUND UTILITIES. THE REINFORCING STEEL SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THIS ITEM.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER FOOT FOR ITEM 611 – 8' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 602 – CONCRETE MASONRY, AS PER PLAN (MED-252)**

THIS ITEM SHALL BE USED TO CONSTRUCT A CONCRETE PAD UNDER THE PROPOSED MED-252-5.51 BOX CULVERT AND ON TOP OF THE REMAINDER OF THE EXISTING CONCRETE MASONRY COLLAR. THE CONTRACTOR SHALL USE EXTREME CAUTION AROUND THE EXISTING MEDINA COUNTY SANITARY ENGINEER SANITARY MAIN AS TO NOT DISTURB THE MAIN. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THIS ITEM WITH THE MEDINA COUNTY SANITARY ENGINEER.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 602 – CONCRETE MASONRY, AS PER PLAN, AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 605 – AGGREGATE DRAINS (MED-252)**

AGGREGATE DRAINS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

STA. 2+95.00 (LEFT AND RIGHT)  
STA. 3+25.00 (LEFT AND RIGHT)

**ITEM 611 – CONDUIT MISC.: INTERNAL JOINT SEAL**

REPAIR THE FAILING JOINTS USING AN INTERNAL JOINT SEAL. THE INTERNAL JOINT SEAL WILL BRIDGE THE JOINT WITH A FLEXIBLE RUBBER SEAL AND COMPRESS THE RUBBER AGAINST THE INSIDE DIAMETER OF THE PIPE ON EITHER SIDE OF THE JOINT WITH EXPANSION BANDS AND LOCKING ASSEMBLY. ORIENT ALL PROTRUDING HARDWARE TO BE AS HIGH ON THE WALL OF THE PIPE AS POSSIBLE TO PREVENT DAMAGE CAUSED BY PASSING DEBRIS. SUBMIT STAMPED SHOP DRAWINGS TO THE ENGINEER PRIOR TO INSTALLING THE INTERNAL JOINT SEALS.

UPON RECOMMENDATION OF THE MANUFACTURER, USE A CONCRETE MATERIAL WITH A MINIMUM COMPRESSION STRENGTH OF 4000 PSI TO FILL IN AND LEVEL THE CORRUGATIONS WITHIN THE LIMITS OF THE SEAL TO PROVIDE A FLAT AND SMOOTH AREA FOR THE SEAL TO PRESS AGAINST.

PROVIDE THE INTERNAL JOINT SEALS TO MEET THE FOLLOWING REQUIREMENTS:

- RUBBER SEAL:
  - EPDM RUBBER MATERIAL
  - 18" MINIMUM WIDTH (OUT TO OUT, INCLUDING BANDS)
  - 1,400 PSI MINIMUM TENSILE STRENGTH (ASTM D412)
- COMPRESSION BANDING:
  - 304 OR 316 STAINLESS STEEL
  - 70,000 PSI MINIMUM TENSILE STRENGTH

CLEAN AND REMOVE ALL DIRT AND DEBRIS, INCLUDING EXISTING JOINT BANDS LABELED FOR REMOVAL, WITHIN THE PIPE PRIOR TO INSTALLING THE JOINT SEAL FOR A MINIMUM OF FOUR FEET, CENTERED ON THE FAILING JOINTS. FILL VOIDS AND JOINT GAPS WITH GROUT UNTIL THE VOIDS ARE FILLED AND THE GAPS ARE FLUSH FROM ONE SECTION OF PIPE TO THE OTHER. FURNISH GROUT THAT CONTAINS CEMENT AND WATER, AND POSSIBLY ONE OR MORE OF FLY ASH, LIME, OR ADMIXTURES. SECURE THE INTERNAL JOINT SEAL FIRMLY AGAINST ALL EDGES OF THE CONCRETE TO PREVENT ANY SOIL OR WATER INFILTRATION OR EXFILTRATION. NO PRESSURE TEST IS REQUIRED AND, AS SUCH, THE SEALS MAY BE SUPPLIED WITHOUT TEST VALVES. IF TEST VALVES ARE INCLUDED IN THE SEALS, ORIENT THEM AT THE TOP OF THE PIPE SO AS TO PREVENT DAMAGE FROM PASSING DEBRIS.

SUPPLY AN INTERNAL JOINT SEAL FROM WEKO-SEAL, NPC INTERNAL SEAL, HYDRATECH ENGINEERED PRODUCTS, OR OTHER APPROVED EQUAL.

INSTALL THE INTERNAL JOINT SEAL AS NOTED AND PER THE REQUIREMENTS OF THE MANUFACTURER. THE MANUFACTURER MAY BE USED AS A SUBCONTRACTOR TO DESIGN AND INSTALL THE INTERNAL JOINT SEALS.

ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NEEDED TO COMPLETE THE ABOVE WORK WILL BE INCLUDED IN THE CONTRACT BID PRICE PER EACH FOR ITEM 611 - CONDUIT, MISC.: INTERNAL JOINT SEAL.

**ITEM 202 – REMOVAL MISC.: CONCRETE MASONRY (MED-252)**

THIS ITEM SHALL BE USED TO REMOVE A SECTION OF THE EXISTING CONCRETE MASONRY COLLAR UNDER THE MED-252-5.51 CULVERT AS INDICATED IN THE CROSS SECTIONS TO INSTALL THE NEW REINFORCED CONCRETE BOX CULVERT.

TAKE EXTREME CARE NOT TO DAMAGE THE EXISTING SANITARY SEWER WHILE PERFORMING THIS ITEM. SHOULD THE STRUCTURE BE DAMAGED, MAKE SUFFICIENT REPAIRS AS ACCEPTABLE TO THE ENGINEER, AT NO COST TO THE DEPARTMENT. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THIS ITEM WITH THE MEDINA COUNTY SANITARY ENGINEER.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 202 – REMOVAL MISC. MASONRY COLLAR AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 659 – SEEDING AND MULCHING**

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

MED-42-6.10:

659	COMMERCIAL FERTILIZER	0.01	TON
659	LIME	0.01	ACRE
659	WATER	0.31	M GAL
659	REPAIR SEEDING AND MULCHING	3	SQ YD
659	INTERSEEDING	3	SQ YD
659	TOPSOIL	6	CU YD
659	SOIL ANALYSIS TEST	2	EACH
659	SEEDING AND MULCHING	55	SQ YD

MED-252-5.51:

659	COMMERCIAL FERTILIZER	0.09	TON
659	LIME	0.14	ACRE
659	WATER	3.69	M GAL
659	REPAIR SEEDING AND MULCHING	33	SQ YD
659	INTERSEEDING	33	SQ YD
659	TOPSOIL	74	CU YD
659	SOIL ANALYSIS TEST	2	EACH
659	SEEDING AND MULCHING	667	SQ YD


SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY.

GENERAL NOTES

MED-42/252-6.10/5.51

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DESIGN AGENCY  
**DISTRICT 3**



ENGINEERING  
TEAM TWO

DESIGNER  
**ACM**

REVIEWER  
**KRB 10-04-21**

PROJECT ID  
**102624**

SUBSET	TOTAL
2	2

SHEET	TOTAL
P.6	36