CITY OF FLAGSTAFF
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AZ CORP COMMISSION
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BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission
DOCKETED
JUL 20 2009
DOCKETED BY

Commissioners

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF THE CITY OF FLAGSTAFF TO UPGRADE EXISTING RAILROAD CROSSINGS OF THE BNSF RAILWAY COMPANY AT STEVES BOULEVARD AND FANNING DRIVE IN THE CITY OF FLAGSTAFF, COCONINO COUNTY, ARIZONA, DOT CROSSING NOS. 025099J AND 025129Y.	DOCKET NO. RR-02635B-09-0075 **APPLICANT'S RESPONSE TO REQUEST FOR LATE-FILED EXHIBITS**

Pursuant to the Administrative Law Judge's Procedural Order of July 8, 2009, the City of Flagstaff ("City") hereby submits the following late-filed exhibits:

1. An assessment of the accuracy of all of the items of data included in the U.S. DOT Crossing Inventories on file with the Federal Railroad Administration ("FRA") for the crossings at Beaver Street, San Francisco Street, Enterprise Avenue, Steves Boulevard, and Fanning Drive, to include a copy of and the full citation to the source for any definition used to determine the information's accuracy and, if any item of information is inaccurate, identification of the item, how the information is inaccurate, and what information would be accurate.

The City of Flagstaff has assessed the accuracy of the items described above. Project Manager Randy Whitaker is the individual who conducted the assessment. To the best of his knowledge, Mr. Whitaker believes that the information on file with the FRA is substantially accurate. However, a more recent traffic count conducted by the City in connection with an unrelated project shows a reduction in Annual Average Daily Traffic ("AADT") levels at Fanning Drive and Steves Boulevard. The City has been considering whether it would be feasible to close Fanning Drive or Steves Boulevard to vehicle traffic. To make this determination, the City commissioned the Steves

Boulevard/Fanning Drive Closure Study, which is being conducted by consultants Kimley-Horn and Associates. Although this study has not been completed, preliminary results show that AADT at the Fanning Drive crossing has decreased from 8,101 to 3,300. AADT at the Steves Boulevard crossing has decreased from 11,028 to 3,200. Such changes to the traffic levels at these crossings would not affect the City's determination that each of the five crossings in question will be safe should the trains cease sounding their horns. Although traffic counts at Steves Boulevard and Fanning Drive show significantly fewer cars at those crossings, those crossings are not required to be used in the FRA Quiet Zone Calculator. Attached as Exhibit 1 is a copy of the U.S. DOT – Crossing Inventory Information, with the above-described changes indicated.

2. A printout of the FRA Quiet Zone Calculator result for a New Quiet Zone including the crossings at Beaver Street, San Francisco Street, and Enterprise Road, calculated using accurate information for the Supplemental Security Measures ("SSM's") existing at the crossings, including characterizing any SSM that meets the definition of Pre-existing SSM" accordingly, and including the corrected information for any data in the U.S. DOT Crossing Inventories that has been identified as inaccurate.

A copy is attached as Exhibit 2.

3. A complete copy of the diagrams for the "City of Flagstaff Rail Crossing Modification Project" concerning which Randy Whitaker testified at hearing.

A copy is attached as Exhibit 3.

4. A complete copy of the "Notice of Intent" that was sent out by the City regarding establishment of the New Quiet Zone.

A copy is attached as Exhibit 4.

5. Copies of any documentation of service of the "Notice of Intent" on the entities to whom it was sent.

A copy is attached as exhibit 5.

Respectfully submitted this 28th day of July, 2009 by:

David Womochil
Senior Assistant City Attorney
City of Flagstaff

Original and thirteen (13) copies of the foregoing were mailed this 28th day of July, 2009, first class postage prepaid, to:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007

Copies of the foregoing mailed this 28th day of July, 2009 to:

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Harry Steelman, Project Manager
Amtrak
810 N. Alameda Street
Los Angeles, CA 90012

By: Gloria Cervantes

EXHIBIT 1

U.S. DOT - ROSSING INVENTORY INFORMATION
AS OF 7/9/2009

Crossing No.: *025133N* Update Reason: *Changed Crossing* Effective Begin-Date of Record: *08/17/06*

Railroad: *BNSF BNSF Rwy Co. [BNSF]* End-Date of Record:

Initiating Agency *Railroad* Type and Position: *Public At Grade*

Part I Location and Classification of Crossing

Division:	*SOUTHWEST*	State:	*AZ*
Subdivision:	*SELIGMAN*	County:	*COCONINO*
Branch or Line Name:	*E WINSL-NEEDLES*	City:	*In FLAGSTAFF*
Railroad Milepost:	*0344.29*	Street or Road Name:	*BEAVER ST*
RailRoad I.D. No.:	*7200*	Highway Type & No.:	*FAU9023*
Nearest RR Timetable Stn:	*FLAGSTAFF*	HSR Corridor ID:	
Parent Railroad:		County Map Ref. No.:	*41*
Crossing Owner:		Latitude:	*35.1975351*
ENS Sign Installed:		Longitude:	*-111.6504212*
Passenger Service:	*AMTRAK*	Lat/Long Source:	*Actual*
Avg Passenger Train Count:	*2*	Quiet Zone:	*No*
Adjacent Crossing with Separate Number:			

Private Crossing Information:

Category: Public Access: *Unknown*

Specify Signs: Specify Signals:

	ST/RR A	ST/RR B	ST/RR C	ST/RR D
Railroad Use:				
State Use:				

Narrative:

Emergency Contact: *(800)832-5452* Railroad Contact: *(913)551-4540* State Contact:

Part II Railroad Information

Number of Daily Train Movements: Less Than One Movement Per Day: *No*

Total Trains: *93* Total Switching: *0* Day Thru: *47*

Typical Speed Range Over Crossing: From *1* to *45* mph Maximum Time Table Speed: *45*

Type and Number of Tracks: Main: *2* Other *0* Specify:

Does Another RR Operate a Separate Track at Crossing? *No*

Does Another RR Operate Over Your Track at Crossing? *Yes: ATK*

U.S. DOT - CROSSING INVENTORY INFORMATION
Continued

Crossing *025133N*

Effective Begin-Date of Record: *08/17/06*
End-Date of Record:

Part III: Traffic Control Device Information

Signs:

Crossbucks:	*4*	Highway Stop Signs:	*0*		
Advanced Warning:	*Yes*	Hump Crossing Sign:	*No*		
Pavement Markings:	*Stop Lines and RR Xing Symbols*	Other Signs:	*2*	Specify:	*3 TRACKS*
			2		*OTHRSTPSGN*

Train Activated Devices:

Gates:	*2*	4 Quad or Full Barrier:	*Yes*		
Mast Mounted FL:	*4*	Total Number FL Pairs:	*9*		
Cantilevered FL (Over):	*2*	Cantilevered FL (Not over):	*0*		
Other Flashing Lights:	*0*	Specify Other Flashing Lights:			
Highway Traffic Signals:	*0*	Wigwags:	*0*	Bells:	*4*
Other Train Activated Warning Devices:		Special Warning Devices Not Train Activated:			
Channelization:		Type of Train Detection:	*Constant Warning Time*		
Track Equipped with Train Signals?	*Yes*	Traffic Light Interconnection/Preemption:	*Advance Preemption*		

Part IV: Physical Characteristics

Type of Development:	*Commercial*	Smallest Crossing Angle:	*60 to 90 Degrees*
Number of Traffic Lanes Crossing Railroad:	*2*	Are Truck Pullout Lanes Present?	*No*
Is Highway Paved?	*Yes*		
Crossing Surface:	*Concrete*	If Other:	
Nearby Intersecting Highway?	*Less than 75 feet*	Is it Signalized?	*Yes*
Does Track Run Down a Street?	*No*	Is Crossing Illuminated?	*No*
Is Commercial Power	*Yes*		

Part V: Highway Information

Highway System:	*Other FA Highway - Not NHS*	Functional Classification of Road at Crossing:	*Urban Collector*
Is Crossing on State Highway System:	*No*		
Annual Average Daily Traffic (AADT):	*007642*	AADT Year:	*2003*
Estimated Percent Trucks:	*40*	Avg. No of School Buses per Day:	*0*
Posted Highway Speed:	*0*		

U.S. DOT - CROSSING INVENTORY INFORMATION
AS OF 7/9/2009

Crossing No.: *025132G* Update Reason: *Changed Crossing* Effective Begin-Date of Record: *08/17/06*

Railroad: *BNSF BNSF Rwy Co. [BNSF]* End-Date of Record:

Initiating Agency *Railroad* Type and Positiion: *Public At Grade*

Part I Location and Classification of Crossing

Division:	*SOUTHWEST*	State:	*AZ*
Subdivision:	*SELIGMAN*	County:	*COCONINO*
Branch or Line Name:	*E WINSL-NEEDLES*	City:	*In FLAGSTAFF*
Railroad Milepost:	*0344.16*	Street or Road Name:	*SAN FRANCISCO ST*
RailRoad I.D. No.:	*7200*	Highway Type & No.:	
Nearest RR Timetable Stn:	*FLAGSTAFF*	HSR Corridor ID:	
Parent Railroad:		County Map Ref. No.:	*35A*
Crossing Owner:		Latitude:	*35.1968505*
ENS Sign Installed:		Longitude:	*-111.6482409*
Passenger Service:	*AMTRAK*	Lat/Long Source:	*Actual*
Avg Passenger Train Count:	*2*	Quiet Zone:	*No*
Adjacent Crossing with Separate Number:			

Private Crossing Information:

Category: Public Access: *Unknown*

Specify Signs: Specify Signals:

	ST/RR A	ST/RR B	ST/RR C	ST/RR D
Railroad Use:				
State Use:				

Narrative:

Emergency Contact: *(800)832-5452* Railroad Contact: *(913)551-4540* State Contact:

Part II Railroad Information

Number of Daily Train Movements: Less Than One Movement Per Day: *No*

Total Trains: *93* Total Switching: *0* Day Thru: *47*

Typical Speed Range Over Crossing: From *1* to *45* mph Maximum Time Table Speed: *45*

Type and Number of Tracks: Main: *2* Other *1* Specify: *SIDING*

Does Another RR Operate a Separate Track at Crossing? *No*

Does Another RR Operate Over Your Track at Crossing? *Yes: ATK*

U.S. DOT - CROSSING INVENTORY INFORMATION
Continued

Crossing *025132G*

Effective Begin-Date of Record: *08/17/06*
End-Date of Record:

Part III: Traffic Control Device Information

Signs:

Crossbucks:	*4*	Highway Stop Signs:	*0*
Advanced Warning:	*Yes*	Hump Crossing Sign:	*No*
Pavement Markings:	*Stop Lines and RR Xing Symbols*	Other Signs: *2* *0*	Specify: *DIRECTINAL*

Train Activated Devices:

Gates:	*2*	4 Quad or Full Barrier:	*Yes*
Mast Mounted FL:	*6*	Total Number FL Pairs:	*9*
Cantilevered FL (Over):	*1*	Cantilevered FL (Not over):	*0*
Other Flashing Lights:	*0*	Specify Other Flashing Lights:	
Highway Traffic Signals:	*0*	Wigwags: *0*	Bells: *4*
Other Train Activated Warning Devices:		Special Warning Devices Not Train Activated:	
Channelization:		Type of Train Detection:	*Constant Warning Time*
Track Equipped with Train Signals?	*Yes*	Traffic Light Interconnection/Preemption:	*Advance Preemption*

Part IV: Physical Characteristics

Type of Development:	*Commercial*	Smallest Crossing Angle:	*60 to 90 Degrees*
Number of Traffic Lanes Crossing Railroad:	*3*	Are Truck Pullout Lanes Present?	*No*
Is Highway Paved?	*Yes*		
Crossing Surface:	*Concrete*	If Other:	
Nearby Intersecting Highway?	*76 to 200 feet*	Is it Signalized?	*Yes*
Does Track Run Down a Street?	*No*	Is Crossing Illuminated?	*No*
Is Commercial Power	*Yes*		

Part V: Highway Information

Highway System:	*Other FA Highway - Not NHS*	Functional Classification of Road at Crossing:	*Urban Collector*
Is Crossing on State Highway System:	*No*		
Annual Average Daily Traffic (AADT):	*007978*	AADT Year:	*2003*
Estimated Percent Trucks:		Avg. No of School Buses per Day:	*0*
Posted Highway Speed:	*0*		

U.S. DOT - CROSSING INVENTORY INFORMATION
AS OF 7/9/2009

Crossing No.: *025131A* Update Reason: *Changed Crossing* Effective Begin-Date of Record: *08/17/06*

Railroad: *BNSF BNSF Rwy Co. [BNSF]* End-Date of Record:

Initiating Agency *Railroad* Type and Positiion: *Public At Grade*

Part I Location and Classification of Crossing

Division:	*SOUTHWEST*	State:	*AZ*
Subdivision:	*SELIGMAN*	County:	*COCONINO*
Branch or Line Name:	*E WINSL-NEEDLES*	City:	*In FLAGSTAFF*
Railroad Milepost:	*0342.93*	Street or Road Name:	*ENTERPRISE RD.*
RailRoad I.D. No.:	*7200*	Highway Type & No.:	*FAU9012*
Nearest RR Timetable Stn:	*FLAGSTAFF*	HSR Corridor ID:	
Parent Railroad:		County Map Ref. No.:	*41*
Crossing Owner:		Latitude:	*35.1947847*
ENS Sign Installed:		Longitude:	*-111.6281883*
Passenger Service:	*AMTRAK*	Lat/Long Source:	*Actual*
Avg Passenger Train Count:	*2*	Quiet Zone:	*No*
Adjacent Crossing with Separate Number:			

Private Crossing Information:

Category: Public Access: *Unknown*

Specify Signs: Specify Signals:

	ST/RR A	ST/RR B	ST/RR C	ST/RR D
Railroad Use:				
State Use:				

Narrative:

Emergency Contact: *(800)832-5452* Railroad Contact: *(913)551-4540* State Contact:

Part II Railroad Information

Number of Daily Train Movements: Less Than One Movement Per Day: *No*

Total Trains: *97* Total Switching: *4* Day Thru: *47*

Typical Speed Range Over Crossing: From *1* to *55* mph Maximum Time Table Speed: *55*

Type and Number of Tracks: Main: *2* Other *2* Specify: *SIDING-SPU*

Does Another RR Operate a Separate Track at Crossing? *No*

Does Another RR Operate Over Your Track at Crossing? *Yes: ATK*

U.S. DOT - CROSSING INVENTORY INFORMATION
Continued

Crossing *025131A*

Effective Begin-Date of Record: *08/17/06*
End-Date of Record:

Part III: Traffic Control Device Information

Signs:

Crossbucks:	*6*	Highway Stop Signs:	*0*
Advanced Warning:	*Yes*	Hump Crossing Sign:	
Pavement Markings:	*Stop Lines and RR Xing Symbols*	Other Signs: *1* Specify:	*DIRECTIONA*
		2	*W/O 2*

Train Activated Devices:

Gates:	*4*	4 Quad or Full Barrier:	*Yes*
Mast Mounted FL:	*9*	Total Number FL Pairs:	*16*
Cantilevered FL (Over):	*2*	Cantilevered FL (Not over):	*0*
Other Flashing Lights:	*0*	Specify Other Flashing Lights:	
Highway Traffic Signals:	*0*	Wigwags: *0* Bells:	*2*
Other Train Activated Warning Devices:		Special Warning Devices Not Train Activated:	
Channelization:		Type of Train Detection:	*DC/AFO*
Track Equipped with Train Signals?	*Yes*	Traffic Light Interconnection/Preemption:	*Advance Preemption*

Part IV: Physical Characteristics

Type of Development:	*Industrial*	Smallest Crossing Angle:	*60 to 90 Degrees*
Number of Traffic Lanes Crossing Railroad:	*5*	Are Truck Pullout Lanes Present?	*No*
Is Highway Paved?	*Yes*		
Crossing Surface:	*Concrete*	If Other:	
Nearby Intersecting Highway?	*76 to 200 feet*	Is it Signalized?	*Yes*
Does Track Run Down a Street?	*No*	Is Crossing Illuminated?	
Is Commercial Power	*Yes*		

Part V: Highway Information

Highway System:	*Other FA Highway - Not NHS*	Functional Classification of Road at Crossing:	*Urban Minor Arterial*
Is Crossing on State Highway System:	*No*		
Annual Average Daily Traffic (AADT):	*020836*	AADT Year:	*2003*
Estimated Percent Trucks:	*38*	Avg. No of School Buses per Day:	*0*
Posted Highway Speed:	*0*		

U.S. DOT - CROSSING INVENTORY INFORMATION
AS OF 7/9/2009

Crossing No.: *025129Y* Update Reason: *Changed Crossing* Effective Begin-Date of Record: *08/01/07*

Railroad: *BNSF BNSF Rwy Co. [BNSF]* End-Date of Record:

Initiating Agency *Railroad* Type and Positiion: *Public At Grade*

Part I Location and Classification of Crossing

Division:	*SOUTHWEST*	State:	*AZ*
Subdivision:	*SELIGMAN*	County:	*COCONINO*
Branch or Line Name:	*E WINSL-NEEDLES*	City:	*In FLAGSTAFF*
Railroad Milepost:	*0340.55*	Street or Road Name:	*FANNING DRIVE*
RailRoad I.D. No.:	*7200*	Highway Type & No.:	
Nearest RR Timetable Stn:	*FLAGSTAFF*	HSR Corridor ID:	
Parent Railroad:		County Map Ref. No.:	*38*
Crossing Owner:		Latitude:	*35.2153902*
ENS Sign Installed:		Longitude:	*-111.5952922*
Passenger Service:	*AMTRAK*	Lat/Long Source:	*Actual*
Avg Passenger Train Count:	*2*	Quiet Zone:	*No*
Adjacent Crossing with Separate Number:			

Private Crossing Information:

Category: Public Access: *Unknown*

Specify Signs: Specify Signals:

	ST/RR A	ST/RR B	ST/RR C	ST/RR D
Railroad Use:				
State Use:				

Narrative:

Emergency Contact: *(800)832-5452* Railroad Contact: *(913)551-4540* State Contact:

Part II Railroad Information

Number of Daily Train Movements: Less Than One Movement Per Day: *No*

Total Trains: *93* Total Switching: *0* Day Thru: *47*

Typical Speed Range Over Crossing: From *1* to *55* mph Maximum Time Table Speed: *55*

Type and Number of Tracks: Main: *2* Other *0* Specify:

Does Another RR Operate a Separate Track at Crossing? *No*

Does Another RR Operate Over Your Track at Crossing? *Yes: ATK*

U.S. DOT - CROSSING INVENTORY INFORMATION
Continued

Crossing *025129Y*

Effective Begin-Date of Record: *08/01/07*
End-Date of Record:

Part III: Traffic Control Device Information

Signs:

Crossbucks:	*2*	Highway Stop Signs:			*0*
Advanced Warning:	*Yes*	Hump Crossing Sign:			
Pavement Markings:	*Stop Lines and RR Xing Symbols*	Other Signs:	*1*	Specify:	*W/O 2*
			1		*DIRECTIONA*

Train Activated Devices:

Gates:	*2*	4 Quad or Full Barrier:			*No*
Mast Mounted FL:	*2*	Total Number FL Pairs:			*6*
Cantilevered FL (Over):	*2*	Cantilevered FL (Not over):			*0*
Other Flashing Lights:	*0*	Specify Other Flashing Lights:			
Highway Traffic Signals:	*0*	Wigwags:	*0*	Bells:	*2*
Other Train Activated Warning Devices:		Special Warning Devices Not Train Activated:			
Channelization:		Type of Train Detection:			*DC/AFO*
Track Equipped with Train Signals?	*Yes*	Traffic Light Interconnection/Preemption:			*Advance Preemption*

Part IV: Physical Characteristics

Type of Development:	*Commercial*	Smallest Crossing Angle:	*60 to 90 Degrees*
Number of Traffic Lanes Crossing Railroad:	*4*	Are Truck Pullout Lanes Present?	*No*
Is Highway Paved?	*Yes*		
Crossing Surface:	*Concrete*	If Other:	
Nearby Intersecting Highway?	*76 to 200 feet*	Is it Signalized?	*Yes*
Does Track Run Down a Street?	*No*	Is Crossing Illuminated?	*No*
Is Commercial Power	*Yes*		

Part V: Highway Information

Highway System:	*Non-Federal-aid*	Functional Classification of Road at Crossing:	*Urban Local*
Is Crossing on State Highway System:	*No*		
Annual Average Daily Traffic (AADT):	~~*008101*~~ 3 300 1 (P)	AADT Year:	*2003*
Estimated Percent Trucks:	*40*	Avg. No of School Buses per Day:	*0*
Posted Highway Speed:	*0*		

U.S. DOT - CROSSING INVENTORY INFORMATION
AS OF 7/9/2009

Crossing No.: *025099J* Update Reason: *Changed Crossing* Effective Begin-Date of Record: *08/01/07*

Railroad: *BNSF BNSF Rwy Co. [BNSF]* End-Date of Record:

Initiating Agency *Railroad* Type and Position: *Public At Grade*

Part I Location and Classification of Crossing

Division:	*SOUTHWEST*	State:	*AZ*
Subdivision:	*SELIGMAN*	County:	*COCONINO*
Branch or Line Name:	*E WINSL-NEEDLES*	City:	*In FLAGSTAFF*
Railroad Milepost:	*0341.19*	Street or Road Name:	*STEVES BLVD.*
RailRoad I.D. No.:	*7200*	Highway Type & No.:	
Nearest RR Timetable Stn:	*FLAGSTAFF*	HSR Corridor ID:	
Parent Railroad:		County Map Ref. No.:	*S40*
Crossing Owner:		Latitude:	*35.2102941*
ENS Sign Installed:		Longitude:	*-111.6048873*
Passenger Service:	*AMTRAK*	Lat/Long Source:	*Actual*
Avg Passenger Train Count:	*2*	Quiet Zone:	*No*
Adjacent Crossing with Separate Number:			

Private Crossing Information:

Category: Public Access: *Unknown*

Specify Signs: Specify Signals:

	ST/RR A	ST/RR B	ST/RR C	ST/RR D
Railroad Use:				
State Use:				

Narrative:

Emergency Contact: *(800)832-5452* Railroad Contact: *(913)551-4540* State Contact:

Part II Railroad Information

Number of Daily Train Movements: Less Than One Movement Per Day: *No*

Total Trains: *93* Total Switching: *0* Day Thru: *47*

Typical Speed Range Over Crossing: From *1* to *55* mph Maximum Time Table Speed: *55*

Type and Number of Tracks: Main: *2* Other *0* Specify:

Does Another RR Operate a Separate Track at Crossing? *No*

Does Another RR Operate Over Your Track at Crossing? *Yes: ATK*

U.S. DOT - CROSSING INVENTORY INFORMATION
Continued

Crossing *025099J*

Effective Begin-Date of Record: *08/01/07*
End-Date of Record:

Part III: Traffic Control Device Information

Signs:

Crossbucks:	*2*	Highway Stop Signs:			*0*
Advanced Warning:	*Yes*	Hump Crossing Sign:			*No*
Pavement Markings:	*RR Xing Symbols*	Other Signs:	*1*	Specify:	*W/0 2*
			1		*DIRECTIONA*

Train Activated Devices:

Gates:	*2*	4 Quad or Full Barrier:			*No*
Mast Mounted FL:	*2*	Total Number FL Pairs:			*8*
Cantilevered FL (Over):	*2*	Cantilevered FL (Not over):			*0*
Other Flashing Lights:	*0*	Specify Other Flashing Lights:			
Highway Traffic Signals:	*0*	Wigwags:	*0*	Bells:	*2*
Other Train Activated Warning Devices:		Special Warning Devices Not Train Activated:			
Channelization:		Type of Train Detection:			*DC/AFO*
Track Equipped with Train Signals?	*Yes*	Traffic Light Interconnection/Preemption:			*Simultaneous Preemption*

Part IV: Physical Characteristics

Type of Development:	*Commercial*	Smallest Crossing Angle:	*60 to 90 Degrees*
Number of Traffic Lanes Crossing Railroad:	*4*	Are Truck Pullout Lanes Present?	*No*
Is Highway Paved?	*Yes*		
Crossing Surface:	*Concrete*	If Other:	
Nearby Intersecting Highway?	*76 to 200 feet*	Is it Signalized?	*Yes*
Does Track Run Down a Street?	*No*	Is Crossing Illuminated?	*No*
Is Commercial Power	*Yes*		

Part V: Highway Information

Highway System:	*Other FA Highway - Not NHS*	Functional Classification of Road at Crossing:	*Urban Collector*
Is Crossing on State Highway System:	*No*		
Annual Average Daily Traffic (AADT):	~~*011020*~~ 3,200 (RM)	AADT Year:	*2002*
Estimated Percent Trucks:	*05*	Avg. No of School Buses per Day:	*0*
Posted Highway Speed:	*0*		

EXHIBIT 2

Print This Page

Home | Help | Contact | logoff rwhitaker@ci.flagstaff.az.us

Cancel | Change Scenario: 071409_29507 | Continue

Create New Zone

Manage Existing Zones

Log Off

Crossing	Street	Traffic	Warning Device	Pre-SSM	SSM	Risk	
025131A	**ENTERPRISE RD.**	**20836**	**Gates**	0	0	81,966.70	MODIFY
025132G	**SAN FRANCISCO ST**	**7978**	**Gates**	14	0	141,330.58	MODIFY
025133N	**BEAVER ST**	**7642**	**Gates**	14	0	217,785.59	MODIFY

* Only Public At Grade Crossings are listed.

ALERT: Quiet Zone qualifies because QZRI is less than Risk Index with Horns.

Click for Supplementary Safety Measures [SSM]

Click for ASM spreadsheet: **ASM**

* Note:The use of ASMs requires an application to and approval from the FRA.

Summary	
Proposed Quiet Zone:	071409
Type:	New 24-hour QZ
Scenario:	071409_29507
Estimated Total Cost:	$0.00
Nationwide Significant Risk Threshold:	17610 .00
Risk Index with Horns:	415079.24
Quiet Zone Risk Index:	**147027.62**

Select

Step by Step Instructions:

Step 1: To specify New Warning Device (For Pre-Rule Quiet Zone Only) and/or SSM, click the MODIFY Button

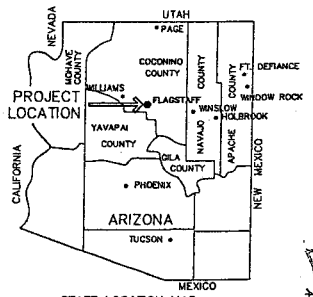
Step 2: Select proposed warning device or SSM. Then click the UPDATE button.To generate a spreadsheet of the values on this page, click on ASM button—This spreadsheet can then be used for ASM calculations.

Step 3: Repeat Step (2) until the SELECT button is shown at the bottom right side of this page. Note that the SELECT button is shown ONLY when the Quiet Zone Risk Index falls below the NSRT or the Risk Index with Horn.

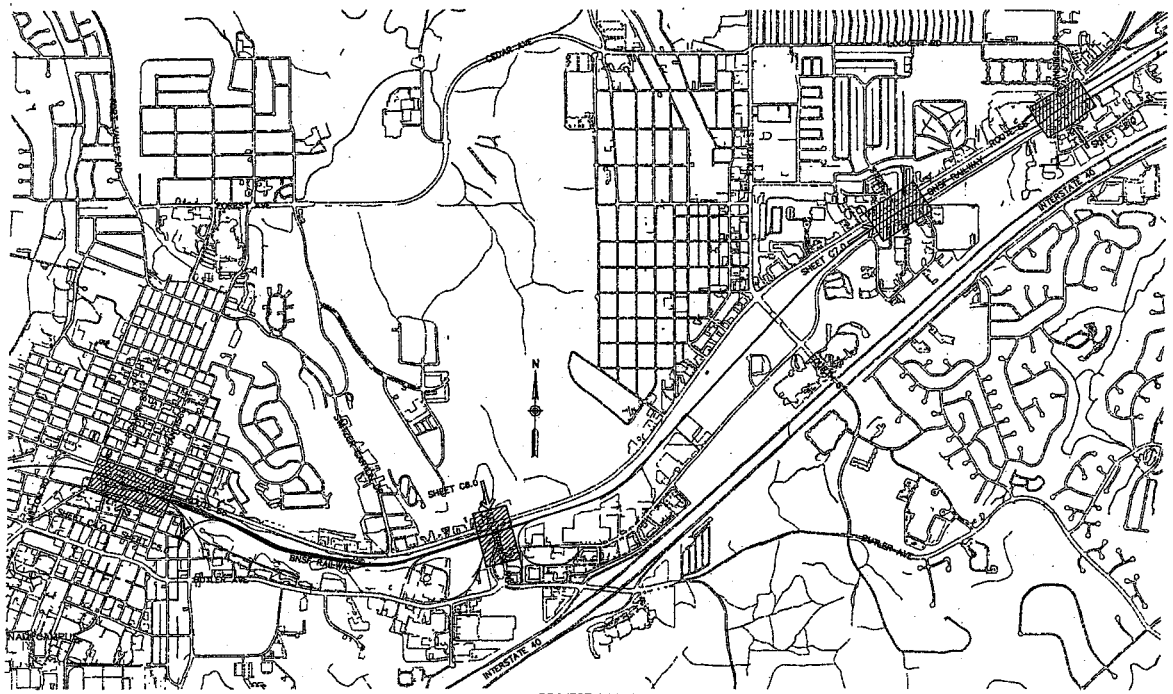
Step 4: To save the scenario and continue, click the SELECT button

WARNING DEVICE
HAD 4-quad changed to "GATES".
RW 7-14-09

CITY OF FLAGSTAFF
RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA



STATE LOCATION MAP
NO SCALE



PROJECT LOCATION MAP
NO SCALE

PUBLIC IMPROVEMENTS APPROVAL:

BY LETTER Arizona Public Service Co.	07/29/2008 Date
BY LETTER UniSource Energy	07/31/2008 Date
BY LETTER NPG Cable	08/20/2008 Date
BY LETTER Qwest Communications	07/31/2008 Date
BY LETTER AT&T	06/04/2008 Date

APPROVED:

The city approves these plans for concept only. All liability for errors or omissions is the responibility of the design engineer.

(SIGNED) Richard A. Barrett City Engineer	11/03/2008 Date
(SIGNED) Erik Solberg City Public Works Director	10/30/2008 Date
(SIGNED) Randy Pellatz City Utilities Director	10/29/2008 Date

SHEET INDEX

SHEET C1.0	COVER SHEET
SHEET C2.0	GENERAL NOTES AND ESTIMATED CONTRACT QUANTITIES
SHEET C2.1	DETAILS
SHEET C2.2	ARCHWAY/PEDESTRIAN STAGING AREA DETAILS
SHEET C2.3	ARCHWAY/PEDESTRIAN STAGING AREA DETAILS
SHEET C3.0	OVERALL VIEW / BEAVER ST. AND SAN FRANCISCO ST.
SHEET C4.0	BEAVER STREET – PLAN VIEW
SHEET C5.0	SAN FRANCISCO STREET – PLAN VIEW
SHEET C6.0	ENTERPRISE AVENUE – PLAN VIEW
SHEET C7.0	STEVES BOULEVARD – PLAN VIEW
SHEET C8.0	FANNING DRIVE – PLAN VIEW
SHEET C9.0	WHISTLE CLEAR VIEW ZONES

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NO	DATE	REVISION	BY	CH	APPR
1	08/30/09	Revised per R.Whitaker comments			

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

COVER SHEET

BNSF RAILROAD SOUTHWEST DIVISION

DRAWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9614

SCALE H: N/A V: N/A

OF

DWG NO. C1.0

EXHIBIT 3

1. Neither the owner, the engineer, nor any public agency will enforce safety measures or regulations. The contractor shall design, construct and maintain all safety devices, including shoring, and shall be solely responsible for conforming to all local, state and federal laws and regulations.

2. Contractor shall make exploratory excavations and locate existing underground facilities sufficiently ahead of construction to permit revision to plans if revisions are necessary due to actual locations of existing facilities. The contractor is required to take precautionary measures to protect the utility lines shown hereon, and any other existing lines not of record, or not shown on these plans.

3. Prior to excavating for this contract, verify depth and location of all existing utilities. location of utilities shown hereon has been determined by a search of available records. all existing utilities may or may not be shown on the plans. contact:

BLUE STAKE 1-800-STAKE IT

4. Location and elevation of all improvements to be met by new work to be done shall be confirmed by field measurements prior to construction of new work.

5. The contractor shall be responsible to insure that all slopes, streets and utilities are built in accordance with these plans. If there is a question regarding these plans, the contractor shall request an interpretation prior to bidding or accomplishing any work by contacting the engineer of work at (928) 556-0311.

6. All grading shall be accomplished under the supervision of a qualified soils engineer who shall be the owner's representative to inspect construction of fills and back fills. Deviations from grading and back fill specifications shall be permitted only upon the written authorization of the soils engineer; together with concurrence of the owner, engineer of work, as well as any agency of jurisdiction. after grading has been accomplished, and the soils engineer has completed his observation of the work, no further grading or filling shall take place except under the renewed observation of the soils engineer.

7. The contractor shall at his own cost and expense provide necessary permits, comply with local ordinances and regulations, and conform to all zoning ordinances and covenants governing the project location. The contractor at his own cost and expense shall be responsible for the acquisition of any necessary easements for construction purposes.

8. The contractor shall maintain and continually update a complete set of "as-built" plans on the project. Said plans shall be made available to the owner and/or engineer for review upon request as the work progresses. In addition to all changes and modifications to the work under this project, said as-builts shall contain location and elevation of all existing utilities found during construction. A complete set of "as-built" plans shall be submitted to the owner upon completion and prior to acceptance of the work.

9. Contractor shall submit to owner for approval 5 copies of all shop drawings, aggregate gradations, mix designs, etc., as appropriate, for all materials scheduled for use in this project including water pipe, valves and other appurtenances. Copies of all submittals shall be made to the engineer of work as well as any requesting agency of jurisdiction. Prior to incorporating any of the submitted material into the work, approval of owner, engineer, as well as any agency of jurisdiction is required.

10. Contractor shall refer to the city of flagstaff "Engineering Design and Construction Standards and Specifications" (Latest Edition) for manufacturers and models approved by the city.

GENERAL NOTES

1. Approval of these plans by the City Engineer is for a one-year period, subsequent to the date of approval. If construction work is not started within the one-year period, or has been discontinued for any reason for longer than one year, the plans shall be resubmitted for review and re-approval.

2. Plan review by the city does not extend to material quantities shown on the plans.

3. A public works permit, issued by the city, is required for all work in city right-of-ways or easements and for construction of any improvements intended to become public property.

4. The city shall be notified 24 hours prior to beginning different phases of construction so that city inspectors may be scheduled.

5. All materials and workmanship shall comply with the current City of Flagstaff "Engineering Design and Construction Standards and Specifications" and the current "MAG Uniform Standard Specifications and details for Public Works Construction", with the City of Flagstaff additions and revisions, and with generally accepted good construction practice. All work and materials which do not conform to the standards and specifications are subject to removal and replacement at the contractor's expense.

6. Any work performed without the knowledge and approval of the City Engineer or his authorized representative, is subject to removal and replacement at the contractor's expense.

7. The City Engineer or his authorized representative may suspend the work by written notice when, in his judgment, progress is unsatisfactory, work being done is unauthorized or defective, weather conditions are unsuitable, or there is danger to the public health or safety.

8. The City Engineer may order any or all materials used in the work to be tested according to the American Association of State Highway and Transportation Officials (AASHTO) and the American Society for Testing Materials (ASTM) standards. The contractor shall, at his expense, supply all samples required for testing.

9. Access which meets section 13-04-010, fire hydrants, water mains and street name signs shall be in place and approved before and at all times during on-site combustible construction and/or prior to issuance of building permits in new subdivisions. Fire department and Engineering Division approval is required for obstruction of access or water system shutdown.

10. The contractor shall be responsible for maintenance of the streets and of partially completed portions of the work. The contractor shall submit to the City Engineer for approval a construction schedule for any streets required to be closed or partially closed for the construction activity. The contractor shall reopen the streets no later than the opening date shown on the construction schedule or upon order of the City Engineer. The regulation and control of construction traffic shall be as directed by the City Engineer or his authorized representative.

11. Approval of a portion of the work in progress does not guarantee its final acceptance. Testing and evaluation may continue until written final acceptance of a complete workable unit. Any defects which appear in the work within one year from the date of acceptance and which are due to improper workmanship or inferior materials supplied shall be corrected by or at the expense of the contractor.

12. Acceptance of completed public improvements will not be given until defective or unauthorized work is removed, and final clean-up is complete.

13. Location of underground utilities before work is begun is to be accomplished in accordance with ARS 40-360.22.

14. If work is done on private property in relation to a project constructed under these standards, the contractor will provide the city with written authorization from the property owner to do so.

15. The establishment and use of temporary construction yards shall conform to the current City Land Development Code standards for "temporary uses".

16. "Adequate drainage, erosion and sediment control measures, best management practices, and/or other storm water management facilities shall be provided and maintained at all times during construction. Damages to adjacent property and/or the construction site caused by the contractor's or property owner's failure to provide and maintain adequate drainage and erosion/sediment control for the construction area shall be the responsibility of the contractor and/or property owner".

17. The location of existing survey monuments must be referenced and made accessible to the city. The monuments are to be reset after overlay as per C.O.F. Std. Dwg. 11-01-010. The work shall be performed under the supervision of a registered land surveyor. The engineer will designate the monuments to be re-set. Monumentation shall consist of a reinforcing bar and cap, with the registrants number, that shall be driven or secured by a means approved by the engineer. Monuments shall be furnished by the contractor. A "Results of Survey" map shall be prepared and recorded with the office of the Coconino County Recorder by the contractors surveyor to show the monuments found and set.

18. The contractor shall schedule the pavement milling so that no street shall be milled more than ten calendar days prior to its scheduled date for overlay.

PAVING NOTES

1. Exact point of matching termination and overlay, if necessary, shall be determined in the field by the City Engineer or his authorized representative.

2. No job will be considered completed until: A.) all curbs, pavements, sidewalks, catch basins, storm drains and manholes have been cleaned of all dirt and debris; B.) survey monuments are installed and stamped; C.) all frames, covers and valve boxes are adjusted to grade.

3. Base course will not be placed until sub-grade has been approved by the City Engineer or his authorized representative.

4. The location of all water valves, fire hydrants, and manholes must at all times during construction be referenced and made accessible to the city.

5. Utility facilities in conflict with this work will be relocated by the contractor. This activity shall be coordinated with the owner of the utility to prevent any unnecessary interruption of service to existing customers.

6. Existing street name signs, traffic signs and devices associated with the project shall be maintained during construction on relocated by the contractor as shown on the approved plans.

7. All portland cement concrete used for curb and gutter, sidewalk and catch basins shall be M.A.G. class "A" with 5% to 7% air entrainment.

8. No paving construction shall be started until all utility lines are completed and approved under proposed paved areas.

9. Any changes or additions to pavement markings caused by pavement overlay, chip seal or installation of underground facilities shall be shown on the approved plans.

10. A prime coat is not required unless so specified in the soils and pavement report and/or shown on the plans.

11. All curb and gutter, sidewalk, driveways, and sidewalk ramps shall be constructed on a minimum 4" of ABC. The ABC shall be constructed per MAG Section 310 and shall be compacted to 95% relative density.

TRAFFIC CONTROL NOTES

1. The contractor shall provide and maintain all necessary traffic controls to protect and guide traffic through the work area. Traffic control shall be as required by MAG Section 401. Prior to any construction the contractor shall submit a traffic control plan to the City of Flagstaff for approval. See Section 401.4 of the special provision.

2. If at any time the owner/engineer determines that proper provisions for safe traffic control are not being provided or maintained, suspension of the work may be ordered until the proper level of traffic control is achieved. In case of serious or willful disregard for safety of workmen or the public. The owner/engineer may proceed forthwith to place traffic control measures in proper condition and deduct the cost thereof from monies due or becoming due the contractor.

3. No provision of this section shall be construed to relieve the contractor of his responsibility to provide job site safety to both workmen and the public.

ESIMATED CONTRACT QUANTITIES

BID NO.	DESCRIPTION	SHEET C4.0	UNIT	SHEET C5.0	UNIT	SHEET C6.0	UNIT	SHEET C7.0	UNIT	SHEET C8.0	UNIT	TOTAL	UNIT
1	SAWCUT AND REMOVE PCC SIDEWALK AND/OR PCC DRIVEWAY	153.00	SF					750.00	SF			903.00	SF
2	SAWCUT AND REMOVE CURB AND GUTTER							122.00	LF			122.00	LF
3	SAWCUT AND REMOVE ASPHALT	12.00	SY					23.00	SY			35.00	SY
4	4" PCC SIDEWALK (MAG SD 230) OVER 3" ABC	292.00	SF	40.00	SF			134.00	SF			466.00	SF
5	6" PCC DRIVEWAY (MAG SD 250) OVER 3" ABC							617.00	SF			617.00	SF
6	DETECTABLE WARNING TILE (24"X24" TILE)	10.00	EA	14.00	EA	18.00	EA	12.00	EA	12.00	EA	66.00	EA
7	CURB AND GUTTER OVER 3" ABC (MAG SD 250)							100.00	LF			100.00	LF
8	CURB AND GUTTER OVER 3" ABC (MAG SD 220)							22.00	LF			22.00	LF
9	ASPHALT REPLACEMENT (MATCH EXISTING SECTION)							23.00	SY			23.00	SY
10	NEW ORNAMENTAL IRON FENCE PER DETAIL	160.00	LF	71.00	LF							231.00	LF
11	NEW 12' ORNAMENTAL IRON DUAL SWING GATE			1.00	EA							1.00	EA
12	REPAIR AND RESET EXISTING ORNAMENTAL IRON FENCE	68.00	LF									68.00	LF
13	NEW WOODEN LOG FENCE PER DETAIL	42.00	LF									42.00	LF
14	NEW ENTRY FEATURE PER DETAIL	2.00	EA	2.00	EA							4.00	EA
15	TRAFFIC CONTROL											1.00	LS
16	INSTALL CITY-FURNISHED AHS AND APPURTENENCES - STEVES BLVD.							1.00	LS			1.00	LS
17	INSTALL CITY-FURNISHED AHS AND APPURTENENCES - FANNING DR.									1.00	LS	1.00	LS
18	"NO TRAIN HORN" SIGN (W10-9) 24" X 18" PER MUTCD	2.00	EA		EA	4.00	EA	4.00	EA	4.00	EA	14.00	EA
19	"NO TRAIN HORN" SIGN (W10-9) 18" X 12" PER MUTCD	2.00	EA	4.00	EA	1.00						7.00	EA
20	HIGHWAY-RAIL GRADE CROSSING ADVANCE WARNING SIGN (W10-1) 18" DIAMETER PER MUTCD	2.00	EA	4.00	EA	1.00	EA	2.00	EA	2.00	EA	11.00	EA
21	"DO NOT STOP ON TRACKS" SIGN (R8-8) 24" X 30" PER MUTCD					1.00	EA					1.00	EA
22	"LOOK BOTH WAYS" SIDEWALK MARKING PER MUTCD	4.00	EA	4.00	EA	4.00	EA	4.00	EA	4.00	EA	20.00	EA
23	"STOP HERE WHEN FLASHING" SIDEWALK MARKING PER MUTCD	2.00	EA	2.00	EA	4.00	EA	2.00	EA	2.00	EA	12.00	EA
24	BREAKAWAY POST	2.00	EA	4.00	EA	1.00	EA	2.00	EA	2.00	EA	11.00	EA
25	PAINTED LEFT TURN ARROW			1.00	EA							1.00	EA
26	CONTRACT ALLOWANCE: PROVIDE APS SERVICE AT STEVES AND FANNING											ALLOWANCE	
27	CONTRACT ALLOWANCE											ALLOWANCE	

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CITY OF FLAGSTAFF · ARIZONA · ESTABLISHED

NO	DATE	REVISION	BY	CH	APPR
△	06/30/06	Revised per R.Whitaker comments			

REGISTERED PROFESSIONAL ENGINEER (CIVIL) · CERTIFICATE NO. 14285 · JAMES D. HALL · ARIZONA, U.S.A.

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

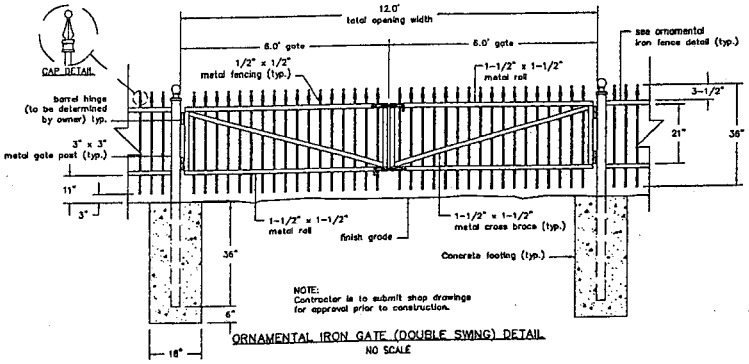
GENERAL NOTES & ESTIMATED CONTRACT QUANTITIES
BNSF RAILROAD SOUTHWEST DIVISION

DRWN BY ____ DSGN BY ____ CHKD BY ____

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9814

SCALE H: N/A V: N/A

____ OF ____ DWG NO. C2.0



ORNAMENTAL IRON GATE (DOUBLE SWING) DETAIL
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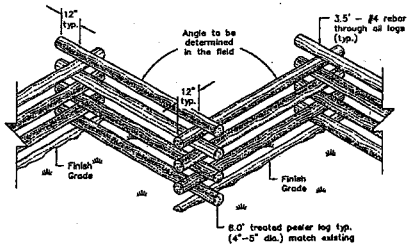

TYPICAL LOG FENCE DETAIL - PEDESTRIAN BARRICADE
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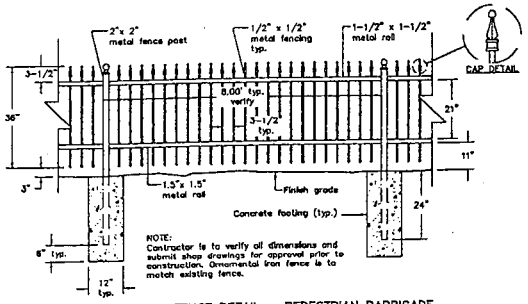

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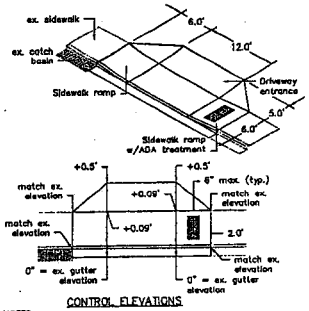
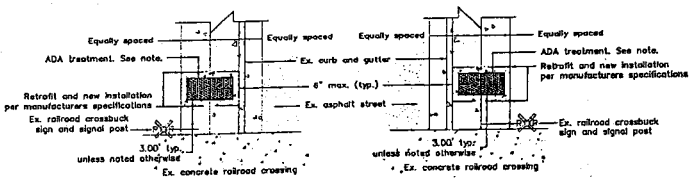


CONTROL ELEVATIONS

NOTES:
1. Control elevations are in relation to the existing gutter elevation.
2. Sidewalk ramp to match existing sidewalk as indicated.

SIDEWALK RAMP/DRIVEWAY DETAIL
NO SCALE



NOTE: ADA treatment shall be TekWay dome-tiles, (24"x 24") or approved equal, installed side by side creating a panel across the existing sidewalk. Tiles shall extend across entire sidewalk with maximum 5" margin at sides, trim accordingly. Locate ADA treatment 3.00' from existing railroad crossbuck sign and signal post, unless noted otherwise.

TYPICAL ADA TREATMENT DETAIL
NO SCALE

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FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

DETAILS

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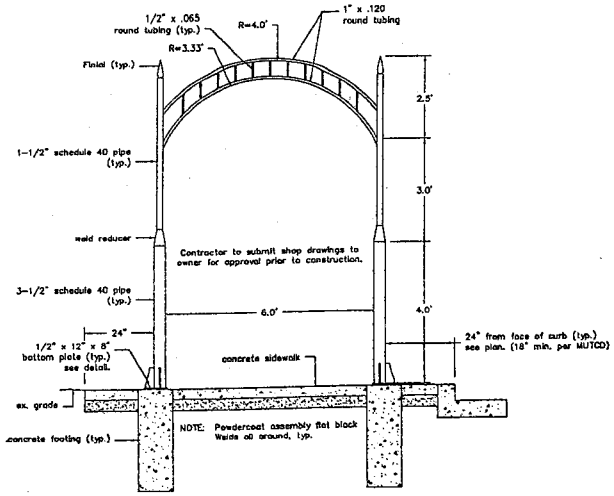
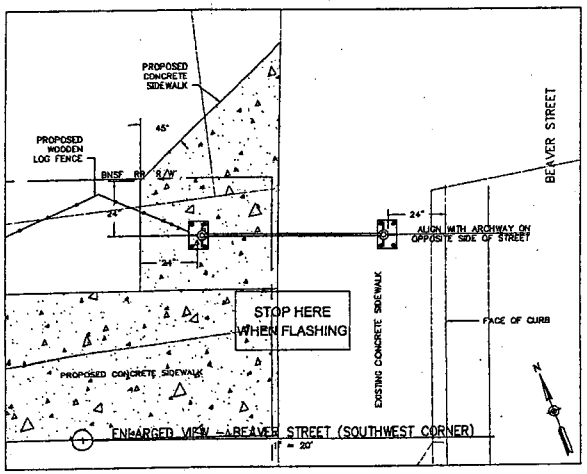
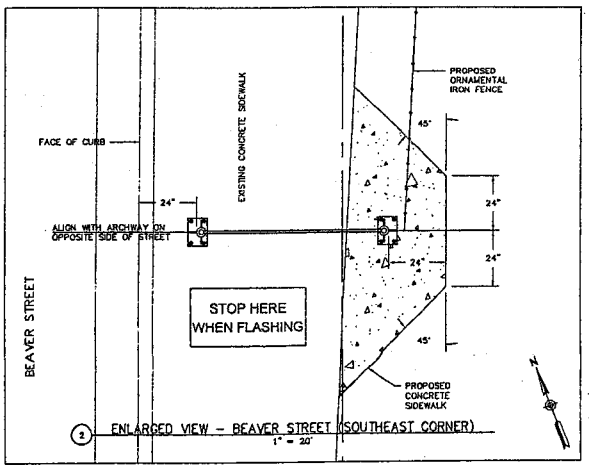
DWG NO. C2.1



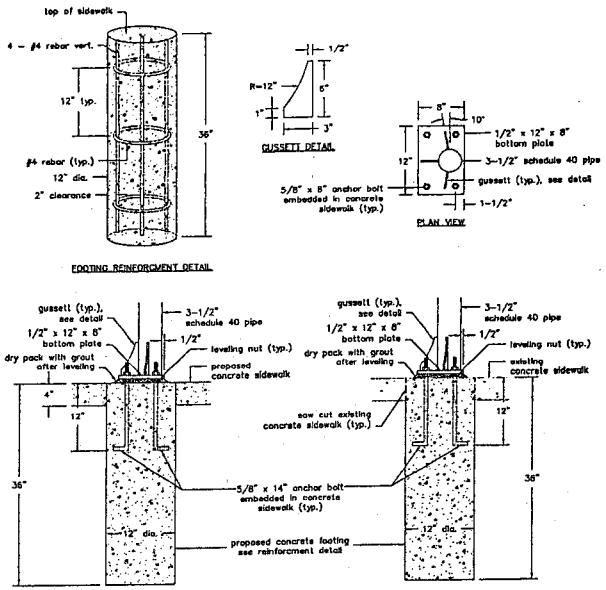
ARCHWAY/PEDESTRIAN STAGING AREA DETAIL
NO SCALE



1 ENLARGED VIEW – BEAVER STREET (SOUTHWEST CORNER)
1" = 20'



2 ENLARGED VIEW – BEAVER STREET (SOUTHEAST CORNER)
1" = 20'

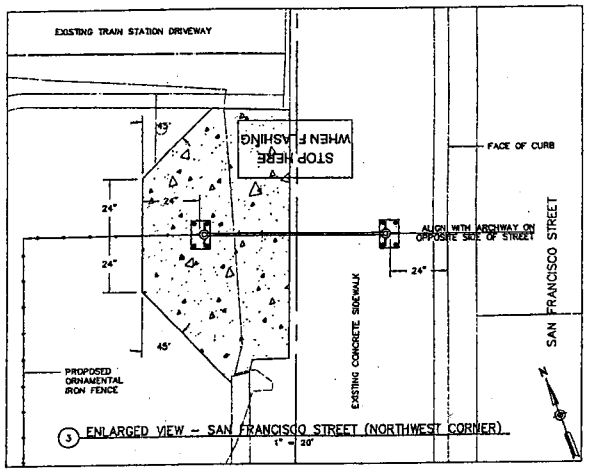


FOOTING REINFORCMENT DETAIL

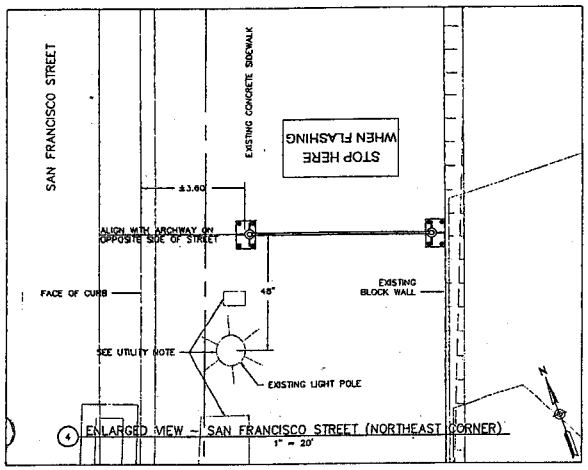
PROPOSED CONCRETE INSTALATION

EXISTING CONCRETE INSTALLATION

BOTTOM PLATE INSTALLATION DETAIL
NO SCALE



3 ENLARGED VIEW – SAN FRANCISCO STREET (NORTHWEST CORNER)
1" = 20'



4 ENLARGED VIEW – SAN FRANCISCO STREET (NORTHEAST CORNER)
1" = 20'

UTILITY NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

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CITY OF FLAGSTAFF ARIZONA ESTABLISHED 1882

NO	DATE	REVISION	BY	CH	APPR
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REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 14265 JAMES D. HALL ARIZONA, U.S.A. EXPIRES 01/31/2012

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

ARCHWAY / PEDESTRIAN STAGING AREA DETAILS
BNSF RAILROAD SOUTHWEST DIVISION

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CHKD BY

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SCALE H: N/A V: N/A

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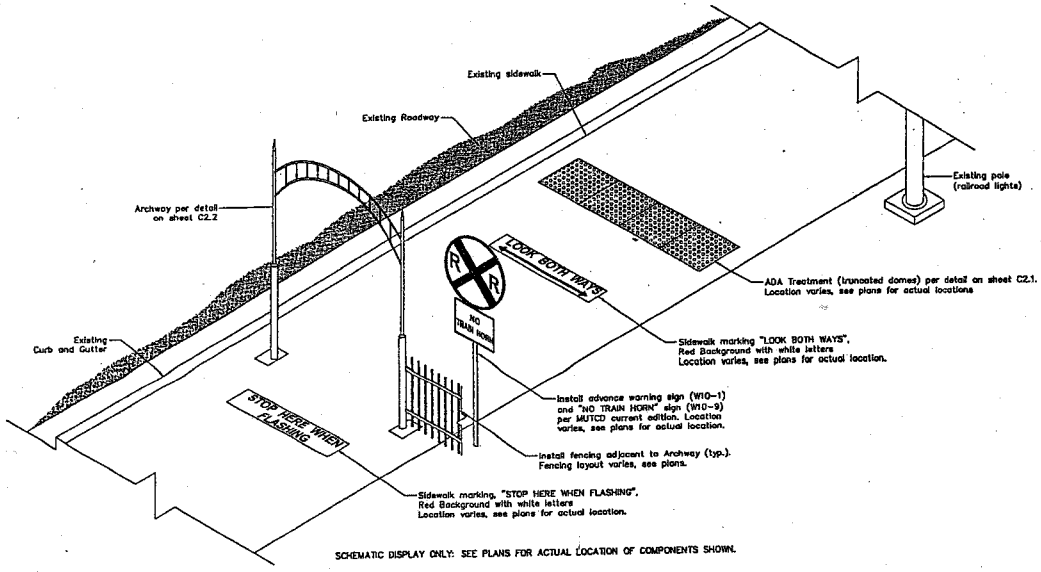
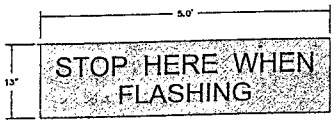
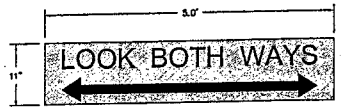


ARCHWAY AREA DETAIL
NO SCALE



"STOP HERE WHEN FLASHING"
SIDEWALK MARKING DETAIL
NO SCALE



"LOOK BOTH WAYS"
SIDEWALK MARKING DETAIL
NO SCALE

CALL TWO WORKING DAYS BEFORE YOU DIG
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(WITHIN MARICOPA COUNTY)

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1	08/30/09	Revised per R.Whitaker comments			

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

ARCHWAY / PEDESTRIAN STAGING AREA DETAILS

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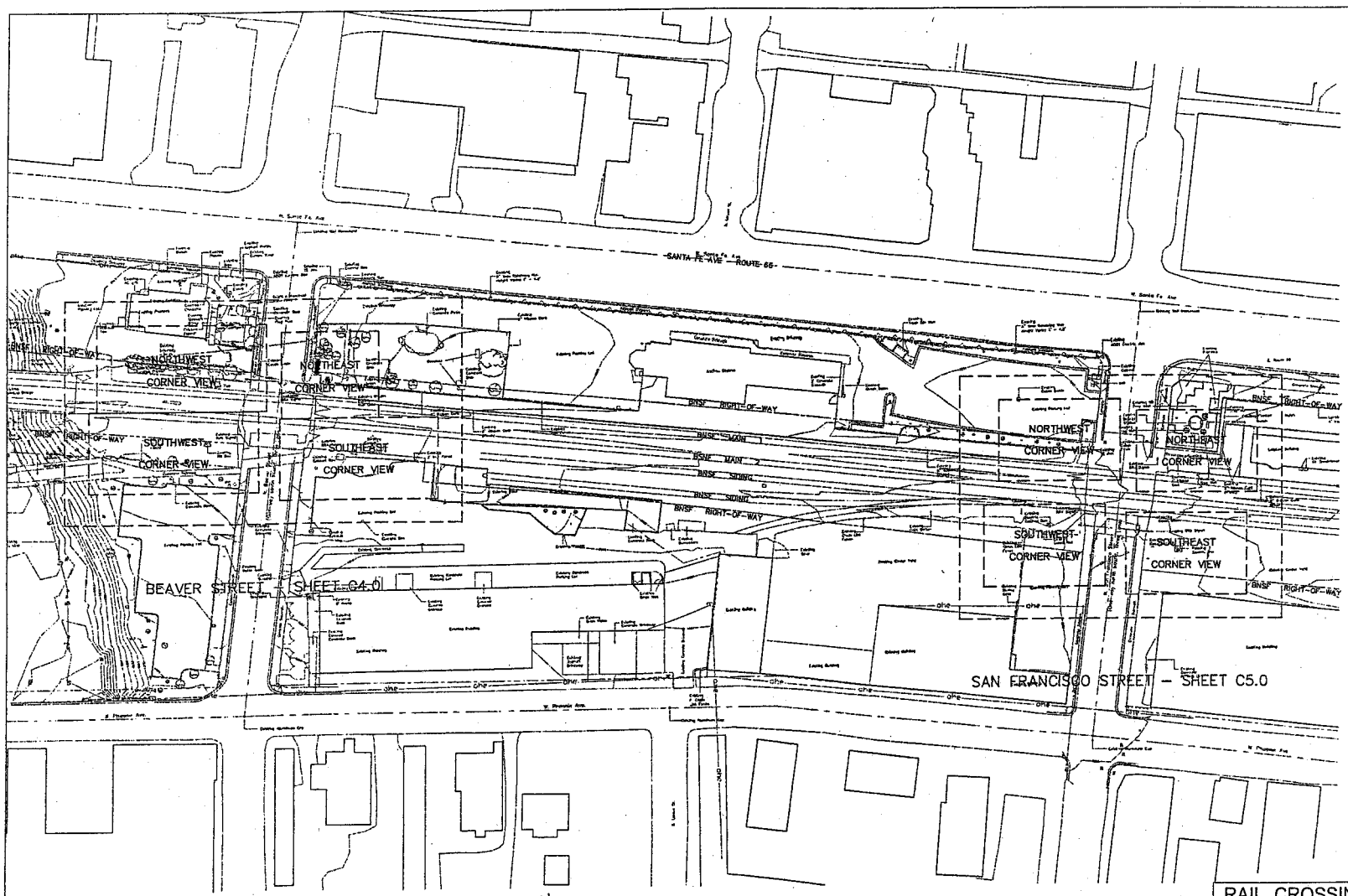
SCALE H: N/A V: N/A

____ OF ____

DWG NO. C2.3



CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
(SUNSET SANCIPA COUNTY)

CITY OF FLAGSTAFF ARIZONA ESTABLISHED 1882

NO	DATE	REVISION	BY	CH	APPR
1	06/30/09	Revised per R.Whitaker comments			

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 14263 JAMES D. HAIL ARIZONA, U.S.A. 06/30/09

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

OVERALL VIEW

BEAVER STREET AND SAN FRANCISCO STREET
BNSF RAILROAD SOUTHWEST DIVISION

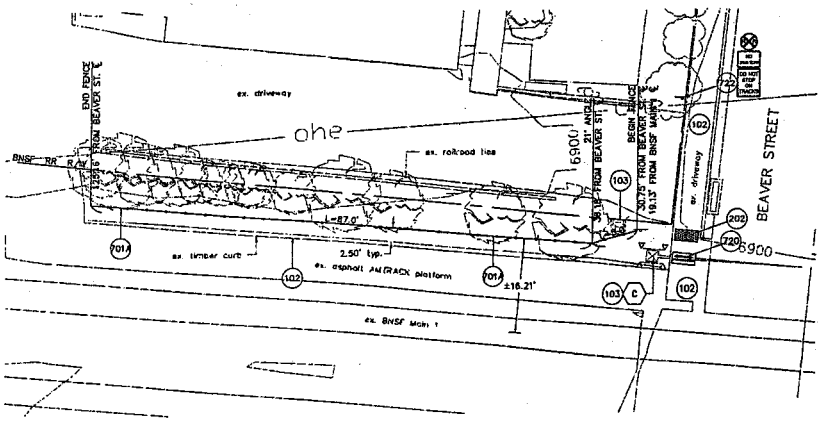
DRWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9814

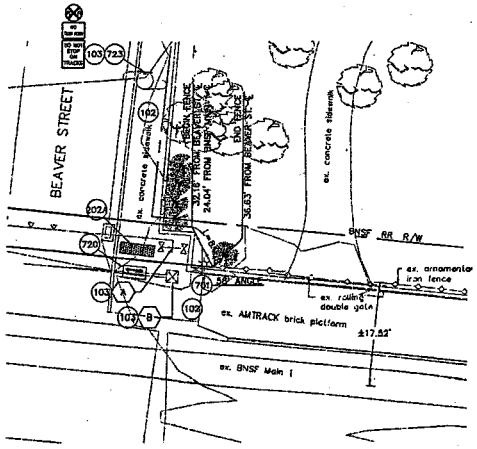
SCALE H: 1"=40' V: N/A

___ OF ___

DWG NO. C3.0



BEAVER STREET – NORTHWEST CORNER



BEAVER STREET – NORTHEAST CORNER

CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

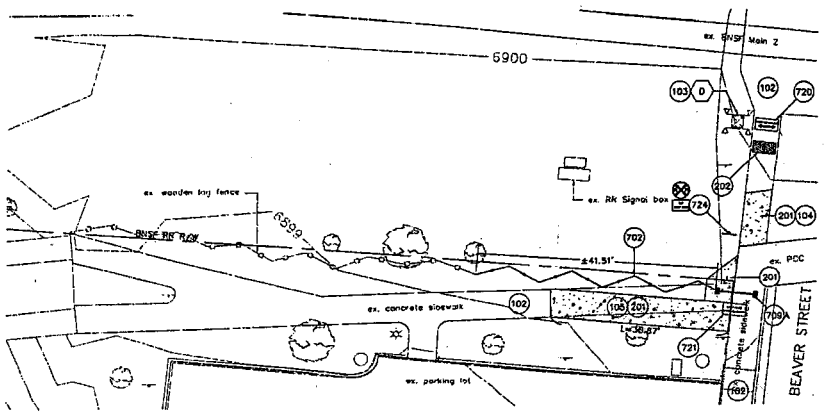
102 Protect existing improvements in place.
103 Protect existing utility in place.
104 Saw cut and remove existing asphalt as needed for new improvements.
105 Saw cut remove existing sidewalk at nearest contraction joint
106 Reset existing ornamental iron fence to limits shown.
112 Remove and relocate existing post. Remove existing (W10-1) sign and relocate along with post. Remove existing (R8-8) sign. 36" wide x 48" high. Salvage to owner.

201 Construct new 4" concrete sidewalk over 4" ABC as shown on plans.
202 Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.
202A Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Locate ADA treatment 3.00' from railroad crossing arm and 6" from back of curb.

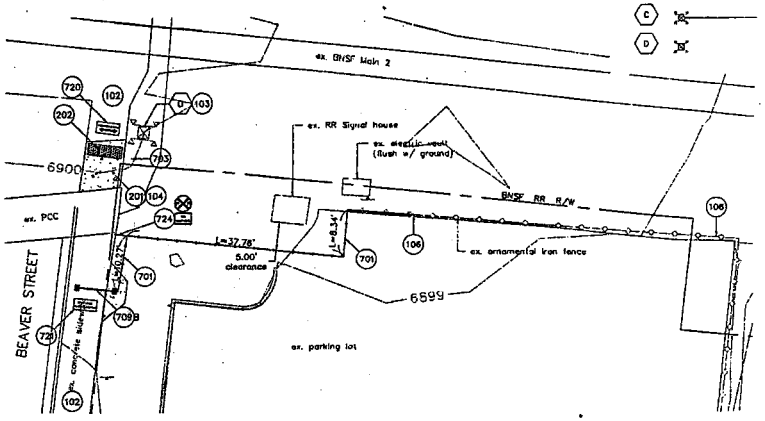
701 Construct ornamental iron fence, as shown on plans, to match existing fence. See detail on sheet C2.1
701A Construct ornamental iron fence per configuration shown and per detail on sheet C2.1. Construct 2.5' behind ex. timber curb as shown on plans.
702 Construct wooden log fence with zig zag pattern to match existing wooden fence. See detail on sheet C2.1.
709A Archway/Pedestrian Staging Area. See detail and enlarged view 1 on sheet C2.2.
709B Archway/Pedestrian Staging Area. See detail and enlarged view 2 on sheet C2.2.
720 Install sidewalk marking "LOOK BOTH WAYS" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.
721 Install sidewalk marking "STOP HERE WHEN FLASHING" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. 25.0' min. from centerline of nearest track.
722 Install "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high, on existing post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. The "DO NOT STOP ON TRACKS" (R8-8) sign shall remain in place. The Highway-Rail Grade Crossing Advance Warning sign (W10-1) sign shall be removed and re-installed above new sign. Extend post as needed. When extending existing post, street crews shall verify if post height is appropriate.
723 Install "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high, on existing utility pole per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. The "DO NOT STOP ON TRACKS" (R8-8) sign shall remain in place. The Highway-Rail Grade Crossing Advance Warning (W10-1) sign shall be removed and re-installed above new sign.
724 Install Highway-Rail Grade Crossing Advance Warning (W10-1) sign, 18" dia., and "NO TRAIN HORN" (W10-9) sign, 18" wide x 12" high, with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.

EXISTING RAILROAD CROSSING WARN DEVICES

A — Cantilever signal w/flashers back and front lit on sidewalk
B — Crossing gate, no flashers
C — Crossing gate w/ front and back lit flashers
D — Signal post w/front and back lit flashers



BEAVER STREET – SOUTHWEST CORNER



BEAVER STREET – SOUTHEAST CORNER

GRAPHIC SCALE
10 0 10 20
(IN FEET)
1 inch = 10 ft.

N

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

CITY OF FLAGSTAFF ESTABLISHED 1894

NO	DATE	REVISION	BY	CH	APPR
1	08/20/09	Revised per R.Whitaker comments			

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 14285 JAMES D. MAY ARIZONA, U.S.A. 08/31/09

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

BEAVER STREET - PLAN VIEW

BNSF RAILROAD SOUTHWEST DIVISION

DOT 025133N MP 344.3

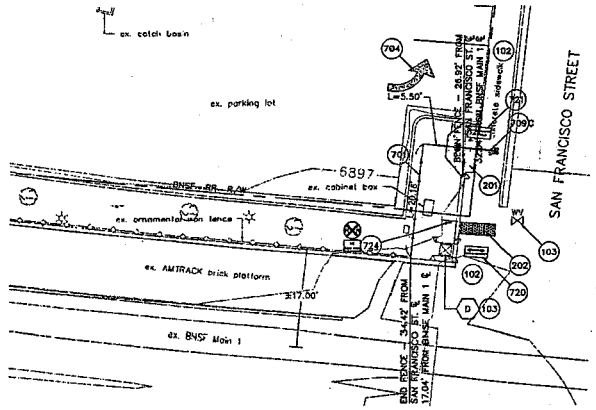
DRWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9014

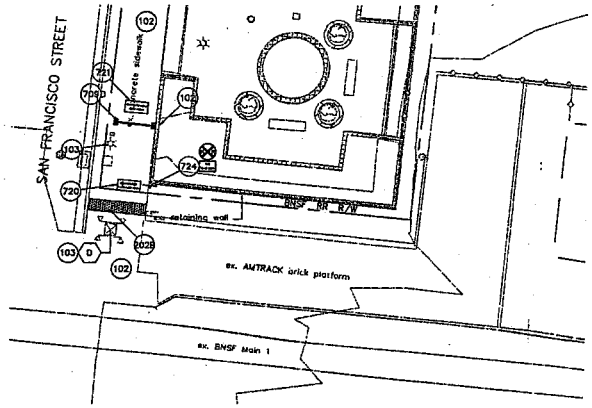
SCALE H: 1"=10'
V: N/A

OF

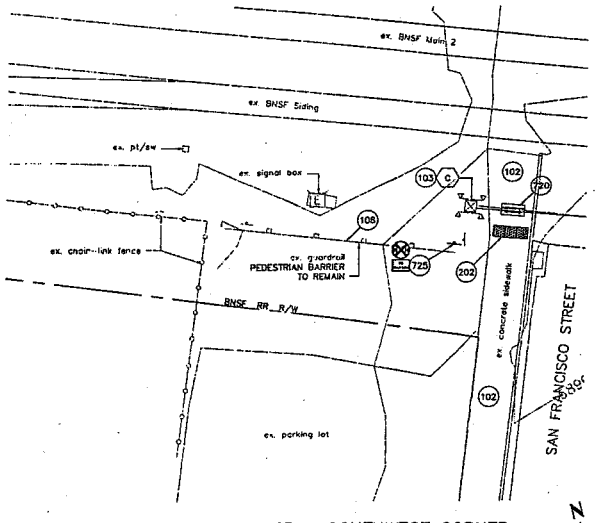
DWG NO. C4.0



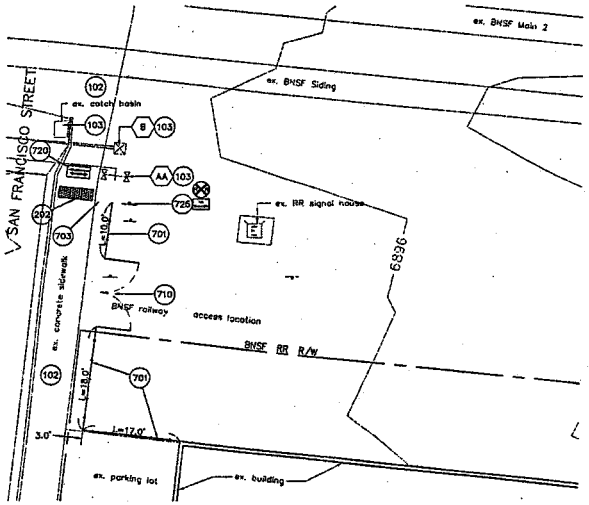
SAN FRANCISCO STREET – NORTHWEST CORNER



SAN FRANCISCO STREET – NORTHEAST CORNER



SAN FRANCISCO STREET – SOUTHWEST CORNER



SAN FRANCISCO STREET – SOUTHEAST CORNER

CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.
103 Protect existing utility in place.
108 Existing guardrail is to remain. Protect in place.

201 Construct new 4" concrete sidewalk over 4" ABC as shown on plans.
202 Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.
202B Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Locate ADA treatment 3.00' from railroad crossing signal post and 6" from back of curb.

701 Construct ornamental iron fence, as shown on plans, to match existing fence. See detail on sheet C2.1.
704 Install "LEFT TURN ARROW" pavement marking per Manual on Uniform Traffic Control devices (MUTCD) 2003 edition.
709C Archway/Pedestrian Staging Area. See detail and enlarged view 3 on sheet C2.2.
709D Archway/Pedestrian Staging Area. See detail and enlarged view 4 on sheet C2.2.
710 Construct ornamental iron gate (double swing) per detail on sheet C2.1.
720 Install sidewalk marking "LOOK BOTH WAYS" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.
721 Install sidewalk marking "STOP HERE WHEN FLASHING" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. 25.0' min. from centerline of nearest track.
724 Install Highway-Rail Grade Crossing Advance Warning (W10-1) sign, 18" dia., and "NO TRAIN HORN" (W10-9) sign, 18" wide x 12" high, with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.
725 Install Highway-Rail Grade Crossing Advance Warning (W10-1) sign, 18" dia., and "NO TRAIN HORN" (W10-9) sign, 18" wide x 12" high, with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. The height from the sidewalk to top of signage shall be below 7.0'.

EXISTING RAILROAD CROSSING WARN DEVICES

- AA — Cantilever signal w/flashers back and front lit on sidewalk
- B — Crossing gate, no flashers
- C — Crossing gate w/ front and back lit flashers
- D — Signal post w/front and back lit flashers

GRAPHIC SCALE
10 0 10 20
(IN FEET)
1 inch = 10 ft.

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

NO	DATE	REVISION	BY	CH	APPR
1	06/30/09	Revised per R.Whitaker comments			

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

SAN FRANCISCO STREET - PLAN VIEW
BNSF RAILROAD SOUTHWEST DIVISION
DOT 025132G MP 344.1

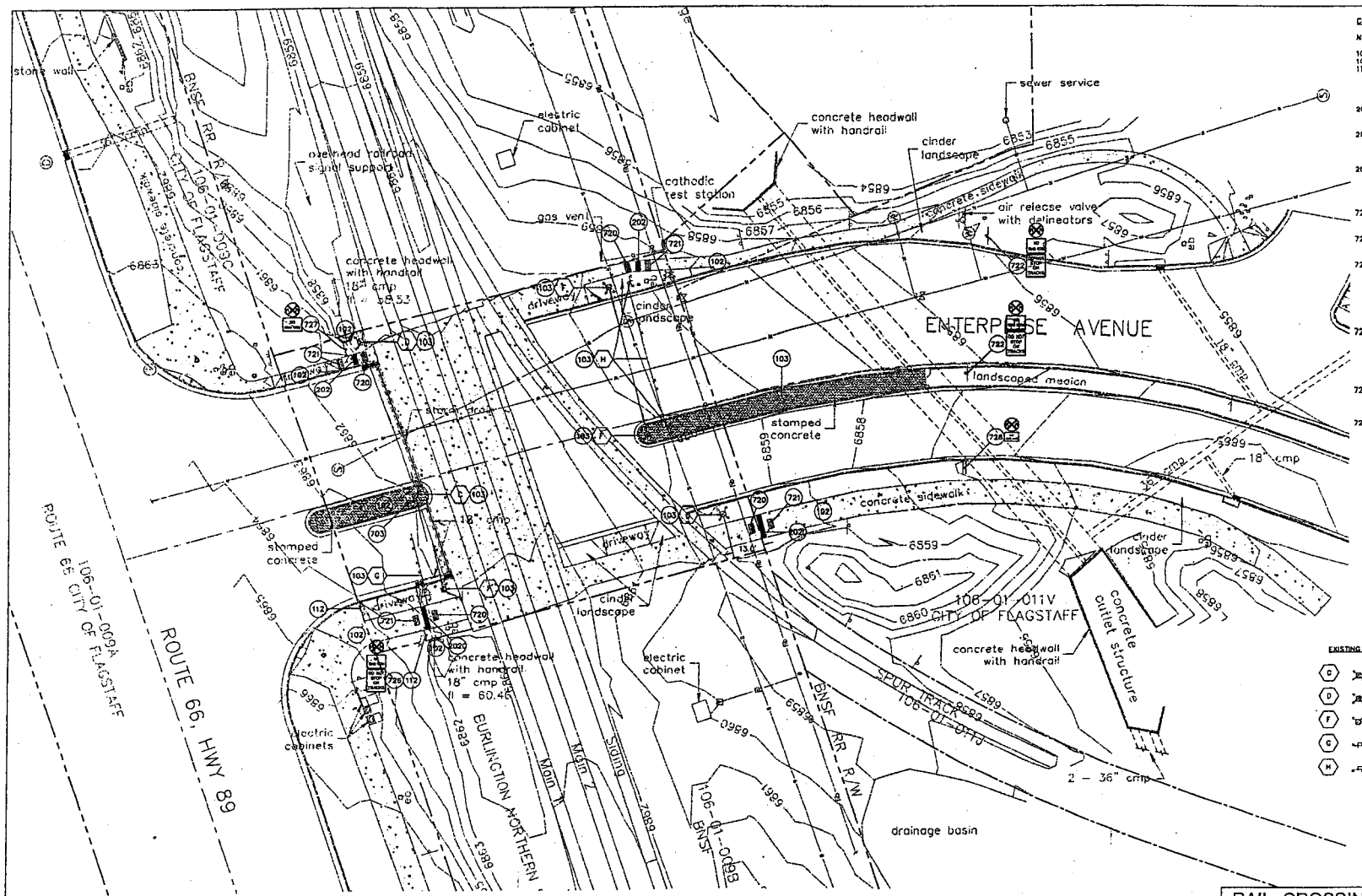
DRAWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0515 FAX (928) 213-0614

SCALE H: 1"=10' V: N/A

___ OF ___

DWG NO. C5.0



CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.

103 Protect existing utility in place.

112 Remove and relocate existing post to new location as shown on plans. Remove existing (W10-1) sign and relocate along with post. Remove existing (R8-8) sign, 36" wide x 48" high. Salvage to owner.

202 Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.

202C Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Locate ADA treatment 3.00' from railroad crossing signal post. 5 ADA treatment units shall be installed side by side creating 24"x 120" detectable warning surface.

202D Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Locate ADA treatment 13.00' from railroad crossing signal post. 5 ADA treatment units shall be installed side by side creating 24"x 120" detectable warning surface.

720 Install sidewalk marking "LOOK BOTH WAYS" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.

721 Install sidewalk marking "STOP HERE WHEN FLASHING" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. 25.0' min. from centerline of nearest track.

722 Install "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high, on existing post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. The "DO NOT STOP ON TRACKS" (R8-8) sign shall remain in place. The Highway-Rail Grade Crossing Advance Warning sign (W10-1) sign shall be removed and re-installed above new sign. Extend post as needed. When extending existing post, street crews shall verify if post hait appropriate.

726 Install Highway-Rail Grade Crossing Advance Warning (W10-1) sign, 18" dia., "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high and "DO NOT STOP ON TRACKS" (R8-8) sign, 24" wide x 30" high, per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition, on relocated post. Extend post as needed. When extending existing post, street crews shall verify if post height is appropriate.

727 Install Highway-Rail Grade Crossing Advance Warning (W10-1) sign, 18" dia., and "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high, with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition..

728 Install "NO TRAIN HORN" sign (W10-9), 18" wide x 12" high, per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition, on existing post.

EXISTING RAILROAD CROSSING WARN DEVICES

- C — Crossing gate w/ front and back lit flashers
- D — Signal post w/front and back lit flashers
- F — Crossing gate, back lit only
- C — Cantilever signal, front lit
- H — Signal bridge, front lit

GRAPHIC SCALE

20 0 20 40

(IN FEET)

1 inch = 20 ft.

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT (SOUTH MARICOPA COUNTY)

NO	DATE	REVISION	BY	CH	APPR
1	08/30/09	Revised per R.Whitaker comments			

RAIL CROSSING MODIFICATION PROJECT

FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

ENTERPRISE AVENUE - PLAN VIEW

BNSF RAILROAD SOUTHWEST DIVISION

DOT 025131A MP 342.93

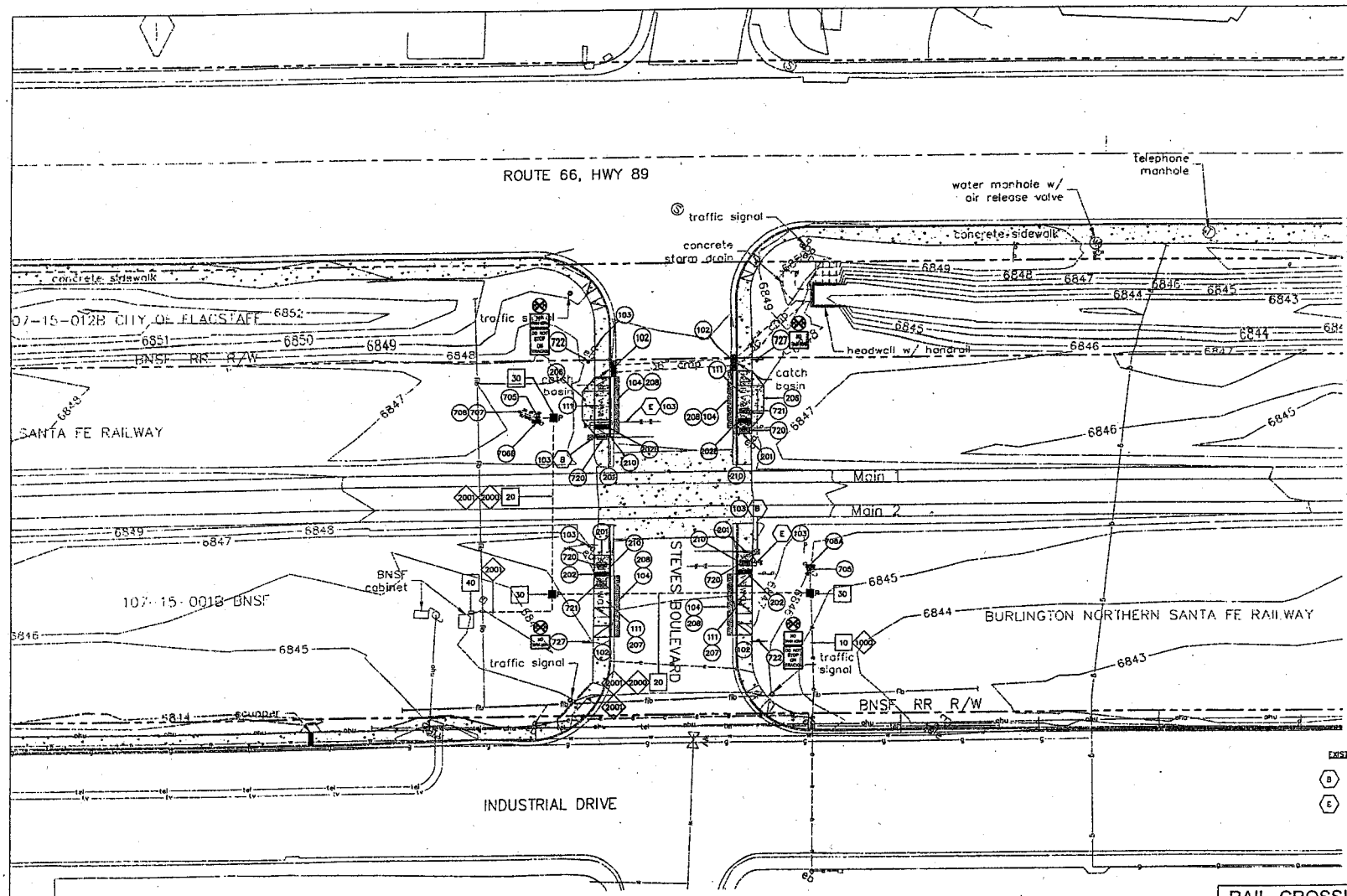
DRWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9614

SCALE H: 1"=20' V: NTS

OF

DWG NO. C6.0



CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.
103 Protect existing utility in place.
104 Saw cut and remove existing asphalt as needed for new improvements.
111 Saw cut and remove existing driveway as needed for new construction.

201 Construct new 4" concrete sidewalk over 4" ABC as shown on plans.
202 Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.
202E Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Locate ADA treatment as shown on sidewalk ramp/driveway detail on sheet C2.1.
206 Construct 12' wide driveway entrance per sidewalk ramp/driveway detail on sheet C2.1.
207 Construct 16' wide driveway entrance per MAG Std. Det. No. 250.
208 Construct asphalt patch to match existing section.
210 Construct curb and gutter per MAG Std. Det. No. 220.

705 New wayside horn on existing pole.
708A Dual confirmation signal (master)
708B Dual confirmation signal (slave)
707 AHS electric meter
708 Connect to existing power source.
720 Install sidewalk marking "LOOK BOTH WAYS" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.
721 Install sidewalk marking "STOP HERE WHEN FLASHING" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Dev (MUTCD) 2003 edition. 25.0' min. from centerline of nearest
722 Install "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high, existing post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. The "DO NOT STOP ON TRACKS" (R8-8) sign shall remain in place. The Highway-Rail Grade Crossing Advance Warning sign (W10-1) sign shall be removed and re-installed above new sign. Extend post as needed. When extending existing post, street crews shall verify if post height is appropriate.
727 Install Highway-Rail Grade Crossing Advance Warning (W10-1) sign, 18" dia., and "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high, with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.

1000 Existing power
2000 Proposed 120 v power - 3 conductor THWN-2
2001 Proposed 6 pair #18 Armored U.G. cable
10 Existing 1-1/2" PVC conduit
20 Proposed 3" PVC sch. 40 - bore sleeve
30 Proposed Pullbox
40 Proposed VIB cabinet

EXISTING RAILROAD CROSSING WARN DEVICES

B — Crossing gate, no flashers
E — Cantilever signal w/flashers back and front lit on cantilever and sidewalk

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20 ft.

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

NO	DATE	REVISION	BY	CH	APPR
1	08/30/09	Revised per R.Whitaker comments			

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

STEVES BOULEVARD - PLAN VIEW
BNSF RAILROAD SOUTHWEST DIVISION
DOT 025099J MP 341.2

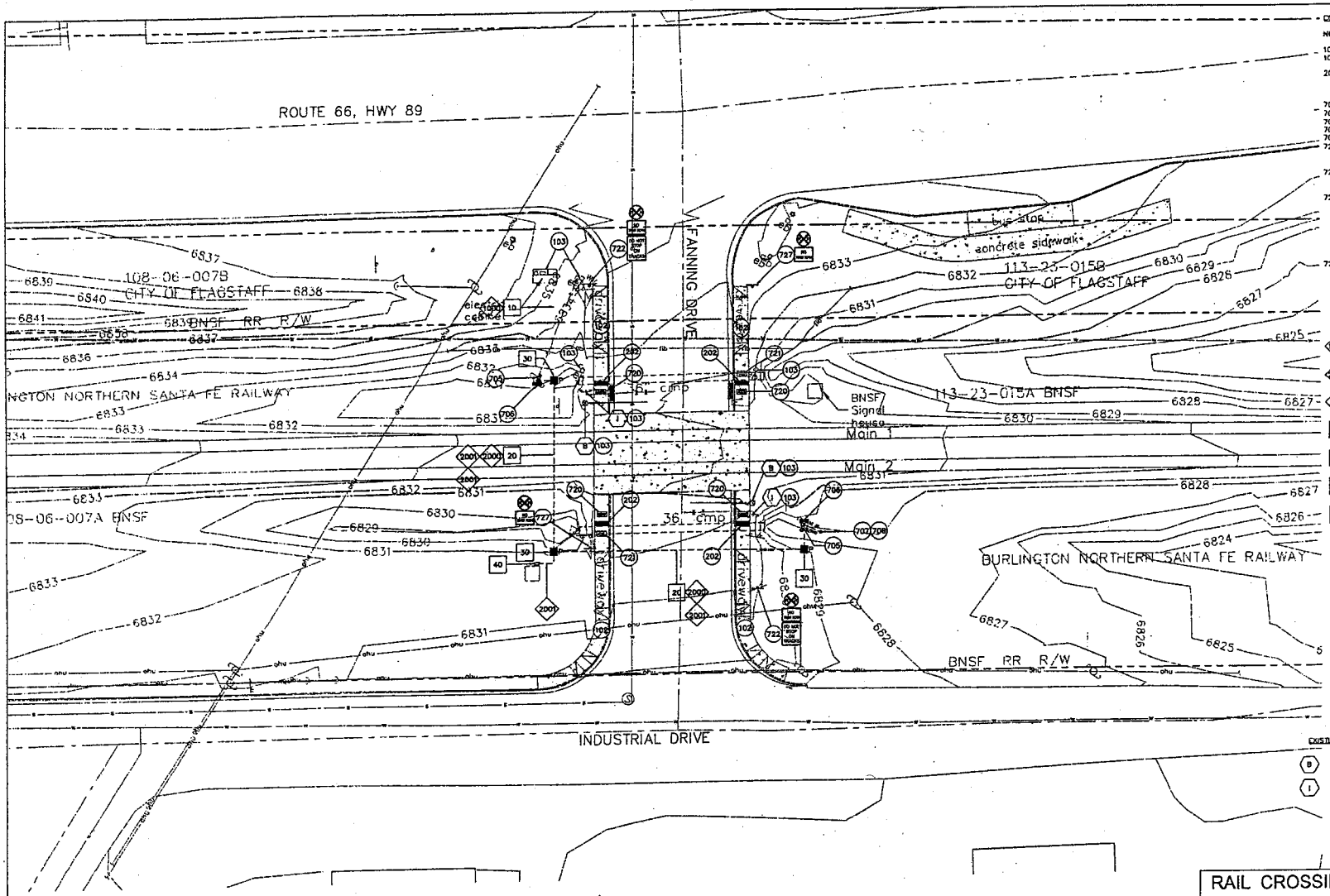
DRAWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9614

SCALE H: 1"=20' V: N/A

OF

DWG NO. C7.0



CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.
103 Protect existing utility in place.

202 Install ADA treatment per detail on sheet C2.1 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.

705 New wayside horn on existing pole.
706A Dual confirmation signal (master)
706B Dual confirmation signal (slave)
707 AHS electric meter
708 Connect to existing power source.
720 Install sidewalk marking "LOOK BOTH WAYS" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.
721 Install sidewalk marking "STOP HERE WHEN FLASHING" per detail on sheet C2.2 and per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. 25.0' min. from centerline of nearest track.
722 Install "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high, on existing post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. The "DO NOT STOP ON TRACKS" (R8-8) sign shall remain in place. The Highway-Rail Grade Crossing Advance Warning sign (W10-1) sign shall be removed and re-installed above new sign. Extend post as needed. When extending existing post, street crews shall verify if post height is appropriate.
727 Install Highway-Rail Grade Crossing Advance Warning (W10-1) sign, 18" dia., and "NO TRAIN HORN" (W10-9) sign, 24" wide x 18" high, with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition..

1000 Existing power
2000 Proposed 120 v power - 3 conductor THWN-2
2001 Proposed 8 pair #18 Armored U.G. cable
10 Existing 1-1/2" PVC conduit
20 Proposed 3" PVC sch. 40 - bore sleeve
30 Proposed Pullbox
40 Proposed MB cabinet

EXISTING RAILROAD CROSSING WARN DEVICES

9 Crossing gate, no flashers
1 Cantilever signal w/flashers back and front lit on cantilever, front lit only on sidewalk

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20 ft.

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

NO	DATE	REVISION	BY	CH	APPR
1	06/30/09	Revised per R.Whitlaw comments			

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

FANNING DRIVE - PLAN VIEW

BNSF RAILROAD SOUTHWEST DIVISION

DOT 025129Y MP 340.6

DRWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 658-0311 FAX (928) 213-0814

SCALE H: 1"=20' V: N/A

___ OF ___

DWG NO. C8.0

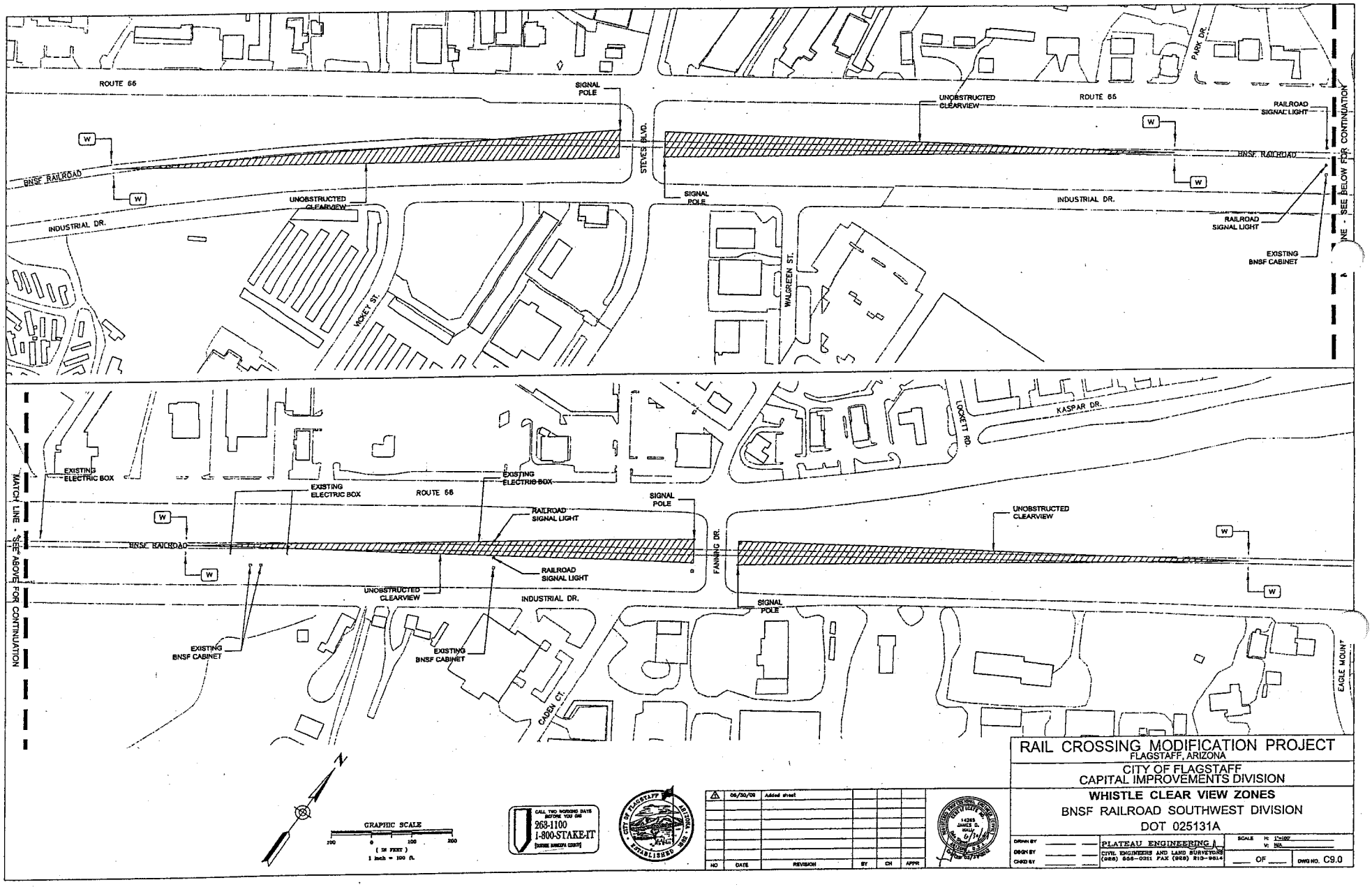

ROUTE 66
SIGNAL POLE
UNOBSTRUCTED CLEARVIEW
ROUTE 66
RAILROAD SIGNAL LIGHT
PARK DR.
STEVES BLVD.
BNSF RAILROAD
BNSF RAILROAD
W
UNOBSTRUCTED CLEARVIEW
SIGNAL POLE
INDUSTRIAL DR.
INDUSTRIAL DR.
RAILROAD SIGNAL LIGHT
EXISTING BNSF CABINET
VICKEY ST.
WALGREEN ST.
LINE - SEE BELOW FOR CONTINUATION
KASPAR DR.
LOCKETT RD.
EXISTING ELECTRIC BOX
EXISTING ELECTRIC BOX
EXISTING ELECTRIC BOX
ROUTE 66
SIGNAL POLE
RAILROAD SIGNAL LIGHT
UNOBSTRUCTED CLEARVIEW
BNSF RAILROAD
FANNING DR.
RAILROAD SIGNAL LIGHT
UNOBSTRUCTED CLEARVIEW
INDUSTRIAL DR.
SIGNAL POLE
EXISTING BNSF CABINET
EXISTING BNSF CABINET
CADEN CT.
EAGLE MOUNT
MATCH LINE - SEE ABOVE FOR CONTINUATION
N
GRAPHIC SCALE
100 0 100 200
(IN FEET)
1 inch = 100 ft.
CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
[OUTSIDE MARICOPA COUNTY]
CITY OF FLAGSTAFF ARIZONA ESTABLISHED 1882
06/30/09 Added sheet
NO DATE REVISION BY CH APPR
14265 JAMES D. HALL
RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA
CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION
WHISTLE CLEAR VIEW ZONES
BNSF RAILROAD SOUTHWEST DIVISION
DOT 025131A
DRAWN BY
DSGN BY
CHKD BY
PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9614
SCALE H: 1"=100' V: N/A
OF
DWG NO. C9.0

EXHIBIT 4

PLATEAU ENGINEERING, INC

Civil Engineers and Land Surveyors

TO: **Certified Mail, Return Receipt Requested**

Burlington Northern Santa Fe Railroad
740 East Carnegie Dr.
San Bernardino, CA 92408
Attention: Mr. Melvin Thomas, Manager Public Projects

Arizona Corporation Commission
2200 N. Central Ave., Suite #300
Phoenix, AZ 85004
Attention: Mr. Chris Thomas, Railroad Safety Section

Arizona Department of Transportation
205 South 17th Ave, Room 357
Mail Drop 618E
Phoenix, AZ 85007-3212
Attention: Mr. Robert Travis, P.E., State Railroad Liaison

FROM

James Hall, Plateau Engineering, Inc.

ENCLOSED PLEASE FIND:

1. **Notice of Intent to create a new Railroad Quiet Zone** for the City of Flagstaff, AZ
2. *City of Flagstaff Rail Crossing Modification Project* (Preliminary 60% plan set)
3. *Rail Crossing Modification Project – "Flagstaff Quiet Zones" – City of Flagstaff, Arizona: 60% Design Narrative.* Narrative description of proposed improvements.
4. Compact disc with digital (pdf) copies of the above three documents.

For your review and comment in accordance with 29 CFR Part 222.43.

Please contact me if you have any questions.

James D. Hall

cc: Randy Whitaker, City of Flagstaff, AZ

q:\jobs\1037 qz design\noi transmittal.doc

202 East Birch Avenue • Flagstaff, Arizona 86001 • (928) 556-0311 • Fax (928) 213-9614

March 14, 2008

Burlington Northern Santa Fe Railroad
740 East Carnegie Dr.
San Bernardino, CA 92408
Attention: Mr. Melvin Thomas
Manager Public Projects

Arizona Corporation Commission
2200 N. Central Ave., Suite #300
Phoenix, Arizona 85004
Attention: Mr. Chris Thomas
Railroad Safety Section

Arizona Department of Transportation
205 South 17th Ave, Room 357
Mail Drop 618E
Phoenix, Az 85007-3212
Attention: Mr. Robert Travis, P.E.
State Railroad Liaison

NOTICE OF INTENT TO CREATE A NEW RAILROAD QUIET ZONE

In accordance with 49 CFR Parts 222 and 229, the City of Flagstaff, Arizona intends to create a New Quiet Zone. The intent of this action is the elimination of train horn noise at railroad crossings within the limits of the City. In accordance with 29 CFR Part 222.43, this written notice is being provided by means of Certified Mail, Return Receipt Requested to:

- All railroads operating over the public highway rail – grade crossings withing the Quiet Zone (BNSF Railroad);
- The State Agency responsible for highway and road safety (Arizona Department of Transportation)
- The State Agency responsible for grade crossing safety (Arizona Corporation Commission)

There is a statutory 60-day comment period after the date this Notice of Intent is mailed. This comment period can be terminated prior to the end of the 60-day period if all of the above railroads and agencies provide either written comments, or written "no-comment" statements. The City of Flagstaff would request that all notified railroads and agencies respond appropriately to the Point of Contact listed below at their earliest convenience.

Crossings Contained Within the Quiet Zone:

- Beaver Street — DOT Crossing # 025133N
- San Francisco Street — DOT Crossing # 025132G
- Enterprise Avenue — DOT Crossing # 025131A
- Steves Boulevard — DOT Crossing # 025099J
- Fanning Drive — DOT Crossing # 025129Y

Time Period During Which Train Horn Restrictions Will be Imposed:

Twenty-four hours.

Tentative Plans For Implementing Improvements Within the Quiet Zone:

Refer to the attached documents:

- *City of Flagstaff Rail Crossing Modification Project* Preliminary 60% plan set.
- *Rail Crossing Modification Project – "Flagstaff Quiet Zones" – City of Flagstaff, Arizona: 60% Design Narrative.* Narrative description of proposed improvements.

Point of Contact During Development Process:

Mr. Randy Whitaker
City of Flagstaff, Arizona
211 West Aspen Avenue
Flagstaff, AZ 86001
(928) 226-4844
rwhitaker@ci.flagstaff.az.us

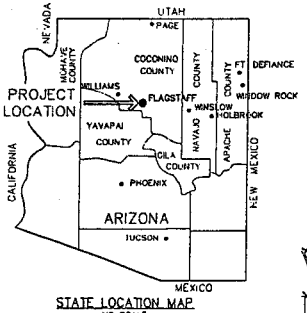
Names and Addresses of Each Party Notified

Mr. Melvin Thomas, Manager Public Projects
Burlington Northern Santa Fe Railroad
740 East Carnegie Dr.
San Bernardino, CA 92408

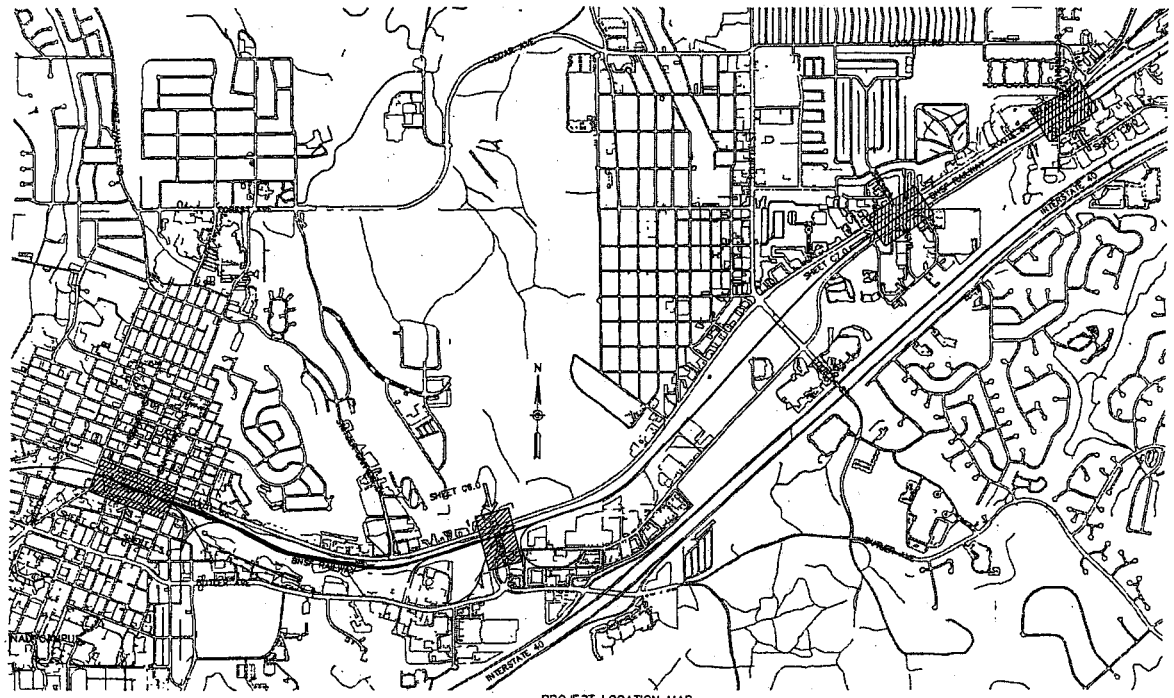
Mr. Chris Thomas, Railroad Safety Section
Arizona Corporation Commission
2200 N. Central Ave., Suite #300

Mr. Robert Travis, P.E., State Railroad Liaison
Arizona Department of Transportation
205 South 17th Ave, Room 357
Mail Drop 618E
Phoenix, Az 85007-321

CITY OF FLAGSTAFF
RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA



STATE LOCATION MAP
NO SCALE



PROJECT LOCATION MAP
NO SCALE

PUBLIC IMPROVEMENTS APPROVAL:

Arizona Public Service Co.	Date
UniSource Energy	Date
Flagstaff Cablevision	Date
Qwest Communications	Date

APPROVED:

The city approves these plans for concept only. All liability for errors or omissions is the responsibility of the design engineer.

City Engineer	Date
City Public Works Director	Date
City Utilities Director	Date

SHEET INDEX

SHEET C1.0	COVER SHEET
SHEET C2.0	GENERAL NOTES AND DETAILS
SHEET C3.0	OVERALL VIEW / BEAVER ST. AND SAN FRANCISCO ST.
SHEET C4.0	BEAVER STREET – PLAN VIEW
SHEET C5.0	SAN FRANCISCO STREET – PLAN VIEW
SHEET C6.0	ENTERPRISE AVENUE – PLAN VIEW
SHEET C7.0	STEVES BOULEVARD – PLAN VIEW
SHEET C8.0	FANNING DRIVE – PLAN VIEW

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1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

CITY OF FLAGSTAFF ESTABLISHED 1895

NO	DATE	REVISION	BY	CH	APPR

60% - SUBMITTAL

PRELIMINARY
NOT FOR CONSTRUCTION

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

COVER SHEET

BNSF RAILROAD SOUTHWEST DIVISION

DRAWN BY
DESIGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-0814

SCALE H: NA V: NA

OF

DWG NO. C1.0

1. Neither the owner, the engineer, nor any public agency will enforce safety measures or regulations. The contractor shall design, construct and maintain all safety devices, including shoring, and shall be solely responsible for conforming to all local, state and federal laws and regulations.

2. Contractor shall make exploratory excavations and locate existing underground facilities sufficiently ahead of construction to permit revision to plans if revisions are necessary due to actual locations of existing facilities. The contractor is required to take precautionary measures to protect the utility lines shown hereon, and any other existing lines not of record, or not shown on these plans.

3. Prior to excavating for this contract, verify depth and location of all existing utilities. Location of utilities shown hereon has been determined by a search of available records. All existing utilities may or may not be shown on the plans. contact:

   BLUE STAKE 1-800-STAKE IT

4. Location and elevation of all improvements to be met by new work to be done shall be confirmed by field measurements prior to construction of new work.

5. The contractor shall be responsible to insure that all slopes, streets and utilities are built in accordance with these plans. If there is a question regarding these plans, the contractor shall request an interpretation prior to bidding or accomplishing any work by contacting the engineer of work at (928) 556-0311.

6. All grading shall be accomplished under the supervision of a qualified soils engineer who shall be the owner's representative to inspect construction of fills and back fills. Deviations from grading and back fill specifications shall be permitted only upon the written authorization of the soils engineer; together with concurrence of the owner, engineer of work, as well as any agency of jurisdiction. After grading has been accomplished, and the soils engineer has completed his observation of the work, no further grading or filling shall take place except under the renewed observation of the soils engineer.

7. The contractor shall at his own cost and expense provide necessary permits, comply with local ordinances and regulations, and conform to all zoning ordinances and covenants governing the project location. The contractor at his own cost and expense shall be responsible for the acquisition of any necessary easements for construction purposes.

8. The contractor shall maintain and continually update a complete set of "as-built" plans on the project. Said plans shall be made available to the owner and/or engineer for review upon request as the work progresses. In addition to all changes and modifications to the work under this project, said as-builts shall contain location and elevation of all existing utilities found during construction. A complete set of "as-built" plans shall be submitted to the owner upon completion and prior to acceptance of the work.

9. Contractor shall submit to owner for approval 5 copies of all shop drawings, aggregate gradations, mix designs, etc., as appropriate, for all materials scheduled for use in this project including water pipe, valves and other appurtenances. Copies of all submittals shall be made to the engineer of work as well as any requesting agency of jurisdiction. Prior to incorporating any of the submitted material into the work, approval of owner, engineer, as well as any agency of jurisdiction is required.

10. Contractor shall refer to the city of flagstaff "Engineering Design and Construction Standards and Specifications" (Latest Edition) for manufacturers and models approved by the city.

GENERAL NOTES

1. Approval of these plans by the City Engineer is for a one-year period, subsequent to the date of approval. If construction work is not started within the one-year period, or has been discontinued for any reason for longer than one year, the plans shall be resubmitted for review and re-approval.

2. Plan review by the city does not extend to material quantities shown on the plans.

3. A public works permit, issued by the city, is required for all work in city right-of-ways or easements and for construction of any improvements intended to become public property.

4. The city shall be notified 24 hours prior to beginning different phases of construction so that city inspectors may be scheduled.

5. All materials and workmanship shall comply with the current City of Flagstaff "Engineering Design and Construction Standards and Specifications" and the current "MAG Uniform Standard Specifications and details for Public Works Construction", with the City of Flagstaff additions and revisions, and with generally accepted good construction practice. All work and materials which do not conform to the standards and specifications are subject to removal and replacement at the contractor's expense.

6. Any work performed without the knowledge and approval of the City Engineer or his authorized representative, is subject to removal and replacement at the contractor's expense.

7. The City Engineer or his authorized representative may suspend the work by written notice when, in his judgment, progress is unsatisfactory, work being done is unauthorized or defective, weather conditions are unsuitable, or there is danger to the public health or safety.

8. The City Engineer may order any or all materials used in the work to be tested according to the American Association of State Highway and Transportation Officials (AASHTO) and the American Society for Testing Materials (ASTM) standards. The contractor shall, at his expense, supply all samples required for testing.

9. Access which meets section 13-04-010, fire hydrants, water mains and street name signs shall be in place and approved before and at all times during on-site combustible construction and/or prior to issuance of building permits in new subdivisions. Fire department and Engineering Division approval is required for obstruction of access or water system shutdown.

10. The contractor shall be responsible for maintenance of the streets and of partially completed portions of the work. The contractor shall submit to the City Engineer for approval a construction schedule for any streets required to be closed or partially closed for the construction activity. The contractor shall reopen the streets no later than the opening date shown on the construction schedule or upon order of the City Engineer. The regulation and control of construction traffic shall be as directed by the City Engineer or his authorized representative.

11. Approval of a portion of the work in progress does not guarantee its final acceptance. Testing and evaluation may continue until written final acceptance of a complete workable unit. Any defects which appear in the work within one year from the date of acceptance and which are due to improper workmanship or inferior materials supplied shall be corrected by or at the expense of the contractor.

12. Acceptance of completed public improvements will not be given until defective or unauthorized work is removed, and final clean-up is complete.

13. Location of underground utilities before work is begun is to be accomplished in accordance with ARS 40-380.22.

14. If work is done on private property in relation to a project constructed under these standards, the contractor will provide the city with written authorization from the property owner to do so.

15. The establishment and use of temporary construction yards shall conform to the current City Land Development Code standards for "temporary uses".

16. "Adequate drainage, erosion and sediment control measures, best management practices, and/or other storm water management facilities shall be provided and maintained at all times during construction. Damages to adjacent property and/or the construction site caused by the contractor's or property owner's failure to provide and maintain adequate drainage and erosion/sediment control for the construction area shall be the responsibility of the contractor and/or property owner".

17. The location of existing survey monuments must be referenced and made accessible to the city. The monuments are to be reset after overlay as per C.O.F. Std. Dwg. 11-01-010. The work shall be performed under the supervision of a registered land surveyor. The engineer will designate the monuments to be re-set. Monumentation shall consist of a reinforcing bar and cap, with the registrants number, that shall be driven or secured by a means approved by the engineer. Monuments shall be furnished by the contractor. A "Results of Survey" map shall be prepared and recorded with the office of the Coconino County Recorder by the contractors surveyor to show the monuments found and set.

18. The contractor shall schedule the pavement milling so that no street shall be milled more than ten calendar days prior to its scheduled date for overlay.

PAVING NOTES

1. Exact point of matching termination and overlay, if necessary, shall be determined in the field by the City Engineer or his authorized representative.

2. No job will be considered completed until: A.) all curbs, pavements, sidewalks, catch basins, storm drains and manholes have been cleaned of all dirt and debris; B.) survey monuments are installed and stamped; C.) all frames, covers and valve boxes are adjusted to grade.

3. Base course will not be placed until sub-grade has been approved by the City Engineer or his authorized representative.

4. The location of all water valves, fire hydrants, and manholes must at all times during construction be referenced and made accessible to the city.

5. Utility facilities in conflict with this work will be relocated by the contractor. This activity shall be coordinated with the owner of the utility to prevent any unnecessary interruption of service to existing customers.

6. Existing street name signs, traffic signs and devices associated with the project shall be maintained during construction or relocated by the contractor as shown on the approved plans.

7. All portland cement concrete used for curb and gutter, sidewalk and catch basins shall be M.A.G. class "A" with 5% to 7% air entrainment.

8. No paving construction shall be started until all utility lines are completed and approved under proposed paved areas.

9. Any changes or additions to pavement markings caused by pavement overlay, chip seal or installation of underground facilities shall be shown on the approved plans.

10. A prime coat is not required unless as specified in the soils and pavement report and/or shown on the plans.

11. All curb and gutter, sidewalk, driveways, and sidewalk ramps shall be constructed on a minimum 4" of ABC. The ABC shall be constructed per MAG Section 310 and shall be compacted to 95% relative density.

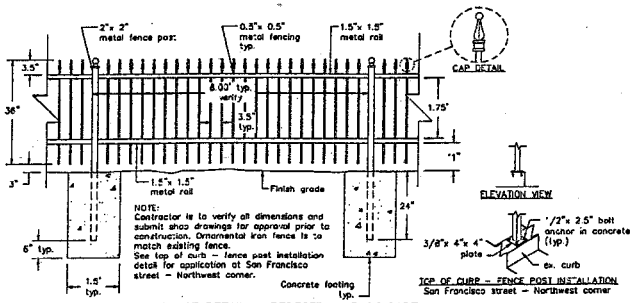
TRAFFIC CONTROL NOTES

1. The contractor shall provide and maintain all necessary traffic controls to protect and guide traffic through the work area. Traffic control shall be as required by MAG Section 401. Prior to any construction the contractor shall submit a traffic control plan to the City of Flagstaff for approval. See Section 431.4 of the special provision.

2. If at any time the owner/engineer determines that proper provisions for safe traffic control are not being provided or maintained, suspension of the work may be ordered until the proper level of traffic control is achieved, in case of serious or willful disregard for safety of workmen or the public. The owner/engineer may proceed forthwith to place traffic control measures in proper condition and deduct the cost thereof from monies due or becoming due the contractor.

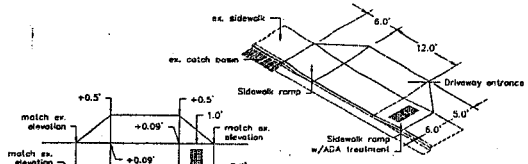
3. No provision of this section shall be construed to relieve the contractor of his responsibility to provide job site safety to both workmen and the public.

ENTRY FEATURE DETAIL
NO SCALE



NOTE:
Contractor is to verify all dimensions and submit shop drawings for approval prior to construction. Ornamental iron fence is to match existing fence.
See top of curb - fence post installation detail for application at San Francisco street - Northwest corner.

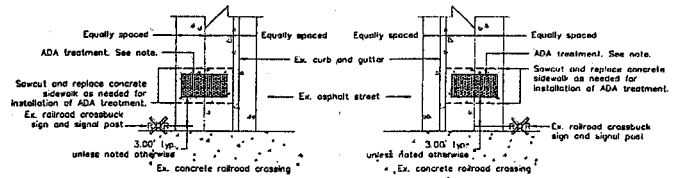
ORNAMENTAL IRON FENCE DETAIL - PEDESTRIAN BARRICADE
NO SCALE



CONTROL ELEVATIONS

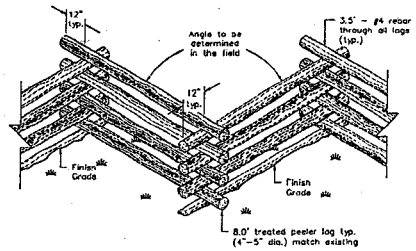
NOTES:
1. Control elevations are in relation to the existing gutter elevation.
2. Sidewalk ramp to match existing sidewalk as indicated.

SIDEWALK RAMP/DRIVEWAY DETAIL
NO SCALE



NOTE: ADA treatment shall be 2 (unless noted otherwise) TekWay dome-tiles, (24"x 24") or approved equal, installed side by side creating a 24"x 48" panel across the existing sidewalk. Locate ADA treatment 3.00' from existing railroad crossbuck sign and signal post, unless noted otherwise.

TYPICAL ADA TREATMENT DETAIL
NO SCALE



TYPICAL LOG FENCE DETAIL - PEDESTRIAN BARRICADE
NO SCALE

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CITY OF FLAGSTAFF ESTABLISHED 1894

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RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

GENERAL NOTES AND DETAILS
BNSF RAILROAD SOUTHWEST DIVISION

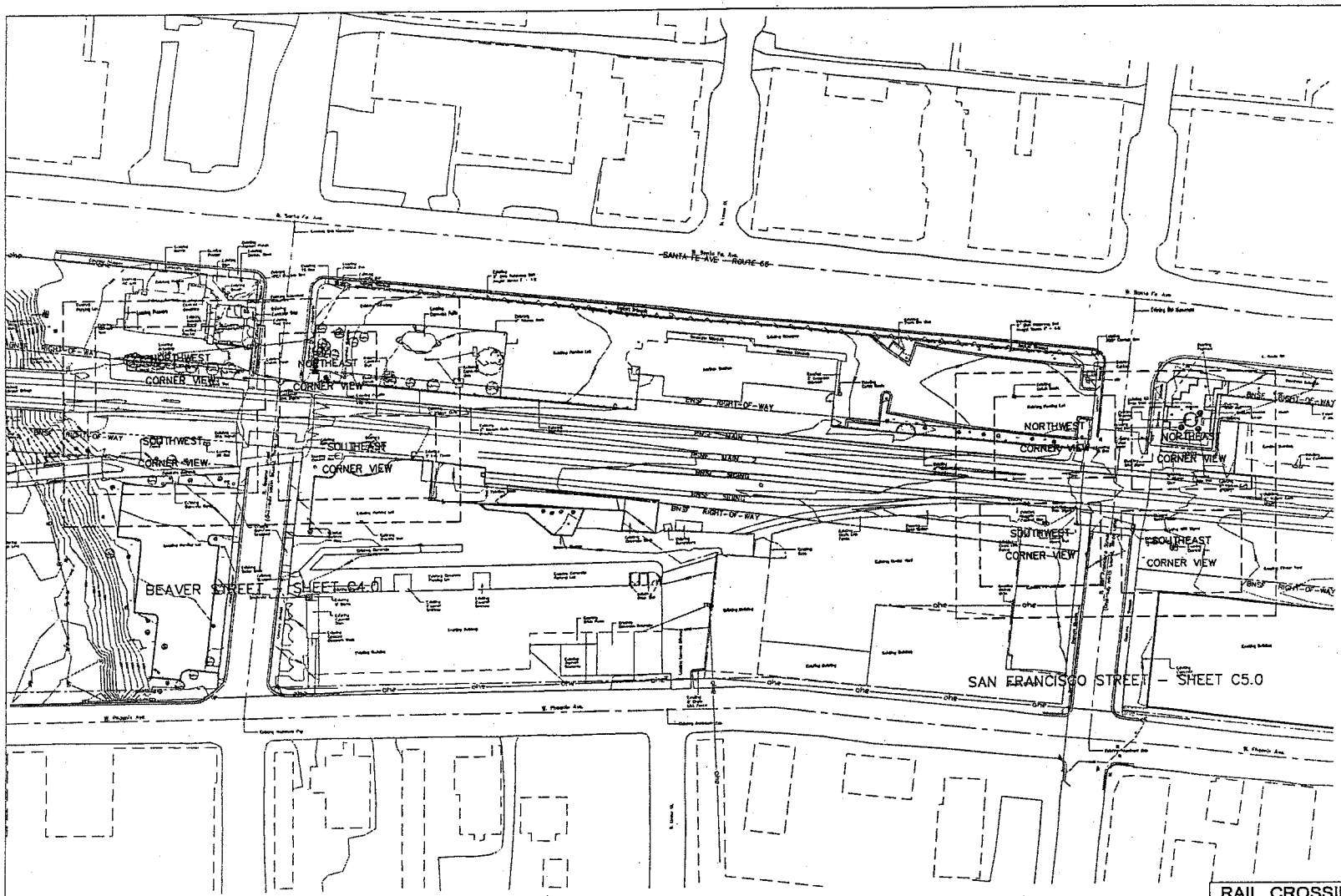
DRAWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9814

SCALE H: N/A
V: N/A

OF

DWG NO. C2.0



GRAPHIC SCALE

40 0 40 80

(IN FEET)

1 inch = 40 ft.

N

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[DESIGN SERVICES CLIENT]

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FOR REVIEW & COMMENT ONLY

RAIL CROSSING MODIFICATION PROJECT

FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

OVERALL VIEW

BEAVER STREET AND SAN FRANCISCO STREET
BNSF RAILROAD SOUTHWEST DIVISION

DRWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
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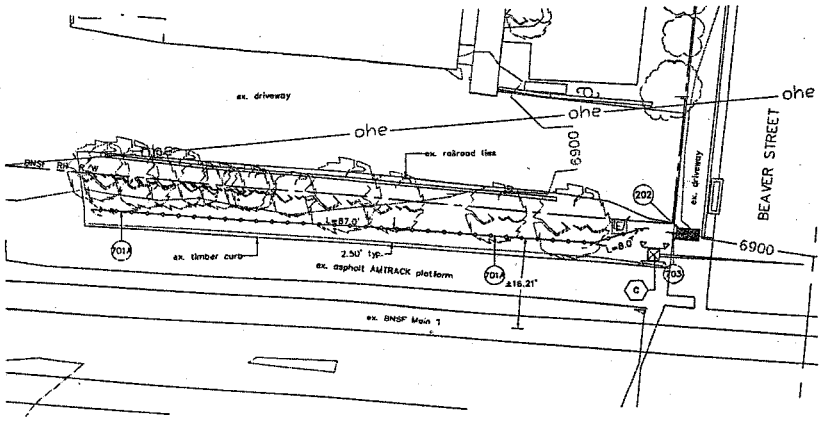
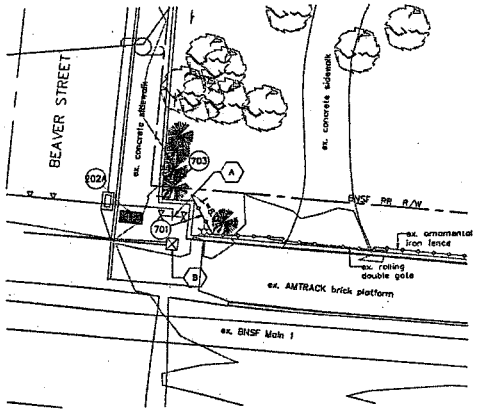
SCALE H: 1"=40' V: N/A

___ OF ___

DWG NO. C3.0



BEAVER STREET – NORTHWEST CORNER



BEAVER STREET – NORTHEAST CORNER

CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.
103 Protect existing utility in place.
104 Saw cut and remove existing asphalt as needed for new improvements.
105 Saw cut remove existing sidewalk at nearest contraction joint
106 Rebuild existing ornamental iron fence to limits shown.

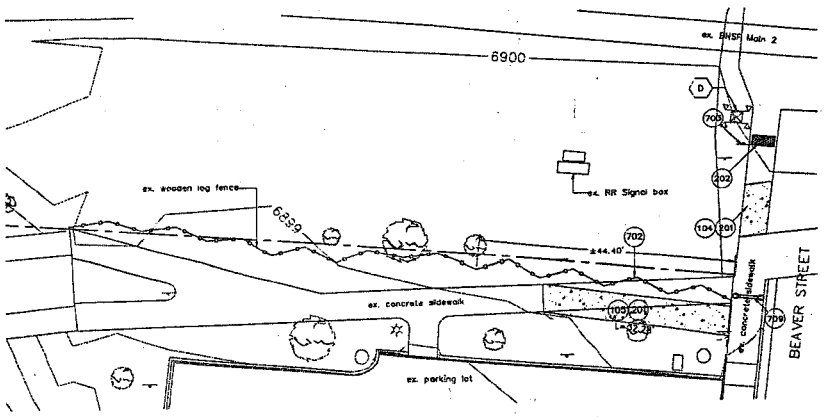
201 Construct new 4" concrete sidewalk over 4" ABC as shown on plans.
202 Install ADA treatment per detail on sheet C2 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.
202A Install ADA treatment per detail on sheet C2 and manufacturers specifications. Locate ADA treatment 3.00' from railroad crossing arm and 6" from back of curb.

701 Construct ornamental iron fence, as shown on plans, to match existing fence. See detail on sheet C2.
701A Construct ornamental iron fence per configuration shown and per detail on sheet C2. Construct 2.5' behind ex. timber curb as shown on plans.

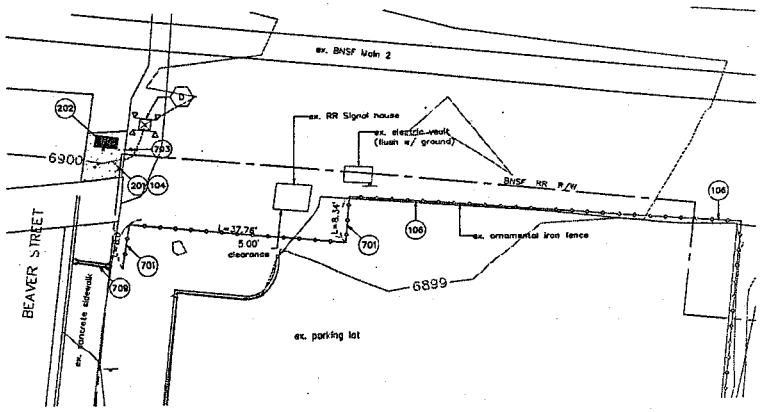
702 Construct wooden log fence with zig zag pattern to match existing wooden fence. See detail on sheet C2.
703 Install "NO TRAIN HORN" sign (W10-9) with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. Sign to be 24" wide x 18" high with back lettering and border on yellow background.
709 Entry feature. See detail on sheet C2.0.

EXISTING RAILROAD CROSSING WARN DEVICES

A — Cantilever signal w/flashers back and front lit on sidewalk
B — Crossing gate, no flashers
C — Crossing gate w/ front and back lit flashers
D — Signal post w/front and back lit flashers



BEAVER STREET – SOUTHWEST CORNER



BEAVER STREET – SOUTHEAST CORNER

GRAPHIC SCALE
10 0 10 20
(IN FEET)
1 inch = 10 ft.

N

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(OUTSIDE MARICOPA COUNTY)

CITY OF FLAGSTAFF ARIZONA ESTABLISHED 1894

NO	DATE	REVISION	BY	CH	APPR

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RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

BEAVER STREET - PLAN VIEW

BNSF RAILROAD SOUTHWEST DIVISION

DOT 025133N MP 344.3

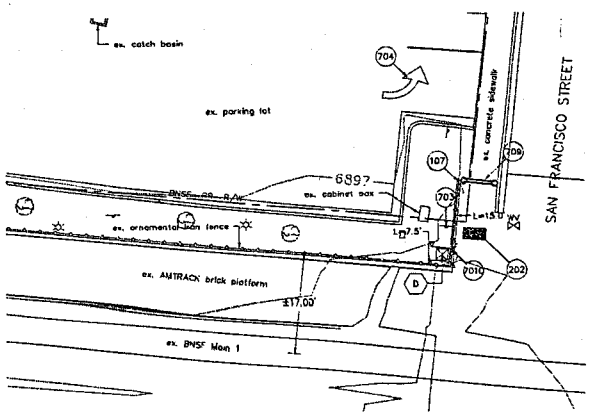
DRAWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-0814

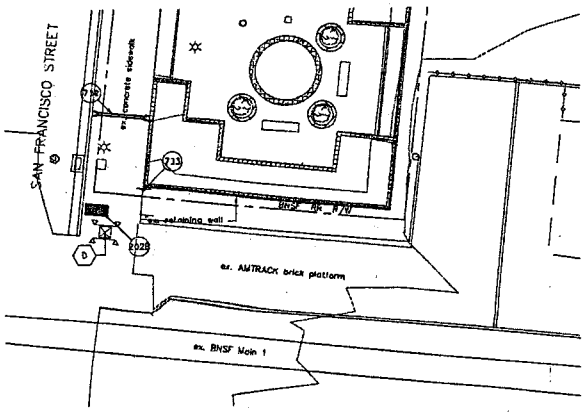
SCALE H: 1"=10' V: N/A

___ OF ___

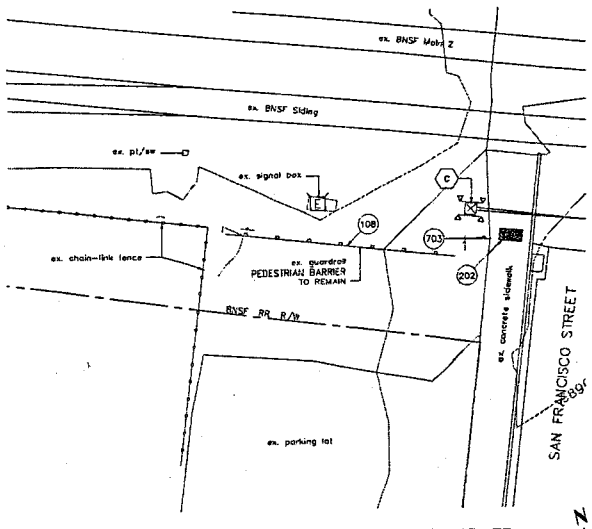
DWG NO. C4.0



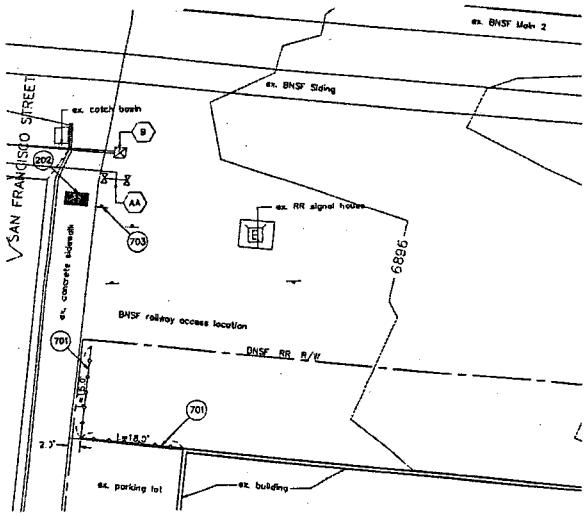
SAN FRANCISCO STREET – NORTHWEST CORNER



SAN FRANCISCO STREET – NORTHEAST CORNER



SAN FRANCISCO STREET – SOUTHWEST CORNER



SAN FRANCISCO STREET – SOUTHEAST CORNER

CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.
103 Protect existing utility in place.
107 Saw cut and remove existing curb to create clean straight edge.
108 Existing guardrail is to remain. Protect in place.

202 Install ADA treatment per detail on sheet C2 and manufacturers specifications. Typical location of ADA treatment is to be 3.0' from railroad crossing signal post.
202B Install ADA treatment per detail on sheet C2 and manufacturers specifications. Locate ADA treatment 3.00' from railroad crossing signal post and 6" from back of curb.

701 Construct ornamental iron fence, as shown on plans, to match existing fence. See detail on sheet C2.
701C Construct ornamental iron fence on top of existing curb, as shown on plans. Match existing fence. See detail on sheet C2.
703 Install "NO TRAIN HORN" sign (W10-9) with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition.
704 Install "LEFT TURN ARROW" pavement marking per Manual on Uniform Traffic Control devices (MUTCD) 2003 edition. Sign to be 24" wide x 18" high with black lettering and border on yellow background.
709 Entry feature. See detail on sheet C2.0.

EXISTING RAILROAD CROSSING WARN DEVICES

AA	Cantilever signal w/flashers back and front lit on sidewalk
B	Crossing gate, no flashers
C	Crossing gate w/ front and back lit flashers
D	Signal post w/front and back lit flashers

GRAPHIC SCALE
10 0 10 20
(IN FEET)
1 inch = 10 ft.

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE IT
(OUTSIDE MARICOPA COUNTY)

CITY OF FLAGSTAFF ESTABLISHED 1894 ARIZONA

NO	DATE	REVISION	BY	CH	APPR

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PRELIMINARY NOT FOR CONSTRUCTION OR RECORDING PURPOSES

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

SAN FRANCISCO STREET - PLAN VIEW
BNSF RAILROAD SOUTHWEST DIVISION
DOT 025132G MP 344.1

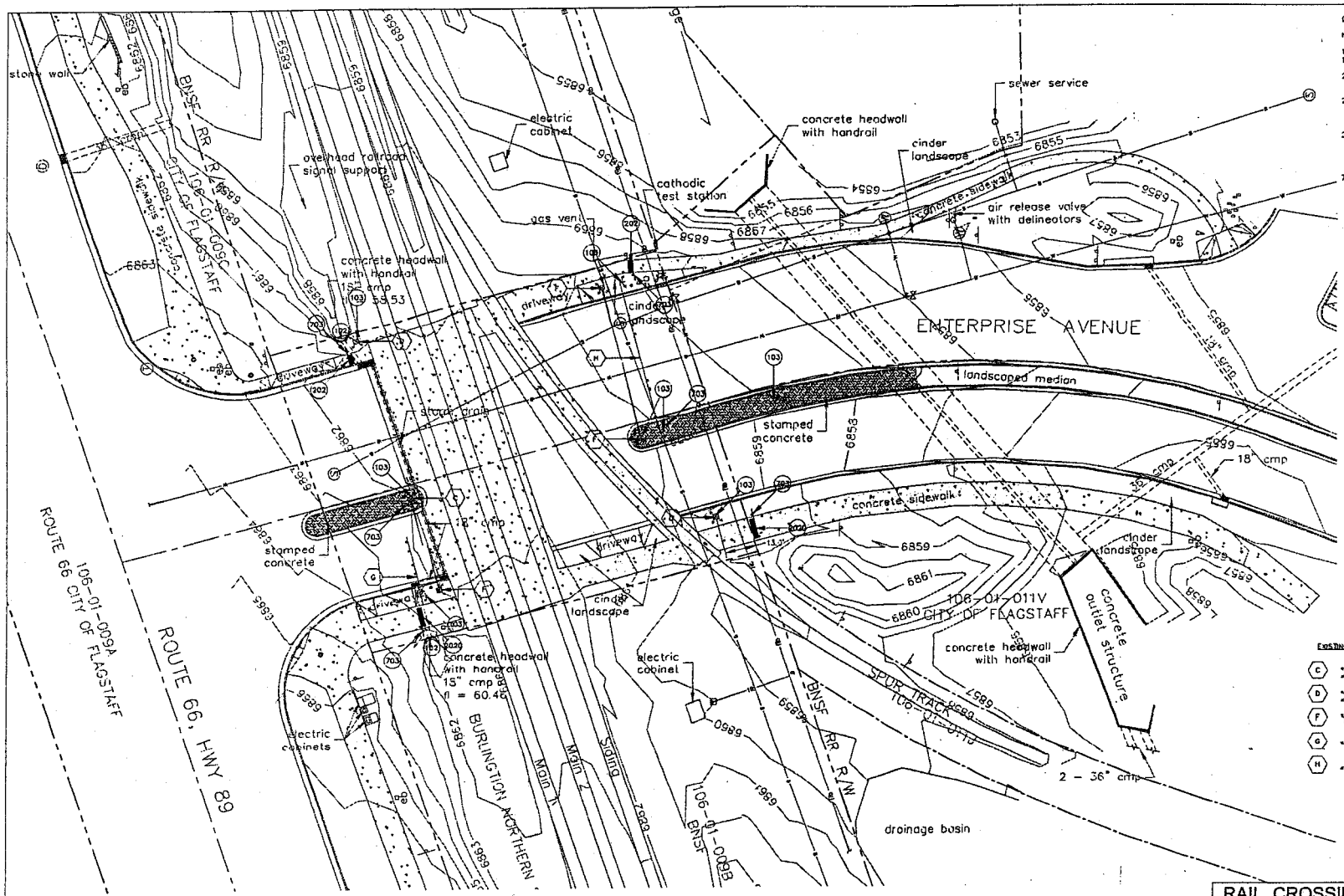
DRAWN BY
DESIGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-9814

SCALE H: 1"=10'
V: NA

OF

DWG NO. C5.0



CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.

103 Protect existing utility in place.

202 Install ADA treatment per detail on sheet C2 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.

202C Install ADA treatment per detail on sheet C2 and manufacturers specifications. Locate ADA treatment 3.00' from railroad crossing signal post. 4 ADA treatment units shall be installed side by side creating 24"x 96" detectable warning surface.

202D Install ADA treatment per detail on sheet C2 and manufacturers specifications. Locate ADA treatment 13.00' from railroad crossing signal post. 4 ADA treatment units shall be installed side by side creating 24"x 96" detectable warning surface.

703 Install "NO TRAIN HORN" sign (W10-9) with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. Sign to be 24" wide x 18" high with black lettering and border on yellow background.

EXISTING RAILROAD CROSSING WARN DEVICES

C	Crossing gate w/ front and back lit flashers
D	Signal post w/front and back lit flashers
F	Crossing gate, back lit only
G	Cantilever signal, front lit only
H	Signal bridge, front lit only

GRAPHIC SCALE

20 0 20 40

(IN FEET)

1 inch = 20 ft.

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

CITY OF FLAGSTAFF ARIZONA ESTABLISHED 1882

NO	DATE	REVISION	BY	CH	APPR

60% - SUBMITTAL

PRELIMINARY

RAIL CROSSING MODIFICATION PROJECT

FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

ENTERPRISE AVENUE - PLAN VIEW

BNSF RAILROAD SOUTHWEST DIVISION

DOT 025131A MP 342.93

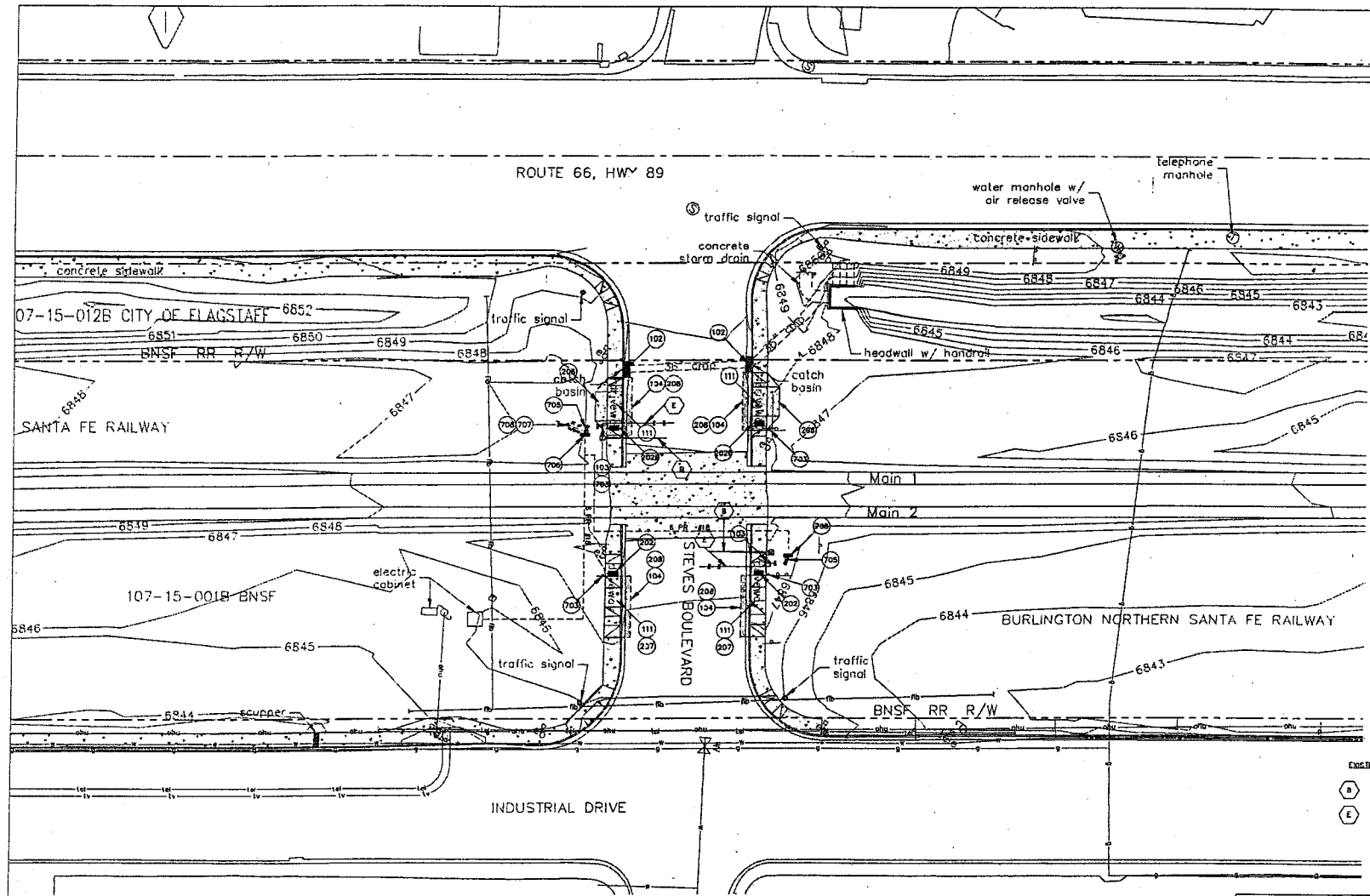
DRAWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0511 FAX (928) 213-9814

SCALE H: 1"=20' V: N/A

OF

DWG NO. C6.0



CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.
103 Protect existing utility in place.
104 Saw cut and remove existing asphalt as needed for new improvements.
111 Saw cut and remove existing driveway as needed for new construction.

201 Construct new 4" concrete sidewalk over 4" ABC as shown on plans.
202 Install ADA treatment per detail on sheet C2 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.
202E Install ADA treatment per detail on sheet C2 and manufacturers specifications. Locate ADA treatment as shown on sidewalk ramp/driveway detail on sheet C2.
205 Construct 12' wide driveway entrance per sidewalk ramp/driveway detail on sheet C2.
207 Construct 16' wide driveway entrance per MAG Std. Det. No. 250.
208 Construct asphalt patch to match existing section.

703 Install "NO TRAIN HORN" sign (W10-9) with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. Sign to be 24" wide x 18" high with black lettering and border on yellow background.
703 Install "NO TRAIN HORN" sign (W10-9) per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. Install sign on cross buck sign post. Sign to be 24" wide x 18" high with black lettering and border on yellow background.
705 New wayside horn
706 Dual confirmation signal
707 AHS electric meter
708 Connect to existing power source.

EXISTING RAILROAD CROSSING WARN DEVICES

(B) Crossing gate, no flashers

(E) Cantilever signal w/flashers back and front (#) on cantilever and sidewalk

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20 ft.

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
[OUTSIDE ARIZONA COUNTY]

NO	DATE	REVISION	BY	CH	APPR

60% - SUBMITTAL

PRELIMINARY
NOT FOR CONSTRUCTION

RAIL CROSSING MODIFICATION PROJECT
FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

STEVES BOULEVARD - PLAN VIEW

BNSF RAILROAD SOUTHWEST DIVISION

DOT 025099J MP 341.2

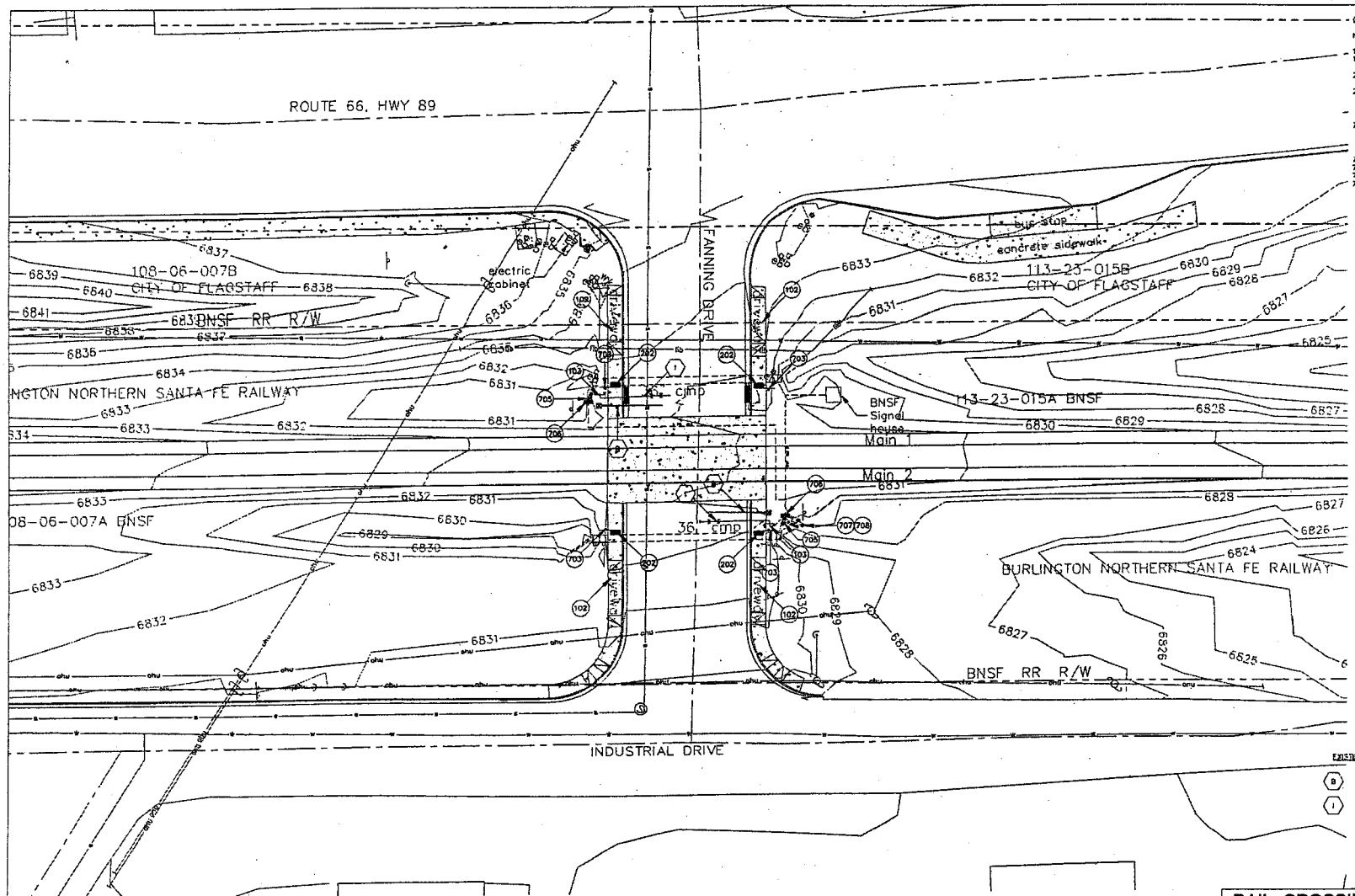
DRAWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0811 FAX (928) 213-0814

SCALE H: 1"=20' V: N/A

OF

DWG NO. C7.0



CONSTRUCTION NOTES:

NOTE: WARNING!! The location and depth of existing utilities is UNKNOWN. Contractor to verify prior to construction.

102 Protect existing improvements in place.

103 Protect existing utility in place.

201 Construct new 4" concrete sidewalk over 4" ABC as shown on plans.

202 Install ADA treatment per detail on sheet C2 and manufacturers specifications. Typical location of ADA treatment is to be 3.00' from railroad crossing signal post.

703 Install "NO TRAIN HORN" sign (W10-9) with breakaway post per Manual on Uniform Traffic Control Devices (MUTCD) 2003 edition. Sign to be 24" wide x 18" high with black lettering and border on yellow background.

705 New wayside horn.

706 Dual confirmation signal

707 APS electric meter

708 Connect to existing power source.

EXISTING RAILROAD CROSSING WARN DEVICES

B — Crossing gate, no flashers

I — Cantilever signal w/flashers back and front hi on cantilever, front lil only on sidewalk

GRAPHIC SCALE

20 0 20 40

(IN FEET)

1 inch = 20 ft.

CALL TWO WORKING DAYS BEFORE YOU DIG 263-1100 1-800-STAKE-IT [OUTSIDE MARICOPA COUNTY]

NO	DATE	REVISION	BY	CH	APPR

60% - SUBMITTAL

PRELIMINARY NOT FOR CONSTRUCTION

RAIL CROSSING MODIFICATION PROJECT

FLAGSTAFF, ARIZONA

CITY OF FLAGSTAFF
CAPITAL IMPROVEMENTS DIVISION

FANNING DRIVE - PLAN VIEW

BNSF RAILROAD SOUTHWEST DIVISION

DOT 025129Y MP 340.6

DRAWN BY
DSGN BY
CHKD BY

PLATEAU ENGINEERING
CIVIL ENGINEERS AND LAND SURVEYORS
(928) 556-0311 FAX (928) 213-0414

SCALE H: 1"=20' V: N/A

___ OF ___

DWG NO. C8.0

RAIL CROSSING MODIFICATION PROJECT

"FLAGSTAFF QUIET ZONES"

CITY OF FLAGSTAFF, ARIZONA

60% DESIGN NARRATIVE

DRAFT – FOR REVIEW AND COMMENT ONLY
NOT FOR CONSTRUCTION

Registered Professional Engineer (Civil)
CERTIFICATE NO.
14265
JAMES DART HALL
DATE SIGNED
ARIZONA, U.S.A.

Plateau Engineering, Inc.
202 East Birch Avenue
Flagstaff, Arizona, 86001
(928) 556-0311
February 8, 2008

j1037

INTRODUCTION

The City of Flagstaff desires to significantly eliminate train horn noise at major railroad crossings within the limits of the City. Pursuant to this objective, in 2004 the City initiated a process to design necessary improvements and process necessary paperwork with the U.S. Department of Transportation, Federal Railroad Administration (FRA) to establish a "Quiet Zone" i.e.: a segment of track traversing the City where train locomotives would be prohibited (except in case of emergency), from sounding otherwise-mandated train horns at railroad crossings. In addition to the FRA, proposed improvements and Quiet Zone establishment are subject to the review and approval of the Arizona Corporation Commission (ACC) and the BNSF Railway.

The project progressed through several phases. A vendor demonstration of "wayside horns" was conducted at each railroad crossing on May 2, 2006 in conjunction with a Diagnostic Team review of the five affected railroad crossings. Strictly speaking, wayside horns do not establish a Quiet Zone as they simply replace the train horn with trackside horns at each crossing. Because the wayside horns are directional, and can be precisely adjusted for sound intensity and focus, they produce much less noise impact than train-mounted horns. The Diagnostic Team included members from the City of Flagstaff, the Arizona Corporation Commission, Railroad Controls Inc (a wayside horn vendor), BNSF Railway and Gannett Fleming the City's consultant at that time.

Results of the Diagnostic Team meeting, together with preliminary design concepts were summarized in the Gannett Fleming report *Quiet Zone/Wayside Horn Update December, 2006,* revised 1-22-2007. Design concepts were further refined in the period from January through August 2007.

In September, 2007, the City of Flagstaff and Gannett Fleming mutually agreed to terminate their association on this project. The City then engaged the Flagstaff firm of Plateau Engineering, Inc. (Plateau) to design necessary improvements and process the proposed Quiet Zones to completion. Plateau had worked as a sub-consultant to Gannett Fleming for survey services, but was not a part of the Diagnostic Team and had not been a part of the development of design concepts prior to being engaged as a prime consultant.

This Design Narrative summarizes the proposed design of the Rail Crossing Modification Improvements necessary for the implementation of a Quiet Zone within the City of Flagstaff.

Rail Crossings Within the Proposed Quiet Zone

Beaver Street	DOT Crossing # 025133N	BNSF Milepost 344.3
San Francisco Street	DOT Crossing # 025132G	BNSF Milepost 344.1
Enterprise Avenue	DOT Crossing # 025131A	BNSF Milepost 342.93

The following crossings propose the use of wayside horns as a one-for-one substitute for train horns within the proposed Quiet Zone.

Steves Boulevard	DOT Crossing # 025099J	BNSF Milepost 341.2
Fanning Drive	DOT Crossing # 025129Y	BNSF Milepost 340.6

Quiet Zone Calculator

Beaver Street and San Francisco Street

Beaver Street (southbound) and San Francisco Street (northbound) constitute a one-way couplet in downtown Flagstaff. Average Daily Traffic (ADT) is somewhat under 8,000 vehicles per day on each street. Current railroad crossing inventory information indicates 93 daily train movements at this location. Maximum timetable speed is 45 miles per hour. In addition to vehicle traffic, the Beaver – San Francisco Street crossings experiences significant two-way pedestrian use. Much of this use is generated by Northern Arizona University (NAU) students going to and from the downtown area, and a significant percentage is after daylight hours.

The Amtrak railroad station is located north of the BNSF main lines between Beaver and San Francisco Streets. The platform for this station extends from west of Beaver Street, through the intervening city block, and terminates east of San Francisco Street.

FRA records indicate that the Beaver Street crossing has had 3 accidents within the past 10 years. Two of these incidents involved motor vehicles, with no injuries. There was one fatal pedestrian incident.

San Francisco Street had 5 accidents in the same time frame. Two of these incidents involved motor vehicles, with both injuries and fatalities. Of the remaining three, two incidents were pedestrian, with injuries, and one was a bicycle fatality.

Qualifying Supplemental Safety Measures proposed for both Beaver and San Francisco Streets are "One Way Streets with Gates".

Current proposed improvements at Beaver Street and San Francisco Streets are shown on sheets C4.0 and C5.0 and include:

- New fencing along the railroad right of way lines to channel pedestrians to the crossing location. The style of proposed fencing will mimic existing fencing at the proposed locations.
- The north side of the railroad right of way between Beaver and San Francisco is the loading platform for the Amtrak station. Fencing will be configured and extended to separate Amtrak boarders from other pedestrians.
- ADA sidewalk treatment. This will consist of installation of truncated domes at hold short locations, and verification of proper slopes and grades.
- Some remedial concrete sidewalk repair and reconstruction will eliminate gaps in the current sidewalk, and allow for the proposed fence construction.
- "No Train Horn" signs.

Notes from the Diagnostic Team meeting (as included in the *Quiet Zone/Wayside Horn Update)*, include the following paragraph:

> *"Within the review of each crossing or option, it was further instructed that pedestrian safety would play a prime role. Supplemental Safety Measures indicated in the quiet zone ruling have no correlation with pedestrian accidents or safety. They address vehicles only. It was brought up that the MUTCD* (ed: Manual for Uniform Traffic Control Devices) *(Part 10 – Traffic Controls for Highway-Light Rail Transit Grade Crossing) section addresses the use of pedestrian barrier installations for light rail transit crossings and that these could possibly be used and modified to address pedestrian safety concerns at Beaver Street and San Francisco Street."*

A MUTCD pedestrian barrier consists of a short fenced "maze" for pedestrians to navigate as they reach the crossing. The intent of this maze is to focus pedestrian attention toward both railroad approaches prior to crossing the tracks. The proposed design does *not* incorporate MUTCD pedestrian barriers, for the following reasons:

Construction of MUTCD pedestrian barriers is severely hampered by the need to maintain Amtrak access to the station platform, BNSF access to BNSF right of way, and local driveway access to the Chamber of Commerce building. In some quadrants there is simply no room for the barrier suggested, or any similar type of improvement. We do not think it appropriate to place MUTCD barriers in only those locations with adequate room to construct, as we feel that any pedestrian safety improvements should be reasonably uniform across all four quadrants of the rail crossing.

A great many of the pedestrians after dark are patrons of local dining (and drinking) establishments. Many are also NAU students, or are of similar age. They often travel in small groups between establishments, and to-and-from NAU. Existing sidewalk widths are narrow, and present an impediment to group passage – many pedestrians walk in the street after hours. The pedestrian barrier "mazes" we feel would be an additional barrier and easily and routinely bypassed.

Gannet Fleming also expressed similar concerns regarding this approach in a letter by Project Engineer Stewart S. Vaghti dated July 19, 2007:

> *"During the weekend of July 6th and 7th, I spent time in the downtown Flagstaff area between the hours of 6:00 pm and midnight. I observed the following pedestrian behavior at this time:*
>
> - *During the daylight hours when vehicular traffic was relatively active, pedestrian traffic primarily utilized the sidewalks with some walking in traffic lanes.*
> - *Bicycle traffic primarily utilized bicycle lanes of the traffic lanes.*
> - *After it became dark, and when vehicular traffic was reduced, pedestrian and bicycle traffic utilized more of the vehicular travel lanes of the streets and less of the sidewalks.*
>
> *It appeared that several of these pedestrian and bicycle lane patterns were from patrons of the local businesses.*
>
> *As this relates to the pedestrian barriers proposed on Beaver Street and San Francisco Street,* ***our concern is that the proposed channelization barriers would not be an effective means of controlling pedestrian traffic and could be a safety concern if a pedestrian needed to get out of the way of an oncoming vehicle."*** (bold added).

The City of Flagstaff concurs with the above assessments, and does not wish to pursue construction of MUTCD pedestrian barriers. The fencing proposed as a part of this project will direct pedestrian traffic to the proper crossing locations. Flashing lights and bell signals will provide audible and visual pedestrian warning.

Enterprise Road

Enterprise Road is the most significant rail-highway crossing within the City of Flagstaff in terms of Average Daily Traffic. Current ADT is roughly 21,000 vehicles per day. The crossing was significantly upgraded in 2002-2003. It currently consists of three northbound lanes and two southbound lanes, separated by an eight-foot median. There are currently four tracks: two mainline and two siding or spur.

Current railroad crossing inventory information indicates 97 daily train movements at this location. Maximum timetable speed is 55 miles per hour. FRA records indicate that the Enterprise Rd. crossing has had 6 accidents within the past 10 years. There was one injury accident, but none involved fatalities. All were vehicle accidents, with all but one involving trucks or truck-trailer combinations. There appear to have been no accidents since the completion of the 2002 – 2003 work.

Current proposed improvements at Enterprise Road are shown on sheets C6.0 and include:

- ADA sidewalk treatment. This will consist of installation of truncated domes at hold short locations, and verification of proper slopes and grades.
- No Train Horn" signs.

No Qualifying Supplemental Safety Measures are proposed for the Enterprise Road Crossing. The Federal Railroad Administration *Quiet Zone Calculator* indicates that the Quiet Zone Qualifies because the Quiet Zone Risk Index (85146.78) is less than the Risk Index with Horns (114085.49).

Alternatively, the Enterprise Road crossing could be evaluated under "Gates with Medians or Channelization Devices". However, the median length north of the crossing - between the crossing gate and Route 66 - less than the minimum 60 feet stipulated per the Supplemental Safety Measure standards. The current median length is slightly over 43 feet. It appears doubtful that the median length could be extended an additional 17 feet without creating a potential conflict for left-turning vehicles onto Enterprise Road from Route 66.

Because intersection does not strictly conform to the requirements of this classification, the intersection would need to receive approval as a "Modified Supplemental Safety Measure" (or "Alternative Safety Measure"). The intersection and rail crossing has functioned very well – with no accidents - since the 2002-2003 reconstruction, and ModSSM/ASM approval hopefully would not be difficult.

Steves Boulevard and Fanning Drive.

Located in easterly Flagstaff, Steves Boulevard and Fanning Drive have very similar characteristics. Both crossings are approximately 300 feet long, and connect Route 66 to Industrial Drive – two roadways which parallel the railroad tracks. The rail track location is approximately centered between the curb lines of the parallel roadways.

Current ADT for Steves Boulevard is slightly in excess of 11,000 vehicles per day. The Fanning crossing has an ADT of roughly 8,100 vehicles per day. Both crossings are four lanes: two northbound and two southbound.

Current railroad crossing inventory information indicates 93 daily train movements at both locations. Maximum timetable speed is 79 miles per hour. FRA records indicate that the Steves crossing has had no accidents within the past 10 years. The Fanning crossing has experienced 3 accidents, with one injury and no fatalities.

The City has elected to use wayside horns at both the Steves and Fanning locations. This removes these intersections from the Quiet Zone category, and wayside horns are considered to be a one-for-one substitute for the silenced train horn.

Wayside horns may be used within a Quiet Zone, and we currently envision creating a Quiet Zone to encompass all the 5 mainline crossings within the City, including the crossings at Steves and Fanning.

Current proposed improvements at Steves Boulevard and Fanning Drive are shown on sheets C5 and C6 and include:

- Installation of wayside horns.
- ADA sidewalk treatment. This will consist of installation of truncated domes at hold short locations, and verification of proper slopes and grades.
- Proper construction of ADA improvements will require relocation of existing driveways at Steves Boulevard which provide access to the BNSF right of way. If BNSF prefers, these driveways can be eliminated instead.
- "No Train Horn" signs.

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Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

AZ Corp. Commission
2200 N. Central Ave
Ste 300
Phoenix, AZ 85004
Attn: Chris Thomas

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Yrola Gurnea ☐ Agent ☐ Addressee

B. Received by (Printed Name) Yrola Gurnea
C. Date of Delivery 3-14-08

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

Article Number (Transfer from service label) 7007 0220 0001 7818 4421

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1. Article Addressed to:

ADOT
205 S. 17th Ave, Rm 357
Mail Drop 618 E
Phoenix, AZ 85007-3212
Attn: Robert Travis, PE

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Larry Sanchez ☐ Agent ☐ Addressee

B. Received by (Printed Name) Larry Sanchez
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

MAR 17 2008

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7007 0220 0001 7818 4438

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Certified Fee		$2.65
Return Receipt Fee (Endorsement Required)		$2.15
Restricted Delivery Fee (Endorsement Required)		$0.00
Total Postage & Fees	$	$7.46

Postmark Here: DOWNTOWN STATION 10098 FLAGSTAFF AZ 86001 MAR 13 2008 03/13/2008

Sent To: AZ Corp. Commission
Street, Apt. No.; or PO Box No.: 2200 N. Central Ave, Ste 300
City, State, ZIP+4: Phoenix AZ 85004

PS Form 3800, August 2006 See Reverse for Instructions

7007 0220 0001 7818 4421

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SAN BERNARDINO CA 92408

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Certified Fee		$2.65
Return Receipt Fee (Endorsement Required)		$2.15
Restricted Delivery Fee (Endorsement Required)		$0.00
Total Postage & Fees	$	$7.46

Postmark Here: DOWNTOWN STATION 10098 FLAGSTAFF AZ 86001 MAR 13 2008 03/13/2008

Sent To: BNSF
Street, Apt. No.; or PO Box No.: 740 E Carnegie Dr.
City, State, ZIP+4: San Bernardino, CA 92408

PS Form 3800, August 2006 See Reverse for Instructions

BNSF RETURN RECEIPT could not be located Rady whatever 7-16-09

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PHOENIX AZ 85007

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Return Receipt Fee (Endorsement Required)		$2.15
Restricted Delivery Fee (Endorsement Required)		$0.00
Total Postage & Fees	$	$7.46

Postmark Here: DOWNTOWN STATION 10098 FLAGSTAFF AZ 86001 MAR 13 2008 03/13/2008

Sent To: AZ DOT
Street, Apt. No.; or PO Box No.: 205 S. 17th Ave, Rm 357 618
City, State, ZIP+4: Phoenix, AZ 85007-3212

PS Form 3800, August 2006 See Reverse for Instructions

7007 0220 0001 7818 4438

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First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Plateau Engineering
202 E. Birch Ave.
Flagstaff, AZ 86001

BACK SIDE OF
RETURN RECEIPT FOR
NOI CERTIFIED MAIL
7-16-09
7-16-09

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Plateau Engineering
202 E. Birch Ave
Flagstaff, AZ ~~86004-3242~~
86001

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BNSF
740 E. Carnegie Dr.
San Bernardino, CA
92408

Attn: Melvin Thomas.

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) S. [illegible] C. Date of Delivery 3-17-08

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7007 0220 0001 7818 4414

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