Affinis corp

300 SW Longview Blvd., Suite 220
Lee's Summit, MO 64081
Phone: 816-765-0864
Toll Free: 877-527-5468
Fax: 816-765-7404
www.affinis.us

Mr. Jay Bestgen
MoDOT Design Division
1320 Creek Trail Drive
Jefferson City, Missouri 65109

Re Practical Design 2008 Awards for Excellence
MoDOT Project J4I1641B

Dear Mr. Bestgen,

On behalf of MoDOT District 4, the City of Lee's Summit, Team Affinis (Burns & McDonnell, Harrington & Cortelyou, Obi Consulting, Custom Engineering, and Schmitz King & Associates), and Geotechnology Inc., we are pleased to present the I-470 and U.S. 50 Interchange project for consideration in the 2008 Practical Design Awards for Excellence. This phase of the project is the first of three that are planned to improve the operation of the existing interchange. The primary goal of this phase is to construct the western half of a split diamond interchange. This includes a new bridge over I-470 at Pryor Road, a westbound on-ramp, and an eastbound off-ramp. An abandoned underground mine exists directly under much of the construction north of I-470 and was a critical factor in the design process.

Practical Design Savings

Through collaboration of the Core Team members, several significant savings were realized by implementing Practical Design concepts, without adversely affecting the safety of the design.

- By MoDOT standards, the lane widths on Pryor Road should be 12 feet. The City of Lee's Summit consistently uses 11-foot lanes on their multi-lane thoroughfares so it was agreed to use 11-foot lanes on Pryor Road. This resulted in reduced pavement costs, bridge width, and fill quantities. **Total savings: $240,000**
- The original design called for construction of a temporary detour of Quarry Park Road during construction, which required fills of more than 20 feet. It was determined that the existing Noland Road – a narrow, unmaintained stretch of road – could be improved enough to maintain traffic during construction. **Total savings: $648,000**
- For the span lengths needed on the Pryor Road Bridge, it was initially assumed that steel plate girders would be required. By researching alternate solutions, it was found that prestressed concrete NU girders were readily available and could meet the necessary span requirements. In addition to saving money the delivery time was quicker, reducing the possibility of construction delays. **Total savings: $400,000.**

Budget

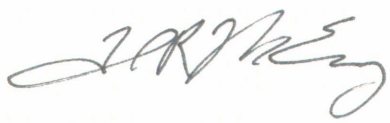
Tracking the STIP budget for this project is difficult to do. Originally, the project was not broken into phases. Therefore the project budget was significantly higher than that of the final project. There also have been significant changes in the scope of work as the project progressed, which altered the budget considerably. The construction estimate at Preliminary Plan stage increased by over $6,000,000 due primarily to adding in mine remediation, changing to rock fill north of I-470, and increasing the scope of work to include placement of fill for Connector 1 and Connector 2. At Right-of-way plan stage, the construction estimate was reduced by over $5,000,000 due to practical design considerations and several other changes to the scope of work. At that time, the

mine remediation work was removed from the estimate because the plan was to do that work under a separate construction contract. The estimate for final plans increased by about $2,000,000 by adding back in the mine remediation work and also including sanitary sewer and waterline relocation in the scope of work.

Collaboration between all members of the project team was the key to producing the savings discussed above and meeting the aggressive schedule needed on this project.

Thank you for this opportunity to submit this project for Practical Design 2008 Awards for Excellence. If you have any questions about our submittal, please do not hesitate to contact me at 816-765-0864.

Sincerely,



Tim McEldowney, P.E.
Affinis Corp.

Enc

Affinis corp

MoDOT PROJECTS
2008 APPLICATION FORM
(required for each entry)

Job No. J4I1641B **Route** I-470 **County** Jackson

STIP Description (Scoping or Construction, state which STIP) Grading, drainage, bridge, and paving

Is the submittal for the entire project or just a portion of the project? Please explain: The entire project

Project Manager (could have both) **MoDOT** Rick Orr **Consultant** Tim McEldowney

Key core team members as approved by the MoDOT PM (may include consultants) (limit of 9)

Tim McEldowney, Rick Orr, Dave Hurt, Rick Worrel, Craig Holdeman, Mike Carroll, Dena Mezger, Mike Stelzleni, Ron Temme

Project Contacts: District Rick Orr **Consultant** Tim McEldowney

Project Budget:

Conceptual budget $21,749,000 **Initial STIP Budget** $ N/A, the initial budget was not done by phases

Final STIP budget $20,965,000 **Award amount** $ 18,027,424

Other :

Value Engineering study during design? yes **X** no ☐ (if yes) **Project Stage** Conceptual

Total VE savings implemented $419,000 **VE Contact Person** Tom Allen (Team Leader, MoDOT)

Construction-stage VE (VECP)? yes ☐ no **X** (if yes) **Explain**

Total VECP savings $ **VECP Contact Person**

What would make this entry stand out from the rest of the entries when considering MoDOT's practical design philosophy? (In layman's terms - 100 words or fewer) In addition to the challenging design aspects encountered on this project, schedule was extremely important to MoDOT, the City, and local developers. Design was expedited, with final design being submitted within one year after conceptual design was completed. Despite time constraints, MoDOT, the City, and the design team worked together to identify areas of significant savings. Although not realized as a specific cost savings, a significant amount of effort was put into the mine remediation analysis and design to provide the most cost effective and safe solution.

Send entries to: MoDOT Design Division, ATTN: Jay Bestgen
1320 Creek Trail Dr., Jefferson City, Missouri 65109

ALL ENTRIES MUST BE RECEIVED NO LATER THAN CLOSE OF BUSINESS ON DECEMBER 15, 2007.

SEE SPECIAL SHEETS FOR RIGHT OF WAY INFORMATION

SEE SHEET NO. 20 (ALIGNMENT SHEET) FOR ALL CURVE DATA AND ALIGNMENT INFORMATION.

STA. 367+00 TO STA. 382+00, RT. ℄ I470
BUILD TYPE C CONCRETE MEDIAN BARRIER

STA. 377+77.17 TO STA. 382+00.00 LT. ℄ I470
BUILD TYPE C CONCRETE MEDIAN BARRIER

STA. 375+50.00 TO STA. 382+00.00 RT. ℄ I470
BUILD 72" CHAIN-LINK FENCE

STA. 371+00.45 TO STA. 380+00 RT. ℄ I470
BUILD TYPE A GUARDRAIL
W/TYPE A CRASHWORHTHY END TREATMENT
W/END ANCHOR

STA. 374+50 TO STA. 379+75 RT. EB CD ROADWAY
BUILD RETAINING WALL NO. D4-0006
W/TYPE B GUTTER

STA. 3+25.00 TO 7+25.00 LT. PR RAMP 1
BUILD RETAINING WALL NO. D4-0007
W/MODIFIED TYPE A GUTTER
W/60" CHAIN-LINK FENCE FOR RETAINING WALLS

STA. 373+00.00 RT.℄ I470
BUILD SIGN TRUSS

STA. 375+50 TO STA. 380+36.44 RT.℄ I470
BUILD TEMPORARY CHAIN LINK FENCE

STA. 380+00.00 TO STA. 382+00.00 LT. ℄ I470
BUILD 72" CHAIN-LINK FENCE

STA. 0+23.00 TO STA. 4+22.00 LT. ℄ PR RAMP1
BUILD TYPE 2 ROCK DITCH LINER

STA. 0+21.81 TO STA. 4+22.00 LT. ℄ PR RAMP 1
BUILD TYPE A GUARDRAIL (7' POSTS)
W/END ANCHOR

Affinis

ROUTE	STATE	DISTRICT	SHEET NO.
I470	MO	4	5

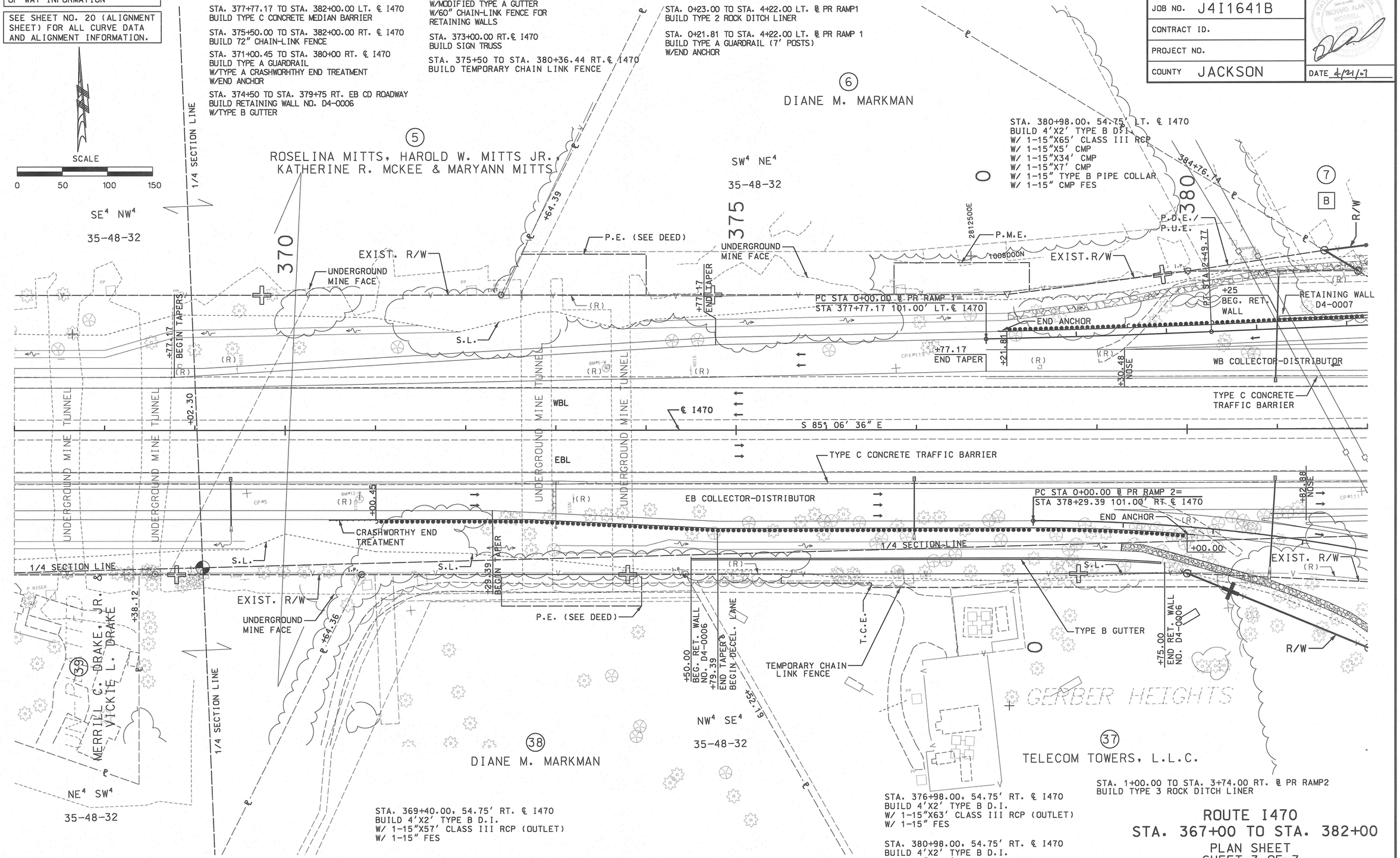
JOB NO. J4I1641B

CONTRACT ID.

PROJECT NO.

COUNTY JACKSON

DATE 4/21/07



STA. 369+40.00, 54.75' RT. ℄ I470
BUILD 4'X2' TYPE B D.I.
W/ 1-15"X57' CLASS III RCP (OUTLET)
W/ 1-15" FES

STA. 376+98.00, 54.75' RT. ℄ I470
BUILD 4'X2' TYPE B D.I.
W/ 1-15"X63' CLASS III RCP (OUTLET)
W/ 1-15" FES

STA. 380+98.00, 54.75' RT. ℄ I470
BUILD 4'X2' TYPE B D.I.
W/ 1-15"X103' CLASS III RCP (OUTLET)
W/ 1-15" FES

STA. 1+00.00 TO STA. 3+74.00 RT. ℄ PR RAMP2
BUILD TYPE 3 ROCK DITCH LINER

ROUTE I470
STA. 367+00 TO STA. 382+00
PLAN SHEET
SHEET 3 OF 7

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ROUTE	STATE	DISTRICT	SHEET NO.
I470	MO	4	6

JOB NO. J4I1641B

CONTRACT ID.

PROJECT NO.

COUNTY JACKSON

DATE 04.20.07

STATE OF MISSOURI
RICHARD ALAN WORTHEY
NUMBER E-23721
PROFESSIONAL ENGINEER

MATCH LINE ℄ I470 SEE SHEET 7

S 85° 06' 36" E

℄ I470

EBL

TYPE C CONCRETE TRAFFIC BARRIER

SIGN TRUSS

EB COLLECTOR-DISTRIBUTOR

CRASHWORTHY END TREATMENT

1/4 SECTION LINE

+22.79

+41.59

U.I.P.

STA 392+85.34 ℄ I470=
STA 135+00.00 ℄ PRYOR ROAD

86°44'03"

MATCH LINE STA 394+00 SEE SHEET 8

35°00'07"

TYPE 2 ROCK BLANKET

℄ PRYOR ROAD

4' CONCRETE MEDIAN STRIP

Begin Bridge No. A-7483
Sta. 133+13.25

PRYOR ROAD - BRIDGE NO. A-7483
STA. 133+13.25 TO 137+05.78
(75'-110'-115'-89') PRESTRESSED
CONC. I-GIRDER SPANS
SKEW @ ℄ MEDIAN = 3°15'57" L/A

(35) CITY OF LEE'S SUMMIT, MISSOURI

EXIST. R/W

EXIST. CITY R/W

5' SW

N 1° 37' 27" E

+92.00 RADIUS

R 30'

+50.00 END PAVEMENT BEGIN GRADING ONLY

+75.00 END GRADING

STA. 391+43.14 TO STA. 393+27.34
RT. ℄ I470
BUILD TYPE C CONCRETE MEDIAN BARRIER

STA. 392+25.64, 54.75' RT. ℄ I470
BUILD 4'X2' TYPE B D.I.
W/ 1-15"X80' CLASS III RCP (OUTLET)
W/ 1-15" FES

385

390

S.L.

P.D.E.

PT STA 6+28.14 BEGIN TAPER

S 67° 06' 54" E

SIGN TRUSS

PC STA 10+72.56

+90.00 BEGIN TAPER

+40.00 END TAPER

PT STA 13+27.53

+39.51 24.00 LT

FUTURE

℄ PR RAMP 2

+88.14 END TAPER

NE¼ SE¼
35-48-32

+14.07 BEGIN TAPER

S 85° 22' 33" E

87°00'00"

STA. 129+52.96, 57.78' RT. ℄ PRYOR ROAD
BUILD 5'X3' TYPE 1 APWA CURB INLET
W/ 1-15"X101' CLASS III RCP

+58.63

MATCH LINE STA 2+00 SEE SHEET 8

(37) TELECOM TOWERS, L.L.C.

N02°27'38"E

1/4,1/4 SECTION LINE

STA. 3+74.00 TO 6+50.00 RT. ℄ PR RAMP 2
BUILD TYPE 3 ROCK DITCH LINER

STA. 4+11.76 RT. ℄ PR RAMP 2
BUILD TYPE 3 ROCK DITCH LINER
(AT CULVERT END)

STA. 126+21.92 RT. ℄ PRYOR ROAD
STA. 130+40.45 LT. ℄ PRYOR ROAD
STA. 131+78.48 LT. ℄ PRYOR ROAD
STA. 130+42.62 RT. ℄ PRYOR ROAD
STA. 131+65.49 RT. ℄ PRYOR ROAD
BUILD ADA RAMPS

STA. 4+10.43 ℄ PR RAMP2
SKEW 04°16'22" RA
REMOVE EXIST. 36" RCP FES, LT.
BUILD 5' MANHOLE, 22.25' LT.
BUILD 36"X7' CLASS IV RCP, LT.
BUILD 36"X97' CLASS IV RCP, RT.
W/ 1-36" FES, RT.

STA. 384+98.00, 54.75'' RT. ℄ I470
BUILD 4'X2' TYPE B D.I.
W/ 1-15"X57' CLASS III RCP (OUTLET)
W/ 1-15" FES

STA. 131+25.00 ℄ PRYOR ROAD=
STA 15+13.44 ℄ PR RAMP 2=
STA 0+00.00 ℄ CONNECTOR 2

+19.45 47.13 RT
+35.82 40.27 LT
END TAPER

R/W

S.L.

130

PT STA 129+79.39

EXISTING CITY R/W (50)

5' SW

T.C.E.

R/W

STA. 382+00.00 TO STA. 394+00 RT. ℄ I470
BUILD TYPE C CONCRETE MEDIAN BARRIER

STA. 133+13.25 ℄ PRYOR ROAD
BUILD TYPE 2 ROCK BLANKET SLOPE PROTECTION

STA. 131+90.00 TO 132+88.36 ℄ PRYOR ROAD
BUILD CONCRETE MEDIAN STRIP

STA. 125+88.26 TO STA. 126+10.57 ℄ PRYOR ROAD
STA. 127+02.13 TO STA. 129+19.60 ℄ PRYOR ROAD
STA. 130+97.48 TO STA. 131+07.48 ℄ PRYOR ROAD
BUILD CONCRETE MEDIAN

STA. 125+86.27 TO STA. 131+09.48 ℄ PRYOR ROAD
BUILD APWA TYPE CG-1 DRY CURB AND GUTTER

STA. 126+17.03 RT. ℄ PRYOR ROAD TO STA. 1+04.96 RT. ℄ CONN.2
STA. 125+80.39 LT. ℄ PRYOR ROAD TO STA. 14+19.45 RT. ℄ PR RAMP 2
STA. 14+39.51 LT. ℄ PR RAMP 2 TO STA. 132+90.59 LT. ℄ PRYOR ROAD
STA. 0+69.07 LT. ℄ CONN.2 TO STA. 132+85.74 RT. ℄ PRYOR ROAD
BUILD APWA TYPE CG-1 CURB AND GUTTER

STA. 126+21.92 TO STA. 130+42.62 RT. ℄ PRYOR ROAD
STA. 131+65.49 TO STA. 132+85.58 RT. ℄ PRYOR ROAD
STA. 125+80.39 TO STA. 130+40.45 LT. ℄ PRYOR ROAD
STA. 131+78.48 TO STA. 132+90.75 LT. ℄ PRYOR ROAD
BUILD SIDEWALK

STA. 388+00.00 ℄ I470 AND STA. 388+00.00 EB CD
BUILD SIGN FOUNDATION AND TYPE C CONCRETE MEDIAN BARRIER

STA. 3+95.00 TO STA. 13+27.53 RT. ℄ PR RAMP 2
STA. 13+27.53 RT. ℄ PR RAMP 2 TO
STA 129+40.10 LT. ℄ PRYOR ROAD
BUILD 72" CHAIN-LINK FENCE

STA. 129+40.10 RT. ℄ PRYOR ROAD
TO STA. 2+00.00 RT. ℄ CONN. 2
BUILD 72" CHAIN-LINK FENCE

SCALE
0 50 100 150

(36) CITY OF LEE'S SUMMIT, MISSOURI

CHTPMAN-HWY 50

LOT 18

STA. 388+97.00, 54.75' RT. ℄ I470
BUILD 4'X2' TYPE B D.I.
W/ 1-15"X63' CLASS III RCP (OUTLET)
W/ 1-15" FES

STA. 10+72.00, ℄ PR RAMP 2
BUILD 36"X85' CLASS III RCP
W/ 2-36" FES

STA. 389+94.74, ℄ I470
SKEW 19°50'46 LA
REMOVE 1-36" FES RT.
BUILD 36"X31' CLASS III RCP
W/ 1-36" FES

+87.51 40.27 LT
BEGIN TAPER

VARIABLE WIDTH MEDIAN

STA. 390+97.00, 54.75' RT. ℄ I470
BUILD 4'X2' TYPE B D.I.
W/ 1-15"X58' CLASS III RCP (OUTLET)
W/ 1-15" FES

STA. 129+47.80, 46.15' LT. ℄ PRYOR ROAD
BUILD 5'X3' TYPE 1 APWA CURB INLET
W/ 1-15"X166' CLASS III RCP (OUTLET)
W/ 1-15" FES

127+46.00
24' ENT. LT.

+40.58

R15'

EXIST. CITY R/W

STOP

6' SW

T.C.E.

+52.75 40.22 RT
BEGIN TAPER
MATCH EXISTING CURB

STA. 125+80.39
BEGIN PRYOR ROAD CONSTRUCTION
MATCH EXISTING PAVEMENT
MATCH EXISTING CURB

+58.18
S77°37'38"E ℄

+22.57
N79°11'04"W

+78.27 49.54 RT
END TAPER

RED LS HOLDINGS L.L.C.

(51) R.E.D. CAPITAL HOLDINGS OF LEE'S SUMMIT SPE, L.L.C.
SUMMIT WOODS INVESTMENT COMPANY, L.L.C.
BLT SUMMIT WOODS, L.L.C.
NECOR L.L.C.
VILLE 36 INVESTMENT COMPANY, L.L.C.

STA. 389+17.00 TO STA. 389+34.00 RT. ℄ I470
STA. 389+55.00 TO STA. 389+70.00 RT. ℄ I470
BUILD TYPE 2 ROCK DITCH LINER

STA. 127+46.00 LT. ℄ PRYOR ROAD
BUILD 24' ENTRANCE
2.0% GRADE, PAVED APPROACH

STA. 386+22.79 TO 394+00.00 RT. ℄ I470
BUILD TYPE A GUARDRAIL
W/CRASHWORTHY TYPE A END TERMINAL

STA. 10+72.56 LT. ℄ PR RAMP 2
BUILD TYPE 2 ROCK DITCH LINER
(36" CULV. OUTLET TO 36" CULV. INLET)

STA. 10+72.56 RT. ℄ PR RAMP 2
BUILD TYPE 2 ROCK DITCH LINER

SEE SHEET NO. 20 (ALIGNMENT SHEET) FOR ALL CURVE DATA AND ALIGNMENT INFORMATION.

SEE SPECIAL SHEETS FOR SIDEWALK, VARIABLE WIDTH MEDIAN, ADA RAMPS, CURB AND GUTTER, AND ISLAND DETAILS

SEE SPECIAL SHEETS FOR RIGHT OF WAY INFORMATION

EB ROUTE I470
STA.382+00 TO STA. 394+00
PRYOR ROAD
STA. 125+80.39 TO STA 135+00

PLAN SHEET
SHEET 4 OF 7

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STA. 138+75.19 TO STA. 139+34.30 LT. & RT. ℄ PRYOR ROAD
BUILD TYPE S CURB/TYPE A INTEGRAL CURB

STA. 137+23.05 TO STA. 138+00.00 LT. ℄ PRYOR ROAD
STA. 137+39.04 TO STA. 138+00.00 RT. ℄ PRYOR ROAD
BUILD SIDEWALK

STA. 137+23.55 TO STA. 138+21.62 LT. ℄ PRYOR ROAD
STA. 137+38.54 TO STA. 138+23.01 RT. ℄ PRYOR ROAD
BUILD APWA TYPE CG-1 CURB AND GUTTER

STA. 137+30.43 TO STA. 137+80.00 LT. ℄ PRYOR ROAD
BUILD CONCRETE MEDIAN STRIP

STA. 382+00.00 TO STA. 388+60.00 LT. ℄ I470
BUILD TYPE C CONCRETE MEDIAN BARRIER

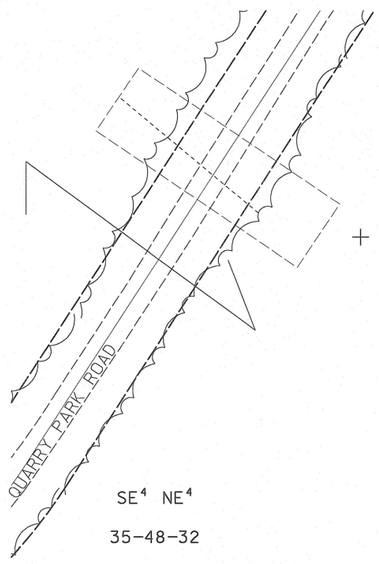
STA. 388+40.00 TO STA. 389+90.00 LT. ℄ I470
BUILD TYPE F CONCRETE MEDIAN BARRIER
W/17 BARREL ATTENUATOR (COMMISSION RETAINED)

STA. 4+22.00 TO STA 5+30.00 LT. ℄ PR RAMP 1
BUILD TYPE 2 ROCK DITCH LINER

STA. 5+39.00 LT. ℄ PR RAMP 1
BUILD TYPE 3 ROCK DITCH LINER
(PR RAMP 1 DITCH 1)

STA. 5+50.00 TO STA. 7+38.00 LT ℄ PR RAMP 1
BUILD TYPE 3 ROCK DITCH LINER

STA. 10+50.00 TO STA 14+50.00 LT. ℄ PR RAMP 1
BUILD TYPE 2 ROCK DITCH LINER



STA. 4+62.32 TO STA. 8+96.16 RT. ℄ PR RAMP 1
BUILD TYPE B GUARDRAIL
W/ TYPE A CRASHWORTHY END TREATMENT
W/ END ANCHOR

STA. 4+22.00 LT. ℄ PR RAMP 1
TO STA.140+50.00 LT. ℄ PRYOR ROAD
BUILD 72" CHAIN-LINK FENCE
W/ GATE

STA. 4+22.00 LT. ℄ PR RAMP1
TO STA. 141+00.00 LT ℄ PRYOR ROAD
BUILD TYPE A GUARDRAIL (7' POSTS)

STA. 1+12.16 LT. ℄ CONNECTOR 1 TO
STA. 141+00 RT ℄ PRYOR ROAD
BUILD TYPE A GUARDRAIL (7' POSTS)

STA. 388+54 181.7' LT ℄ I470 TO
STA. 391+81 141.2' LT ℄ I470
BUILD 366' UNDERDRAIN

SEE SHEET NO. 20 (ALIGNMENT SHEET) FOR ALL CURVE DATA AND ALIGNMENT INFORMATION.

SEE SPECIAL SHEETS FOR SIDEWALK, ADA RAMPS, CURB AND GUTTER, AND ISLAND DETAILS

SEE SPECIAL SHEETS FOR RIGHT OF WAY INFORMATION

Affinis corp

ROUTE	STATE	DISTRICT	SHEET NO.
I470	MO	4	7

JOB NO. J4I1641B
CONTRACT ID.
PROJECT NO.
COUNTY JACKSON

STATE OF MISSOURI RICHARD ALAN WOMELL NUMBER PROFESSIONAL ENGINEER

DATE 4/21/07

SCALE
0 50 100 150

STA.137+95.22, 45.45' LT.
℄ PRYOR ROAD
BUILD 5'X3' TYPE 1 APWA CURB INLET
W/ 1-15"X37' CLASS III RCP (OUTLET)
W/ 1-15" RCP FES

STA. 137+96.50, 48.43' RT.
℄ PRYOR ROAD
BUILD 5'X3' TYPE 1 APWA CURB INLET
W/ 1-15"X91' CLASS III RCP (OUTLET)

STA. 392+46.34 TO STA. 394+30.54
LT. ℄ I470
BUILD TYPE C CONCRETE
MEDIAN BARRIER

STA. 385+00.00, 54.75' LT ℄ I470
BUILD 4'X2' TYPE B INLET
W/ 1-15"X47' CLASS III RCP

STA. 385+00.00, 105.20' LT ℄ I470
BUILD 4'X2' TYPE B INLET
W/ 1-15"X43' CLASS III RCP

STA. 5+29.31 ℄ PR RAMP 1
SKEW 17°18' LA
REMOVE FES & 4 SECTIONS OF
EXISTING 36" PIPE
BUILD 1-36"X 35' GASKETED CLASS V RCP
W/ 1-TYPE A PIPE COLLAR
W/ 1-36" RCP FES

STA. 7+26.59, 24.11' LT ℄
PR RAMP 1
BUILD 3'X2' TYPE E INLET
W/ 1-15"X16' CLASS III RCP
W/ 1-15" RCP FES

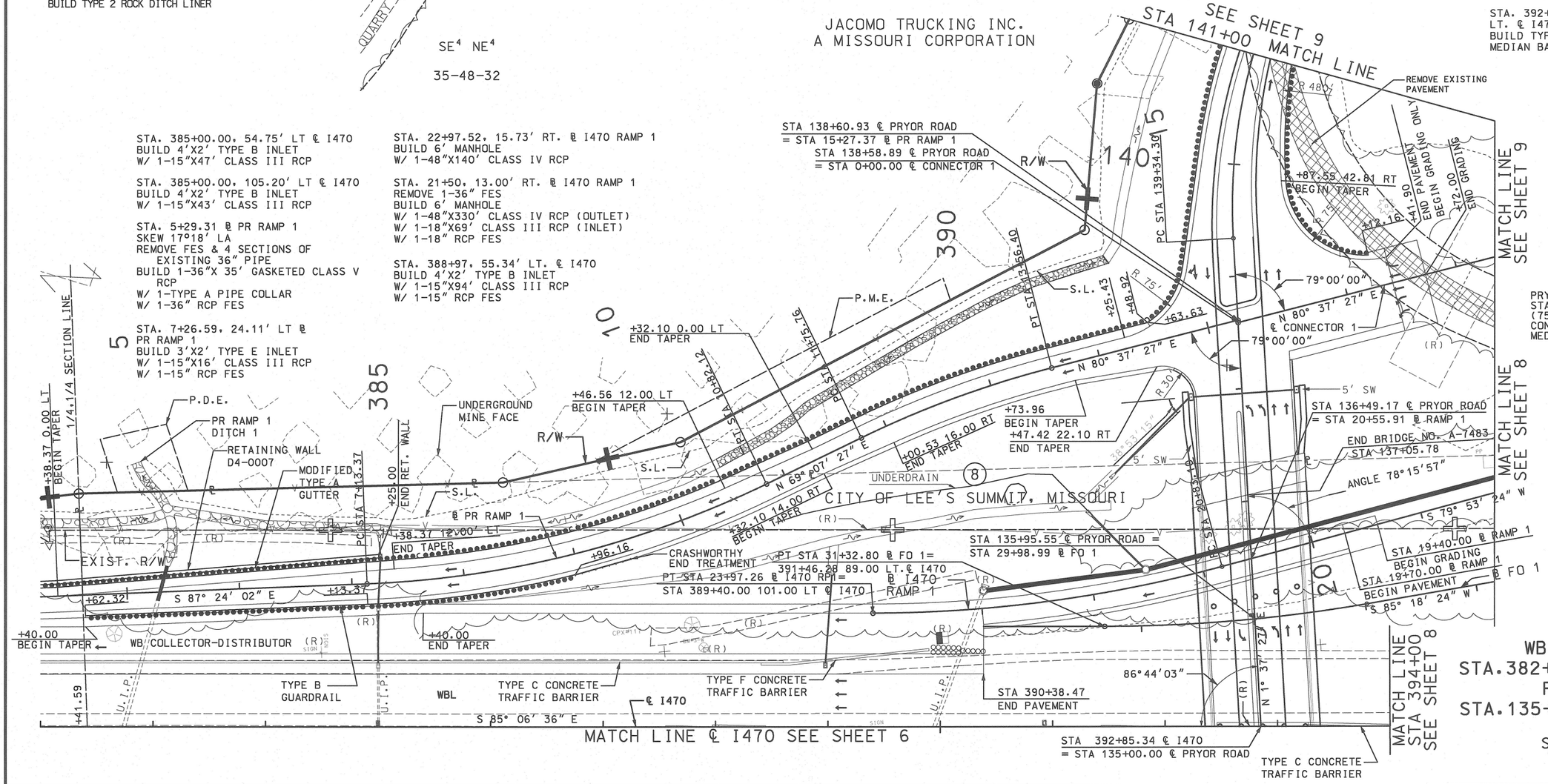
STA. 22+97.52, 15.73' RT. ℄ I470 RAMP 1
BUILD 6' MANHOLE
W/ 1-48"X140' CLASS IV RCP

STA. 21+50, 13.00' RT. ℄ I470 RAMP 1
REMOVE 1-36" FES
BUILD 6' MANHOLE
W/ 1-48"X330' CLASS IV RCP (OUTLET)
W/ 1-18"X69' CLASS III RCP (INLET)
W/ 1-18" RCP FES

STA. 388+97, 55.34' LT. ℄ I470
BUILD 4'X2' TYPE B INLET
W/ 1-15"X94' CLASS III RCP
W/ 1-15" RCP FES

⑦

JACOMO TRUCKING INC.
A MISSOURI CORPORATION



WB ROUTE I470
STA.382+00 TO STA.394+00
PRYOR ROAD
STA.135+00 TO STA.141+00
PLAN SHEET
SHEET 5 OF 7

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ROUTE	STATE	DISTRICT	SHEET NO.
I470	MO	4	8

JOB NO. J4I1641B

CONTRACT ID.

PROJECT NO.

COUNTY JACKSON

DATE 6-7-07

STATE OF MISSOURI
TIMOTHY R. McELDOWNEY
NUMBER 2004
REGISTERED PROFESSIONAL ENGINEER

SEE SHEET NO. 20 (ALIGNMENT SHEET) FOR ALL CURVE DATA AND ALIGNMENT INFORMATION.

SEE SPECIAL SHEETS FOR RIGHT OF WAY INFORMATION

STA. 16+50.00 TO STA. 18+15.00 RT. ℄ I470 RAMP 1
BUILD TYPE 3 ROCK DITCH LINER

STA. 394+00.00 TO STA. 395+60.58 ALONG EB CD
BUILD TYPE C CONCRETE MEDIAN BARRIER

STA. 5+91.70 TO STA. 8+63.00 LT. ℄ I470 RAMP 2
BUILD TYPE A GUARDRAIL
W/TYPE A CRASHWORTHY END TREATMENT
W/END ANCHOR

STA. 395+60.58 TO STA. 400+00.00 RT. ℄ I470
BUILD TYPE F CONCRETE MEDIAN BARRIER
(COMMISSION RETAINED)

STA. 1+00.00 TO STA. 7+00.00 RT. ℄ I470 RAMP 2
U.I.P. EROSION CONTROL ROCK DITCH CHECKS

STA. 394+00.00 TO STA. 395+60.58 RT. ℄ I470
BUILD TYPE A GUARDRAIL

END PROJECT LIMITS
STA. 407+49.51

MATCH LINE
SEE SHEET 7

REMOVE EXISTING PAVEMENT

℄ I470 RAMP 1 (FUTURE)

PERMANENT EASEMENT FOR DRAINAGE DITCH STATE OF MISSOURI DOC. NO. 160409, BK. 1180, PG. 1945

NO DIRECT ACCESS DOC. NO. 160409, BK. 1180, PG. 1945

EXIST. R/W

PT STA 23+06.06

℄ FUTURE FO 1

SW¼ NW¼
36-48-32

℄ EXIST. I470 RAMP 1

PC STA 396+72.35

+80.50

WBL

U.I.P.

℄ I470

S 85° 06' 36" E

TYPE C CONCRETE TRAFFIC BARRIER

EBL

TYPE F CONCRETE TRAFFIC BARRIER

REMOVE EXISTING PAVEMENT

CRASHWORTHY END TREATMENT

1/4 SECTION LINE

EB COLLECTOR-DISTRIBUTOR

S 85° 06' 35.9" E

END ANCHOR

℄ I470 RAMP 2

PC STA 2+49.76

+00.00

S.L.

EXIST. R/W

PT STA 7+93.68

END ANCHOR

+63.00

PT STA 9+15.27
END RAMP 2 CONSTRUCTION
MATCH EXIST. PAVM'T

PC STA 13+91.60

STA. 395+60.58
END I470 PAVM'T
END MEDIAN BARRIER
STA 0+00 ℄ I470 RAMP 2
00.00' RT.
BEGIN TEMP. BARRIER/
BEGIN RAMP 2 PAVM'T

SECTION LINE

STA. 396+95.57 RT. ℄ I470
SKEW 01°25'52" RA
REMOVE EXISTING 6' X 5' HEADWALL
BUILD 6' X 5'X27' RCB
NO HEADWALL

STA. 395+00.00, 54.75' RT. ℄ I470
BUILD 4'X2' TYPE B INLET
W/ 1-15"X65'CLASS III RCP
W/ 1-15" RCP FES

TRACT A

CITY OF LEE'S SUMMIT, MISSOURI

NW¼ SW¼
36-48-32

CHIPMAN--HWY 50

℄ CONNECTOR 2 (FUTURE)

STA. 2+00.00 TO STA. 13+50.00 RT. ℄ CONN. 2
BUILD 72" CHAIN-LINK FENCE

NE¼ SE¼
35-48-32

MATCH LINE STA 2+00
SEE SHEET 6

S 85° 22' 33" E

STA. 0+00.00 TO STA. 3+00.00 RT. ℄ I470 RAMP 2
BUILD TYPE A GUARDRAIL
W/END ANCHOR

STA. 6+42.62 RT. ℄ I470 RAMP 2
SKEW 36°51'33" LA
REMOVE EXIST. RCP FES
BUILD 42"X22' CLASS III RCP
W/ 1-42" RCP FES

+67.73

R/W

TARGET CORPORATION
(NO TAKINGS)

UNIFORM SEWER EASEMENT
DOCUMENT #2002010043648

+72.55

STA. 395+82.96, 83.16' RT. ℄ I470
CONTRACTOR TO EMPLOY A MISSOURI PROFESSIONAL LAND SURVEYOR TO ESTABLISH SUITABLE REFERENCE MONUMENTS AND FILE NECESSARY LAND CORNER REFERENCE DOCUMENTS WITH THE MISSOURI DEPARTMENT OF NATURAL RESOURCES PRIOR TO REMOVING OR ALTERING THE UNITED STATES PUBLIC LAND SURVEY CORNER (4 CSR 30-17.020) LAND CORNER MONUMENT BOX IS TO BE INSTALLED AT THIS LOCATION (NO DIRECT PAYMENT)

SCALE
0 50 100 150

END PROJECT LIMITS AT STA. 407+49.51 ℄ I470 IS LOCATED AT A POINT 223.82' DUE NORTH & 1156.69' DUE WEST OF THE EAST QUARTER CORNER OF SECTION 35, T48N, R32W, JACKSON COUNTY MISSOURI. FOUND ½" REBAR FILED WITH THE MISSOURI DEPT. OF NAT. RESOURCES AS M.L.S. #600-44096, BY LAND SURVEYOR LESLIE R. HAMILTON, LS-2226

ROUTE I470
STA. 394+00 TO STA. 407+00
PLAN SHEET
SHEET 6 OF 7

Affinis

ROUTE	STATE	DISTRICT	SHEET NO.
I470	MO	4	9

JOB NO. J4I1641B

CONTRACT ID.

PROJECT NO.

COUNTY JACKSON

DATE 6-7-07

STATE OF MISSOURI
TIMOTHY R. McELDOWNEY
NUMBER 27742
REGISTERED PROFESSIONAL ENGINEER

STA. 145+72.00 ℄ PRYOR RD.
SKEW 33°00'39" L/A
BUILD 9'X8' RCB – 217'
W/ FLARED WINGWALL RT.
W/ STRAIGHT WINGWALL LT.
W/ ROCK LINING LT.

UNITY SCHOOL OF CHRISTIANITY

PAUL C. & LINDA I. MATTHEWS

JACOMO TRUCKING INC.
A MISSOURI CORPORATION

GRACE ASSOCIATES, L.L.C.

1/4,1/4 Section Line

1/4,1/4 SECTION LINE

Section Line

QUARRY PARK ROAD

PT STA 5+67.89
MONCH EXIST. ℄ QUARRY PARK

PC STA 6+73.11

S 56° 45' 51" E

S.L.
T.C.E.
R/W
P.M.E.
P.D.E.

QUARRY PARK ROAD DITCH 1

SE¼ NE¼
35-48-32

EXIST. R/W

UNDERGROUND MINE FACE

REMOVE EXISTING PAVEMENT

STA. 9+06.48 ℄ QUARRY PARK RD.
BUILD 24"X77' CLASS III RCP
BUILD 24"X27' CMP
BUILD 24"X108' CMP
BUILD 24"X57' CMP
W/ 1-TYPE B PIPE COLLAR
W/ 1-24" RCP FES RT.
CONNECT LT. INTO 9'X8' RCB WINGWALL

STA. 141+50. 2.18' RT. ℄ PRYOR ROAD
BUILD 3'X2' TYPE S-2 INLET
BUILD 18"X30' CLASS III RCP
BUILD 18"X5' CMP
BUILD 18"X18' CMP
BUILD 18"X7' CMP
W/ 1-TYPE B PIPE COLLAR
W/ 1-18" CMP FES LT.

PT STA 5+87.89

PC STA 6+73.11

CRASHWORTHY END TREATMENT

END ANCHOR

S 37° 14' 32" E
424.71
90°00'00"
384.00

PT STA 9+24.71

END TAPER

62.99 25.10 RT

STA 144+00.00 ℄ PRYOR ROAD = STA 10+00.00 ℄ QUARRY PARK ROAD

MATCHLINE STA 141+00
SEE SHEET 7

STA. 141+00.00 LT. ℄ PRYOR ROAD TO STA 9+00.00 RT. ℄ QUARRY PARK RD.
BUILD TYPE A GUARDRAIL (242.5' WITH 7' POSTS)
W/TYPE A CRASHWORTHY END TREATMENT

STA. 9+24.71 LT. QUARRY PARK ROAD
TO STA. 149+28.23 LT. PRYOR ROAD
BUILD TYPE A GUARDRAIL (212.5' WITH 7' POSTS)
W/END ANCHOR
W/TYPE A CRASHWORTHY END TREATMENT

STA. 141+00.00 TO STA. 147+00.00 RT. ℄ PRYOR ROAD
BUILD TYPE A GUARDRAIL (7' POSTS)
W/ END ANCHOR

FOR INFORMATION ON PRYOR ROAD DITCH 1 AND 2 AND QUARRY PARK ROAD DITCH, SEE ALIGNMENT, PROFILE AND CROSS SECTION SHEETS.

MATCHLINE SEE SHEET 7

PC STA 2+36.36

SECTION LINE

STA 145+77.92 ℄ PRYOR ROAD CONSTRUCTION TIE TO EXISTING PAVEMENT

REMOVE EXISTING PAVEMENT

N 52° 45' 28" E
424.00

EXIST. R/W

T.C.E.

8'X6'(R) STONE ARCH

PRYOR ROAD DITCH 1

DENSE TREES

SCALE
0 50 100 150

SW¼ NW¼
36-48-32

STA. 142+95.00 TO STA. 144+72.22 RT. ℄ PRYOR ROAD
PRYOR ROAD DITCH 2
BUILD TYPE 4 ROCK DITCH LINER

STA. 144+62.00 TO STA. 144+97.00 RT. ℄ PRYOR RD.
INLET 9'X8' RCB
BUILD TYPE 4 ROCK DITCH LINER

STA. 144+72.00 TO STA. 146+14.00 RT. ℄ PRYOR RD.
PRYOR ROAD DITCH 1
BUILD TYPE 4 ROCK DITCH LINER

PT STA 5+67.89

PC STA 6+34.22

I.P.

BILLBOARD

℄ I470 RAMP 1 (EXISTING)

N 86° 37' 27" E

PT STA 10+08.24

℄ CONNECTOR 1 (FUTURE)

℄ I470 RAMP 1 (FUTURE)

SEE SHEET NO. 20 (ALIGNMENT SHEET) FOR ALL CURVE DATA AND ALIGNMENT INFORMATION.

SEE SPECIAL SHEETS FOR RIGHT OF WAY INFORMATION

PRYOR ROAD
STA.141+00 TO STA.149+77.92
QUARRY PARK ROAD
STA.5+67.89 TO STA.10+00

PLAN SHEET
SHEET 7 OF 7

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