



Hennepin County Transportation Department

ADDENDUM

TO PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS FOR

Grading, Drainage, Bituminous Surfacing, Retaining Walls, Bridges 10J43, 27C01, 27C02,
Concrete Curb & Gutter, Trails and Street Lighting

HENNEPIN COUNTY TRANSPORTATION DEPARTMENT

(To be opened Tuesday, **November 14, 2017** at 2:00 P.M.)

ADDENDUM NO. 4

CSAH 61; C.P. 0904
S.A.P. 010-661-003, 027-661-048,
181-020-031, 194-020-012

NOTICE TO ALL BIDDERS:

This Addendum shall be attached to the Contract Documents and shall be included as part of said Contract Documents. Items herein shall take precedence over any clauses which they modify in the Contract Documents or portions of drawings which they modify or supplement.

PLANS

This addendum entails revision changes listed below but are not limited to: Statement of Estimated Quantities, Drainage Tabulation, Drainage Details, and Retaining Wall Quantities. See the plan sheets for the full changes.

See "Attachment A - Revised Plan Sheets" for the following modifications:

1. Plan Sheet No. 8 STATEMENT OF ESTIMATED QUANTITIES – **Remove and Replace** with attached Sheet 8R
2. Plan Sheet No. 9R STATEMENT OF ESTIMATED QUANTITIES – **Remove and Replace** with attached Sheet 9R
3. Plan Sheet No. 12R STATEMENT OF ESTIMATED QUANTITIES – **Remove and Replace** with attached Sheet 12R
4. Plan Sheet No. 16 STATEMENT OF ESTIMATED QUANTITIES – **Remove and Replace** with attached Sheet 16R

5. Plan Sheet No. 203R DRAINAGE SUMMARY TABULATION – 1 – **Remove and Replace** with attached Sheet 203R
6. Plan Sheet No. 238R DRAINAGE DETAIL – CATCH BASIN AND MANHOLE OFFSET – **Remove and Replace** with attached Sheet 238R
7. Plan Sheet No. W-2 SUMMARY OF QUANTITIES – **Remove and Replace** with attached Sheet W-2R

PROPOSAL

1. The MnDOT Standard Specifications For Construction 2016 Edition is hereby revised as follows:
Delete Section 1603.2 SAMPLING AND TESTING, within 1603 MATERIALS: SPECIFICATIONS, SAMPLES, TESTS, AND ACCEPTANCE, and **Replace** with the following:

1603.2 SAMPLING AND TESTING

Refer to the Schedule of Materials Control for sampling and testing of Materials **for State Aid For Local Transportation Projects (SALT): Schedule of Materials Control – Local Government Agency**. The Schedule of Materials Control sets the size of Material samples and the rate of testing. The Schedule of Materials Control does not set Contract requirements for the Material. The Schedule of Materials Control is included with the Proposal Package.

The Contractor shall provide all required samples at no additional cost to the Department and shall provide such facilities and assistance as the Engineer directs for collecting and forwarding samples. If required by the Engineer, the Contractor shall submit representative preliminary samples to the Engineer in accordance with the specified methods, for examination and testing. The Contractor shall label submitted preliminary samples with the following information:

- (1) Contractor's name,
- (2) Project number,
- (3) The material source,
- (4) Supplier's name, and
- (5) Where the material fits into the Work.

For soil and aggregate samples, the Contractor shall provide the following additional information:

- (1) The legal description of the property where the samples were taken, and
- (2) Pit numbers for single source bituminous and concrete aggregate products.

The Department will provide special instructions for sampling upon request from the Contractor.

2. Division S – **Delete** S-57 (2105) GEOTEXTILE FABRIC SPECIAL and **Replace** with the following:

S-57 (2105) GEOTEXTILE FABRIC SPECIAL

This work shall consist of placing geotextile fabric as part of an anchor reinforced vegetation system at the location(s) shown on the Plans, or as directed by the Engineer. The work shall be performed in accordance with the applicable provisions of MnDOT Specification 2105, these Special Provisions, and in close conformity with the lines, grades, standards, design, architectural details, and dimensions shown on the Plans or as otherwise established.

Definitions

- A. Anchor Reinforced Vegetation System (ARVS): A soil protection system combining a High Performance Turf Reinforcement Mat (HPTRM,), Securing Pins, and Earth Percussion Anchors driven to a minimum depth of 6 feet into the ground. The system protects soil surfaces from two failure mechanisms: surface erosion (non-structural applications) and shallow plane instability (structural applications).
- B. High Performance Turf Reinforcement Mat (HPTRM): A long-term, non-degradable rolled erosion control product composed of UV-stabilized, non-degradable, synthetic fibers, nettings and/or filaments processed into three-dimensional reinforcement matrices designed for permanent and critical hydraulic applications where design discharges exert velocities and shear stresses that exceed the limits of mature natural vegetation. HPTRMs provide sufficient thickness, strength and void space to permit soil filling and/or retention and the development of vegetation within the matrix. The HPTRM MARV tensile strength per ASTM D-6818 is 3000 lbs/ft in the weakest principal direction.
- C. Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported.
- D. Rolled Erosion Control Product (RECP): A temporary degradable or long-term non-degradable material manufactured or fabricated into rolls designed to reduce soil erosion and assist in the growth, establishment and protection of vegetation.

Material Requirements

All components of the ARVS shall be furnished by a single manufacturer as a complete system.

Material shall be triaxial woven polypropylene RECP ARMORMAX as manufactured by Propex Operating Company, LLC or Xtreme Armor System (XAS) with PP5-Xtreme as manufactured by Western Excelsior Corporation or **Futerra R45 with the Platipus Anchor System as manufactured by Profile Products**, as specified in the plans. Alternate materials for structural slope stability and slope protection systems (ARVS) will be considered. Such material must be pre-approved in writing by the Engineer prior to the bid date. Alternate material packages must be submitted to the Engineer a minimum of seven (7) calendar days prior to the bid date. Submittal package must include the following:

- A. A list of 5 comparable projects within a 1,000 mile radius of the project where material has been used on a project of comparable size and application.
- B. A sample of the geotextile and certified specifications sheets.
- C. Recommended installation instructions.

The burden of proof that the alternate material is equal to the specified material is the responsibility of the alternate ARVS manufacturer. The Engineer will be the sole judge of

the adequacy of the proposed alternate ARVS.

Construction Requirements

The design, spacing and layout and overall Anchor Reinforced Vegetation System (AVRS) shall be contractor designed. Installation shall not begin until the contractor design for the ARVS is submitted for review by the Engineer and the Engineer approves the design of the ARVS for the project. Once the Engineer approves the ARVS, installation of the ARVS shall be in accordance with the HPTRM manufacturer's specifications.

Measurement and Payment

Measurement will be made of the number of square yards of satisfactorily installed geotextile Anchor Reinforced Vegetation System in accordance with the High Performance Turf Reinforcement Mat manufacturer's specifications as approved by the Engineer. No allowance will be made for laps, seams, anchor trenches, or disposal of excess material. Payment will be made under Item 2105.604 (Geotextile Fabric Special) at the contract bid price per square yard, which shall be compensation for furnishing all labor, equipment, materials, tools, and incidentals necessary to place the Anchor Reinforced Vegetation System in accordance with the High Performance Turf Reinforcement Mat manufacturer's specifications (Geotextile Fabric Special) as shown on the plans.

3. Division S – **Delete** Section S-70 (2399) PAVEMENT SURFACE SMOOTHNESS from the proposal.
4. Division SB – **Delete** Section SB-26.12 Reinforced Concrete Wall Facing within, SB-26 ANCHORED RETAINING WALLS, and **Replace** with the following:

This work consists of constructing a reinforced concrete facing on the exposed surface of the anchored soldier pile walls. This facing will become the principle retention member of the walls in lieu of the timber lagging that is considered to be temporary. Commence construction of the facing after all of the tiebacks have been tested and accepted by the Engineer, and completion of the geocomposite drainage system.

Provide epoxy coated reinforcement in accordance with MnDOT Standard Specification Section 3301, for all CIP Concrete Facing Panel reinforcement.

Provide architectural concrete texture in accordance with SB-5 and architectural surface finish in accordance with SB-6 at locations shown on the Plans.

As shown in the Plans, the wall facing has vertical construction joints spaced at a maximum of 30'-6" to separate wall panels. A dowelled joint is shown at every third construction joint for thermal movement purposes. In order to facilitate construction, the drainage system may be constructed with each wall panel instead of on the entire wall.

Construct the wall facing in accordance with MnDOT 2401, the Plans and these special provisions.

A. Placement of Concrete in Wall Panels

Delay adjacent concrete pours of the wall panels at the vertical construction joints by 72 hours to reduce the effects of shrinkage.

5. Division S – **Add** special provision (2573) WATER TREATMENT to the proposal:

This work shall comply with MnDOT Standard Specifications for Construction 2573 for Water Treatment and in general consists of:

- A. Lowering the ground water and/or surface water to below the invert elevations for construction of drainage structures, box culverts and bridge structures within the project.
- B. Dewatering depressions as necessary to facilitate construction of the project.
- C. Stream, creek, and/or surface water flow bypass/diversion as necessary to facilitate construction of the project.
- D. Conveyance of water from springs and pockets of water generated by springs as necessary to facilitate construction of the project.

The contractor shall comply with MnDOT Standard Specifications for Construction 2573 for Water Treatment and the following:

- A. The Contractor is advised that the level of surface and/or ground water in the project is variable depending on season, weather and other factors. In submitting a bid, the Contractor specifically agrees to bear the entire risk arising out of such variability, including but not limited to the risk that water conditions at the time of award of Contract, or at any other time during the Project, may differ substantially from water conditions at the time of the Contractor's pre-bid inspection of the area or from water conditions depicted by or inferred from the soil boring reports. No adjustment to the Contract unit price for the work shall be made, regardless of variations in water conditions. It shall further be the responsibility of the Contractor to ascertain the ownership of all property outside the construction limits over which water discharged by the dewatering operations will flow, and to secure from the owners of all such property any appropriate easements or other forms of permission as may be legally required. The Contractor shall conduct operations and any other work incidental thereto, including discharge of water, in such a manner as to prevent damage of any type. Should any damage occur as a result of operations or work incidental thereto, the Contractor shall be solely responsible for the correction or repair thereof. This shall not be construed as limiting in any way, any requirements for insurance or indemnification appearing elsewhere in these Contract Documents. All costs incurred by the Contractor in complying with the above shall be incidental to the water treatment item and no direct compensation shall be made therefor.

B. Discharge:

1. There shall be no discharge of water directly onto exposed soil or impervious surface.
2. There shall be no discharge of water directed toward exposed soil within 100 feet of the exposed soil, unless flow dissipation techniques that limit flow velocity to 2.5 fps are in place.
3. There shall be no discharge of water within the following distances of any water of the state or impervious surface:
 - i. 100 feet for slopes steeper than 10:1.
 - ii. 50 feet for slopes more gradual than 10:1.
4. In cases where, due to space limitations, discharge toward a water of the state, exposed soil, or impervious surface within the distances cited above is unavoidable, a sediment removal BMP, such as temporary basin or manufactured product shall be used.
5. There will be no discharge of water such that any erosion on site or off) and resulting sedimentation of a water of the state, including ditches, storm water infrastructure, and/or curb and gutter, shall occur.
6. Dewatering and sediment removal from discharged water shall be incidental to the Water Treatment bid item.

Measurement and Payment:

Measurement and payment shall be by the lump sum at the contract unit price for Item 2573.510 Water Treatment as specified under MnDOT Standard Specification 2573.

ELECTRONIC BID FORM

The following quantities are hereby **DELETED** from the Electronic Bid Form:

<u>Item No.</u>	<u>Item Description</u>	<u>Units</u>	<u>Quantity</u>
2451.503	GRANULAR BACKFILL (CV)	CY	331
2506.521	INSTALL CASTING	EACH	7
2506.603	CONSTRUCT DRAINAGE STRUCTURE DES SPEC	LF	8.6

The following quantities are hereby **REVISED** in the Electronic Bid Form:

<u>Item No.</u>	<u>Item Description</u>	<u>Units</u>	<u>Quantity(Previous Qty)</u>
2451.501	STRUCTURE EXCAVATION CLASS E	CY	8955 (22908)
2506.516	CASTING ASSEMBLY	EACH	218 (240)
2506.602	CONSTRUCT CONTROL STRUCTURE	EACH	3 (4)

November 8, 2017
Attachment(s)

Receipt of this addendum must be acknowledged in accordance with the provisions of 1210 of the specifications.

Attachment A – Revised Plan Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET NO.	NOTE	ITEM NO	ITEM DESCRIPTION	UNIT	QUANT EST	(P)	HENNEPIN COUNTY				CARVER COUNTY							
								PARTICIPATING				NON-PARTICIPATING		PARTICIPATING					NON-PARTICIPATING
								HENNEPIN CO. S.A.P.	HENNEPIN CO. S.A.P.	HENNEPIN CO. S.A.P.	EDEN PRAIRIE S.A.P.	HENNEPIN CO. COUNTY FIBER - IT	EDEN PRAIRIE	CARVER CO. S.A.P.	CARVER CO. S.A.P.	CARVER CO. S.A.P.	CHANHASSEN S.A.P.	CHANHASSEN S.A.P.	CARVER CO. COUNTY FIBER - IT
								027-661-048 TURNBACK	027-661-048 NON-TURNBACK	027-661-048 STORM SEWER TURNBACK	181-020-031			010-661-003 TURNBACK	010-661-003 TURNBACK	010-661-003 STORM SEWER TURNBACK	194-C20-012 TURNBACK	194-020-012 NON-TURNBACK	
QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.								
RW1			2401.513	TYPE P-4 (TL-4) BARRIER CONCRETE (3S52)	L F	764	(P)	550					214						
RW1, BB, BC			2401.513	TYPE MOD P-4 (TL-4) BARRIER CONC (3S52)	L F	222	(P)	222											
BC			2401.515	SIDEWALK CONCRETE (3S52)	S F	2692	(P)	2692											
RW1, BC			2401.541	REINFORCEMENT BARS	LB	78840	(P)	65197				13643							
RW1, BB, BC			2401.541	REINFORCEMENT BARS (EPOXY COATED)	LB	1219030	(P)	1200284				18746							
BC			2401.541	REINFORCEMENT BARS (STAINLESS-60KSI)	LB	1730	(P)	1730											
BB		(4) (21)	2401.601	STRUCTURE EXCAVATION SPECIAL 1	LS	1		1											
BC		(4) (22)	2401.601	STRUCTURE EXCAVATION SPECIAL 2	LS	1		1											
BA		(4) (23)	2401.601	STRUCTURE EXCAVATION SPECIAL 3	LS	1						1							
RW1		(4)	2401.618	CIP CONCRETE FACING	S F	77489	(P)	55397				21892							
BC		(4)	2401.618	BRIDGE DECK PLANING	S F	6200	(P)	6200											
BB		(4)	2401.618	BRIDGE SLAB CONCRETE (3YHPC-M) - ELEVATED	S F	69218	(P)	69218											
BB		(4)	2401.618	BRIDGE SLAB CONCRETE (3YHPC-M) - AT GRADE	S F	33643	(P)	33643											
BC		(4)	2401.618	BRIDGE SLAB CONCRETE (3YHPC-S)	S F	6485	(P)	6485											
BB			2402.546	FLOOR DRAIN TYPE SPECIAL	EACH	5		5											
BB			2402.546	FLOOR DRAIN TYPE B705 (MODIFIED)	EACH	8		8											
RW1, BC			2402.583	ORNAMENTAL METAL RAILING TYPE SPECIAL PC	L F	222	(P)	222											
BB			2402.590	ELASTOMERIC BEARING PAD	EACH	5		5											
BB			2402.590	ELASTOMERIC BEARING PAD TYPE 1	EACH	21		21											
BB			2402.591	EXPANSION JOINT DEVICES TYPE 4	L F	279	(P)	279											
BB, BC			2402.595	BEARING ASSEMBLY	EACH	133		133											
BC			2404.501	CONCRETE WEARING COURSE (3U17A)	S F	6607	(P)	6607											
BC			2405.502	PRESSTRESSED CONCRETE BEAMS 36M	L F	714	(P)	714											
BB			2405.502	PRESSTRESSED CONCRETE BEAMS MN54	L F	6005	(P)	6005											
BC			2405.511	DIAPHRAGMS FOR TYPE 36M PREST BEAMS	L F	75	(P)	75											
BB			2405.511	DIAPHRAGMS FOR TYPE MN54 PREST BEAMS	L F	2000	(P)	2000											
BB, BC			2406.531	EXPANSION JOINTS, DESIGN E8H	L F	228	(P)	228											
BB, BC			2406.553	BRIDGE APPROACH PANELS	S Y	609	(P)	609											
RW1		(4)	2411.501	STRUCTURAL CONCRETE (3G52)	C Y	958	(P)	44				215							
RW1, BC		(4)	2411.618	ARCH SURFACE FINISH (MULTI COLOR)	S F	81688	(P)	59382				22106							
RW1, BC		(4)	2411.618	ARCH CONC TEXTURE (ASHLAR STONE)	S F	81688	(P)	59382				22106							

(4) (21) 2401.601 STRUCTURE EXCAVATION SPECIAL 1
 (4) (22) 2401.601 STRUCTURE EXCAVATION SPECIAL 2
 (4) (23) 2401.601 STRUCTURE EXCAVATION SPECIAL 3

958 (P) 44
 81688 (P) 59382
 81688 (P) 59382

SEE SHEET 16 FOR STATEMENT OF ESTIMATED QUANTITIES NOTES
 SEE SHEET 19 FOR TAB SHEET REFERENCES

REVISION		
DATE	DESCRIPTION	APPROVED BY
10/12/2017	1) UPDATED EDEN PRAIRIE ROAD POND & STORM SEWER REVISION RELATED	HZ J. POTTER

REVISION		
DATE	DESCRIPTION	APPROVED BY
11/07/2017	1) UPDATED STRUCTURAL EXCAVATION NAME TO MATCH ELECTRONIC BID FORM	J. STAEBELL



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JASON STAEBELL, LICENSED PROFESSIONAL ENGINEER
 44600 2/01/2017
 LICENSE NO. DATE

DESIGN BY: M. KUCHAES
CAD BY: M. KUCHAES
CHECKED BY: J. STAEBELL
LAST REVISION: 11/07/2017

STATEMENT OF ESTIMATED QUANTITIES
 C.S.A.H. 61 / HENNEPIN COUNTY PROJECT 0904
 S.A.P. 027-661-048/181-020-031 & S.A.P. 010-661-003/194-020-012
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STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET NO.	NOTE	ITEM NO	ITEM DESCRIPTION	UNIT	QUANT EST	(P)	HENNEPIN COUNTY				CARVER COUNTY							
								PARTICIPATING				NON-PARTICIPATING		PARTICIPATING					NON-PARTICIPATING
								HENNEPIN CO. S.A.P. 027-661-048	HENNEPIN CO. S.A.P. 027-661-048	HENNEPIN CO. S.A.P. 027-661-048	EDEN PRAIRIE S.A.P. 181-020-031	HENNEPIN CO. COUNTY FIBER - IT	EDEN PRAIRIE	CARVER CO. S.A.P. 010-661-003	CARVER CO. S.A.P. 010-661-003	CARVER CO. S.A.P. 010-661-003	CHANHASSEN S.A.P. 194-C20-012	CHANHASSEN S.A.P. 194-020-012	CARVER CO. COUNTY FIBER - IT
								TURNBACK	NON-TURNBACK	STORM SEWER TURNBACK			NEEDS INELIGIBLE	TURNBACK	STORM SEWER	TURNBACK	TURNBACK		
QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.								
DR			2412.511	8X8 PRECAST CONCRETE BOX CULVERT	L F	270		270											
BA			2412.511	16X4 PRECAST CONCRETE BOX CULVERT	L F	110 (P)					110								
DR			2412.512	8X8 PRECAST CONCRETE BOX CULVERT END SECTION	EACH	4		4											
BA			2412.512	16X4 PRECAST CONCRETE BOX CULVERT END SECTION	EACH	2					2								
BB,BC		(4)	2433.618	MMA FLOOD SEAL	SQ. FT.	105261		103351			1410								
RW1			2451.501	STRUCTURE EXCAVATION CLASS E	C Y	8955 (P)		6061			2894								
				GRANULAR BACKFILL (CV) <ITEM REMOVED>															
DR			2451.509	AGGREGATE BEDDING (CV)	C Y	3077		2574					503						
BA			2451.515	COURSE AGGREGATE BEDDING (CV)	C Y	180 (P)					180								
RW1		(4)	2451.607	STRUCTURAL BACKFILL	C Y	9195 (P)		7779			1416								
BB			2452.519	C-I-P CONC TEST PILE 100 FT LONG 12"	EACH	11		11											
RW1, BC			2452.519	C-I-P CONC TEST PILE 75 FT LONG 12"	EACH	15		12			3								
BB			2452.519	C-I-P CONC TEST PILE 105 FT LONG 12"	EACH	5		5											
BB			2452.519	C-I-P CONC TEST PILE 110 FT LONG 12"	EACH	10		10											
BB			2452.519	C-I-P CONC TEST PILE 100 FT LONG 16"	EACH	7		7											
BB			2452.519	C-I-P CONC TEST PILE 105 FT LONG 16"	EACH	4		4											
BB			2452.519	C-I-P CONC TEST PILE 125 FT LONG 16"	EACH	4		4											
BB,BC			2452.527	PILE REDRIVING	EACH	45		45											
RW1		(4)	2452.602	TIEBACK ANCHOR	EACH	1057		776			281								
RW1,BB,BC		(4)	2452.603	C-I-P CONCRETE PILING 12"	L F	33415		30380			2535								
BB,BC		(4)	2452.603	C-I-P CONCRETE PILING 16"	L F	10890		10390											
RW1		(4)	2452.603	STEEL H-PILING 12"	L F	12870 (P)		11805			1065								
RW1		(4)	2452.603	STEEL H-PILING 14"	L F	9320 (P)		4040			5280								
RW1		(4) (18)	2452.618	TEMPORARY LAGGING	SF	66252 (P)		46322			19330								
BC		(4)	2452.618	STEEL SHEET PILING (PERMANENT)	SF	593 (P)		593											
TDR			2501.511	30" CS PIPE CULVERT	L F	47					47								
TDR			2501.511	36" CS PIPE CULVERT	L F	176		176											
TDR			2501.511	42" CS PIPE CULVERT	L F	175		175											
TDR			2501.511	48" CS PIPE CULVERT	L F	91		91											
TDR			2501.515	15" CS PIPE APRON	EACH	4		4											
TDR			2501.515	18" CS PIPE APRON	EACH	7		5			2								
TDR			2501.515	30" CS PIPE APRON	EACH	2					2								
TDR			2501.515	36" CS PIPE APRON	EACH	5		5											
TDR			2501.515	42" CS PIPE APRON	EACH	2		2											
TDR			2501.515	48" CS PIPE APRON	EACH	1		1											
DR			2501.515	15" RC PIPE APRON	EACH	20		16					4						
DR			2501.515	18" RC PIPE APRON	EACH	14		10					4						
DR			2501.515	24" RC PIPE APRON	EACH	7		4					3						

SEE SHEET 16 FOR STATEMENT OF ESTIMATED QUANTITIES NOTES
SEE SHEET 19 FOR TAB SHEET REFERENCES

REVISION			REVISION		
DATE	DESCRIPTION	APPROVED BY	DATE	DESCRIPTION	APPROVED BY
10/12/2017	1) UPDATED EDEN PRAIRIE ROAD POND & STORM SEWER REVISION RELATED	HZ J. POTTER	11/07/2017	1) UPDATED STRUCTURAL EXCAVATION CLASS E 2) REMOVED GRANULAR BACKFILL ITEM	J. STABELL



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JASON STABELL, LICENSED PROFESSIONAL ENGINEER
 44600 2/01/2017
 LICENSE NO. DATE

DESIGN BY: M. KUCHAES
CAD BY: M. KUCHAES
CHECKED BY: J. STABELL
LAST REVISION: 11/07/2017

STATEMENT OF ESTIMATED QUANTITIES
 C.S.A.H. 61 / HENNEPIN COUNTY PROJECT 0904
 S.A.P. 027-661-048/181-020-031 & S.A.P. 010-661-003/194-020-012
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STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET NO.	NOTE	ITEM NO	ITEM DESCRIPTION	UNIT	QUANT EST	(P)	HENNEPIN COUNTY				CARVER COUNTY							
								PARTICIPATING				NON-PARTICIPATING		PARTICIPATING					NON-PARTICIPATING
								HENNEPIN CO. S.A.P. 027-661-048 TURNBACK	HENNEPIN CO. S.A.P. 027-661-048 NON-TURNBACK	HENNEPIN CO. S.A.P. 027-661-048 STORM SEWER TURNBACK	EDEN PRAIRIE S.A.P. 181-020-031	HENNEPIN CO. COUNTY FIBER - IT	EDEN PRAIRIE	CARVER CO. S.A.P. 010-661-003 TURNBACK	CARVER CO. S.A.P. 010-661-003 TURNBACK NEEDS INELIGIBLE	CARVER CO. S.A.P. 010-661-003 STORM SEWER TURNBACK	CHANHASSEN S.A.P. 194-C20-012 TURNBACK	CHANHASSEN S.A.P. 194-020-012 NON-TURNBACK	CARVER CO. COUNTY FIBER - IT
								QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	QUANT.	
	WM1 - WM3	(4)	2504.608	DUCTILE IRON FITTINGS	LB	1896						1896							
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN F	LF	120.0											108.7		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	LF	157.8											117.7		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	LF	34.8											11.3		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN SD-48	LF	76.5	1										40.1		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN SD-60	LF	86	1										34.0		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LF	107.0	1										78.5		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	LF	107.0	1										78.5		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020	LF	89.6	1										74.1		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 84-4020	LF	74.1	1										74.1		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 96-4020	LF	124.5	1										94.7		
DR			2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 108-4020	LF	9.1	1										9.1		
DR	238	(4)	2506.519	CASTING ASSEMBLY INSTALL CASTING - < ITEM REMOVED >	EACH	218	1 4										173		
		(4)	2506.601	INFILTRATION SYSTEM	LS	1	1 4										1		
DR		(4)	2506.602	CONSTRUCT CONTROL STRUCTURE	EACH	3	1 4										3		
	187, 197	(4)	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	3	1 4										3		
DR		(4)	2506.602	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL	EACH	4	3										4		
DR		(4)	2506.602	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1	EACH	4	3										4		
DR		(4)	2506.602	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2	EACH	10	1										10		
	238	(4)	2506.602	CASTING ASSEMBLY SPECIAL	EACH	14	1										14		
	238	(4)	2506.602	CASTING ASSEMBLY SPECIAL 1	EACH	8	1										8		
	WM1 - WM3		2506.602	STANDARD SANITARY MANHOLE DESIGN S-1 0-8'	EACH	8	1										8		
	WM1 - WM3	(24)	2506.602	CONSTRUCT 8' OUTSIDE DROP CONSTRUCT DRAINAGE STRUCTURE DESIGN SPEC (LF) - < ITEM REMOVED >	LF	4.9	1 4										4.9		
	WM1 - WM3		2506.603	EXTRA DEPTH SANITARY MANHOLE 48" DIA DESIGN S-1	LF	29.7	1										29.7		
BA			2511.501	RANDOM RIPRAP CLASS I	CY	70 (P)	1										70		
DR			2511.501	RANDOM RIPRAP CLASS II	CY	715	1										645.5		
DR, BA, TU1			2511.501	RANDOM RIPRAP CLASS III	CY	3503	1										2726.0		
DR			2511.501	RANDOM RIPRAP CLASS IV	CY	107	1										562		
DR			2511.515	GEOTEXTILE FILTER TYPE III	SY	3750	1										3408.0		
DR, BA			2511.515	GEOTEXTILE FILTER TYPE IV	SY	470	1										548		
BC			2511.515	GEOTEXTILE FILTER TYPE VII	SY	1440	1	1440									926		
BC		(4)	2511.607	RANDOM RIPRAP (MATRIX)	CY	660 (P)	1	660									12		
BA			2512.517	GABION	CY	12 (P)	1										12		
C1		(4)	2521.618	6" CONCRETE WALK SPECIAL	S F	8633	1	5512	343.5								343.5		
C1			2531.501	CONCRETE CURB & GUTTER DESIGN B618	LF	2367.0	1	2367.0									2118		

SEE SHEET 16 FOR STATEMENT OF ESTIMATED QUANTITIES NOTES
SEE SHEET 19 FOR TAB SHEET REFERENCES

REVISION		
DATE	DESCRIPTION	APPROVED BY
10/12/2017	1) UPDATED EDEN PRAIRIE ROAD POND & STORM SEWER REVISION RELATED	HZ J. POTTER
11/02/2017	1) UPDATED QUANTITY FOR CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL	HZ J. POTTER
11/07/2017	1) UPDATED QUANTITY FOR CONSTRUCT CONTROL STRUCTURE 2) REMOVED INSTALL CASTING AND CONSTRUCT DRAINAGE STRUCTURE DESIGN SPEC (LF) 3) ADDED NOTE TO CONSTRUCT 8' OUTSIDE DROP ITEM	J. STAEBELL



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JASON STAEBELL, LICENSED PROFESSIONAL ENGINEER
 44600 2/01/2017
 LICENSE NO. DATE

DESIGN BY: M. KUCHAES
CAD BY: M. KUCHAES
CHECKED BY: J. STAEBELL
LAST REVISION: 11/07/2017

STATEMENT OF ESTIMATED QUANTITIES
 C.S.A.H. 61 / HENNEPIN COUNTY PROJECT 0904
 S.A.P. 027-661-048/181-020-031 & S.A.P. 010-661-003/194-020-012
 SHEET 7 OF 11

SHEET
 12R
 297

NOTES:

- (1) STATE AID ELIGIBLE STORM SEWER IS 100% TURNBACK FOR BOTH 027-661-048 AND 010-661-003
- (2) PRO RATA FUNDING ITEM
- (3) FOR USE AS DIRECTED BY ENGINEER
- (4) SEE SPECIAL PROVISIONS
- (5) CONTINGENCY ITEM FOR REMOVAL & DISPOSAL OF CONTAMINATED SOILS (PETROLEUM, AND OTHER POLLUTANTS DESCRIBED IN SPECIAL PROVISIONS). CONTAMINATED SOIL FROM ON OR OFF THE PROJECT SITE SHALL NOT BE DISPOSED WITHIN THE PROJECT LIMITS.
- (6) SEE DETAILS IN MISC. DETAILS SHEETS IN PLANS
- (7) 30 DAY NOTICE IS REQUIRED PRIOR TO REMOVAL OF FENCES, SIGNS
- (8) CONTRACTOR MAY CONTACT THE FOLLOWING PROPERTY OWNERS TO SECURE LOCATIONS FOR STAGING AREAS:
COMMON CENTS AUTO AT 1111 FLYING CLOUD DRIVE, PAUL BIGLER AT 612-872-6707.
CITY OF EDEN PRAIRIE, RICHARD T. ANDERSON PARKING LOT (RTA), MATT BOURNE AT 952-949-8535.
GRAVEL PARKING AREA ACROSS FROM LIONS TAP ON SPRING ROAD, SEVERIN PETERSON AT 952-937-1315 or LOWELL PETERSON AT 952-944-2603.
- (9) ANY COMBINATION OF BITUMINOUS OVER AN AGGREGATE BASE ABOVE CONCRETE PAVEMENT, OR BITUMINOUS OVER AN AGGREGATE BASE ABOVE OTHER BITUMINOUS PAVEMENT, OR OVERLAID CONCRETE PAVEMENT
- (10) TYPE SHALL BE (TL3)
- (11) BITUMINOUS TACK COAT INCIDENTAL
- (12) ITEM IS FURNISHED BY HENNEPIN COUNTY
- (13) PROVISIONS OF SPECIFICATION 1402.3 SHALL NOT APPLY
- (14) INCLUDES MAINTENANCE
- (15) NO TREES CAN BE REMOVED BETWEEN MAY 1 AND AUGUST 15 OF ANY YEAR TO AVOID POTENTIAL IMPACTS TO ROOSTING NORTHERN LONG-EARED BATS. THE CONTRACTOR SHALL EXPECT MULTIPLE CLEARING AND GRUBBING MOBILIZATIONS WITHIN THE PROJECT TO ACCOUNT FOR THESE RESTRICTIONS. ALSO SEE SPECIAL PROVISIONS.
- (16) NO GRUBBING ACTIVITY CAN OCCUR UNTIL EROSION CONTROL DEVICES ARE IN PLACE. ALL TREES SHALL BE MARKED BY ENGINEER PRIOR TO REMOVAL
- (17) COMMERCIAL DRIVEWAYS SHALL BE HIGH EARLY CONCRETE SO AS TO LIMIT DISRUPTION TO BUSINESS
- (18) TEMPORARY LAGGING SHALL REMAIN INPLACE
- (19) A STABILIZED CONSTRUCTION EXIT WILL BE REQUIRED FOR EACH STAGE OF CONSTRUCTION
- (20) INCLUDES 37 LF AS DWY 160+90 RT CROSSING CULVERT.

- (21) BRIDGE 27C01
- (22) BRIDGE 27C02
- (23) BRIDGE 10J43
- (24) DESIGN S-4



(P) INDICATES PLAN QUANTITY

REVISION		
DATE	DESCRIPTION	APPROVED BY
11/07/2017	1.) ADD NOTES TO SPECIFY STRUCTURES FOR STRUCTURAL EXCAVATION BID ITEM 2.) ADD NOTE TO EDEN PRAIRIE DROP MANHOLE	J. STAEBELL



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Jason Staebell
 JASON STAEBELL, LICENSED PROFESSIONAL ENGINEER

44600 2/01/2017
 LICENSE NO. DATE

DESIGN BY: M. KUCHAES
 CAD BY: M. KUCHAES
 CHECKED BY: J. STAEBELL
 LAST REVISION: 11/07/2017

STATEMENT OF ESTIMATED QUANTITIES
 C.S.A.H. 61 / HENNEPIN COUNTY PROJECT 0904
 S.A.P. 027-661-048/181-020-031 & S.A.P. 010-661-003/194-020-012
 SHEET 11 OF 11

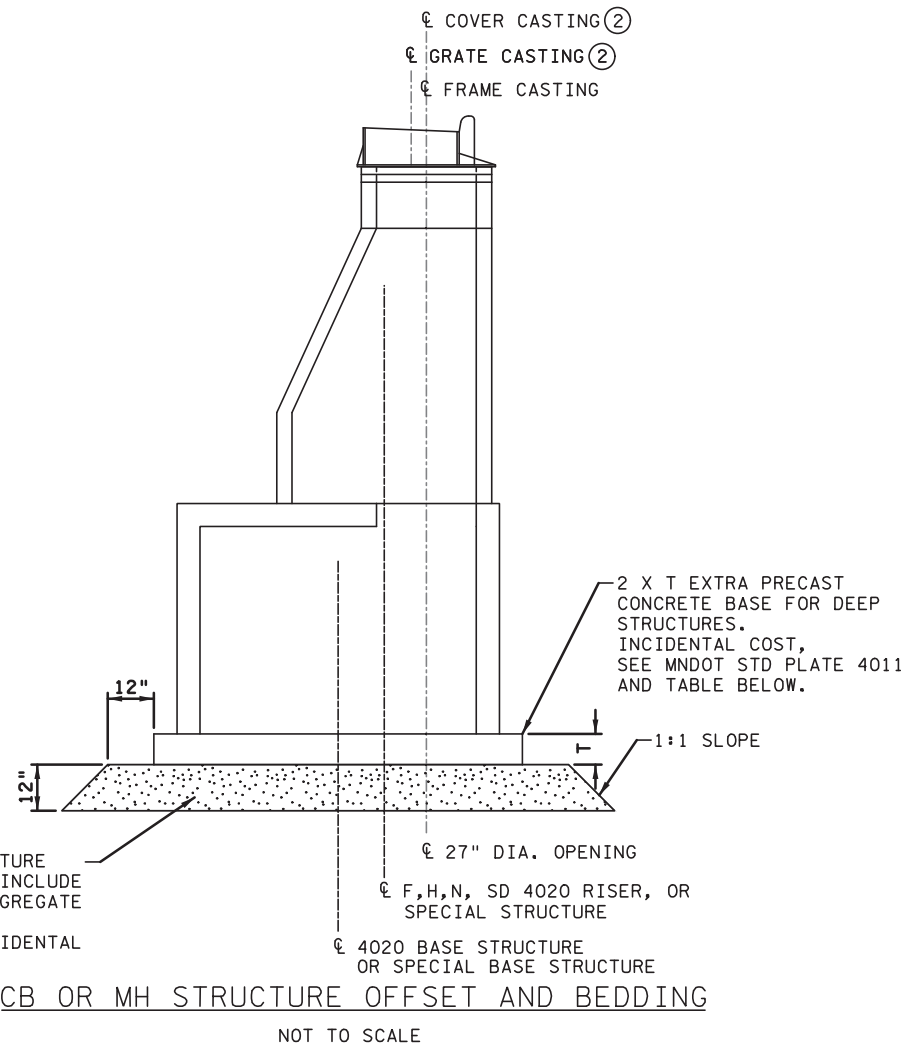
SHEET
 16R
 297

DR	STORM SEWER SUMMARY																																
	DRAINAGE STRUCTURES													CONST. DRAIN. STR. DES. SPECIAL			CONST. DRAIN. STR. DES. SPECIAL 1			CONST. DRAIN. STR. DES. SPECIAL 2			CASTING ASSEMBLY SPECIAL	CASTING ASSEMBLY SPECIAL 1	CASTING ASSEMBLY SPECIAL 2	6" DUCTILE IRON PIPE SEWER	18" TP	DESIGN 3006					
	PAY HEIGHT													CONSTR. CTRL. STR. EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH						EACH	EACH	EACH	EACH	EACH	EACH
F	G	H	48-4020	60-4020	72-4020	84-4020	96-4020	108-4020	SD-48	SD-60			15" RCP CL V																				
LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT							
SHEET NO.209		7.1	6.3	15.0																					794	29							
SHEET NO.210	3.8	7.5	10.0	14.4																					410	30							
SHEET NO.211	3.7		9.1	9.9																					225	161							
SHEET NO.212	3.8	9.3	8.6	18.2																					210	600	43						
SHEET NO.213		16.2		21.0																					457	145							
SHEET NO.214	4.1	4.1	11.9		23.1	16.5		7.7																	264	35		419					
SHEET NO.215					8.5	9.3																				58	430						
SHEET NO.216	2.9			20.3																					314								
SHEET NO.217			16.3	20.7							4.3														427	45							
SHEET NO.218			14.4	14.1	4.0						3.7														531	51	37						
SHEET NO.219			8.1	30.9																					220	169							
SHEET NO.220																										438			156				
SHEET NO.221	11.3			3.5	5.1	21.4	6.6																		256			169					
SHEET NO.222		16.4			6.6																				212								
SHEET NO.223	8.6	4.9	4.1			7.6	10.5	13.6			23.4														730	251							
SHEET NO.224	19.9	4.4	12.3		4.6								1												250			491					
SHEET NO.225R		11.7		13.1		5.6							1												405	140	55						
SHEET NO.226R		8.9	6.4	4.2	20.8								1												530	458							
SHEET NO.227R		8.2				13.8	34.2						1												252	265							
SHEET NO.228		8.2	7.3	11.1	7.5																				576	56							
SHEET NO.229	4.1	8.3	3.9	23.3																					377	109		44					
SHEET NO.230		8.4		41.5									1												495		482						
SHEET NO.231	24.4	4.2	8.0																						362	115							
SHEET NO.232	8.3	9.0	3.8	18.2																					542								
SHEET NO.233		4.1			12.2	14.2																			55								
SHEET NO.234		13.0		10.3	6.3																				112			55					
SHEET NO.235	25.1	4.1	4.1	16.4	8.3																				313			342					
S.A.P. 010-661-003	11.3	40.1	34.0	78.5																					1950	965	43						
S.A.P. 027-661-048	108.7	117.9	100.6	227.6	107.0	88.4							3	4		4	10								173	14	8	122	43	723	2190	2061	619
PROJECT TOTAL	120.0	158.0	134.6	306.1	107.0	88.4							3	4		4	10								218	14	8	122	43	9173	3155	2104	619

REVISION		APPROVED BY
DATE	DESCRIPTION	HZ
10/03/2017	1) UPDATED EDEN PRAIRIE ROAD POND REVISION	
DATE	DESCRIPTION	HZ
11/07/2017	1) UPDATED QUANTITY FOR CASTING ASSEMBLY	

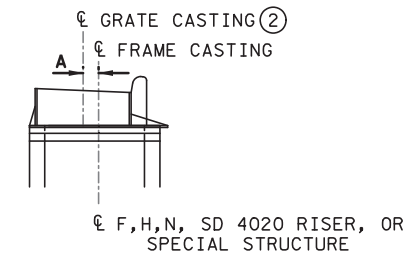
DR	STORM SEWER SUMMARY																														
	DESIGN 3006																	LINING													
	28" RCP-CL IIA	30" RCP-CL III	36" RCP-CL III	36" RCP-CL V	42" RCP-CL III	48" RCP-CL IV	60" RCP-CL III	60" RCP-CL V	LINING SEWER PIPE 24"	15" RC PIPE APRON	18" RC PIPE APRON	24" RC PIPE APRON	30" RC PIPE APRON	36" RC PIPE APRON	42" RC PIPE APRON	48" RC PIPE APRON	60" RC PIPE APRON	TRASH GUARD FOR 24" PIPE	TRASH GUARD FOR 60" PIPE	30" RC DISS. RING	36" RC DISS. RING	48" RC DISS. RING	60" RC DISS. RING	2451 AGGREGATE BEDDING	RIPRAP CLASS II	RIPRAP CLASS III	RIPRAP CLASS IV	GEOTEXT. FILTER TYPE III	GEOTEXT. FILTER TYPE IV	GUIDE POST SPEC.	
LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	CU YD	CU YD	CU YD	CU YD	SQ YD	SQ YD	EACH	
SHEET NO.209																															
SHEET NO.210										2	1																				
SHEET NO.211										2	1																				
SHEET NO.212												1																			
SHEET NO.213								147				1																			
SHEET NO.214					89									1																	
SHEET NO.215											2																				
SHEET NO.216										3																					
SHEET NO.217										2	1																				
SHEET NO.218	333									1		1																			
SHEET NO.219										1	1																				
SHEET NO.220												2																			
SHEET NO.221														1																	
SHEET NO.222																															
SHEET NO.223							156																								
SHEET NO.224												1																			
SHEET NO.225R														2																	
SHEET NO.226R																															
SHEET NO.227R																															
SHEET NO.228																															
SHEET NO.229																															
SHEET NO.230																															
SHEET NO.231																															
SHEET NO.232																															
SHEET NO.233																															
SHEET NO.234																															
SHEET NO.235																															
S.A.P. 010-661-003																															
S.A.P. 027-661-048	333	939	1576	89	50	156	342	49	192	12	4	12	1	3	1	1	2	3	0	1	2	1	1								
PROJECT TOTAL	333	939	1576	89	50	156	489	49	192	16	8	13	1	3	1	1	4	3	1	1	2	1	2								

	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			DESIGN BY: MBA	DRAINAGE SUMMARY TABULATION - 1										SHEET
				CAD BY: MBA											24333
	HUGH ZENG, LICENSED PROFESSIONAL ENGINEER			CHECKED BY: HZ	S.A.P. 61 / HENNEPIN COUNTY PROJECT 0904										297
HZ UNITED, LLC			LAST REVISION: 11/07/2017	S.A.P. 027-661-048/181-020-031 & S.A.P. 010-661-003/194-020-012											



STANDARD STRUCTURE BEDDING SHALL INCLUDE 1' DEPTH OF AGGREGATE BEDDING, SPEC 2451, INCIDENTAL COST.

CB OR MH STRUCTURE OFFSET AND BEDDING
NOT TO SCALE



GRATE & FRAME CASTING
OVER 27" DIA. OPENING
NOT TO SCALE

REVISION		
DATE	DESCRIPTION	APPROVED BY
10/12/2017	1) UPDATED EDEN PRAIRIE ROAD POND REVISION	HZ

REVISION		
DATE	DESCRIPTION	APPROVED BY
11/07/2017	1) UPDATED QUANTITY FOR CASTING ASSEMBLY	HZ

CENTER OF STRUCTURE OFFSET		
STRUCTURE	OFFSET (FT)	REMARKS
A OR F (B CONE)	0.88	(1)
H, N, C OR G	0.00	(1)
48-4020 OR SD-48	0.79	(1)
60-4020 OR SD-60	1.29	(1)
72-4020 OR SD-72	1.79	(1)
84-4020 OR SD-84	2.29	(1)

NOTES:

- (1) CONSTRUCT AGGREGATE BEDDING ONLY WHEN PIPE CLASS "B" BEDDING IS REQUIRED.
- (2) STATION AND OFFSET LISTED IN DRAINAGE TABULATION TO:
CENTER OF GRATE CASTING (CB) -OR-
CENTER OF COVER CASTING (MH),
UNLESS NOTED OTHERWISE.
- (3) FIELD VERIFY THE SIZE AND HOLE ORIENTATION TO AVOID CONFLICTS WITH GUARD RAIL, UTILITY, AND PIPE ANGLES. ROTATE STRUCTURES AWAY FROM PAVEMENT.

CASTING ASSEMBLY SCHEDULE						REMARKS
CASTING ASSEMBLY	QUANTITY	FRAME/CASTING NO.		GRATE CASTING		
TYPE	EACH	STD. PLATE	NO.	STD. PLATE	NO.	
A-4D	1	4101	700-4	4110	716	
A-7D	8	4101	700-7	4110	715	
A-10D	2	4101	700-10	4110	715	
M-11	14	4143	ROUND CONC	4143	731	731 STOOL
S-4	20	4132	805	4153	815	USE TYPE S GRATE
S-5	173	4132	805	4154	816	
SPECIAL	14					CITY OF EDEN PRAIRIE TYPE R3067V
SPECIAL 1	8					



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

HUGH ZENG, LICENSED PROFESSIONAL ENGINEER

HZ UNITED, LLC

24333 02/01/2017

DESIGN BY: HZ
 CAD BY: CJE
 CHECKED BY: HZ
 LAST REVISION: 11/07/2017

DRAINAGE DETAIL - CATCH BASIN AND MANHOLE OFFSET

C.S.A.H. 61 / HENNEPIN COUNTY PROJECT 0904
 S.A.P. 027-661-048/181-020-031 & S.A.P. 010-661-003/194-020-012
 SHEET 1 OF 13

SHEET

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SCHEDULE OF QUANTITIES FOR RETAINING WALLS

ITEM NO.	ITEM	UNIT	QUANTITY														QUANTITY TOTAL	
			WALL WA	WALL WB			WALL WC	WALL WD	WALL WE	WALL WF	WALL WG	WALL WH	WALL WJ			QUANTITY TOTAL		
				HENNEPIN	CARVER	TOTAL							HENNEPIN	CARVER	TOTAL			
2106.522	SELECT GRANULAR EMBANKMENT MOD 10% (CV)	CU YD	-	-	-	-	-	-	-	-	-	230	-	877	414	1,291	1,521	(P)
⑪⑦⑥ 2401.501	STRUCTURAL CONCRETE (1G52)	CU YD	-	-	-	-	-	-	-	-	-	89	-	469	146	615	704	(P)
2401.513	TYPE MOD P-4 (TL-4) BARRIER CONCRETE (3S52)	LIN FT	-	-	-	-	-	-	-	-	-	99	-	-	-	-	99	(P)
2401.513	TYPE P-4 (TL-4) BARRIER CONCRETE (3S52)	LIN FT	-	-	-	-	-	-	-	-	-	-	-	550	214	763	763	(P)
⑬⑩⑥ 2401.541	REINFORCEMENT BARS	POUND	-	-	-	-	-	-	-	-	-	7,240	-	39,307	13,643	52,950	60,190	(P)
⑬⑩⑨⑤ 2401.541	REINFORCEMENT BARS (EPOXY COATED)	POUND	-	-	-	-	-	-	-	-	-	11,410	-	57,964	18,746	76,710	88,120	(P)
① 2401.618	CIP CONCRETE FACING	SQ FT	19,006	5,355	2,886	8,240	3,769	6,696	10,983	12,562	-	16,233	-	-	-	-	77,489	(P)
2402.583	ORNAMENTAL METAL RAILING TYPE SPECIAL PC	LIN FT	-	-	-	-	-	-	-	-	-	99	-	-	-	-	99	(P)
⑫⑨⑧ 2411.501	STRUCTURAL CONCRETE (3G52)	CU YD	-	-	-	-	-	-	-	-	-	117	-	627	215	842	959	(P)
2411.618	ARCH CONC TEXTURE (ASHLER STONE)	SQ FT	16,871	4,585	2,459	7,043	3,109	5,781	9,394	11,529	1,075	14,636	7,900	2,776	10,675	10,675	80,113	(P)
2411.618	ARCH SURFACE FINISH (MULTI COLOR)	SQ FT	16,871	4,585	2,459	7,043	3,109	5,781	9,394	11,529	1,075	14,636	7,900	2,776	10,675	10,675	80,113	(P)
④ 2451.501	STRUCTURE EXCAVATION CLASS E	CU YD	1,670	186	104	290	90	700	235	335	510	200	3,805	1,120	4,925	8,955	8,955	(P)
⑭ 2451.607	STRUCTURAL BACKFILL	CU YD	180	443	247	690	320	170	1,100	670	720	1,200	3,156	989	4,145	9,195	9,195	(P)
2452.519	C-I-P CONC TEST PILE 75 FT LONG 12"	EACH	-	-	-	-	-	-	-	-	-	2	-	6	3	9	11	
2452.602	TIEBACK ANCHOR	EACH	234	78	47	125	42	82	140	192	-	242	-	-	-	-	1,057	
② 2452.603	STEEL H-PILING 12"	LIN FT	850	150	215	365	650	460	3,005	3,060	-	4,480	-	-	-	-	12,870	(P)
② 2452.603	STEEL H-PILING 14"	LIN FT	4,480	1,680	800	2,480	700	1,660	-	-	-	-	-	-	-	-	9,320	(P)
2452.603	C-I-P CONCRETE PILING 12"	LIN FT	-	-	-	-	-	-	-	-	2,340	-	10,530	2,535	13,065	15,405		
③ 2452.618	TEMPORARY LAGGING	SQ FT	16,871	4,585	2,459	7,043	3,109	5,781	8,599	11,012	-	13,837	-	-	-	-	66,252	(P)
④ 2502.541	6" PERFORATED TP PIPE DRAIN	LIN FT	1,068	385	214	599	330	458	795	517	-	799	-	-	-	-	4,565	
2502.601	DRAINAGE SYSTEM - Wall WG	LUMP SUM	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	
2502.601	DRAINAGE SYSTEM - Wall WJ	LUMP SUM	-	-	-	-	-	-	-	-	-	-	0.7	0.3	1	1	1	
2557.603	FENCE DESIGN SPECIAL	LIN FT	1,070	386	215	601	332	460	800	523	-	802	0	-	-	-	4,588	(P)

- ① INCLUDES CONCRETE, REINFORCEMENT BARS, HEADED STUDS, DRAINAGE MAT, DOWELS, CORK, JOINT SEALANT AND DEWATERING.
- ② SOLDIER PILE. INCLUDES ANCHOR PENETRATION DETAIL AND REINFORCEMENT PLATES.
- ③ INCLUDES DESIGN AND INSTALLATION OF TEMPORARY LAGGING. TEMPORARY LAGGING TO REMAIN IN PLACE.
- ④ INCLUDES PERFORATED PIPE, GEOTEXTILE FABRIC, AGGREGATE AND FITTINGS TO CONNECT TO DRAINAGE SYSTEM AT LOCATIONS SHOWN ON THE PLANS.
- ⑤ DOES NOT INCLUDE DOWELED JOINT/CONSTRUCTION JOINT QUANTITIES, WHICH ARE INCIDENTAL. DOWELED JOINT/CONSTRUCTION JOINT DETAILS ARE SHOWN ON STANDARD PLAN 5-297.624 (3 OF 6).
- ⑥ DOES NOT INCLUDE ADDITIONAL REINFORCING BARS AND STRUCTURAL CONCRETE (1G52) REQUIRED FOR STEPPED FOOTINGS, WHICH IS INCIDENTAL.
- ⑦ PAY ITEM "STRUCTURAL CONCRETE (1G52)" REPLACES ALL REFERENCES TO "STRUCTURAL CONCRETE (1A43)" THROUGHOUT THIS PLAN.
- ⑧ PAY ITEM "STRUCTURAL CONCRETE (3B52)" REPLACES ALL REFERENCES TO "STRUCTURAL CONCRETE (3Y43)" THROUGHOUT THIS PLAN.
- ⑨ DOES NOT INCLUDE ADDITIONAL REINFORCING BARS AND STRUCTURAL CONCRETE (3B52) REQUIRED FOR RETAINING WALL/WINGWALL INTERFACE, WHICH IS INCIDENTAL.
- ⑩ FOR CIP WALLS, ALL REINFORCEMENT BAR QUANTITIES WERE COMPUTED USING THE TALLER STEM HEIGHT OF THE PANEL.
- ⑪ FOOTING CONCRETE QUANTITIES WERE COMPUTED USING THE TALLER STEM HEIGHT OF THE PANEL.
- ⑫ FOR CIP WALLS, STEM CONCRETE QUANTITIES WERE COMPUTED USING THE STEM WIDTH FOR THE TALLER STEM HEIGHT OF THE PANEL.
- ⑬ REINFORCEMENT TABLES FOR CIP WALLS ARE GIVEN FOR PANEL LENGTHS OF 30'-6". WHERE PANEL LENGTH DIFFERS, MODIFY REINFORCEMENT TABLES AS NEEDED. PROVIDE MODIFIED REINFORCEMENT TABLES FOR ACCEPTANCE PRIOR TO REINFORCEMENT FABRICATION. INDIVIDUAL CIP WALL PANEL REINFORCEMENT QUANTITIES WERE COMPUTED BY MULTIPLYING THE REINFORCEMENT QUANTITY FOUND ON STANDARD PLAN 5-297.627 OR 5-297.628 BY THE RATIO OF ACTUAL PANEL LENGTH TO STANDARD PANEL LENGTH (30'-6").

⑭ INCLUDES 4" TOPSOIL.

REVISION		
DATE	DESCRIPTION	APPROVED BY
11/03/2017	⑬ UPDATED QUANTITY AND ITEM NUMBER FOR STRUCTURE EXCAVATION CLASS E	O.N.E. M. SPEEDLING



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Michael D. Speedling
 MICHAEL D. SPEEDLING, PROFESSIONAL ENGINEER
 OLSON & NESVOLD ENGINEERS, P.S.C.
 LICENSE NO. 20760 DATE 11/03/2017

DESIGN BY: MDS
 CAD BY: DPC
 CHECKED BY: MDS
 LAST REVISION: 11/03/2017

SUMMARY OF QUANTITIES

C.S.A.H. 61 / HENNEPIN COUNTY PROJECT 0904
 S.A.P. 027-661-048/181-020-031 & S.A.P. 010-661-003/194-020-012

RETAINING WALLS

SHEET

W-2R
W-21