

## APPENDIX 2.6 – Detention Pond Routing Data

### Contains:

#### Detention / Surge Ponds

##### Broadway – Lomas Pond

Table BLP - Broadway & Lomas Detention Pond (Plans and as-builts included)

##### Tingley Surge Pond

Table TP - Tingley Surge Pond (Plans and as-builts included)

##### Air Quality Detention Pond

Table AQP - Air Quality Pond (Plans and as-builts included)

#### Retention / Detention Pond

Table 8P – NMDOT 8<sup>th</sup> St. & I-40 Retention / Detention Pond

*NOTE – This pond not modeled with a detention pond routing*

## **BROADWAY LOMAS DETENTION POND**

Table BLP - Broadway & Lomas Detention Pond      (Plans and as-builts included)

**BROADWAY / LOMAS POND****Mid-Valley Drainage Management Plan 1 of 2****Hydraulic Assumptions for Orifice Flow and Weir Flow  
(8 ft. x 8 ft. Steel Grate Principal Spillway)**SWMM Model Dynamic Routing

An elevation – discharge – storage rating curve is required to simulate a detention pond routing. Basic initial assumptions regarding orifice or weir flow for various outfall structures are required. However, during a model simulation, the hydraulics and hydraulic grade line of the outfall storm drain may limit the discharge from the pond as defined by the rating curve. Therefore, weir flow assuming free un-submerged discharge may be valid for small storms and most of the hydrograph of a larger storm, but could become submerged for some time during a large storm hydrograph and again become un-submerged during the receding hydrograph limb.

Therefore, the flow type is most likely variable and complex, and an assumption is required to develop an initial rating curve, based on what type of flow may be predominant for the given situation and storm return period simulated.

*This analysis has assumed that the predominant flow for the 8 ft. x 8 ft. principal spillway is un-submerged weir flow.*

Orifice Flow

Storm drain pipes and small water quality pipes (slanted small pipes in concrete walls) are computed with the orifice equation using partial pipe areas for a given water depth until pipe is submerged, then the full pipe area is applied until the maximum pond water depth to obtain the rating curve upper limit. Table BLP attached defines the orifice equation(s), coefficient and presents the computation results.

Weir Flow (Principal Spillway Grate and Top of Pond Embankment)

A weir operates as a function of head on the weir and weir length perpendicular to flow, and for this analysis a free fall discharge is assumed. Velocity after the water fall is therefore not a factor for the free fall assumption. As described previously, an assumption of weir submergence should be considered for the weir free fall assumption to remain valid. Depending on the structure configuration, a submerged weir could act as an orifice.

The vertical concrete wall that supports the 8 ft. x 8 ft. grate will act as the weir crest. Comparison of the top of pond and grate elevations follows:

Top of Pond Elevation	=	4956.66 ft
Top of Grate Elevation	=	4952.36 ft
Difference	=	4.3 ft

*Note – Initial 100-yr. storm pond routings indicate maximum depth much less than this difference.*

Assuming that the outfall storm drain does not cause hydraulic interference with the principal spillway grate free flow assumption, then three to four feet of water will immediately gravity fall from one side of the concrete wall into the grate far before the water would intersect water falling from the adjacent walls. Some inefficiency of the weir flow would occur at each corner, as the flow from

**2 of 2**

adjacent walls will intersect during the fall. Therefore, adjustment for weir flow inefficiency due to flow intersection may be simulated through the weir coefficient.

#### Weir Coefficient

The vertical concrete walls and flat top of walls (1 – foot wide = breadth of weir crest) that hold the 8 ft. x 8-ft. grate are assumed to act as broad crested weirs. The weir coefficient for 1-foot broad and 3 feet of head is 3.32 as presented in Table 5-3 from "Handbook of Hydraulics", Sixth Edition, by Brater & King, 1976. Smith Engineering Company assumed a reduced weir coefficient of 3.0 to account for weir inefficiency as described above. Table BLP attached defines the weir equation, coefficient and presents the computation results.

Conclusion – Assume that the principal spillway 8 ft. x 8 ft. grate will act a free fall weir and the grate bar spacing even with some debris, will not affect the weir flow computation.

*See Table BLP and as-builts / plans attached for more information.*

**BROADWAY/LOMAS DETENTION POND****DATA and POND ROUTING DATA / COMPUTATIONS**

Pond Annotated Photographs: 6 Pages attached

Elevation-Storage-Discharge: Data table for SWMM model attached

Pond Design Report or Pond Routing Model Available to adopt the Pond Elevation – Area – Discharge Rating Curve Data:

COA stated: Not Available

Pond As-Built Plans Available:

COA stated: Yes Is Available

Pond Construction Plans Available if no As-Built Plans :

COA stated: Yes Available

**\*Elevation is datum 1929 NGVD from construction docs - Benchmark "1-K13"**

*Conversion Factor from 29 datum to 88 datum = 2.66 feet (see attached)*

SEC Assumed Elevations for Principal and Emergency Spillways based on:

2007 Lidar Elevations, No

Was Pond Designed as a Surge Pond ? Yes

Pond Plan and Profile Schematic View Sketch:

Attached: Yes Vertical Datum 88 1 Page attached

Public: Yes

Pond has Retention ? No

Pond has surface Inflows? No

Surface rundown into pond ? : No

Pond has how many storm drain inflows? 1 (see plans and schematic attached)

Emergency Spillway:

Actual Emergency Spillway: No (see schematic attached for dimensions)

If No SEC assumed an emergency spillway

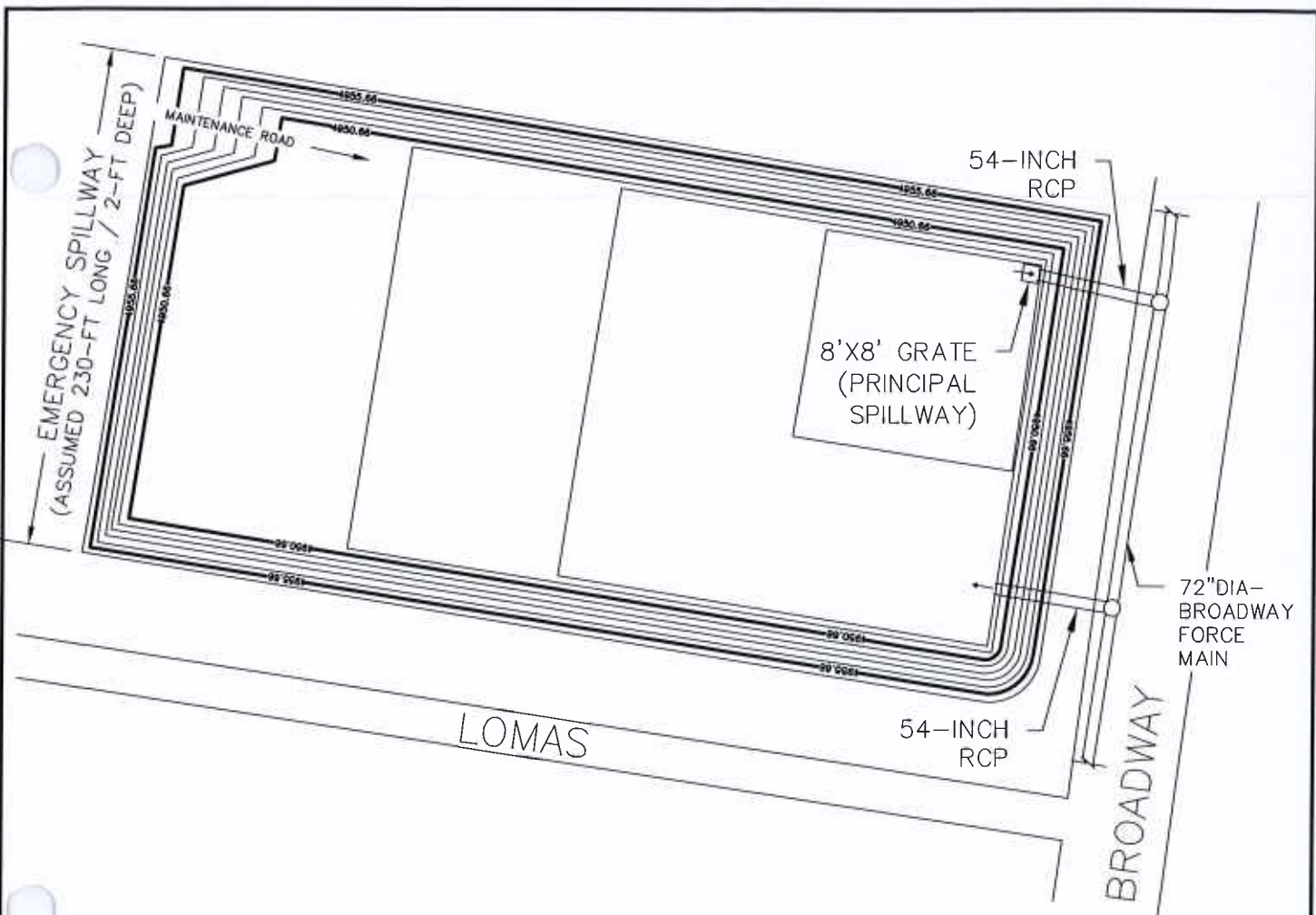
(see schematic attached or Table of Elevation – Storage – Discharge data for assumed dimensions)

Principal Spillway:

Pipe at invert of pond: Yes (if above invert then there is retention)

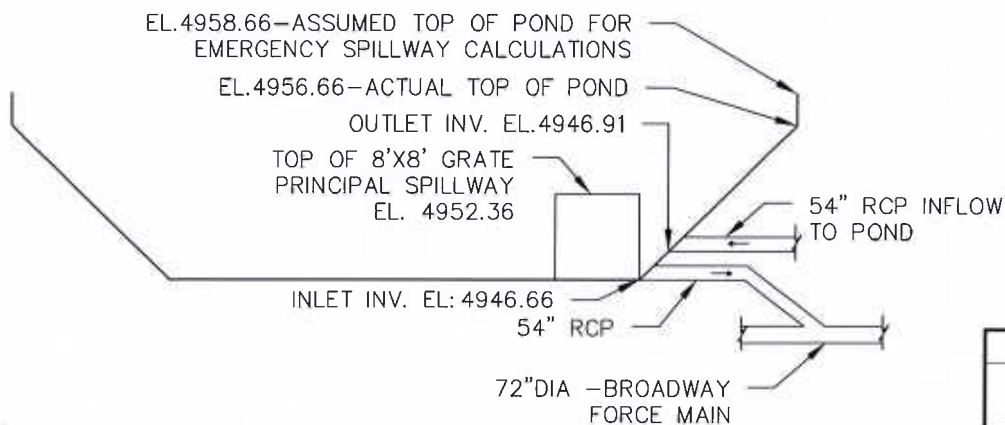
Vertical Riser Pipe or Structure: Yes

See plans and photos



BROADWAY/LOMAS POND PLAN

0 40' 80Feet



BROADWAY/LOMAS POND PROFILE

NOT TO SCALE



NAVD 88 DATUM

MID-VALLEY DRAINAGE MANAGEMENT PLAN

FOR THE CITY OF ALBUQUERQUE &  
ALBUQUERQUE METROPOLITAN ARROYO  
FLOOD CONTROL AUTHORITY

August - 2011

SEC PROJECT NO. 110112

BROADWAY/LOMAS  
POND P&P SCHEMATIC  
FIGURE BLP



**TABLE BLP**  
**BROADWAY / LOMAS POND revision 2**  
**ELEVATION-STORAGE-DISCHARGE DATA (c)**

Contour Elevation NGVD 1929	Contour Elevation NAVD 1988	Depth SWMM	grey box means must input data		Incremental Volume	Incremental Volume	Cumulative Volume	A		A		Riser Discharge (8'x8' grate)	Riser Discharge (2nd row of offices)	Outfall Pipe Discharge (54" RCP)	Total Riser / Outlet Pipe Discharge	Emergency Spillway Discharge	Total Discharge (Riser, Outlet Pipe and Emergency Spillway) SWMM	Comment
			Contour Area SWMM	Principal Spillway Office Diameter (inches)	(sq ft)	(ac-ft)	(sec-ft)	Riser Discharge (1st row of offices)	(cfs)	(a)	(b)	(cfs)	(a)	(a) (e)	(cfs)	(cfs)	(cfs)	
								8	10	12		8	12	54				
														1				
4944	4946.66	0	0		0	0.0000	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Pond bottom. 54" SD pipe invert. Invert of first row of offices (10 total)
4945	4947.66	1.0	10089		5045	0.1158	0.1158	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	
4946	4948.66	2.0	37408		23749	0.5452	0.6610	16.6	0.0	0.0	0.0	0.0	0.0	45.8	16.6	0.0	16.6	
4947	4949.66	3.0	58120		47764	1.0965	1.7575	23.4	0.0	0.0	0.0	0.0	0.0	92.5	23.4	0.0	23.4	Invert of second row of offices (12 total)
4948	4950.66	4.0	80207		69164	1.5878	3.3453	28.7	0.0	0.0	0.0	0.0	0.0	141.7	28.7	0.0	28.7	
4949	4951.66	5.0	84511		82359	1.8907	5.2360	33.1	19.9	19.9	0.0	0.0	0.0	168.7	53.0	0.0	53.0	
4949.70	4952.36	5.7	86580		86982	1.3747	6.6107	35.9	25.9	25.9	0.0	0.0	0.0	180.1	61.8	0.0	61.8	Top of 8'x8' outlet grate (Principal Spillway)
4950	4952.66	6.0	86649		26234	0.6034	7.2141	37.0	28.1	28.1	15.8	0.0	0.0	184.8	80.9	0.0	80.9	
4951	4953.66	7.0	92674		90662	2.0813	9.2954	40.6	34.4	34.4	142.3	0.0	0.0	199.6	199.6	0.0	199.6	
4952	4954.66	8.0	97128		94901	2.1786	11.4740	43.8	39.7	39.7	334.9	0.0	0.0	213.3	213.3	0.0	213.3	
4953	4955.66	9.0	101333		99231	2.2780	13.7520	46.8	44.4	44.4	575.5	0.0	0.0	226.3	226.3	0.0	226.3	
4954	4956.66	10.0	106039		103666	2.3803	16.1323	49.7	48.7	48.7	856.0	0.0	0.0	238.5	238.5	0.0	238.5	Emergency spillway invert elevation (f)
			Total Volume (ft³) =		702725													
			Total Volume (ac-ft) =		16.13													

(a) Office flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$$Q = C a \sqrt{2gh}$$

$$a = \pi D^3 / 4$$

$$a = \frac{1}{2} \pi r^2 \left[ 2 \cos^{-1} \left( \frac{r-d}{r} \right) \right] \frac{\pi}{180} - \sin \left[ 2 \cos^{-1} \left( \frac{r-d}{r} \right) \right] \frac{\pi}{180}$$

$$C = 0.591 \quad g = 32.2 \text{ ft/sec}^2, \quad a = \text{area (sq ft)} \quad h = \text{head (ft)}$$

$$a = \pi D^3 / 4$$

$$a = \frac{1}{2} \pi r^2 \left[ 2 \cos^{-1} \left( \frac{r-d}{r} \right) \right] \frac{\pi}{180} - \sin \left[ 2 \cos^{-1} \left( \frac{r-d}{r} \right) \right] \frac{\pi}{180}$$

(e) The two rows of offices with the 8 x 8 grate (A), will govern discharge until the 54-inch pipe becomes fully submerged, when sum of A's is greater than 54-inch pipe capacity then 54-inch pipe capacity governs discharge

(partial area formula)

Principal Spillway Office radius r in feet = 2.25  
d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation  
 $Q = CLH^{1.5}$  C = discharge coefficient, L = spillway length perp. To flow in ft, H = head (ft)

$$C = 3 \quad L = 230 \quad \text{Spillway Elev.: } 4956.66$$

$$L = 32 \quad 8'x8' \text{ grate}$$

(c) Data Source : As-built or plans as provided by the City of Albuquerque included in Appendix 2.66  
(d) NGVD 1929 to NAVD 1988 Conversion Factor =

(f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over top

**VERTICAL DATUM CONVERSION -**  
**NGVD 1929 to NAVD 1988**

**Benchmark "1-K13"**

Std. Acs Brass Tablet Stamped "1-K13"  
Set In Top Of A Concrete Post, Approx. 0.2-Ft Below Turf.  
The Station Is Then 0.7-Ft West Of The West Curb On 8th Street,  
And Is Approx. 225' South Of Stover Ave.  
Elevation = 4944.03-Ft.

Questions Concerning the VERTCON process may be mailed to NGS:

Latitude: 35 04 44.0

Longitude: 106 39 27.0

NGVD Height: 4950.0 FT

Datum Shift (NAVD 88 minus NGVD 29): 2.664 feet

Converted to NAVD 88 height: 4952.664 feet

Conversion Data From:

[http://www.ngs.noaa.gov/cgi-bin/VERTCON/vert\\_con2.prl](http://www.ngs.noaa.gov/cgi-bin/VERTCON/vert_con2.prl)





(1) East side



(2) East side inlet structure





(3) East side inlet structure



(4) East side outlet structure





(5) East side outlet structure (2)



(6) North side





(7) Northwest corner



(8) Southwest corner





(9) West side



(10) Inlet structure





(11) Inlet structure (2)



(12) Inlet structure (3)

Q:\SEC---PROJECTS\2010 Projects\110112 COA MID VALLEY DMP\DMP Appendices Volume 2\Appendix 5 Detention & Retention Pond Data\2-Broadway-Lomas Pond (Post Office Pond)\Broadway-Lomas Annotated Photos 1-26-11.Doc





LAWSON ST

ST. CLAY

ST. CLAY

COMMERCIAL

POSSIBLE ST FLOW

LOMAS





REMOVE POND IF POSSIBLE IN PROPOSED MODEL

LOOK AT POND PLANS TO UNDERSTAND BETTER. AS-BUILT NO. 796394

# Interim Post Office Pond



COMMERCIAL

CONTRACTOR #321  
TOLER #6  
RIM: 4956.38  
MH INV: 4947.67  
PIPE #8247 INV: 4947.67  
PIPE #31427 INV: 4947.67  
COA MH #7848  
8" DIA

CONTRACTOR #3  
RIM: 4955.69  
MH INV: 4946.53  
PIPE #31423 IN'  
PIPE #19440 IN'  
PIPE #19443 IN'  
COA MH #32878

CROSS CONNECTION

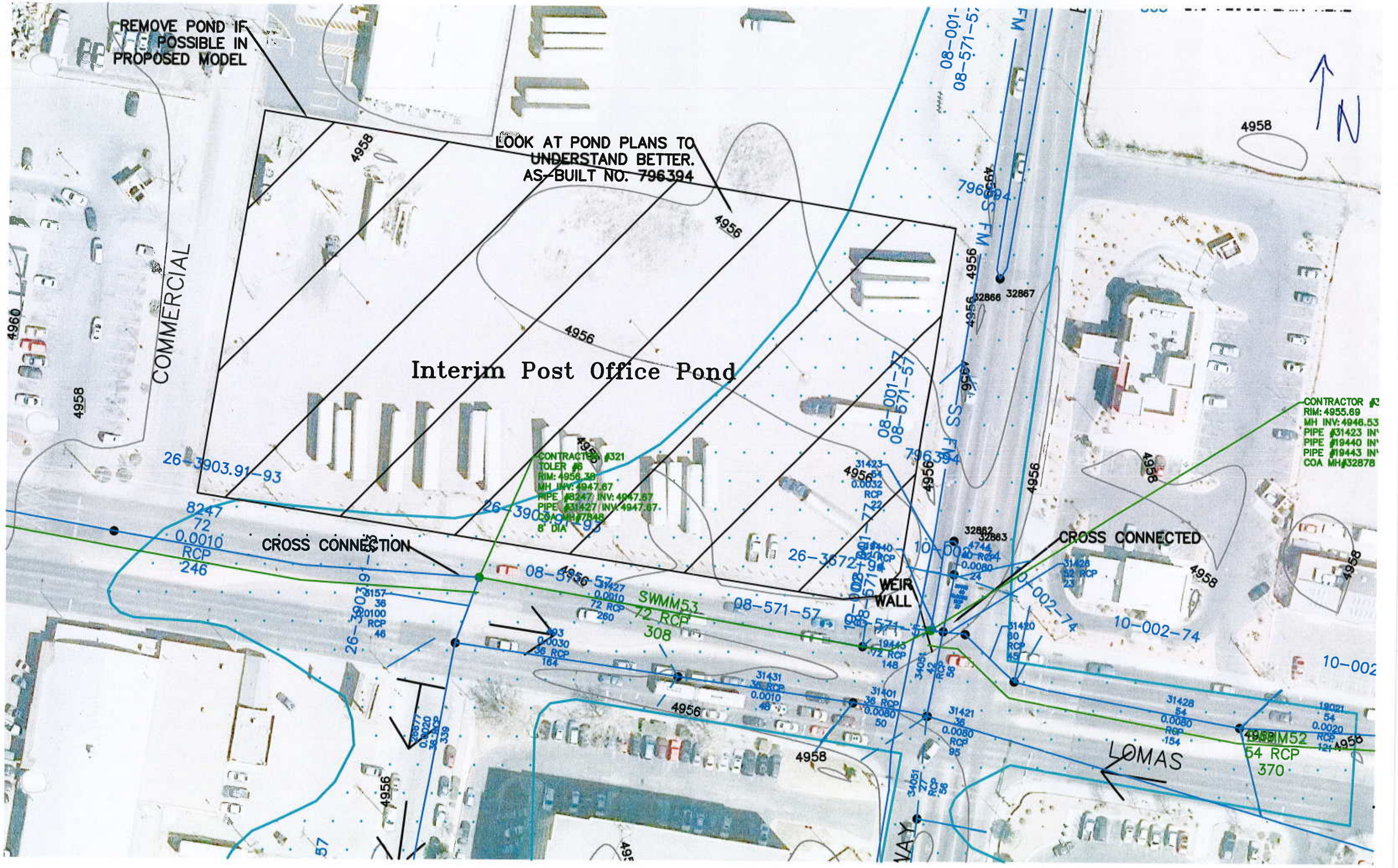
CROSS CONNECTED

WEIR WALL

SWMM53  
72 RCP  
308

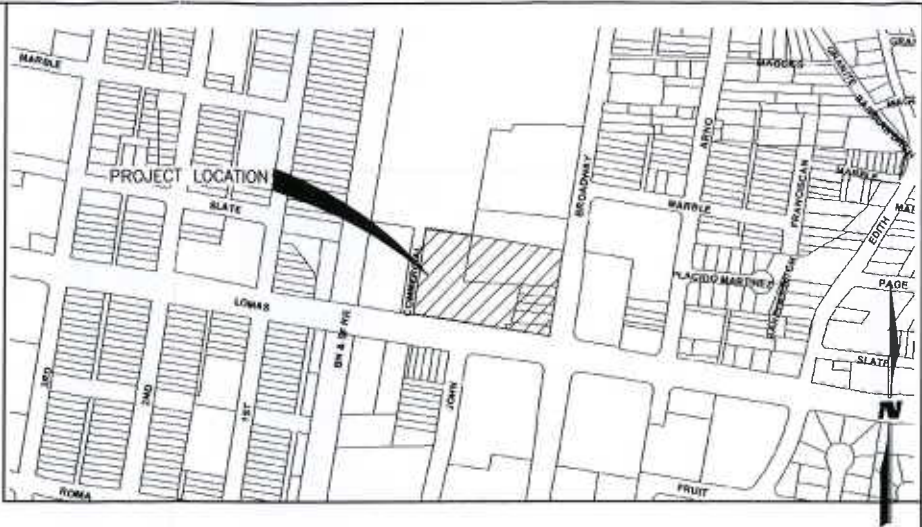
SWMM52  
54 RCP  
370

LOMAS





CITY OF ALBUQUERQUE, NEW MEXICO  
DEPARTMENT OF MUNICIPAL DEVELOPMENT  
ENGINEERING DIVISION  
CONSTRUCTION PLANS  
FOR  
POST OFFICE  
INTERIM  
DETENTION POND



VICINITY MAP  
ZONE ATLAS: J-14



INDEX OF SHEETS

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LOMAS/ BROADWAY  
POND

APPROVAL				<b>WILSON &amp; COMPANY</b> 4800 LANG AVE., NE SUITE 100 ALBUQUERQUE, NEW MEXICO 87109			
DIRECTOR DEPARTMENT OF MUNICIPAL DEVELOPMENT <i>[Signature]</i>							
REV	SHEETS	CITY ENGINEER	DATE	USER	DEPT.	DATE	USER
ENGINEERS STAMP & SIGNATURE				APPROVALS			
				DRC Chairman			
				Transportation			
				Water/Wastewater			
				Hydrology		<i>[Signature]</i> 11-6-08	
				C.I.P.			
Const. Coord.						City Engineer	
NMI						Date	
AMAFCA							
City Project No.				SHEET NO.			
COA 7963.94				G-001			



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GENERAL NOTES




1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION THROUGH UPDATE #7, INCLUDING AMENDMENT NO. 1, AND WILL BE REFERRED TO HEREIN AS STANDARD SPECIFICATIONS.
2. ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY OR EASEMENTS MUST BE DONE FROM APPROVED WORK ORDER DOCUMENTS FROM THE CITY.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. CONTRACTOR AGREES THAT HE SHALL ASSUME THE SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
5. ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE ACCOMPLISHED IN ACCORDANCE WITH OSHA 29CFR 1926.650 SUBPART P.
6. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
7. CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE CITY SURVEYOR AND SHALL NOTIFY THE CITY SURVEYOR AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. ONLY THE CITY SURVEYOR SHALL REPLACE SURVEY MONUMENTS. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATIONS OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO STANDARD SPECIFICATIONS SECTION 4.4.
8. TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE DMD, CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF STANDARD SPECIFICATIONS.
9. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) FOR LOCATION OF EXISTING UTILITIES.
10. CONTRACTOR SHALL ASSIST THE ENGINEER/INSPECTOR IN THE RECORDING OF DATA ON ALL UTILITY LINES AND ACCESSORIES AS REQUIRED BY THE CITY OF ALBUQUERQUE FOR THE PREPARATION OF DRAWINGS. CONTRACTOR SHALL NOT COVER UTILITY LINES CONSTRUCTED AND ACCESSORIES UNTIL ALL DATA HAS BEEN RECORDED.
11. AT HIS OWN EXPENSE, CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING PAVEMENT, PAVEMENT MARKINGS, CURB AND GUTTER, HANDICAP RAMPS, AND SIDEWALK DURING CONSTRUCTION APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS AND SHALL REPAIR OR REPLACE, PER STANDARD SPECIFICATIONS.
12. ALL STREET STRIPING, ALTERED OR DESTROYED, SHALL BE REPLACED WITH THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS BY CONTRACTOR TO SAME LOCATION AS EXISTING, OR AS INDICATED BY THIS PLAN SET.
13. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL GRAFFITI FROM EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDE AND MAINTAIN ALL CONSTRUCTION SIGNING UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY.
15. CONTRACTOR SHALL COORDINATE WITH WATER AUTHORITY, WATER SYSTEMS DIVISION (857-8200) SEVEN (7) WORKING DAYS PRIOR TO ANY WORK THAT MAY AFFECT EXISTING WATER AUTHORITY PUBLIC WATER OR SEWER UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR TIMING AND COORDINATION OF WATER SHUTOFF. EXISTING WATER AUTHORITY VALVES TO BE OPERATED BY WATER AUTHORITY PERSONNEL ONLY.
16. FIVE (5) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL SUBMIT TO DMD, CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE.
17. CONTRACTOR SHALL SECURE TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING CONSTRUCTION.
18. PERMIT REQUESTS MAY BE DENIED OR DELAYED DUE TO CONFLICTS WITH OTHER PROJECTS IN THE AREA.
19. CONTRACTOR SHALL DETERMINE IN ADVANCE OF HIS CONSTRUCTION IF OVERHEAD UTILITY LINES, SUPPORT STRUCTURES, POLES, GUYS, ETC. ARE AN OBSTRUCTION TO CONSTRUCTION OPERATIONS. IF ANY OBSTRUCTION TO CONSTRUCTION OPERATIONS IS EVIDENT, CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER TO REMOVE OR SUPPORT THE UTILITY OBSTRUCTION. ANY COST ASSOCIATED WITH THIS EFFORT SHALL BE THE RESPONSIBILITY OF CONTRACTOR.

20. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL PERTINENT EXISTING UTILITIES AND/OR OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
21. EXISTING UTILITY LINE LOCATION ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. THE LOCATION OF ANY SUCH EXISTING LINES IS BASED UPON INFORMATION PROVIDED BY THE UTILITY COMPANY, THE OWNER, OR BY OTHERS, AND THE INFORMATION MAY BE INCOMPLETE OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES.
22. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY, AND PRESERVE ANY AND ALL EXISTING UTILITIES.
23. FOR STORM DRAIN CONSTRUCTION, RCP PIPE JOINTS SHALL NOT BE GROUTED PRIOR TO FINAL INSPECTION. FINAL INSPECTION WILL DETERMINE JOINTS TO BE GROUTED FOR FINAL ACCEPTANCE OF THE CONSTRUCTION.
24. ALL FINAL BACKFILL FOR TRENCHES WITHIN THE COA RIGHT-OF-WAY SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DENSITY PER ASTM D-1557 AND AS DIRECTED BY STANDARD SPECIFICATIONS SECTION 701.14.2 AND STANDARD DRAWING NUMBER 2465.
25. CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY OR PRIVATE ROADWAY EASEMENTS SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET OR INTO ANY PUBLIC DRAINAGE FACILITY.
26. REMOVALS SHALL BE DISPOSED OF OFF-SITE AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
27. CONTRACTOR SHALL DISPOSE OF ALL UNSUITABLE MATERIAL IN AN ENVIRONMENTALLY ACCEPTABLE MANNER AT A LOCATION ACCEPTABLE TO THE PROJECT MANAGER. THERE WILL BE NO DIRECT COMPENSATION FOR THIS WORK.
28. CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER WHICH WILL MINIMIZE INTERFERENCE WITH LOCAL TRAFFIC.
29. ANY WORK AFFECTING AN ARTERIAL ROADWAY REQUIRES TWENTY-FOUR (24) HOURS OF CONSTRUCTION.
30. ALL EXISTING SIGNS, MARKERS, DELINEATORS, ETC., WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED, STORED AND RE-SET BY THE CONTRACTOR.
31. WHEN ABUTTING EXISTING PAVEMENT TO NEW, SAWCUT EXISTING PAVEMENT TO A STRAIGHT EDGE AND AT A RIGHT ANGLE, OR AS APPROVED BY THE FIELD ENGINEER. REMOVAL OF BROKEN OR CRACKED PAVEMENT WILL ALSO BE REQUIRED.
32. REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK SHALL BE TO THE NEAREST JOINT OR SAW CUT.
33. THE CONTRACTOR SHALL NOTIFY THE ALBUQUERQUE TRAFFIC ENGINEERING DIVISION THREE (3) WORKING DAYS IN ADVANCE OF ANY WORK REQUIRED REGARDING ALL EXISTING REGULATORY SIGNS AND SIGNALS THAT NEED TO BE REMOVED, RELOCATED, OR REINSTALLED. CALL 857-8680. REFER TO SECTION 18.4.4 OF THE SPECIFICATIONS.
34. THE CONTRACTOR WILL BE REQUIRED TO CONFINE HIS WORK WITHIN THE CONSTRUCTION LIMITS AND/OR R.O.W. TO PRESERVE EXISTING VEGETATION AND PRIVATE PROPERTY. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAY OPENINGS OR DESIGNATED TRAFFIC LANES.
35. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELING PEDESTRIAN TRAFFIC AROUND ALL WORK AREAS THROUGHOUT THE CONSTRUCTION PERIOD.
36. A DISPOSAL SITE, COMPLYING WITH ALL CITY ORDINANCES, SHALL BE OBTAINED BY THE CONTRACTOR FOR THE DISPOSAL OF ALL EXCESS EXCAVATION MATERIAL, ASPHALTIC PAVEMENT (EXCEPT MILLED BITUMINOUS CONCRETE PAVEMENT) AND OTHER WASTE MATERIALS. THE CONTRACTOR SHALL NOTIFY THE CITY OF ALBUQUERQUE OF THE LOCATION OF THE DISPOSAL SITE PRIOR TO THE REMOVAL AND ACTUAL DISPOSAL OF THE MATERIAL. ALL COSTS IN OBTAINING A DISPOSAL SITE AND HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO DIRECT PAYMENT WILL BE MADE THEREFOR.
37. CONTRACTOR TO CAREFULLY FIELD REVIEW SITE TO ASSESS EXTENT OF TRASH & DEMOLITION REMOVAL. TRASH IS DEFINED AS DEMOLITION TREES, SHRUBS, VEGETATION, ASPHALT, CONCRETE, ABANDONED WET & DRY UTILITIES, MISCELLANEOUS LANDSCAPE, AND CONCRETE CURB & GUTTER TRASH REMOVAL SHALL BE INCLUDED IN BID ITEM "CLEARING & GRUBBING".
38. ALL VALLEY GUTTERS ARE 6' WIDE UNLESS OTHERWISE NOTED.
39. UNLESS OTHERWISE SHOWN, ALL DIMENSIONS ARE TO FACE OF CURB, INCLUDING RADII OF CURB RETURNS.

40. ALL FINISHED GRADES AND PROFILES SHOWN ARE FLOWLINE GRADES, UNLESS OTHERWISE NOTED.
41. CURB AND GUTTER SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED PER STD DWG 2415 BY THE CONTRACTOR AT HIS EXPENSE.
42. WHEN REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK IS REQUIRED, REMOVE TO NEAREST JOINT.
43. WHEN ABUTTING NEW PAVEMENT TO EXISTING PAVEMENT, SAW CUT EXISTING PAVEMENT IN A STRAIGHT LINE AS REQUIRED TO REMOVE ANY BROKEN OR CRACKED PAVEMENT. PRIOR TO LAYING NEW PAVEMENT, THE EXPOSED EXISTING ASPHALT EDGE SHALL BE CLEAN AND TACK-COATED.
44. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED AT ALL CURB RETURNS CONSTRUCTED WITH THIS PROJECT AT THE LOCATIONS SHOWN ON PLANS, IN ACCORDANCE WITH THE CITY STANDARD DETAILS.
45. ALL WHEELCHAIR RAMP APPROACH SLOPES SHOWN ON STD DWG 2441 SHALL BE INCREASED IN LENGTH TO MAINTAIN 12:1 MAX SLOPE WHEN GRADE IS RISING FROM RAMP. SEE TABLE BELOW.
46. MANHOLE RIM ELEVATIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND WILL VARY WITH THE FINISHED PAVEMENT ELEVATIONS.
47. CONTRACTOR TO VERIFY ALL EXISTING FIRE HYDRANT FLANGES, PADS, VALVE BOXES, MANHOLE RIMS AND TOP OF PIPE ELEVATIONS IN THE FIELD. ELEVATIONS SHALL BE ADJUSTED TO COMPLY WITH THE REQUIREMENTS OF STANDARD CITY DETAILS.
48. ALL WATER VALVE BOXES AND SEWER MANHOLES IN THE CONSTRUCTION AREA ARE TO BE ADJUSTED TO FINISH GRADE UNDER THIS CONTRACT, AND WILL BE PAID FOR AT CONTRACT UNIT PRICES.
49. THE CONTRACTOR SHALL NOTIFY THE LOCAL FIRE DEPARTMENT AT LEAST TWO (2) WORKING DAYS IN ADVANCE OF WHEN FIRE HYDRANTS WILL BE TAKEN OUT OF SERVICE AND RETURNED TO SERVICE.
50. WHERE PULL BOXES ABUT BACK OF CURB OR ARE LOCATED IN A CONCRETE PAVED AREA, PROVIDE 3/4" EXPANSION MATERIAL AROUND THE PULL BOX. ALL PULL BOXES TO BE FLUSH WITH SURFACE OF CONCRETE.
51. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AS WELL AS LOCAL REGULATIONS.
52. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY ENTITIES AS NEEDED FOR RELOCATION AND INSTALLATION OF PRIVATE UTILITIES. ENGINEER HAS NOTIFIED THE PRIVATE UTILITIES OF THIS PROJECT.
53. TEMPORARY EROSION FENCING (OR PERMANENT WALLS OR FENCING) SHALL BE USED TO PROTECT EXISTING RESIDENTIAL PROPERTY, STREETS LANDSCAPING AND THE DRAINAGE SYSTEMS FROM THE DEPOSITION OF ERODED MATERIAL.
54. CONSTRUCTION AREA SHALL BE CONTROLLED TO PREVENT TRESPASS USE BY 4WD'S, ORV'S AND MOTORCYCLES TO MINIMIZE NOISE, DUST, DESTRUCTION OF VEGETATION, WIND AND WATER EROSION.
55. CONTRACTOR SHALL LOCATE EXISTING IRRIGATION LINE(S) AND CUT & CAP SERVICE 5'-0" OUTSIDE OF CONSTRUCTION LIMITS. COST IS INCIDENTAL TO BID ITEM "CLEARING AND GRUBBING".
56. THE CONTRACTOR SHALL MAINTAIN AN UP TO DATE SET OF AS-BUILT PLANS FOR THE PROJECT. THESE PLANS SHALL BE KEPT CURRENT, WITHIN TWO WEEKS AT ALL TIMES AND SHALL BE SUBJECT TO REVIEW BY THE PROJECT ENGINEER FOR ACCURACY AND COMPLETENESS AT LEAST ONCE EVERY 14 CALENDAR DAYS. THE FINAL AS-BUILT PLANS SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO FINAL PAYMENT. AS-BUILTS SHALL BE CERTIFIED, SIGNED AND DATED BY THE CONTRACTOR FOR COMPLETENESS AND ACCURACY OF INFORMATION.

UTILITY CONTACTS

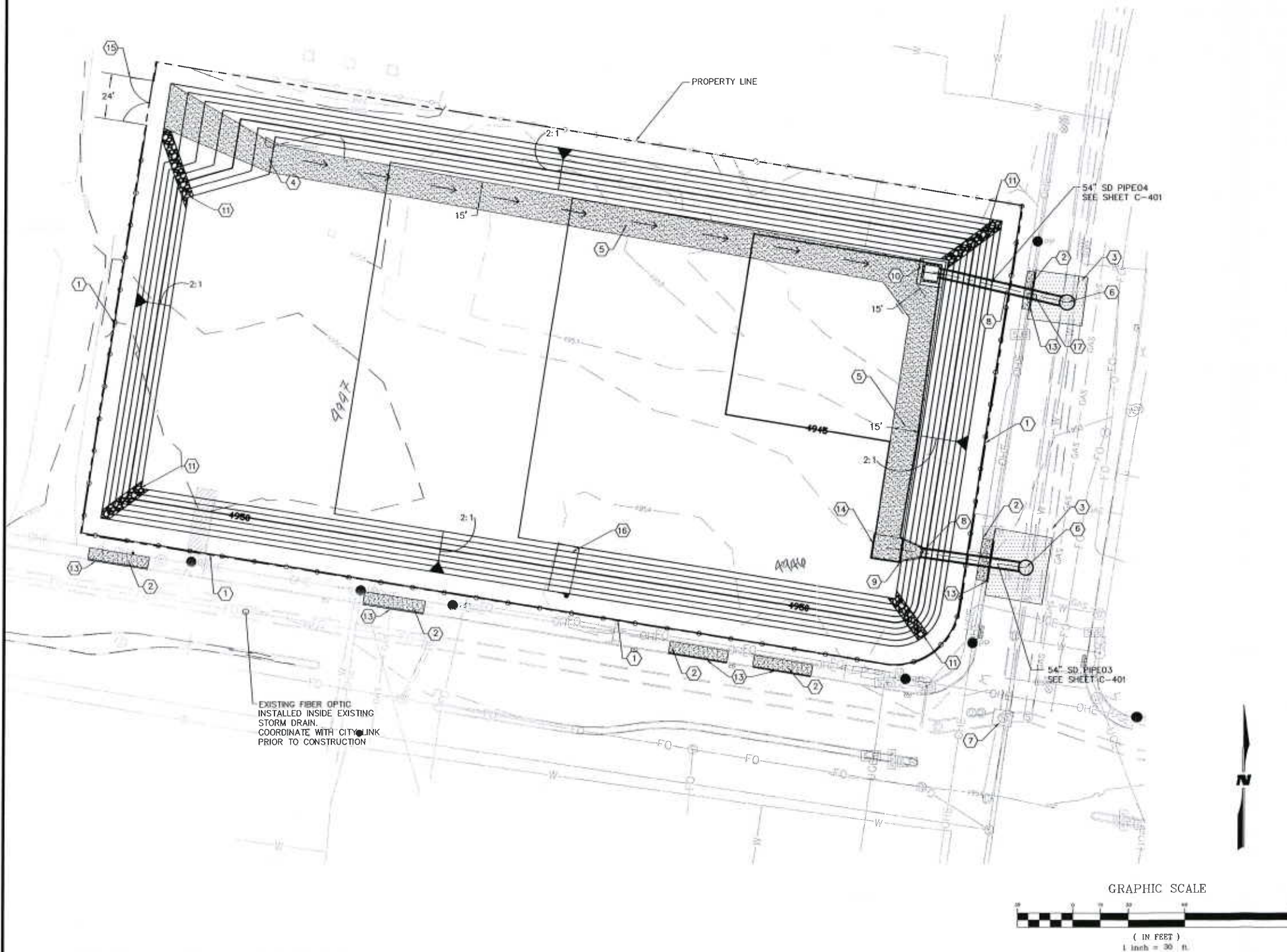
COMPANY	PHONE	MOBILE	CONTACT
ABCWUA	768-2729		NANCY MUSINSKI
PNM - ELECTRIC	241-3398		ART CHAVEZ
PNM - GAS	241-7771		JOE DUNLOP
QWEST	245-6374		ROSA KNIFFIN
COMCAST	761-6221		ROBERT MARTINEZ
CITY LINK (FIBER OPTIC)	918-7030		JOHN BROWN

 4000 LANG AVE., NE SUITE 100 ALBUQUERQUE, NEW MEXICO 87109		ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS-BUILT INFORMATION	
				FIELD NOTES		APPROX. 225' SOUTH OF STOVER AVE. OF THE WEST CURB ON EIGHTH STREET, AND IS BELOW TURF. THE STATION IS THEN 0.7 FT WEST SET IN TOP OF A CONCRETE POST, APPROX. 0.2 FT STD. ACS BRASS TABLET STAMPED "1-K13"		CONTRACTOR DATE WORKED BY DATE CHECKED BY DATE APPROVED BY DATE MICRO-FILM INFORMATION RECORDED BY DATE	
 CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION		NO. DATE		REMARKS		BY			
		DESIGNED BY: TJA		DATE: 3 SEPT. 2008		DRAWN BY: JLL		DATE: 3 SEPT. 2008	
TITLE: POST OFFICE DETENTION POND		GENERAL NOTES		DESIGN		CHECKED BY: TJA		DATE: 3 SEPT. 2008	
City Project No. 7963.94		Zone Map No. J-14		Sheet G-002		Of			





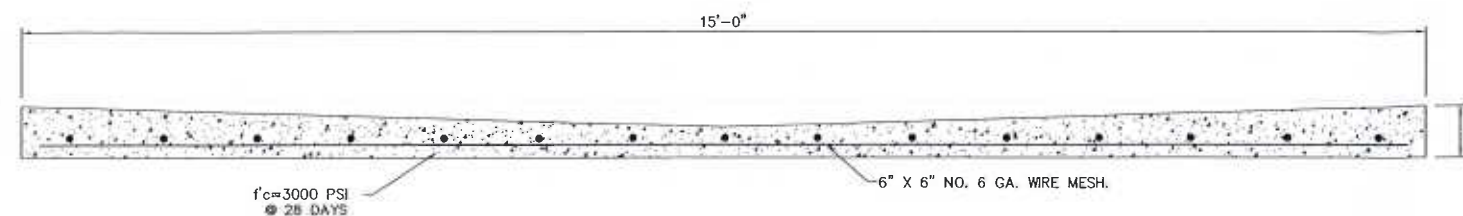




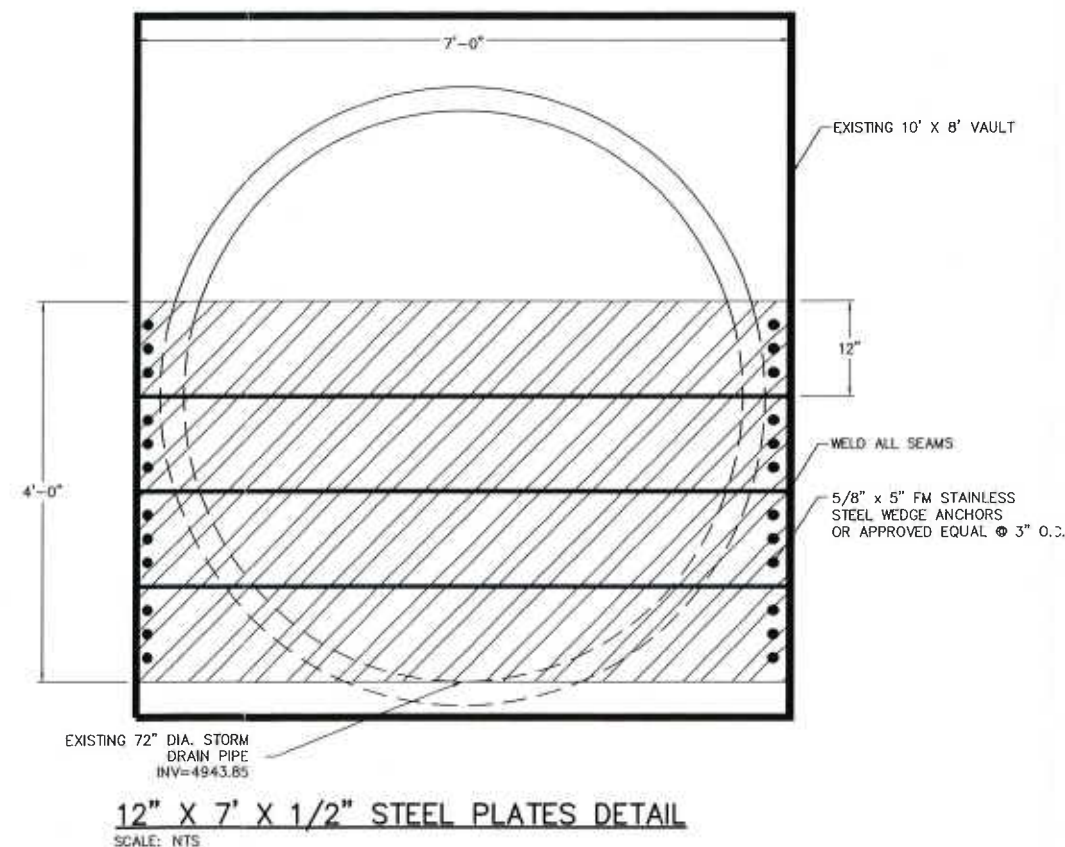
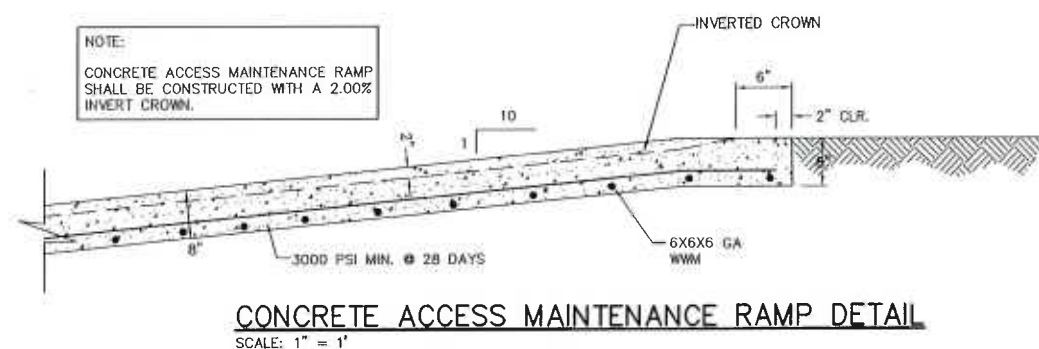
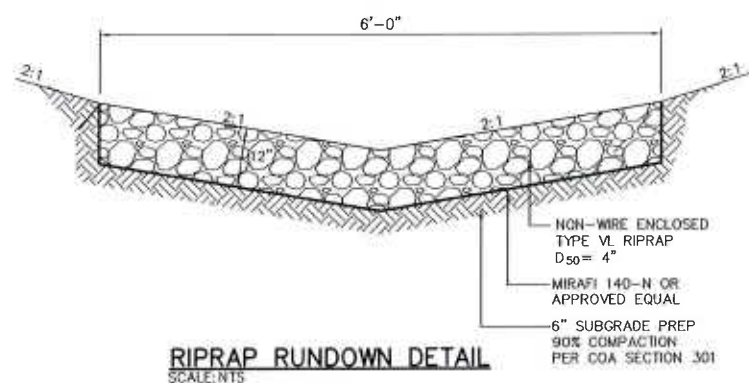








15'-0" LOW FLOW CHANNEL DETAIL  
SCALE: 1"=1'



ENGINEER'S SEAL						SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
						NO.	BY	DATE			
									- APPROX. 225' SOUTH OF STOVER AVE. OF THE WEST CURB ON EIGHTH STREET, AND IS BELOW TURF. THE STATION IS THEN 0.7 FT WEST SET IN TOP OF A CONCRETE POST. APPROX. 0.2 FT STD. ACS BRASS TABLET STAMPED "1-K13"		
									ELEVATION = 4944.03 FT.		
										<i>MICRO-FILM INFORMATION</i>	
DESIGNED BY: TJA						DATE: 3 SEPT. 2008					
DRAWN BY: JLL						DATE: 3 SEPT. 2008					



**WILSON  
& COMPANY**  
4000 LANG AVE., NE  
SUITE 100  
ALBUQUERQUE, NEW MEXICO 87110

**CITY OF ALBUQUERQUE**  
**MUNICIPAL DEVELOPMENT DEPARTMENT**  
**ENGINEERING DIVISION**

TITLE: POST OFFICE DETENTION POND  
DETAIL SHEET

Design Review Committee

City Engineer Approval

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402</
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*Round*

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444/4

City Project No. \_\_\_\_\_

No. 7963.94

Zone Map No.

Zone Map No.  
J-14

15	
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## Week

100

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1

15'-0"

LOW FLOW CHANNEL W/CURB SEE SHEET C-501

8"

7'-0"

8"

3" CHAMFER (TYP.)

#4 @ 12" O.C.  
PER COA SECTION 102

#4 HORZ. @ 10" O.C.  
PER COA SECTION 102

2'X4" BEVEL KEY WAY

54" SD PIPE

5'-6"

CONCRETE BLOCK

24"

8"

1'c=3000 PSI @ 28 DAYS  
PER COA SECTION 101

1% MIN.

6"

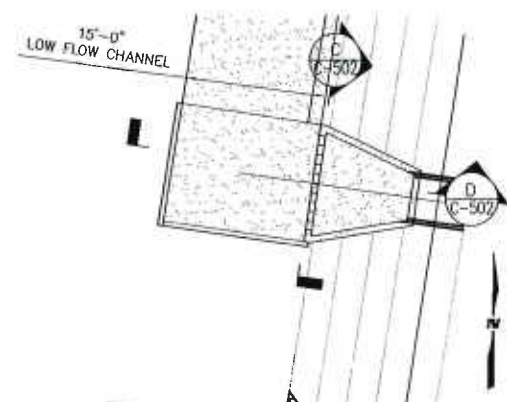
12"

ENERGY DISSIPATOR

STRUCTURAL BACKFILL  
PER COA SECTION 501

3" CHAMFER

\* SKEWED DIMENSION MEASURED ALONG CENTERLINE



**BROADWAY STORM DRAIN OUTFALL**  
SCALE: NTS

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
		FIELD NOTES					
		NO.	BY	DATE			
					- APPROX. 225' SOUTH OF STOVER		DATE
					AVE. OF THE WEST CURB ON		DATE
					EIGHTH STREET, AND IS BELOW		DATE
					TURF. THE STATION IS THEN 0.7 FT		DATE
					WEST SET IN TOP OF A CONCRETE		DATE
					POST. APPROX. 0.2 FT STD. ACS		DATE
					BRASS TABLET STAMPED "1-K13"		DATE
					ELEVATION = 49.44 0.3 FT.		DATE
					DATUM= 1929 NGVD		DATE



DESIGNED BY: TJA

DRAWN BY: JLL

CHECKED BY: TJA

DATE: 3 SEPT. 2008

DATE: 3 SEPT. 2008

DATE: 3 SEPT. 2008

REVISIONS

DESIGN

NO. DATE

BY

REMARKS



NO.	DATE	REMARKS	BY
REVISIONS			
DESIGN			
DESIGNED BY: TJA		DATE: 3 SEPT. 2008	
DRAWN BY: JLL		DATE: 3 SEPT. 2008	
CHECKED BY: TJA		DATE: 3 SEPT. 2008	



**WILSON  
& COMPANY**  
4800 LANG AVE., NE  
SUITE 100  
ALBUQUERQUE, NEW MEXICO 87109

**CITY OF ALBUQUERQUE**  
**MUNICIPAL DEVELOPMENT DEPARTMENT**  
**ENGINEERING DIVISION**

TITLE: POST OFFICE DETENTION POND  
OUTFALL DETAIL

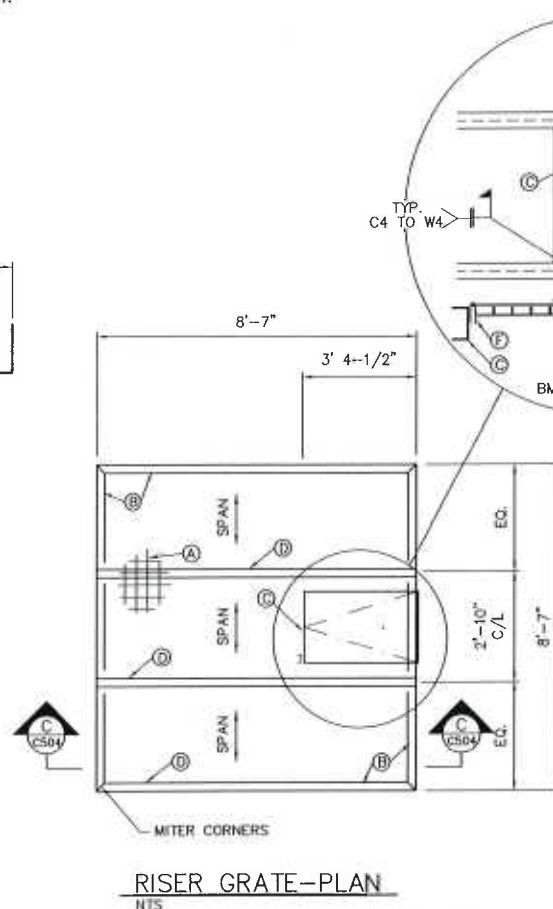
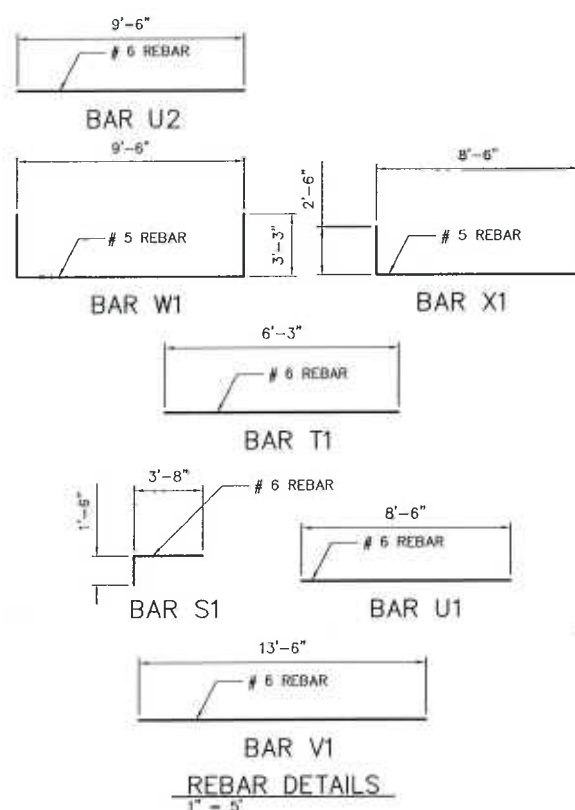
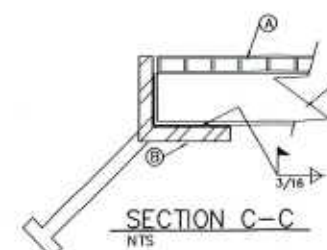
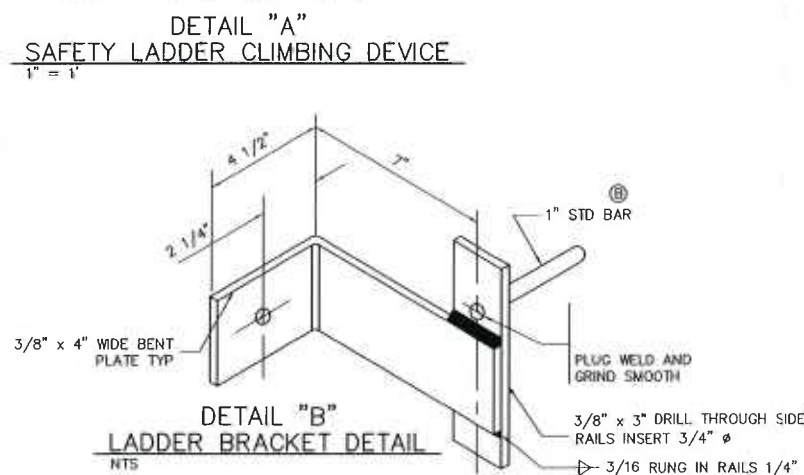
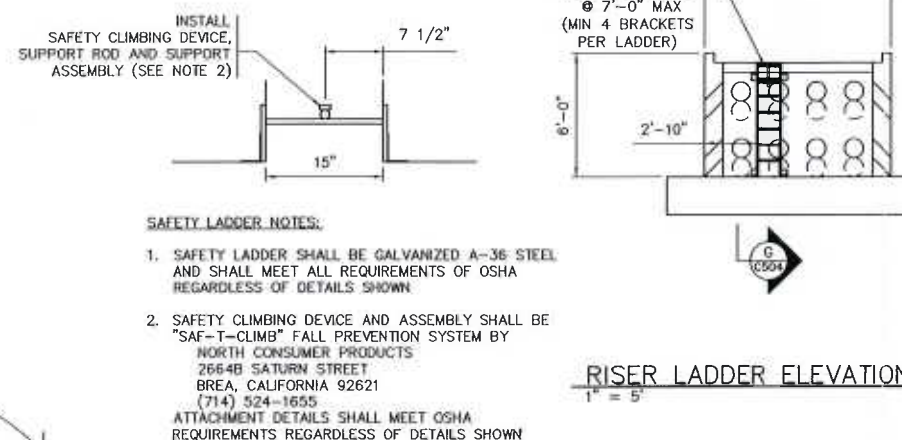
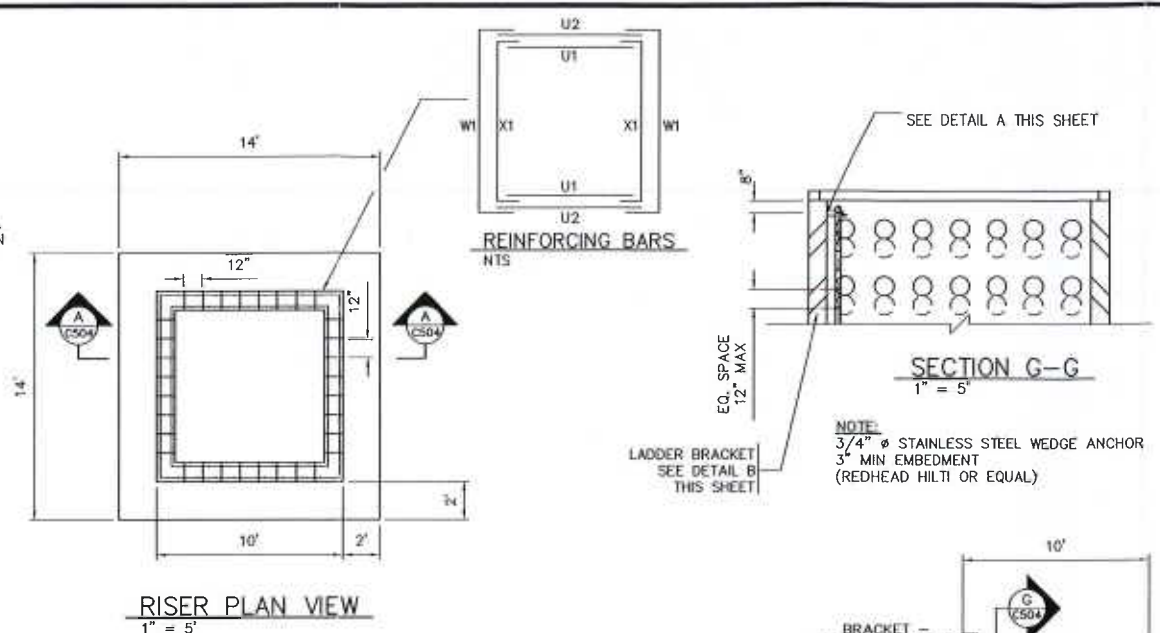
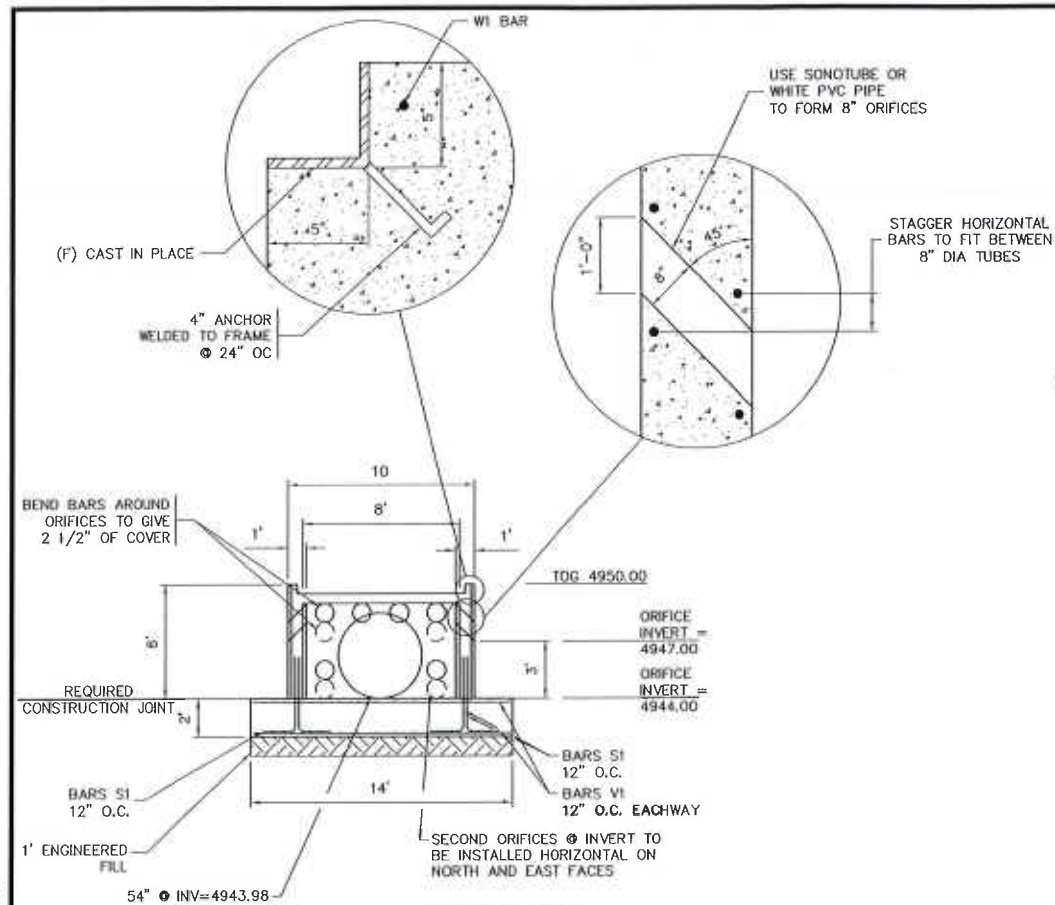
Design Review Committee	City Engineer Approval
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City Project No. 7963.94

Zone Map No.  
J-14

Sheet	Of	C-502
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- KEYED NOTES:

- (A) GRATING - STEEL, TYPE W-38-4 W/ 1 1/2" x 1/16"  
BEARING BARS, SPAN AS SHOWN
- (B) L6 x 3 1/2 x 5/16 LLV EDGE BEARING ANGLE,  
CLIP LONG LEG TO 5 1/2" LENGTH
- (C) HATCH SUPPORT CHANNEL - C4 x 5.4
- (D) GRATING SUPPORT BEAM - W4 x 13
- (E) GRATING HATCH - STEEL, TYPE W-38-4 W/ 1 1/2" x 3/16"  
BEARING BARS, SPAN AS SHOWN, W/ BANDING AT ENDS
- (F) HEAVY DUTY WELDABLE BARREL HINGE

[illegible]