

**PLAN LEGEND**

RIGHT OF WAY LINE	---
DITCH CENTERLINE	---
FENCE LINE	---
RETAINING WALL	---
GRAVEL LINE	---
GUARD RAIL LINE	---
RAILROAD TRACK LINE	---
ROAD CENTERLINE	---
TREE LINE	---
STREAM LINE	---
WETLAND LINE	---
EX SANITARY LINE	---
PR SANITARY LINE	---
AB SANITARY LINE	---
EX FORCEMAIN LINE	---
PR FORCEMAIN LINE	---
AB FORCEMAIN LINE	---
EX STORM LINE	---
PR STORM LINE	---
AB STORM LINE	---
EX WATER LINE	---
PR WATER LINE	---
AB WATER LINE	---
EX GAS LINE	---
PR GAS LINE	---
AB GAS LINE	---
EX STEAM LINE	---
PR STEAM LINE	---
AB STEAM LINE	---
UG CABLE TV LINE	---
AB CABLE TV LINE	---
UG ELECTRIC LINE	---
AB ELECTRIC LINE	---
UG FIBEROPTIC LINE	---
AB FIBEROPTIC LINE	---
UG TELEPHONE LINE	---
AB TELEPHONE LINE	---
OH ELECTRIC LINE	---
OH TELEPHONE LINE	---
OH CABLE TV LINE	---

**SYMBOLS**

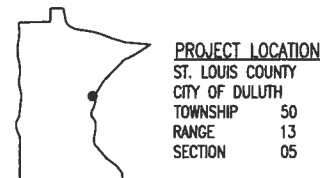
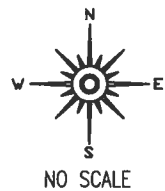
EX SANITARY MANHOLE	(SAN)
EX SANITARY CLEANOUT	(X)
EX STORM MANHOLE	(STRM)
EX STORM CATCHBASIN	(Hatched)
EX WATER MANHOLE	(W)
EX WATER VALVE	(WV)
EX WATER HYDRANT	(Hydrant)
EX WATER SHUTOFF	(WS)
EX WATER & GAS MH	(W&G)
EX GAS MANHOLE	(GAS)
EX GAS VALVE	(GV)
EX GAS SHUTOFF	(GS)
EX STEAM MANHOLE	(STEAM)
EX TELEPHONE MANHOLE	(T)
EX ELECTRIC MANHOLE	(E)
EX POWERPOLE	(PP)
EX LIGHT POLE	(LP)
EX ELECTRIC VAULT	(EV)
EX ANCHOR	(A)
EX ELECTRIC TRANSFORMER	(ET)
EX STREET LIGHT	(SL)
EX SIGNAL W/ STREET LIGHT	(SSL)
EX HANDHOLE	(H.H.)
EX TELEPHONE PEDESTAL	(TP)
EX WELL	(W)
BENCHMARK	(BM)
FOUND CI MONUMENT	(FCM)
EX SIGN	(S)
CONTROL POINT	(CP)
EX DECIDUOUS TREE	(DT)
EX CONIFEROUS TREE	(CT)
EX PARKING METER	(PM)
EX SOIL BORING	(SB)

# CITY OF DULUTH

## DEPARTMENT OF PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

### CONSTRUCTION PLANS FOR: AVONDALE STREET STORMWATER DRAINAGE IMPROVEMENTS

CITY PROJECT NO. 1346



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

**WARNING:**  
LOCATION OF UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR. CALL BEFORE DIGGING. GOPHER STATE ONE CALL 1-800-252-1166 REQUIRED BY LAW

**GOVERNING SPECIFICATIONS**

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' SHALL GOVERN.  
AVAILABLE AT: <http://www.dot.state.mn.us/pre-letting/spec/index.html>

THE 2360 PLANT MIXED ASPHALT PAVEMENT SPECIFICATION DATED 01/23 /2013 SHALL APPLY.  
AVAILABLE AT: <http://www.dot.state.mn.us/materials/bituminous.html>

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD, INCLUDING THE FIELD MANUAL DATED JANUARY 2014.  
AVAILABLE AT: <http://www.dot.state.mn.us/trafficeng/publ/fieldmanual/index.html>

THE 2013 EDITION OF THE CITY OF DULUTH PUBLIC WORKS AND UTILITIES DEPARTMENT STANDARD CONSTRUCTION SPECIFICATIONS AND SUPPLEMENTS OR ADDENDUMS SHALL APPLY. AVAILABLE AT:  
<http://www.duluthmn.gov/engineering/standard-construction-specifications/>

**INDEX**

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	CONSTRUCTION PLAN, TYPICAL SECTION
3	RESTORATION PLAN, SEQ

THIS PLAN CONTAINS 3 SHEETS

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.

*[Signature]* 8/15/14 46744  
TOM JOHNSON DATE LIC. NO.

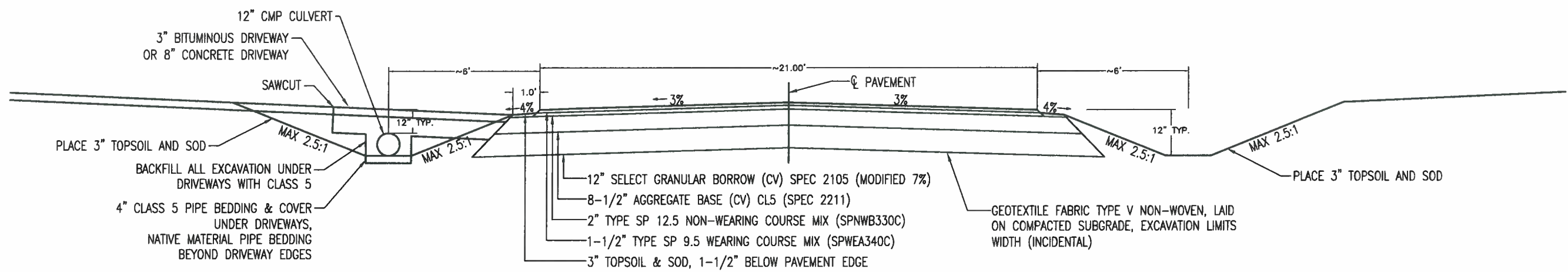
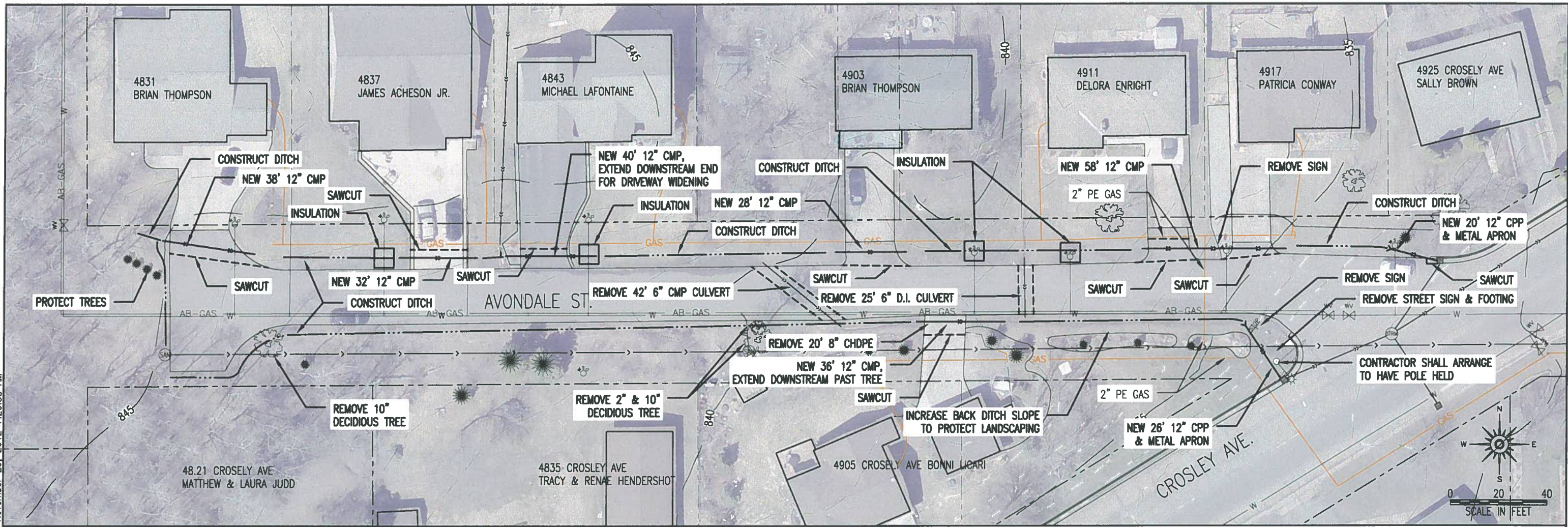
CITY APPROVAL

APPROVED *[Signature]* 8/15/14 DATE  
CHIEF ENGINEER OF TRANSPORTATION

APPROVED *[Signature]* 8/15/14 DATE  
CHIEF ENGINEER OF UTILITIES

APPROVED *[Signature]* 8/15/14 DATE  
CITY ENGINEER

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**TYPICAL SECTION FOR AVONDALE STREET  
DITCHING, CULVERTS AND STREET PATCHING**

CERTIFIED BY: TOM JOHNSON

REG. NO.: 46744

SIGNATURE:

DATE:

3/15/14

AVONDALE STREET STORMWATER DRAINAGE IMPROVEMENTS

CITY OF DULUTH

CITY PROJECT NO.: 1346

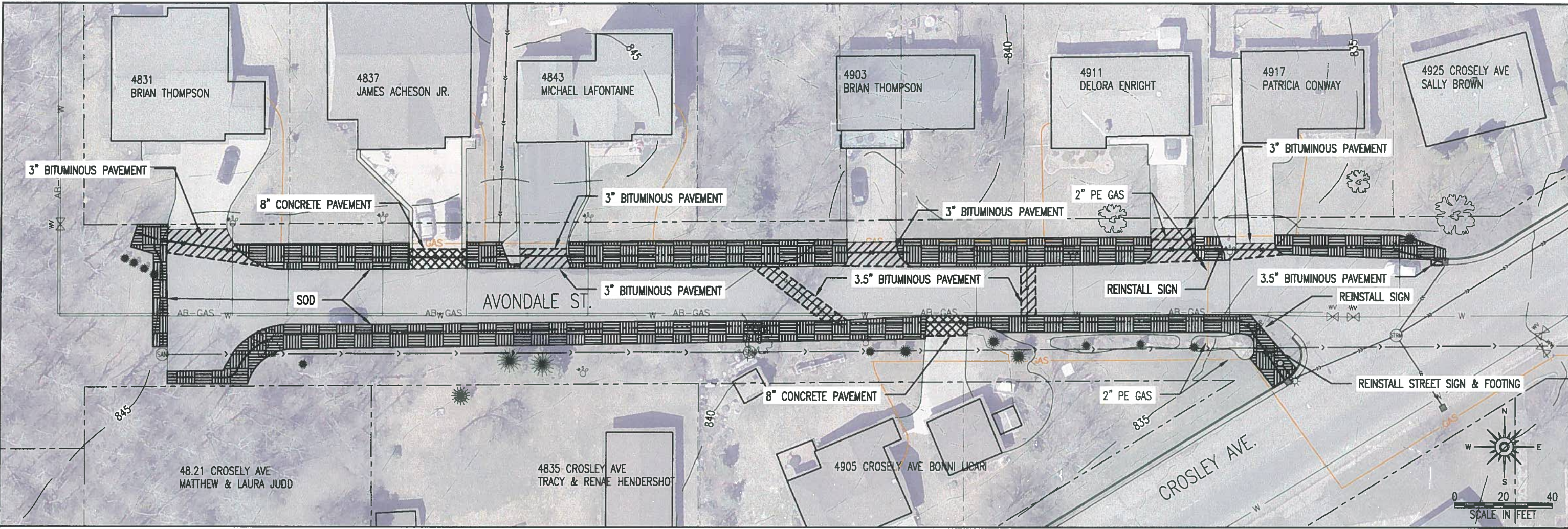
STATE AID PROJECT NO.:

DRAWN BY: JJM

CONSTRUCTION PLAN

SHEET NO. 2 OF 3

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**STATEMENT OF ESTIMATED QUANTITIES**

NOTES	LINE NUM	SPEC NUM	DESCRIPTION	UNIT	EST. QUANTITY	FINAL QUANTITY
	1	2021.501	MOBILIZATION	LUMP SUM	1	
	2					
5	3	2101.511	CLEARING & GRUGGIN	LUMP SUM	1	
	4					
	5	2104.501	REMOVE METAL CULVERT	LN FT	67	
	6	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	141	
	7	2104.505	REMOVE CONCRETE PAVEMENT, 8"	SQ YD	35	
	8	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LN FT	42	
	9	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LN FT	289	
	10					
4	11	2105.603	DITCHING	LN FT	779	
	12					
	13	2211.503	AGGREGATE BASE (CV) CLASS 5	CU YD	40	
	14					
	15	2301.501	CONCRETE PAVEMENT, 8" (HIGH EARLY CONCRETE MIX)	SQ YD	35	
	16					
1,2	17	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	30	
	18					
	19	2501.515	12" CS PIPE APRON	EACH	2	
	20					
	21	2503.511	12" CMP PIPE CULVERT	LN FT	232	
	22	2503.511	12" CPP PIPE SEWER	LN FT	46	
	23					
6	24	2504.604	3" POLYSTYRENE INSULATION	SQ YD	29	
	25					
	26	2563.601	TRAFFIC CONTROL	LUMP SUM	1	
	27					
	28	2564.515	SIGN SUPPORT	EACH	1	
	29	2564.602	SIGNS - REMOVE AND REINSTALL	EACH	3	
	30					
3	31	2575.505	SODDING	SQ YD	893	

**NOTES:**

- 1 ASPHALT PAVEMENT MIX BASED ON 120 LBS. / SQ YD / 1" OF THICKNESS.
- 2 BITUMINOUS MATERIAL IN TACK COAT SHALL BE APPLIED AT 0.05 GALLONS PER SQ YD.
- 3 INCLUDES NECESSARY FINE GRADING, 4" TOPSOIL, SOIL PREPARATION AND MAINTENANCE.
- 4 ADJUSTING CURB BOXES SHALL BE INCIDENTAL TO THIS ITEM
- 5 LIMIT CLEARING AS MUCH AS POSSIBLE, INCLUDES (1) 2" AND (2) 10" TREES CALLED OUT ON PLAN PAGE 2
- 6 PLACE 8'X8' INSULATION 2' BELOWS DITCH BOTTOM AT WATER SERVICE CROSSINGS MARKED ON PLAN. EXTRA EXCAVATION TO INSTALL INSULATION IS INCIDENTAL TO THIS ITEM.

CERTIFIED BY: TOM JOHNSON

REG. NO.: 46744

SIGNATURE:

DATE:

8/15/14

AVONDALE STREET STORMWATER DRAINAGE IMPROVEMENTS

CITY OF DULUTH

CITY PROJECT NO.: 1346

STATE AID PROJECT NO.:

DRAWN BY: JIM

RESTORATION PLAN

SHEET NO. 3 OF 3