

## **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

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCH. INCLUDING THE FIELD MANUAL DATED JANUARY 2014. AVAILABLE AT: http://www.dot.state.mn.us/trafficeng/publ/fieldmanual2011/index.html

THE 2015 EDITION OF THE CITY OF DULUTH PUBLIC WORKS AND UTILITIES DEPARTMENT STANDARD CONSTRUCTION SPECIFICATIONS AND SUPPLEMENTS OR ADDENDUMS SHALL APPLY.

THE 2014 EDITION OF MINNESOTA DEPARTMENT OF TRANSPORTATION SEEDING MANUAL http://www.dot.state.mn.us/environment/erosion/pdf/seedingmanual.pdf

## INDEX

### DESCRIPTION

TITLE SHEET & INDEX MAP TRAIL LOCATOR MAP TRAIL SECTION SHEET LOCATOR MAP TYPICAL TRAIL CROSS SECTION TYPICAL TRAIL CROSS SECTIONS (TYPES A-C) EROSION CONTROL DETAILS TRAIL AND ABUTMENT DETAILS TRAIL DETAILS TRAIL PLANS

THIS PLAN CONTAINS 13 SHEETS

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

Luke W. Sydow EARCHITECT (TYPED OR PRINTED NAME)			
	4/7/16	#25866	
CT	DATE	REG. NO.	
CITY A	APPROVAL		
CITY OF	DULUTH PARKS	DATE	

		Sheet
BY: LWS	SHEET NO. 1 OF 13	-

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	CITY OF DULUTH, MINNESOTA
Sheet Key	

TITLE	SHEET	8	INDEX

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	15320	
Sheet Number	15320	
Sheet Number	L-1.0	



### TRAIL CONSTRUCTION NOTES:

- DURING THIS WORK.
- 2. L-1.7, OTHER REQUIREMENTS AND DETAILS ON SHEETS L-1.8 THROUGH L-1.12.
- CONTRACTORS SHALL BE RESPONSIBLE FOR RESTORING TO 3. ELEMENTS SUCH AS STEPS, WALLS, BENCHES, RAILINGS, ETC., DAMAGED DUE TO THEIR WORK UNDER THIS CONTRACT, AT NO BOTH PARTIES.
- 4. THIS WORK.
- 5. SUBMIT TO OWNER <sup>1</sup>/<sub>4</sub> CF SIZE SAMPLE OF LIMESTONE TRAIL SURFACING MATERIAL FOR APPROVAL PRIOR TO PLACEMENT.

#### EXISTING DATA NOTES:

EXISTING TOPOGRAPHIC INFOR FOOT INTERVAL LIDAR DATA PR THAT WAS FLOWN THE THE SPI

ALL OTHER EXISTING CONDITIO AERIAL PHOTOGRAPHY. THEY ACCURATE AND ARE PROVIDED CONTRACTOR.

IT IS THE RESPONSIBILITY OF T VERIFY EXISTING CONDITIONS DISCREPANCIES PRIOR TO COM

LANDSLIDES MAY BE ENCOUNT DUE TO A FLOOD THE SPRING C ARE IDENTIFIED AND APPROXIM PLANS. WHEN LANDSLIDES ARE TRAIL MUST TRAVERSE THROU CONSULT WITH THE OWNER PR CONSTRUCTION THROUGH LAN CONTRACTORS UNIT BID PRICE ADDITIONAL EROSION CONTRO PRACTICE (BMP) MEASURES MA FOR LANDSLIDE AREAS AND WI CONTRACTORS UNIT BID PRICE

# CITY OF DULUTH PROJECT NO.

1. CONTRACTOR SHALL ESTABLISH ALL REASONABLE BARRICADES, SIGNAGE, TRAIL CLOSURES, ETC., TO ENSURE SAFETY OF THE PUBLIC

ALL TRAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE "TYPICAL TRAIL CROSS SECTION AND TRAIL CROSS SECTION TYPES "A, B & C" AS SHOWN ON SHEET L-1.4, L-1.6 &

PRE-CONSTRUCTION CONDITION ANY SURFACES, STRUCTURES, SITE ADDITIONAL COST TO THE OWNER UNLESS AGREED TO IN WRITING BY

CARE MUST BE TAKEN AT ALL TIMES TO MINIMIZE / ELIMINATE ALL SITE IMPACTS TO SOIL AND VEGETATION OUTSIDE WHAT IS REQUIRED FOR

15320

L-1.1

SHEET NUMBER

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FNO. 2 OF 13



CITY OF DULUTH PROJECT NO.

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	LAZO CIENSI	CONGDON PARK TRAIL REPAIRS CITY OF DULUTH, MINNESOTA
	A ROMANNA	Sheet Key Sheet Title SHEET LOCATOR MAP Date: 4/7/16
I L-12)	NORTH	DRAWN BY: <u>LWS</u> Checked By: <u>LWS</u> Project Number
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#### TYPICAL TRAIL DESIGN NOTES:

- TERRAIN OR TO CREATE A TRAIL FEATURE.
- CLEARING AND TYPICAL TRAIL DESIGN CROSS-SECTIONS
- 4 EROSION CONTROL MEASURES MAY BE USED.
- 5. PLATE, SHEEP'S FOOT, OR OTHER APPROVED EQUAL COMPACTOR.
- SPECIFICATIONS FOR DETAILS.

#### TRAIL BIDDING NOTES:

- TYPES "A, B & C". (SEE SPECIFICATION FOR FURTHER DETAILS)
- FOR FURTHER DETAILS)
- (SEE SPECIFICATIONS FOR FURTHER DETAILS)
- 5.

1. THE GRAPHIC ON THIS SHEET ILLUSTRATES A TYPICAL TRAIL CROSS-SECTION HIGHLIGHTING TREAD AND VEGETATION CLEARANCE ZONE WIDTHS.

2. IN SELECT SITUATION THE TRAIL WIDTH MAY BE MODIFIED IN RESPONSE TO THE

3. SEE SPECIFICATIONS FOR FURTHER DETAILS ON TREAD AND CORRIDOR

SEE SHEET L-1.5 FOR RECOMMENDED BEST MANAGEMENT PRACTICES FOR EROSION CONTROL MEASURES. DUE TO SITE CONDITIONS, OTHER APPROVED

AFTER COMPLETION OF ALL GRADING, THE TRAIL TREAD SHALL BE MECHANICALLY COMPACTED TO ITS SPECIFIED WIDTH USING A VIBRATORY

6. CUT BRUSH AND SLASH MUST BE DISPOSED IN AN UPLAND LOCATION AND MUST BE KEPT OUT OF STREAMS, GULLIES, SWALES, WETLANDS, AND LOW AREAS. SEE

7. NO EXCAVATION OR FILL PERMITTED IN WET & LOWLAND AREAS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSULT WITH THE OWNER PRIOR TO DOING ANY WORK WITHIN SUSPECTED WET & LOWLAND AREAS.

1. TREE REMOVAL, STUMP REMOVAL, BRUSH REMOVAL, AND LIMB TRIMMING IS INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR TRAIL CONSTRUCTION

2. TRAIL TREAD GRADING AND COMPACTING IS INCLUDED IN THE CONTRACTORS UNIT BID PRICE FOR TRAIL CONSTRUCTION TYPES "A, B & C". (SEE SPECIFICATION

3. PUSHING ASIDE ROCKS OR FRACTURED STONE ENCOUNTERED WHILE GRADING THE TRAIL IS INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR TRAIL CONSTRUCTION TYPES "A, B & C". (SEE SPECIFICATIONS FOR FURTHER DETAILS)

4. GRADING THROUGH LOW SPOTS, FLATTER AREAS, EARTHEN PILES, LANDSLIDES, MISCELLANEOUS DEBRIS, AND FALLEN WOODY MATERIALS IS INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR TRAIL CONSTRUCTION TYPES "A, B & C".

GRADE REVERSALS ARE REQUIRED AT A MINIMUM EVERY 100 LF. GRADE REVERSALS ARE INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR TRAIL CONSTRUCTION TYPES "A, B & C". (SEE SPECIFICATIONS FOR FURTHER DETAILS)

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+ASSOC	JAIES
DuLuTH, MN 55802 (P) 218.391.1335 (F) 218.722.6697	2
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ISSUE RECORD/REVISION	
PURPOSE	Date

CONGDON PARK	TRAIL REPAIRS	CITY OF DULUTH, MINNESOTA
SHEET KEY		
SHEET TITLE TYPICAL CROSS S	TRAIL ECTION	
Date	4/7/16	
DRAWN BY:	LWS	
CHECKED BY:	LWS	

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L-1.3

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#### FIELD MEASUREMENT NOTES:

- 1. MEASUREMENT AND PAYMENTS FOR TRAIL CONSTRUCTION TYPE IS BASED ON THE SLOPE AVERAGES AS DEPICTED IN THE TRAIL ALIGNMENT SECTION OF THIS PLAN SET AND IN THE TRAIL SLOPE ANALYSIS MAP (FOUND IN THE SPECS).
- 2. TRAIL TYPES AND QUANTITIES ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY FIELD QUANTITIES AND NOTIFY THE OWNER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.

#### CONSTRUCTION NOTE:

- 1. PARTIAL BENCH CUT IS ALLOWED WHEN DONE PROPERLY WITH A DOWNHILL RETAINING WALL AND COMPACTED BACKFILL. REFER TO PAGE 159 OF (TRAIL SOLUTIONS: IMBA'S GUIDE TO BUILDING BETTER SINGLETRACK).
- 2. GRADING THROUGH LOW SPOTS, FLATTER AREAS, EARTHEN PILES, LANDSLIDES, MISCELLANEOUS DEBRIS, AND FALLEN WOODY MATERIALS IS INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR TRAIL CONSTRUCTION TYPES "A, B & C". (SEE SPECIFICATIONS FOR FURTHER DETAILS)
- 3. CONTRACTOR IS EXPECTED TO CREATE FREQUENT GRADE REVERSALS REGARDLESS OF THE LOCAL LANDSCAPE. THIS MAY REQUIRE LOCALIZED TOPOGRAPHY MODIFICATIONS INCLUDING BUT NOT LIMITED TO RAISED TREAD, BORROW PITS AND SUMPS WHEN BUILDING THOUGH LANDSCAPES WITH LOW SLOPE ANGLES AND FLATTER AREAS SUCH AS TYPE "A" TRAIL.
- 4. UNLESS SHOWN ON SPECIFIC DETAIL THE OUTSLOPE SHALL BE INSTALLED AS SHOWN BELOW.

NOTE: CONTRACTOF FOR BOTH TR TYPES A, B & FEATURES OF FOOT OF TRA



NOTE: ASIDE FROM PROJECT #8, MOST TRAIL CONSTRUCTION ON THIS PROJECT WILL BE OF TRAIL TYPE "A"

# TYPICAL TRAIL CROSS-SECTIONS (A-C TRAIL TYPES)

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DED TREAD WIDTH TRAIL SHALL BE FULL CUT INTO SIDESLOPE 3% MAX OUTSLOPE HAI BE ROUNDED BE ROUNDED	-BENCH DN TREAD		CONGDON PARK	TRAIL REPAIRS CITY OF DULUTH, MINNESOTA
+ SIDESLOPE	SHEET NO	1 L-1.4	Sheet Key Sheet Title TYPICAL SECTION Date Drawn By: Checked By: Project Number Sheet Number	TRAIL IS TYPE A-C 4/7/16 LWS LWS 15320 L-1.4





CITY OF DULUTH PROJECT NO. XXXX

1. ALL DISTURBED AREAS NOT PART OF ACTIVE TREAD TO BE STABILIZED WITHIN 7 DAYS OF NOT BEING WORKED. SEE (SWPPP) STORM WATER POLLUTION PREVENTION PLAN FOR DETAILS.

2. WHENEVER POSSIBLE USE NATIVE DUFF MATERIALS FOUND IN THE TRAIL CORRIDOR AS A MULCH FOR COVERING SOIL EXPOSED BY BACKSLOPE AND DOWNSLOPE CUTS. WOOD CHIPS MADE FROM WOODY MATERIAL CLEARED AS A RESULT OF THE CORRIDOR CLEARING ARE AN ACCEPTABLE ALTERNATIVE TO NATIVE DUFF

FOR SLOPE ANGELS UNDER 3:1 USE TEMPORARY EROSION CONTROL SEED MIX AND FOR DISTURBED AREAS THAT ARE LACKING ADEQUATE NATIVE DUFF MATERIAL

4. FOR SLOPE ANGELS 3:1 AND OVER USE PERMANENT EROSION CONTROL SEED MIX AND EROSION CONTROL BLANKET FOR LAND SLIDE AREAS AND AREAS OF HEAVY DISTURBANCE. THESE AREAS

5. SEED MIX SHALL BE A NATIVE WOODLAND ANNUAL RYE MIX.

6. AFTER COMPLETION OF ALL GRADING. THE TRAIL TREAD SHALL BE MECHANICALLY COMPACTED TO ITS SPECIFIED WIDTH USING A VIBRATORY PLATE, SHEEP'S FOOT, OR OTHER APPROVED EQUAL

CUT BRUSH AND SLASH MUST BE DISPOSED IN AN UPLAND LOCATION AND MUST BE KEPT OUT OF STREAMS, GULLIES, SWALES, WETLANDS, AND LOW AREAS. SEE SPECIFICATIONS FOR DETAILS.

8. NO EXCAVATION OR FILL PERMITTED IN WET & LOWLAND AREAS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSULT WITH THE OWNER PRIOR TO DOING ANY WORK WITHIN SUSPECTED WET &

> STONE SHALLEXTEND FAR ENOUGH UP THE SLOPE TO ENSURE WATER DOES NOT FLOW AROUND THE ROCK CHECK

ROCK CHECKS TO BE USED IN AREAS OF CONCENTRATED FLOW

NOTE: PAYMENT FOR ROCK CHECKS WILL BE ON A SQUARE YARD BASIS.

LA COMPANY

DITCH CHECK SPACING

DRAWN BY: LWS SHEET NO. 6 OF 13

L-1.5

ANDSCAPE ARCHITECTURE HASSOCIATES MUNICATED OF ALL DRAWN AND WRITTEN INFORMATION APPEARING HEREIN SHALL NOT BE DUPLICATED. DISCLOSED OF OTHERWISE USED WITHOUT WRITTEN CONSENT OF		
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Date	4/7/16	
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# PEDESTRIAN BRIDGES ABUTMENT REPAIR. PROJECTS #5, 6, 7 FEMA 303B-1, 2, 3 2 L-1.6

NOT TO SCALE

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	CONGDON PARK TRAIL REPAIRS CITY OF DULUTH, MINNESOTA
3	Sheet Key Sheet Title TRAIL / ABUTMENT DETAILS Date: <u>4/7/16</u> Drawn By: <u>LWS</u> Checked By: <u>LWS</u> Project Number I5320 Sheet Number L-1.6

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**PROJECT #5** FEMA SITE 303B-1 PED. BRIDGE #1 SEE SHEET L-1.6



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ACCESS POINT. CONTRACTOR **RESPONSIBLE FOR RESTORATION OF ANY** DAMAGE CAUSED BY THEIR WORK.

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CITY OF DULUTH PROJECT NO.

# APPROXIMATE PARK BOUNDARY



219 WEST FIRST STREET, SUITE 350 DULUTH, MN 55802 (P) 218.391.1335 (F) 218.722.6697

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PROJECT #4 FEMA SITE 303A-4 PROJECT #13 FEMA SITE 303E-6



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# **HIKING TRAIL (NIC)**



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PURPOSE	DATE





SHEET TITLE TRAIL PLAN 4/7/16 LWS LWS 15320 SHEET NUMBER L-1.12

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