

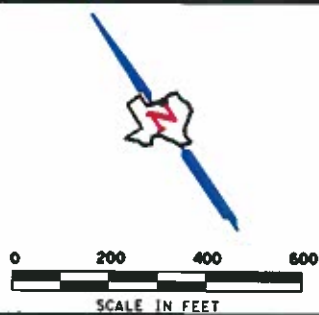
GENERAL LEGEND	
PROPOSED BHW ALIGNMENT	PROPOSED BHW ROW
PROPOSED RAMP	TxDOT ROW
PROPOSED OUTFALL	EXISTING BOX CULVERT
EXISTING OUTFALL	EXISTING CMP
PROPOSED OUTFALL TO BE USED BY BHW EXTENSION	EXISTING RCP
	EXISTING RAILROAD LINES
	PROPOSED DRAINAGE AREAS
	EXISTING DRAINAGE AREAS
	PROPOSED PONDING AREA
	PROPOSED DRAINAGE AREA
	E. PAISANO DR
	MESA ST / DONIPHAN DR

LOOP 375  
INTERSTATE 10  
W. PAISANO DR

Q-1  
Q-26  
Q-27  
Q-28  
Q-29  
Q-30

PA-A1  
PA-A2  
PDA1-1A  
PDA6-26  
PDA7-27

TEXAS 20



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MORENO CARDENAS INC.

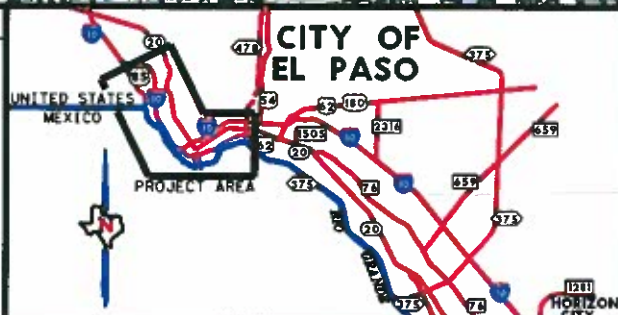
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MARVIN H. GOMEZ 86920 05/16/13  
NAME PE# Date

MCI FIRM TEXAS REGISTRATION NUMBER: F-000554

DATE: MAY 16, 2013



**Loop 375 Border Highway West Extension Project**  
From Racetrack Drive to East of Park Street

(OUTFALLS TO RIO GRANDE RIVER)  
PROPOSED DRAINAGE AREAS

TxDOT El Paso District  
CSJ: 2552-04-027

**MCi** Moreno Cardenas Inc.  
consulting engineers  
TEXAS REGISTRATION # F-000554

**HALFF**  
704.500.1012

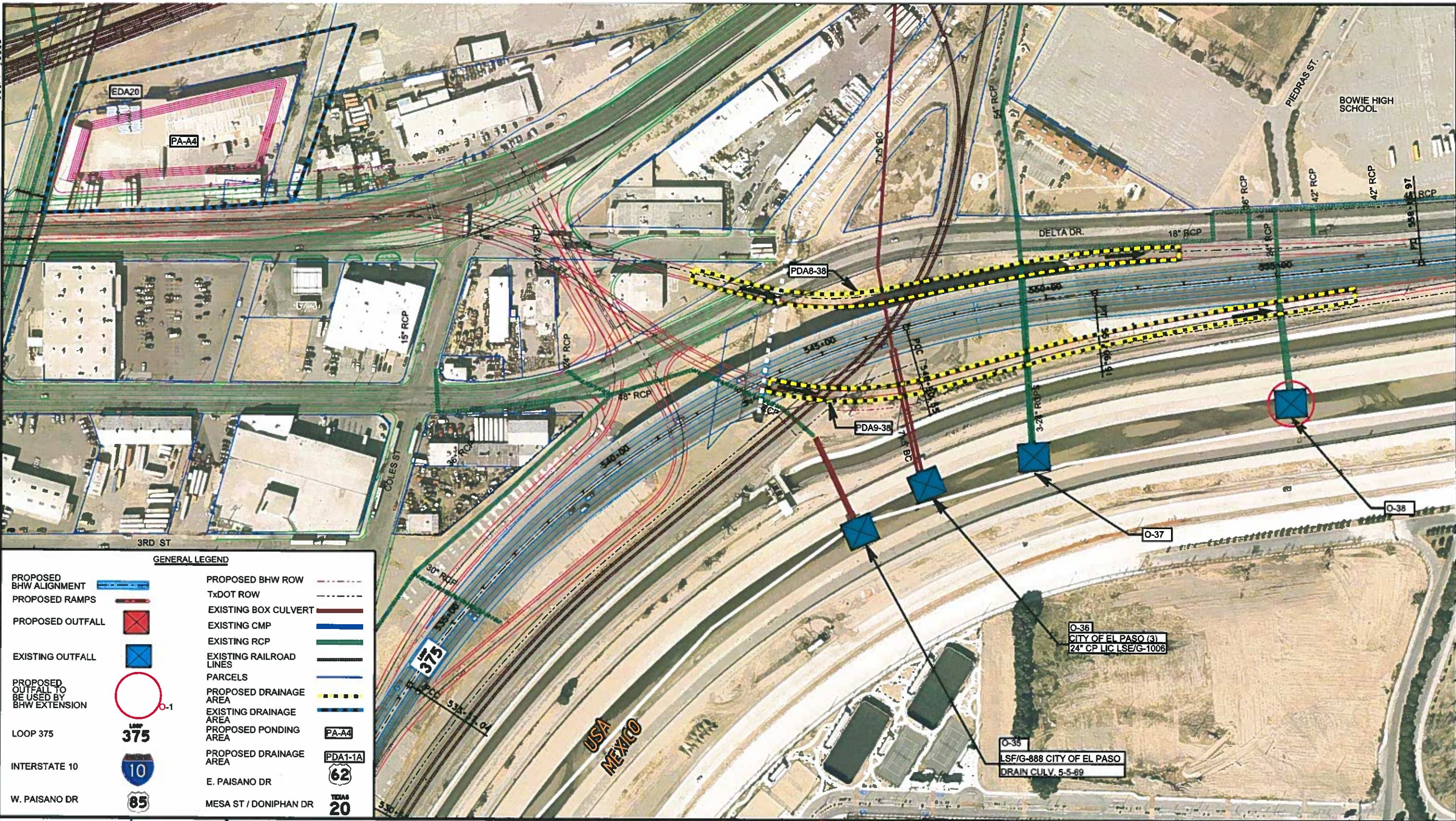
**FIGURE 12**



User: Jesse

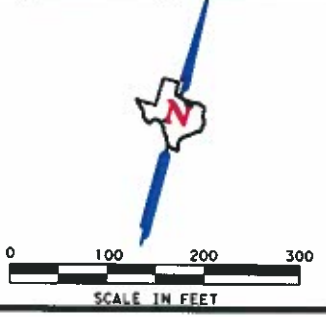
...\\Figure #13-IBWC PROPOSED DRAINAGE AREAS.dgn

DATE: 5/15/2013 TIME: 7:05:53 PM FILE:



GENERAL LEGEND

- |  |                         |
|--|-------------------------|
| PROPOSED BHW ALIGNMENT                       | PROPOSED BHW ROW        |
| PROPOSED RAMPS                               | TxDOT ROW               |
| PROPOSED OUTFALL                             | EXISTING BOX CULVERT    |
| EXISTING OUTFALL                             | EXISTING CMP            |
| PROPOSED OUTFALL TO BE USED BY BHW EXTENSION | EXISTING RCP            |
| LOOP 375                                     | EXISTING RAILROAD LINES |
| INTERSTATE 10                                | PARCELS                 |
| W. PAISANO DR                                | PROPOSED DRAINAGE AREA  |
|  | EXISTING DRAINAGE AREA  |
|  | PROPOSED PONDING AREA   |
|  | PROPOSED DRAINAGE AREA  |
|  | E. PAISANO DR           |
|  | MESA ST / DONIPHAN DR   |



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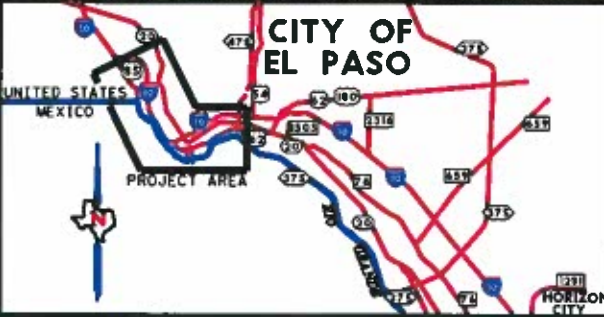
MORENO CARDENAS INC.

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MARVIN H. GOMEZ 86920 05/16/13  
NAME PER Date

MC1 FIRM TEXAS REGISTRATION NUMBER: F-000554



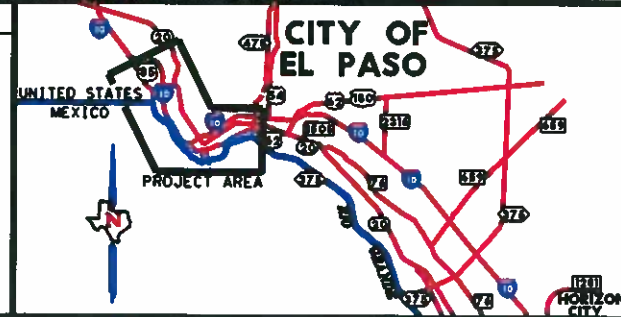
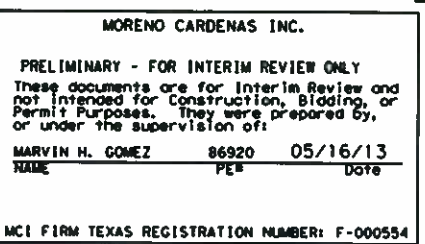
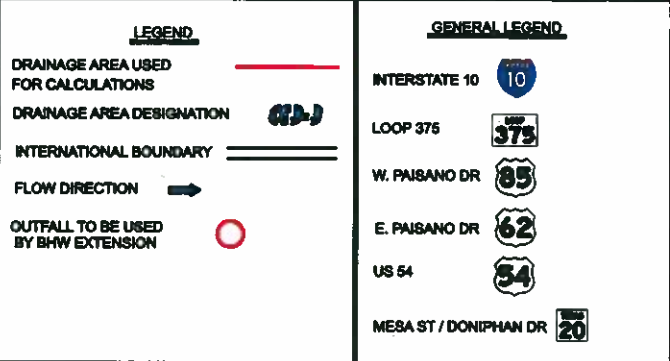
**Loop 375 Border Highway West Extension Project**  
From Racetrack Drive to East of Park Street  
(OUTFALLS TO RIO GRANDE RIVER)  
PROPOSED DRAINAGE AREAS

TxDOT El Paso District  
CSJ: 2552-04-027



**NOTES:**

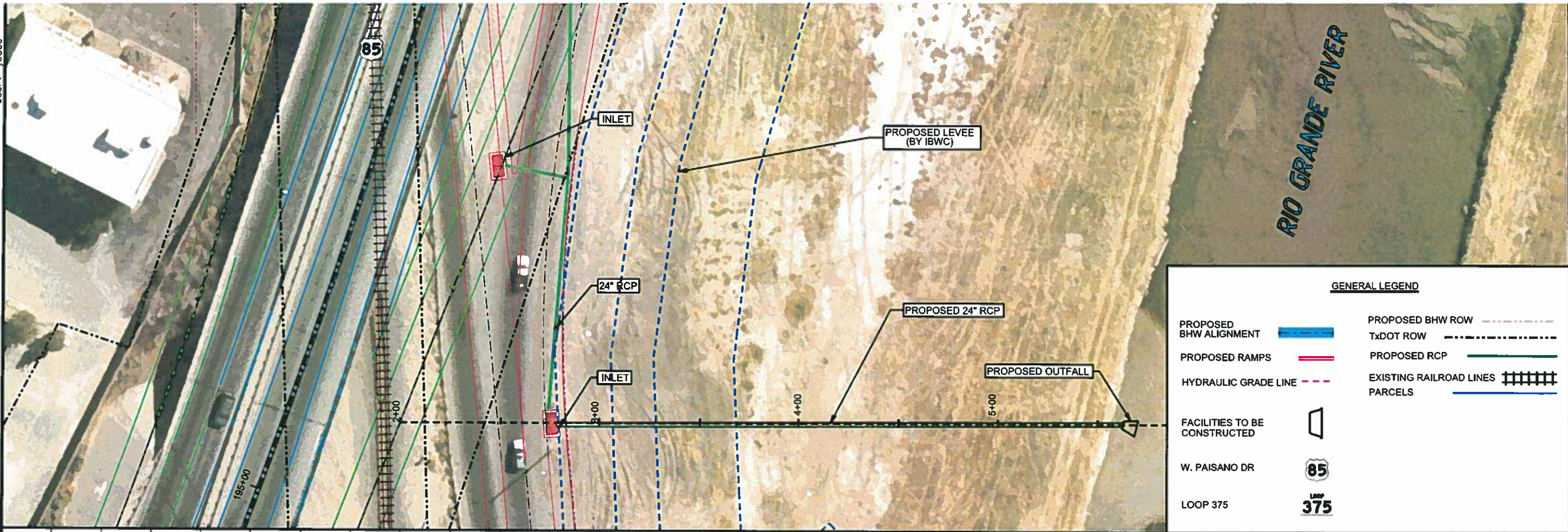
- 1. DRAINAGE AREA INCLUDES THE BORDER HIGHWAY WEST EXTENSION ALIGNMENT FOOTPRINT.**
- 2. DRAINAGE AREA DELINEATIONS ARE BASED ON IBWC'S DRAINAGE STUDY PREPARED FOR THE LEVEE IMPROVEMENTS ALONG THIS SEGMENT OF THE BORDER HIGHWAY WEST EXTENSION PROJECT.**





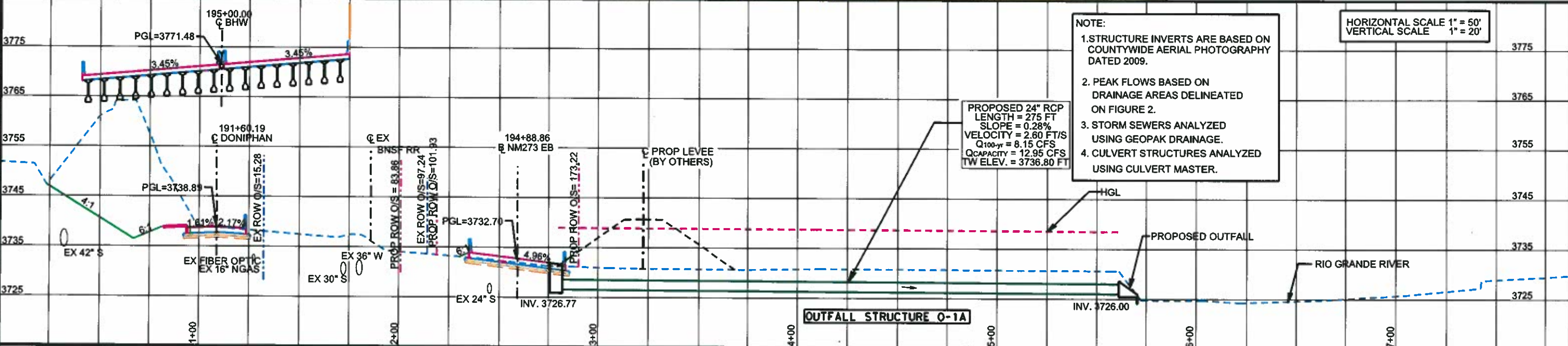
User: jesse

DATE: 5/14/2013 TIME: 10:35:06 AM FILE: \\Figure \*15-IBWC O-1A.dgn



**GENERAL LEGEND**

PROPOSED BHW ALIGNMENT		PROPOSED BHW ROW	
PROPOSED RAMPS		TxDOT ROW	
HYDRAULIC GRADE LINE		PROPOSED RCP	
FACILITIES TO BE CONSTRUCTED		EXISTING RAILROAD LINES	
W. PAISANO DR		PARCELS	
LOOP 375			

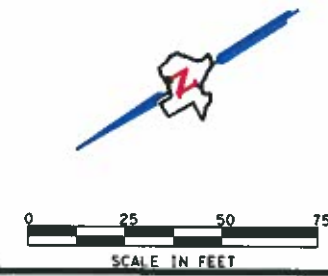


**NOTE:**

1. STRUCTURE INVERTS ARE BASED ON COUNTYWIDE AERIAL PHOTOGRAPHY DATED 2009.
2. PEAK FLOWS BASED ON DRAINAGE AREAS DELINEATED ON FIGURE 2.
3. STORM SEWERS ANALYZED USING GEOPAK DRAINAGE.
4. CULVERT STRUCTURES ANALYZED USING CULVERT MASTER.

PROPOSED 24" RCP  
LENGTH = 275 FT  
SLOPE = 0.28%  
VELOCITY = 2.60 FT/S  
Q<sub>100-yr</sub> = 8.15 CFS  
Q<sub>CAPACITY</sub> = 12.95 CFS  
TW ELEV. = 3736.80 FT

HORIZONTAL SCALE 1" = 50'  
VERTICAL SCALE 1" = 20'



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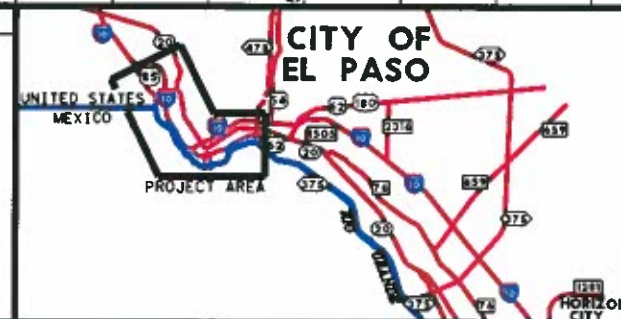
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MARVIN H. GOMEZ	86920	05/16/13
NAME	PE#	Date

MCI FIRM TEXAS REGISTRATION NUMBER: F-000554

DATE: MAY 16, 2013



**Loop 375 Border Highway West Extension Project**  
From Racetrack Drive to East of Park Street  
**RIO GRANDE RIVER OUTFALL STRUCTURE O-1A**  
RIVER STATION 2+50 (SMELTER ADDITION LEVEE)

TxDOT El Paso District  
CSJ: 2552-04-027

**Moreno Cardenas Inc.**  
consulting engineers  
TEXAS REGISTRATION # F-000554

**FIGURE 15**