



Stanley Consultants INC.

A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

December 23, 2014

Ms. Lisa Miller
Xcel Energy
1123 West 3rd Avenue
Denver, Colorado 80223

Subject: Structural Analysis for T-Mobile Phillip Morris Site (DN01016P)
#9336 T-Line, Fixture 24, Type SRSAHB00 Monopole, 450 Plaza Drive, Highlands Ranch
Xcel Work Order #12085635

9000A RIDGELINE Blvd

Dear Lisa:

In March of 2008, Stanley Consultants, Inc. (Stanley) was retained by Xcel Energy to analyze a lattice type transmission structure to determine if the structure could safely support new antenna equipment. At the time, T-Mobile had proposed adding three (3) antenna sectors with two (2) panel antennas per sector. The total number of coax cables to be installed was twelve. The antennas were to be mounted approximately 12 ft. below the lowest conductors.

The field data gathered by Stanley and the information provided by Xcel were used to prepare a model of the structure utilizing the PLS TOWER software program. The analysis indicated the tower had sufficient strength to safely support the site-specific loads plus the additional load due to the proposed antenna equipment located on the tower. As stated in the original report, an evaluation of the foundation was not completed as part of this analysis.

Now, T-Mobile has proposed replacing those six antennas with three heavier ones at each sector, and still use twelve coax. The new layout would be a total of three antennas and 12 coax cables. The proposed addition results in approximately the same load to the structure as the load previously accounted for in the original analysis due to the decreased number of antennas. Therefore, the structure is adequate for this proposed change. It is recommended that future increases in loading be carefully analyzed by a structural engineer.

This letter is based on Xcel Energy providing the following information:

- Antenna installation drawings by Centerline Solutions, Rev 5, Dated 10/29/14 - 7 sheets

This document was sent electronically

Page 2

If you have any questions, please call me at (303) 799-6806.

Sincerely,

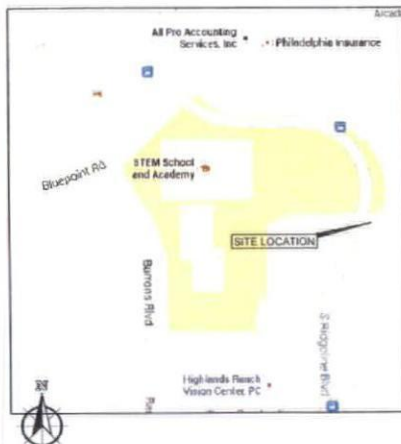
Stanley Consultants, Inc.

Briana L. Fitzgerald

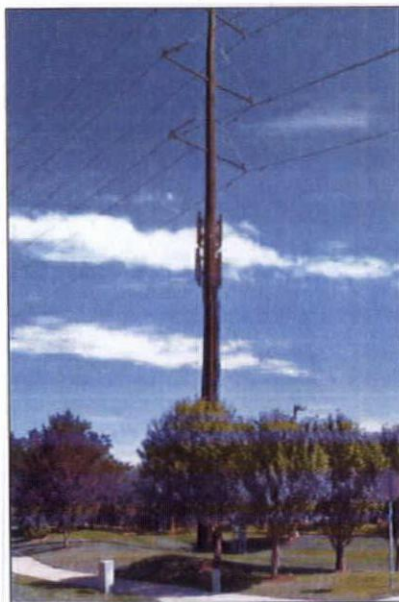
Briana L. Fitzgerald, PE
Structural Engineer



VICINITY MAP



SITE PHOTO



T-Mobile

700 MHz UPGRADE

Site Name: PHILLIP MORRIS

Site Number: DN01016P

Site Address: 9000 A Ridgeline Blvd

HIGHLANDS RANCH, CO 80126

Xcel Energy Structure #: # 24

Xcel Energy Transmission Line: # 9336

NOTE:
STRUCTURAL ANALYSIS BY OTHERS

SITE INFORMATION

TOWER OWNER:

XCEL ENERGY
1123 W. 3RD AVE #103
DENVER, CO 80203
TOM BREUCKMAN

APPLICANT:

T-MOBILE WEST LLC
2323 DELGANY STREET
DENVER, CO 80218
303.295.1958

SITE ACQUISITION:

CENTERLINE SOLUTIONS
16380 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
ANNIE MACKIEWICZ: 303.801.7241

AGE:

CENTERLINE SOLUTIONS
16380 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
STEVE LESTER: 303.993.3293

RFDS DATE:
9/2/14

JURISDICTION:

DOUGLAS COUNTY
APN:
2229-033-01-022

LEGAL DESCRIPTION:

NW 1/4 OF SECTION 3 T8S R66W OF
THE 6TH PM

LATITUDE:
39 5525395 N

LONGITUDE:
104 996214 W

GOVERNING CODES, AS APPLICABLE:
2012 IBC, 2012 IFC, 2012 IMC, 2009 IECC,
2011 NEC

A.D.A. COMPLIANCE:
NOT REQUIRED PER IBC 1103.2.9.

PROJECT DESCRIPTION

MODIFICATION OF AN EXISTING "NON-HABITABLE" TELECOMMUNICATIONS SITE CONSISTING OF REMOVING (6) ANTENNAS AND REPLACING THEM WITH (3) ANTENNAS, INSTALL (3) NEW REMOTE RADIO UNITS, (1) NEW 700 LTE CARD AND REMOVE & REPLACE (6) TMA'S & (5) DIPLEXERS WITH (3) NEW TRIPLEXERS WITHIN THE EXISTING EQUIPMENT AREA, NO LINE VOLT ELECTRICAL WORK REQUIRED.

DRIVING DIRECTIONS TO SITE

FROM 3233 DELGANY STREET DENVER, CO 80216, DEPART ON DELGANY STREET TOWARD PARK AVENUE. NEXT TURN RIGHT AND TAKE I-26 SOUTH. PROCEED ON I-26 SOUTH TO CANYON WEST TO SOUTH BROADWAY. HEAD SOUTH ON BROADWAY AND TAKE A RIGHT ON PLAZA DR. AND THEN A LEFT ON SOUTH RIDGELINE BLVD TO SITE ON THE LEFT.

EQUIPMENT CHART

EXISTING T-MOBILE EQUIPMENT

ITEM	QUANTITY	MODEL NUMBER	DIMENSIONS	WEIGHT
ANTENNA	6	TMBXX 6516 R2M	59.5"x12"x6.5"	34.6 LBS
COAX	12	LDF	7/8"	-

NEW T-MOBILE EQUIPMENT

ITEM	QUANTITY	MODEL NUMBER	DIMENSIONS	WEIGHT
ANTENNA	3	SBNH11D65C	96"x11.86"x7.1"	96.14 LBS
COAX	12	LDF	7/8"	-
TMA	3	TMA71921B7B-21A	9"x6.7"x4.1"	17.6 LBS

GENERAL CONSTRUCTION NOTES

1. THE FACILITY IS AN UNOCCUPIED WIRELESS FACILITY.
2. STRUCTURAL ANALYSIS DONE BY OTHERS
3. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
4. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
5. THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
6. CONTRACTOR SHALL CONTACT LOCAL DIGGERS HOTLINE 48 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
8. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

DRAWING INDEX

T1	TITLE SHEET
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A4	EXISTING & NEW ANTENNA LAYOUTS & NOTES
A5	EQUIPMENT DETAILS
GN1	GENERAL NOTES & PLUMBING DIAGRAM

T-Mobile

2323 DELGANY STREET
DENVER, CO 80218

PROJECT INFORMATION:

SITE NAME:
PHILLIP MORRIS
SITE ID:
DN01016P

450 PLAZA DRIVE
HIGHLANDS RANCH, CO 80126
DOUGLAS COUNTY

Rev.	Date	Description	By
1	8/29/14	PRELIMINARY	TJ
2	10/20/14	REVISION 1	SL
3	10/21/14	REVISION 2	SL
4	10/28/14	REVISION 3	AD
5	10/29/14	CONSTRUCTION	KMF

PLANS PREPARED BY:

CENTERLINE SOLUTIONS
Advancing Wireless Networks
16380 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSE NO.:



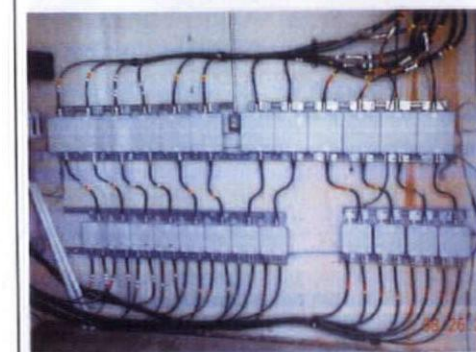
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TJ SL KS

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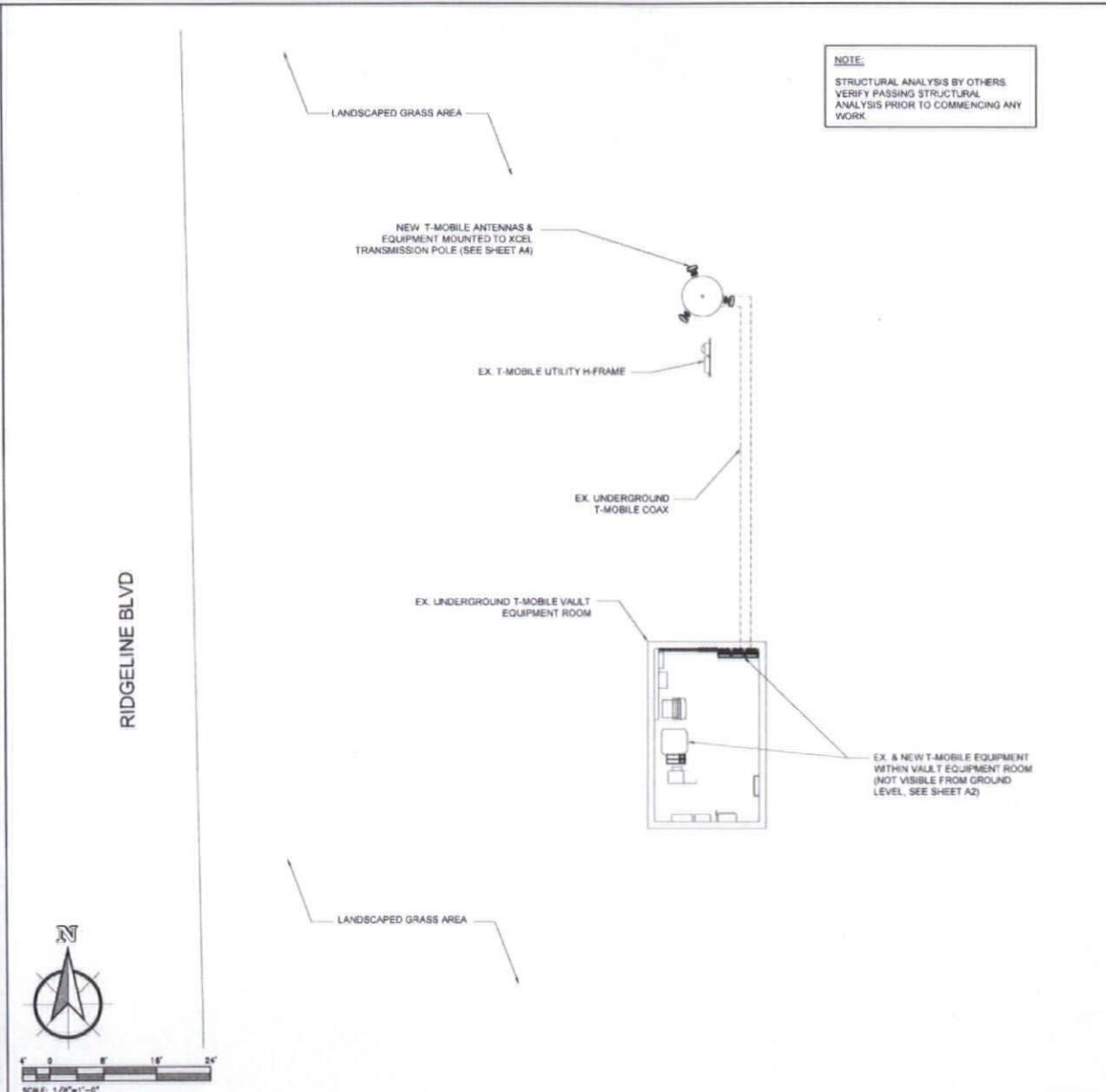
TITLE SHEET

Sheet Number:

T1



1 T-MOBILE EQUIPMENT PHOTOS
SCALE: N.T.S.



2 SITE PLAN
SCALE: 1/8" = 1'-0"

NOTE:
STRUCTURAL ANALYSIS BY OTHERS
VERIFY PASSING STRUCTURAL
ANALYSIS PRIOR TO COMMENCING ANY
WORK.

2323 DELGANY STREET
DENVER, CO 80216

PROJECT INFORMATION:

SITE NAME:
PHILLIP MORRIS

SITE ID:
DN01016P

450 PLAZA DRIVE
HIGHLANDS RANCH, CO 80126
DOUGLAS COUNTY

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5	10/29/14	CONSTRUCTION	KMF

PLANS PREPARED BY:

CENTERLINE
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Advancing Wireless Networks

16360 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.953.3293
WWW.CENTERLINESOLUTIONS.COM

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TJ	SL	KS
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Sheet Title:

SITE PLAN

Sheet Number:

A1

T-Mobile

2123 DELGANY STREET
DENVER, CO 80216

PROJECT INFORMATION:

SITE NAME:
PHILLIP MORRIS
SITE ID:
DN01016P

450 PLAZA DRIVE
HIGHLANDS RANCH, CO 80126
DOUGLAS COUNTY

Rev.	Date	Description	By
1	8/29/14	PRELIMINARY	T.J.
2	10/20/14	REVISION 1	SL
3	10/21/14	REVISION 2	SL
4	10/28/14	REVISION 3	AD
5	10/29/14	CONSTRUCTION	KMF

PLANS PREPARED BY:

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SOLUTIONS
Advancing Wireless Networks

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303.993.3253
WWW.CENTERLINESOLUTIONS.COM

LICENSE NO.:



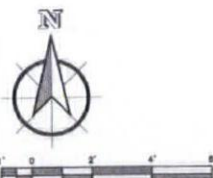
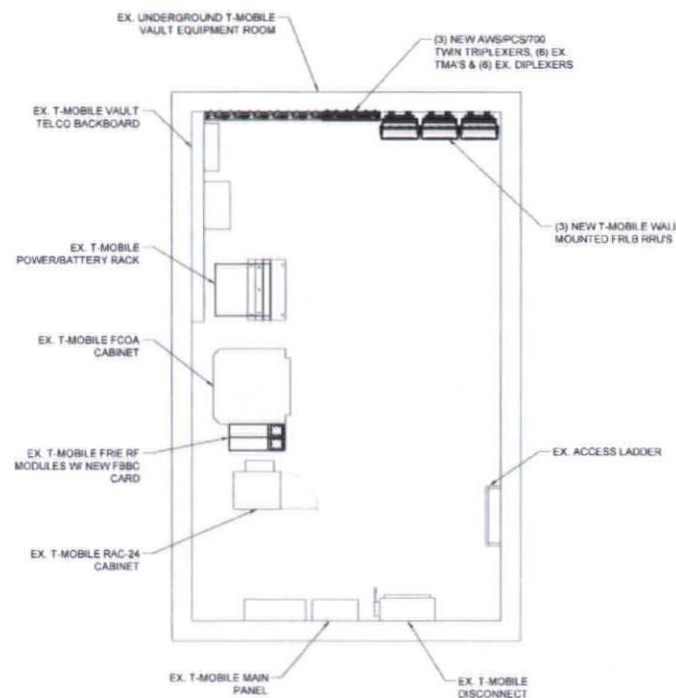
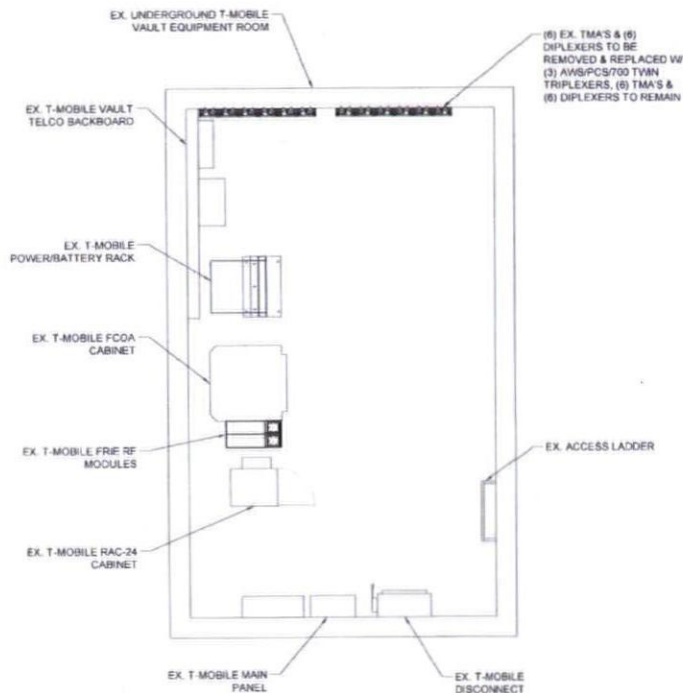
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T.J. SL KS

Sheet Title:

**EXISTING & NEW
EQUIPMENT
LAYOUTS**

Sheet Number:

A2



1 EXISTING EQUIPMENT LAYOUT
SCALE: 1/2" = 1'-0"

2 NEW EQUIPMENT LAYOUT
SCALE: 1/2" = 1'-0"



7323 DELGANY STREET
DENVER, CO 80214

PROJECT INFORMATION:

SITE NAME:
PHILLIP MORRIS
SITE ID:
DN01016P

450 PLAZA DRIVE
HIGH ANDS RANCH, CO 80126
DOUGLAS COUNTY

Rev.	Date:	Description:	By:
1	9/29/14	PRELIMINARY	TJ
2	10/20/14	REVISION 1	SL
3	10/21/14	REVISION 2	SL
4	10/28/14	REVISION 3	AD
5	10/29/14	CONSTRUCTION	KMF

PLANS PREPARED BY:



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303.993.3290
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LICENSURE NO.:



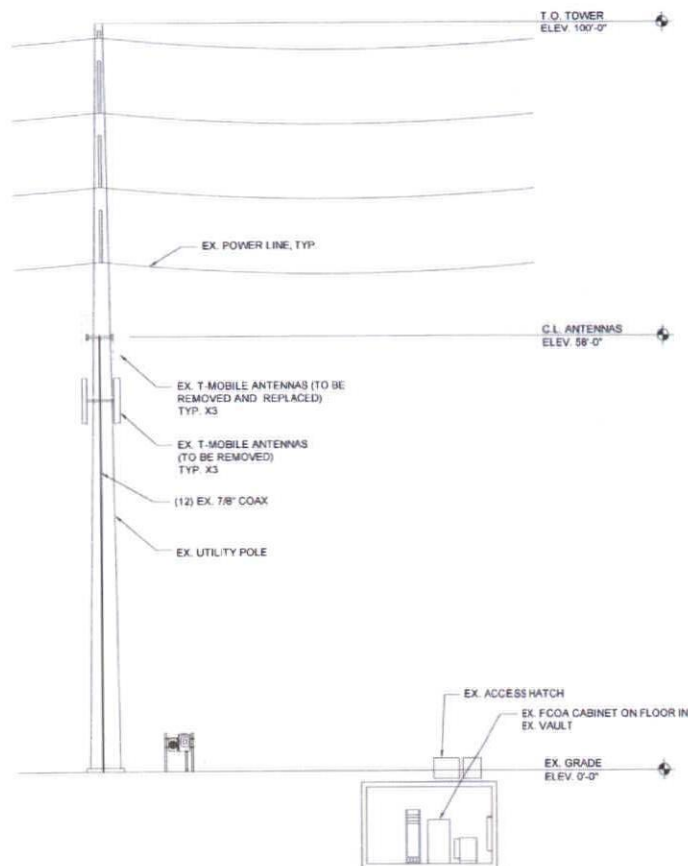
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TJ	SL	KS

Sheet Title:

**EXISTING & NEW
WEST
ELEVATIONS**

Sheet Number:

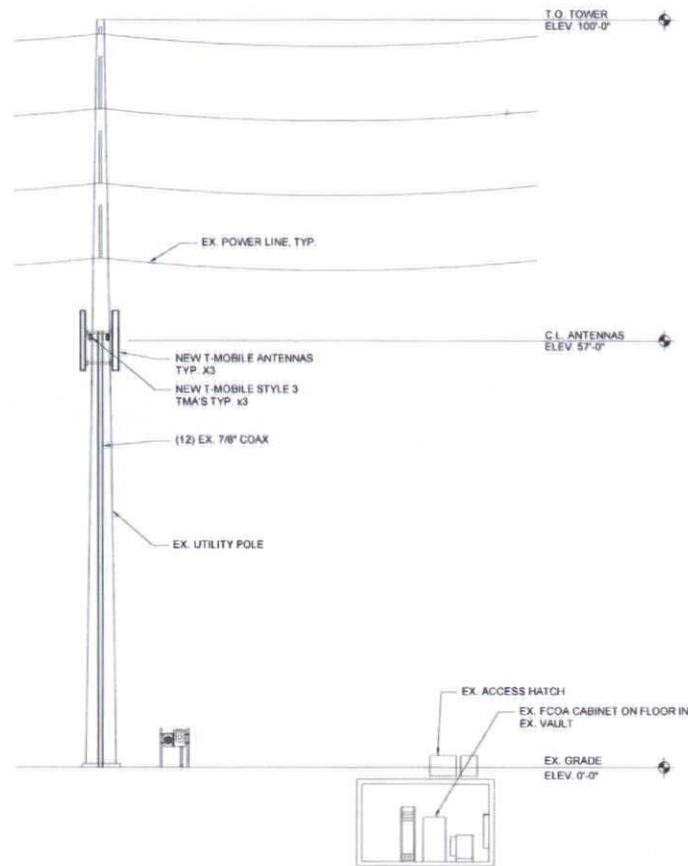
A3



SCALE: 1/8" = 1'-0"

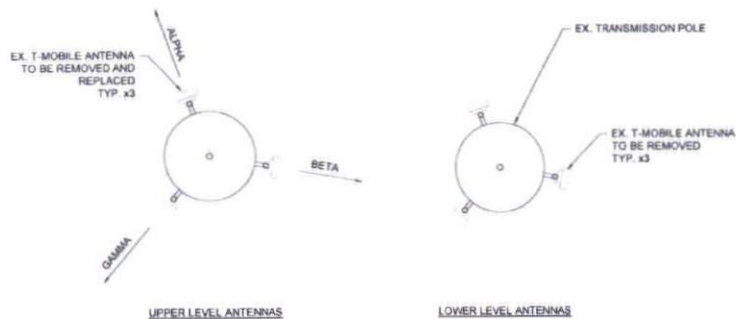
1 EXISTING WEST ELEVATION

SCALE: 1/8" = 1'-0"



2 NEW WEST ELEVATION

SCALE: 1/8" = 1'-0"

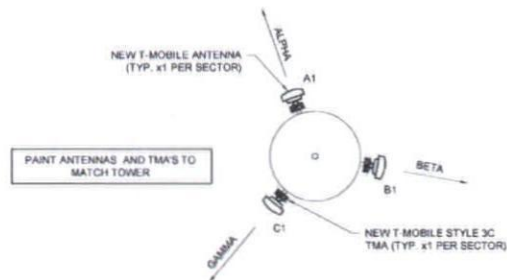


SCALE: 1/4" = 1'-0"

1 EXISTING ANTENNA LAYOUT
SCALE: 1/4" = 1'-0"



3 ANTENNA PHOTO
SCALE: N.T.S.



2 NEW ANTENNA LAYOUT
SCALE: 1/4" = 1'-0"

NOTE:
SEE SHEET T1 FOR RFDS DATE

SECTOR	POS.	TECHNOLOGY	ANTENNA			MECH TILT	ELECT. TILT	FEED LINE TYPE
			AZM °	C.L.	MANUFACTURE - MODEL #			
ALPHA	A1	PCS GSM / UMTS & UMTS AWS & LTE 700	340°	57'-0"	ANDREW - SBNH1 - 1D65C	0	5	(4) 7/8" COAX
BETA	B1	PCS GSM / UMTS & UMTS AWS & LTE 700	100°	57'-0"	ANDREW - SBNH1 - 1D65C	0	5	(4) 7/8" COAX
GAMMA	C1	PCS GSM / UMTS & UMTS AWS & LTE 700	220°	57'-0"	ANDREW - SBNH1 - 1D65C	0	1	(4) 7/8" COAX

4 RF SCHEDULE
SCALE: N.T.S.

T-Mobile

2323 DELGANY STREET
DENVER, CO 80216

PROJECT INFORMATION:

SITE NAME:
PHILLIP MORRIS
SITE ID:
DNO1016P

450 PLAZA DRIVE
HIGHLANDS RANCH, CO 80126
DOUGLAS COUNTY

Rev.	Date	Description	By
1	8/28/14	PRELIMINARY	TJ
2	10/20/14	REVISION 1	SL
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4	10/28/14	REVISION 3	AD
5	10/29/14	CONSTRUCTION	KME

PLANS PREPARED BY:

CENTERLINE
SOLUTIONS
Advancing Wireless Networks

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GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSE NO.:



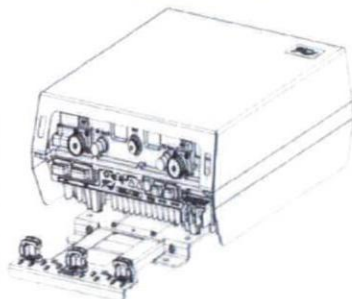
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Sheet Title:

**EXISTING & NEW
ANTENNA LAYOUTS
& NOTES**

Sheet Number:

A4



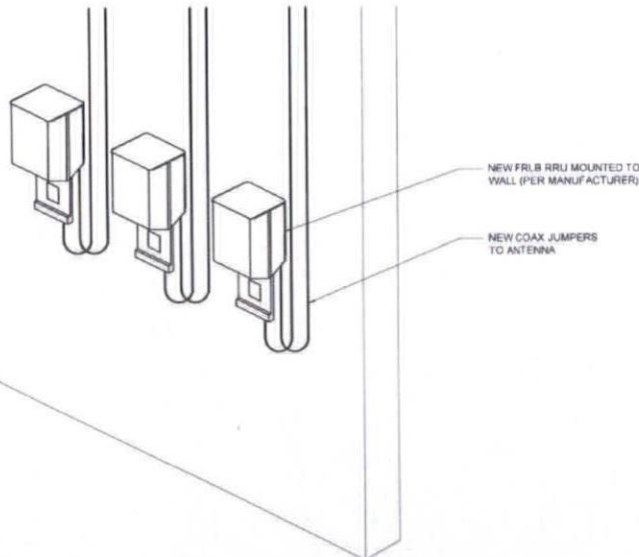
CHARACTERISTIC	FRLB CAPABILITY
RF MODULE TYPE	RRU, 1 UNIT PER SECTOR (LIKE FRLB)
MIMO	2x2
IBW	18 MHz LULCL
LTE BW	10x10 IS MAX SUPPORTED CONFIG
POWER	2x30 W
MAX CONSUMPTION	321 W
SYSTEM MODULE COMPATIBILITY	F5MF, FSME

DIMENSION	VALUE
HEIGHT	15.75 INCHES
WIDTH	15.75 INCHES
DEPTH	5.9 INCHES
WEIGHT	59.52 LBS

SUPPORT	SOFTWARE SUPPORT
BAND 12 LTE FRLB/FSMF	RL40
BAND 4/ BAND 12 CA	RL60 ON TOP
BAND 2/ BAND 12 CA	RL70 (DUAL BAND IN RL60 ON TOP)

1 RRU SPECIFICATIONS (FRLB)

SCALE: N.T.S.



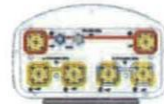
2 RRU MOUNTING DETAIL

SCALE: N.T.S.

Product Specifications

COMMScope®

on the go



Andrew Solutions
SBNHH-1D65C

Andrew® DualPole® Tri-band Teletest® SmartBeam® Antenna, 1 x 698-896 MHz and 2 x 1710-2360 MHz, 65° horizontal beamwidth, RET compatible

- Three DualPole® antennas under one radome
- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698-896	806-896	1710-1880	1850-1990	1920-2180	2300-2360
Gain, dBi	15.7	15.5	16.8	17.2	17.4	17.5
Beamwidth, Horizontal, degrees	65	63	68	63	61	58
Beamwidth, Vertical, degrees	9.0	7.6	5.5	5.3	5.1	4.4
Beam Tilt, degrees	0-11	0-11	0-7	0-7	0-7	0-7
USLS, typical, dB	15	15	14	13	13	13
Front-to-Back Ratio, Copolarization 180° ± 20°, dB	29	30	27	26	24	24
CPR at Boresight, dB	18	18	18	18	18	18
CPR at Sector, dB	10	10	10	10	10	4
Isolation, dB	30	30	29	29	29	29
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR Return Loss, dB	1.5:1 14.0	1.5:1 14.0	1.5:1 14.0	1.5:1 14.0	1.5:1 14.0	1.5:1 14.0
PTM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150
Input Power per Port, maximum, watts	400	400	300	300	300	300
Polarization	84.5°	14.5°	14.5°	84.5°	84.5°	84.5°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm
Lightning Protection	dc Ground	dc Ground	dc Ground	dc Ground	dc Ground	dc Ground

Mechanical Specifications

Color Radome Material	Light gray Fiberglass, UV resistant
Connector Interface Location Quantity	7-16 DIN Female Bottom 6
Wind Loading, maximum	879.0 N @ 150 km/h 197.6 lbf @ 150 km/h
Wind Speed, maximum	241.4 km/h 150.0 mph

Dimensions

Depth	183.0 mm 7.1 in
Length	2438.40 mm 96.00 in
Width	301.00 mm 11.85 in
Net Weight	30.00 kg 66.14 lb

Remote Electrical Tilt (RET) Information

Annual Failure Rate, maximum	0.01%
Power Consumption, during motor movements, maximum	11.0 W
Power Consumption, idle state, maximum	2.0 W
Power Input	10-30 V
Protocol	3GPP/ATSG 2.0 Multi-RET

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page 1 of 4
sheet 29 of 30

T-Mobile

2123 DELICANY STREET
DENVER, CO 80214

PROJECT INFORMATION

SITE NAME
PHILLIP MORRIS
SITE ID
DN01016P

450 PLAZA DRIVE
HIGHLANDS RANCH, CO 80126
DOUGLAS COUNTY

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5	10/29/14	CONSTRUCTION	KMF

PLANS PREPARED BY:

CENTERLINE
SOLUTIONS
Advancing Wireless Networks

16300 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.1293
WWW.CENTERLINESOLUTIONS.COM

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TJ	SL	KS

Sheet Title:

EQUIPMENT
DETAILS

Sheet Number:

A5

3 ANTENNA SPECIFICATIONS

SCALE: N.T.S.

GENERAL CONSTRUCTION NOTES

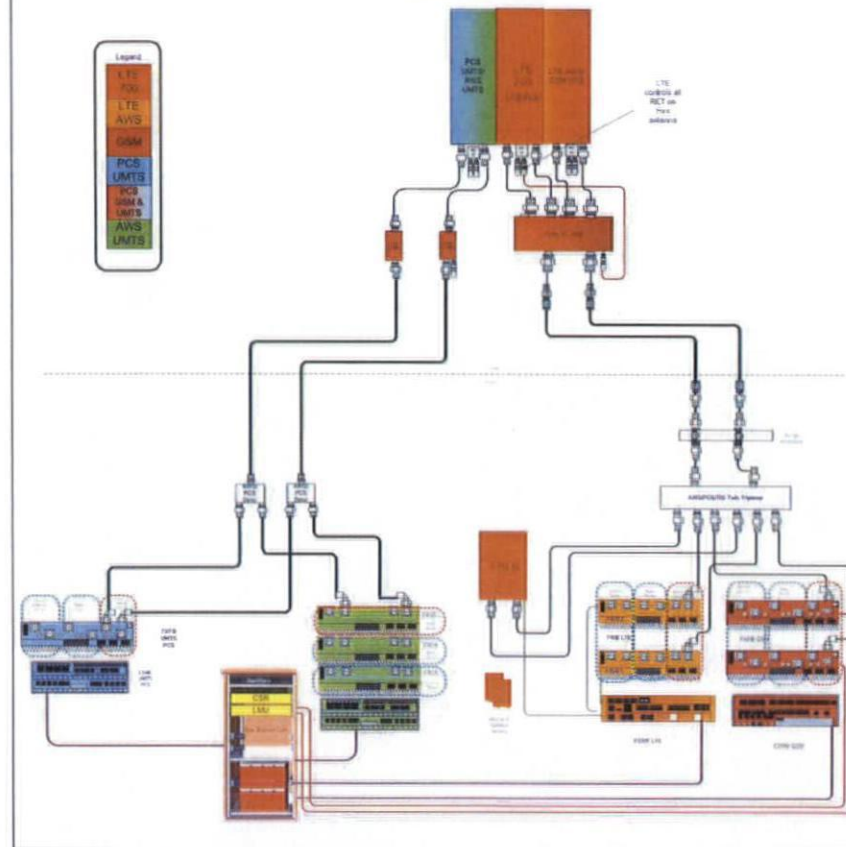
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3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
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8. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION FIELD ENGINEER AND WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE.
9. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
10. REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWING, SHALL NOT BE USED TO IDENTIFY OR ESTABLISH TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE PLOT OF SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ARCHITECT/ENGINEER.

STRUCTURAL NOTES

- 1.1 GENERAL CONDITIONS
- 1.2 DESIGN AND CONSTRUCTION OF ALL WORK SHALL CONFORM TO THE APPROVED EDITION OF THE IBC EDITION AND ALL OTHER APPLICABLE STATE CODES, ORDINANCES, AND REGULATIONS IN CASE OF CONFLICT BETWEEN THE CODES, STANDARDS, AND REGULATIONS, SPECIFICATIONS, GENERAL NOTES AND/OR MANUFACTURER'S REQUIREMENTS USE THE MOST STRINGENT PROVISION.
- 1.3 IT IS THE EXPRESS INTENT OF THE PARTIES INVOLVED IN THIS PROJECT THAT THE CONTRACTOR OR SUBCONTRACTOR OR INDEPENDENT CONTRACTOR OR THEIR RESPECTIVE EMPLOYEES SHALL EXCLUDE THE ARCHITECT, THE ENGINEER, THE CONSTRUCTION MANAGER, THE OWNER, AND THEIR AGENTS, FROM ANY LIABILITY WHATSOEVER AND HOLD THEM HARMLESS AGAINST LOSS, DAMAGES, LIABILITY OR ANY EXPENSE ARISING IN ANY MATTER FROM THE WRONGFUL OR NEGLIGENT ACT, OR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FAILURE TO CONFORM TO THE STATE SCAFFOLDING ACT IN CONNECTION WITH THE WORK.
- 1.4 VERIFY ALL EQUIPMENT MOUNTING DIMENSIONS PER MANUFACTURER DRAWINGS.
- 1.5 SUBMIT ONE SET AND TWO PRINTS OF ALL STRUCTURAL SHOP DRAWINGS. MARKED UP SETS SHALL BE RETURNED.
- 2.0 STEEL
- 2.1 MEET OR EXCEED THE FOLLOWING CODES & STANDARDS (LATEST EDITION) EXCEPT AS NOTED:
 - A. STRUCTURAL STEEL - AISC SPECIFICATION & CODE OF STANDARD PRACTICE
 - SHAPES AND PLATES - ASTM A572
 - PLATES BENT OR COLD FORMED - ASTM A 283, GRADE C
 - PIPES - ASTM A 53, GRADE B
 - STRUCTURAL SHEETS, HOT ROLLED - ASTM A 510
 - COLD FORMED STEEL TUBING - ASTM A 500 GRADE B
 - BOLTS, NUTS & WASHERS FOR ANCHOR BOLTS AND SECONDARY CONNECTIONS - ASTM A307
 - ALL STEEL SHALL BE HOT-DIPPED GALVANIZED.
- B. WELDS - AWS E 70XX
- EXCEPTION IS TAKEN TO AISC CODE OF STANDARD PRACTICE PARAGRAPH 4.2.1 REGARDING OWNERS AND FABRICATOR'S RESPONSIBILITY FOR CONNECTION DESIGN AND DETAILING IS THE CONTRACTOR'S RESPONSIBILITY. ENGINEER'S REVIEW OF SHOP DRAWINGS IS FOR GENERAL CONSIDERATIONS ONLY AND DOES NOT CONSTITUTE AN ACCEPTANCE OF THESE RESPONSIBILITIES BY THE OWNER AND/OR ENGINEER.
- 3.0 STANDARDS FOR ALL CONCRETE WORK
- 3.1 ALL CONCRETE WORK SHALL CONFORM WITH ACI 318 OR LATEST. DETAIL REINFORCING IN CONFORMANCE WITH ACI SP86 LATEST.
- 3.2 NO SPLICES OF REINFORCEMENT SHALL BE MADE EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. LAP SPLICES WHERE PERMITTED SHALL BE A MINIMUM OF 30 BAR DIAMETERS.
- 3.3 PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN ON DRAWINGS.
- 3.4 WIRE FABRIC REINFORCEMENT MUST LAP ONE FULL MESH AT SIDE AND END LAPS SHALL BE TIED TOGETHER.
- 3.5 CURE AFTER FINISHING CONCRETE. KEEP MOIST FOR 7 DAYS AFTER POURING.
- 3.6 COMPACT STRUCTURAL FILL 95% PROCTOR DENSITY PRIOR TO PLACING CONCRETE UNDER SLABS.
- 3.7 1/4" CHAMFER ON ALL CORNERS AND EDGES.
- 3.8 ALL CONCRETE SHALL BE PORTLAND, TYPE 1 CEMENT WITH A MINIMUM OF 28 DAY STRENGTH OF 3000 PSI, 4" SLUMP AND A MINIMUM AIR ENTRAINMENT OF 4%.
- 3.9 ALL REINFORCING STEEL SHALL BE GRADE 60. ALL REINFORCING MESH SHALL CONFORM TO ASTM A 185.

Configuration 703B GTSh_4 Lines (FRLB Ground triplexed with a Hexport for 700/PCS/AWS)

(Reference to existing of one sector (single) for details)
Drawing Date: 8/1/2014



T-Mobile

2723 DELGANY STREET
DENVER, CO 80216

PROJECT INFORMATION:

SITE NAME:
PHILLIP MORRIS
SITE ID:
DN01016P

450 PLAZA DRIVE
HIGHLANDS RANCH, CO 80128
DOUGLAS COUNTY

Rev	Date	Description	By
1	8/29/14	PRELIMINARY	TJ
2	10/20/14	REVISION 1	SL
3	10/21/14	REVISION 2	SL
4	10/28/14	REVISION 3	AD
5	10/29/14	CONSTRUCTION	KMF

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DRAWN BY: CHK BY: APV BY:

TJ SL KS

Sheet Title:

GENERAL NOTES

Sheet Number:

GN1

1 GENERAL NOTES

SCALE: N.T.S.