

STAFF REPORT
(Preliminary Plat)

CASE NUMBER: SUB 2003-65 -- RIVENDALE ADDITION

OWNER/APPLICANT: Tim Malone, 1608 S. Washington, Wichita, KS 67211

SURVEYOR/ENGINEER: Baughman Company, P.A., 315 Ellis, Wichita, KS 67211

LOCATION: North side of 55th St. North, West side of Hydraulic

SITE SIZE: 70.26 acres

NUMBER OF LOTS

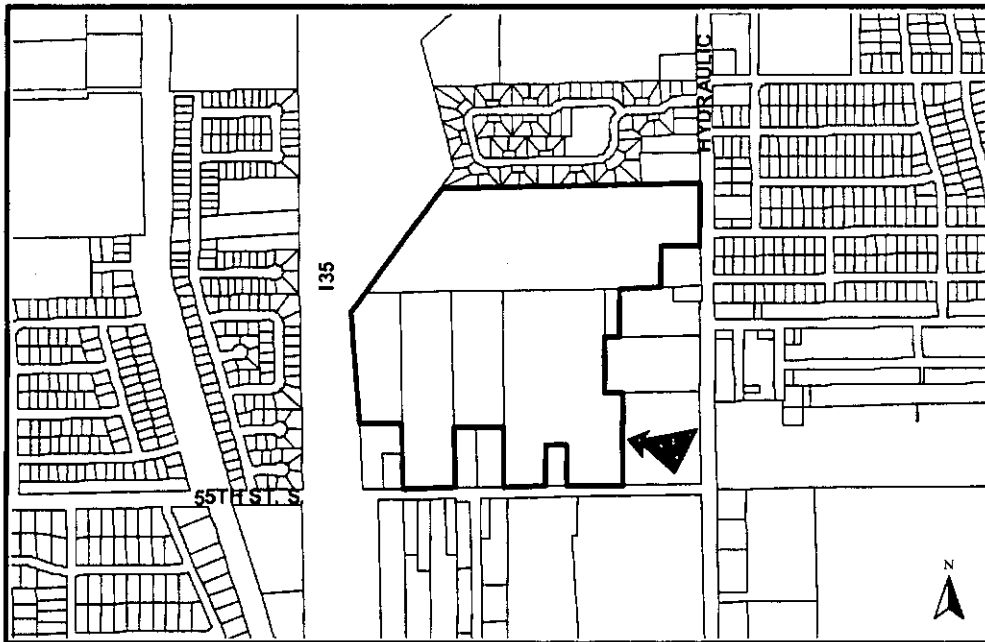
| | |
|--------------|------------|
| Residential: | 182 |
| Office: | |
| Commercial: | |
| Industrial: | |
| Total: | <u>182</u> |

MINIMUM LOT AREA: 6,984 sq. ft.

CURRENT ZONING: SF-5, Single-Family Residential

PROPOSED ZONING: Same

VICINITY MAP



NOTE: This is an unplatted site located within the City.

Planning Staff recommends approval of the plat.

STAFF COMMENTS:

- A. The applicant shall guarantee the extension of sanitary sewer and City water to serve the lots being platted. City Engineering needs to comment on the need for other guarantees or easements.
- B. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- C. City Engineering needs to comment on the status of the applicant's drainage concept.
- D. Traffic Engineering needs to comment on the need for any improvements to perimeter streets. Left turn lanes are needed along perimeter streets.
- E. Traffic Engineering needs to comment on the access controls. The plat proposes complete access control along the plat's frontage to perimeter streets. The final plat shall reference the dedication of access controls in the plat's text. The Rivendale street opening along Hydraulic shall be relocated southward in alignment with Mona. Complete access control shall be platted along Turnpike.
- F. The applicant shall guarantee the closure of any driveway openings located in areas of complete access control or that exceed the number of allowed openings.
- G. The Applicant shall guarantee the paving of the proposed streets. The guarantee shall also provide for sidewalks on at least one side of all through, non cul-de-sac streets.
- H. The use of the Reserves A and B should be revised to be accurately referenced in the plat's text.
- I. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.
- J. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by the governing body.
- K. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

SUB 2003-65 -- Preliminary Plat of RIVENDALE ADDITION
June 26, 2003 - Page 3

- L. This property is within a zone identified by the City Engineers' office as likely to have groundwater at some or all times within 10 feet of the ground surface elevation. Building with specially engineered foundations or with the lowest floor opening above groundwater is recommended, and owners seeking building permits on this property will be similarly advised. More detailed information on recorded groundwater elevations in the vicinity of this property is available in the City Engineers' office.
- M. The lots located along the north side of Rivendale should be included in a new block.
- N. **GIS** needs to comment on the plat's street names. *Revised street names are needed.*
- O. The Applicant is reminded that a platting binder is required with the final plat. Approval of this plat will be subject to submittal of this binder and any relevant conditions found by such a review.
- P. The platting text shall include language that a drainage plan has been developed for the plat and that all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater.
- Q. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations. (Water service and fire hydrants required by Article 8 for fire protection shall be as per the direction and approval of the Chief of the Fire Department.)
- R. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.
- S. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (Phone 316-946-4556) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.
- T. The applicant is advised that various State and Federal requirements (specifically but not limited to the Army Corps of Engineers, Kanopolis Project Office, Rt. 1, Box 317, Valley Center, KS 67147) for the control of soil and wind erosion and the protection of wetlands may impact how this site can be developed. It is the applicant's responsibility to contact all appropriate agencies to determine any such requirements.
- U. The owner of the subdivision should note that any construction that results in earthwork activities that will disturb one (1) acre or more of ground cover requires a Federal/State NPDES Storm Water Discharge Permit from the Kansas Department of Health and Environment in Topeka. Also, for projects located within the City of Wichita, erosion and sediment control devices must be used on ALL projects. For projects outside of the City of Wichita, but within the Wichita Metropolitan area, the owner should contact the appropriate governmental jurisdiction concerning erosion and sediment control device requirements.
- V. Perimeter closure computations shall be submitted with the final plat tracing.

SUB 2003-65 -- Preliminary Plat of RIVENDALE ADDITION
June 26, 2003 - Page 4

- W. Recording of the plat within thirty (30) days after approval by the City Council and/or County Commission.
- X. The representatives from the utility companies should be prepared to comment on the need for any additional utility easements to be platted on this property.
- Y. The applicant is reminded that a disk shall be submitted with the final plat tracing to the Planning Department detailing this plat in digital format in AutoCAD. This will be used by the City and County GIS Department.

STAFF REPORT

(Final Plat, Preliminary Plat Approved 6/26/03)

CASE NUMBER: SUB 2003-65 -- RIVENDALE ADDITION

OWNER/APPLICANT: Tim Malone, 1608 S. Washington, Wichita, KS 67211

SURVEYOR/ENGINEER: Baughman Company, P.A., 315 Ellis, Wichita, KS 67211

LOCATION: North side of 55th St. South, West side of Hydraulic

SITE SIZE: 70.26 acres

NUMBER OF LOTS

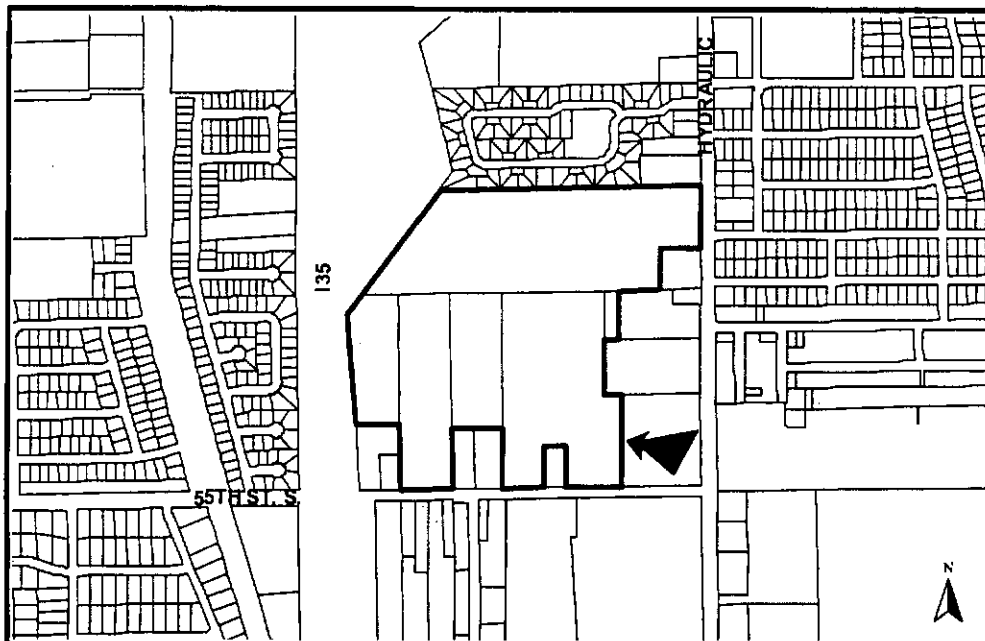
| | |
|--------------|------------|
| Residential: | 182 |
| Office: | |
| Commercial: | |
| Industrial: | |
| Total: | <u>182</u> |

MINIMUM LOT AREA: 6,984 sq. ft.

CURRENT ZONING: SF-5, Single-Family Residential

PROPOSED ZONING: Same

VICINITY MAP



NOTE: This is an unplatted site located within the City.

Planning Staff recommends approval of the plat.

STAFF COMMENTS:

- A. The applicant shall guarantee the extension of sanitary sewer and City water to serve the lots being platted.
- B. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- C. **City Engineering** needs to comment on the status of the applicant's drainage plan. If any drainage will be directed onto the Turnpike, a letter shall be provided from KDOT indicating their agreement to accept such drainage.
- D. **Traffic Engineering** has requested left turn lanes are needed along Hydraulic and for the major entrance on 55th St. South.
- E. The plat proposes complete access control along the plat's frontage to perimeter streets. Complete access control shall be platted along Turnpike. **MAPC has approved the relocation of the Rivendale street opening in alignment with Mona.**
- F. **County Surveying** has advised that the benchmark needs an elevation.
- G. The applicant shall guarantee the closure of any driveway openings located in areas of complete access control or that exceed the number of allowed openings.
- H. The Applicant shall guarantee the paving of the proposed streets. The guarantee shall also provide for sidewalks on at least one side of all through, non cul-de-sac streets.
- I. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.
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- K. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.
- L. This property is within a zone identified by the City Engineers' office as likely to have groundwater at some or all times within 10 feet of the ground surface elevation. Building with specially engineered foundations or with the lowest floor opening above groundwater is

SUB 2003-65 -- Final Plat of RIVENDALE ADDITION
July 31, 2003 - Page 4

- Y. The applicant is reminded that a disk shall be submitted with the final plat tracing to the Planning Department detailing this plat in digital format in AutoCAD. This will be used by the City and County GIS Department.

recommended, and owners seeking building permits on this property will be similarly advised. More detailed information on recorded groundwater elevations in the vicinity of this property is available in the City Engineers' office.

- M. The lots located along the north side of Rivendale should be included in a new block.
- N. **GIS** needs to comment on the plat's street names. *Rivendale shall be revised to Mona.*
- O. The Applicant is reminded that a platting binder is required with the final plat. Approval of this plat will be subject to submittal of this binder and any relevant conditions found by such a review.
- P. The platting text shall include language that a drainage plan has been developed for the plat and that all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater.
- Q. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations. (Water service and fire hydrants required by Article 8 for fire protection shall be as per the direction and approval of the Chief of the Fire Department.)
- R. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.
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- U. The owner of the subdivision should note that any construction that results in earthwork activities that will disturb one (1) acre or more of ground cover requires a Federal/State NPDES Storm Water Discharge Permit from the Kansas Department of Health and Environment in Topeka. Also, for projects located within the City of Wichita, erosion and sediment control devices must be used on ALL projects. For projects outside of the City of Wichita, but within the Wichita Metropolitan area, the owner should contact the appropriate governmental jurisdiction concerning erosion and sediment control device requirements.
- V. Perimeter closure computations shall be submitted with the final plat tracing.
- W. Recording of the plat within thirty (30) days after approval by the City Council and/or County Commission.
- X. The representatives from the utility companies should be prepared to comment on the need for any additional utility easements to be platted on this property.

Rivendale Addition Supplemental Information

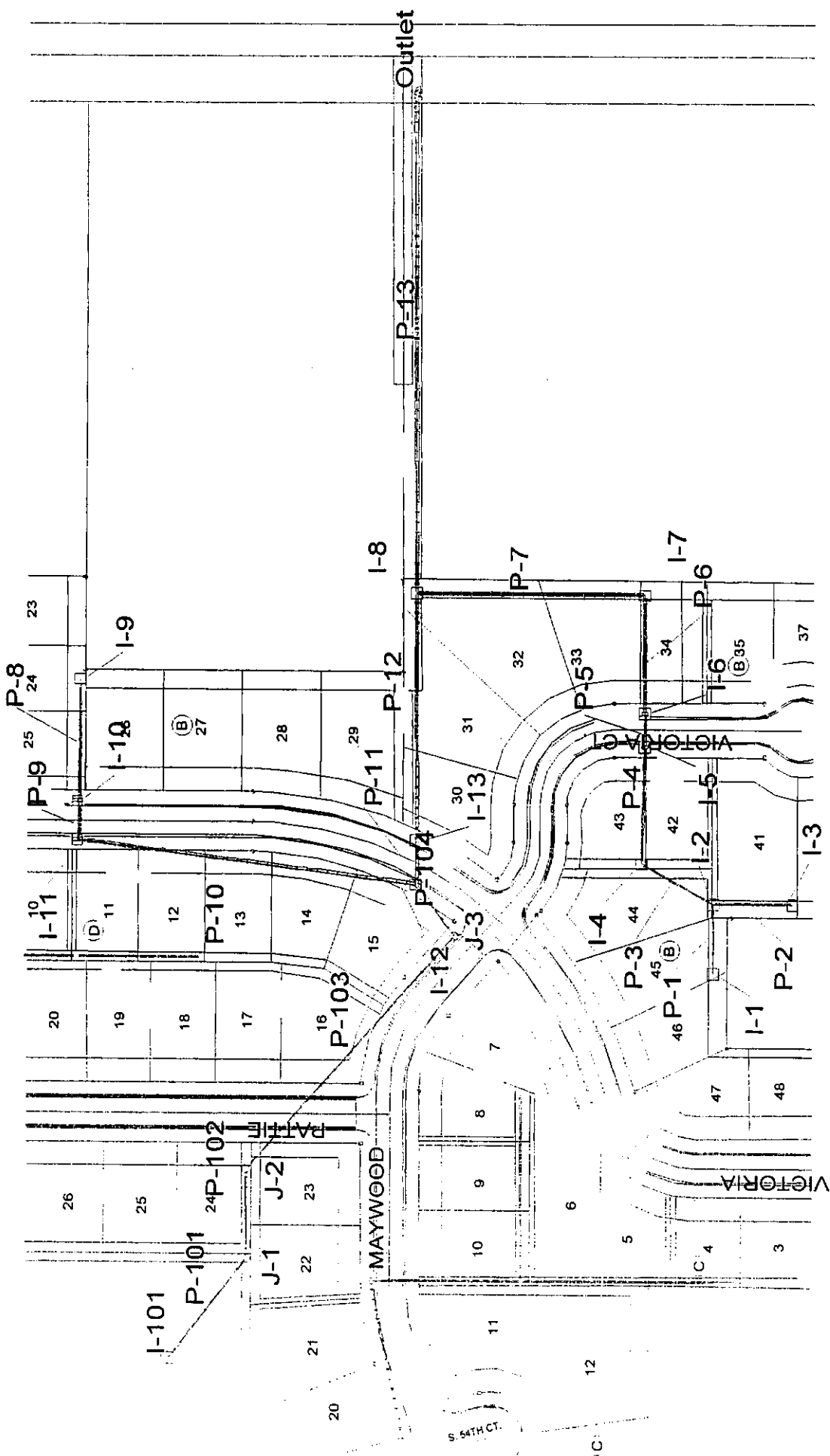
Stormwater Sewer #5 Revision

Stormwater Sewer #5 has been revised to incorporate a gravity outlet for the detention pond facility. Although the static water surface is controlled by groundwater at elevation 70 city datum, a 15 inch RCP at elevation 71.5 city datum, is now proposed as a secondary control for the facility.

The calculated volume of runoff collected by the pond remains as noted in the July 15, 2003 drainage plan, however the 100-yr water surface is being revised to provide additional protection to the structures in the event of a significant rainfall during the time when the pond is regaining capacity.

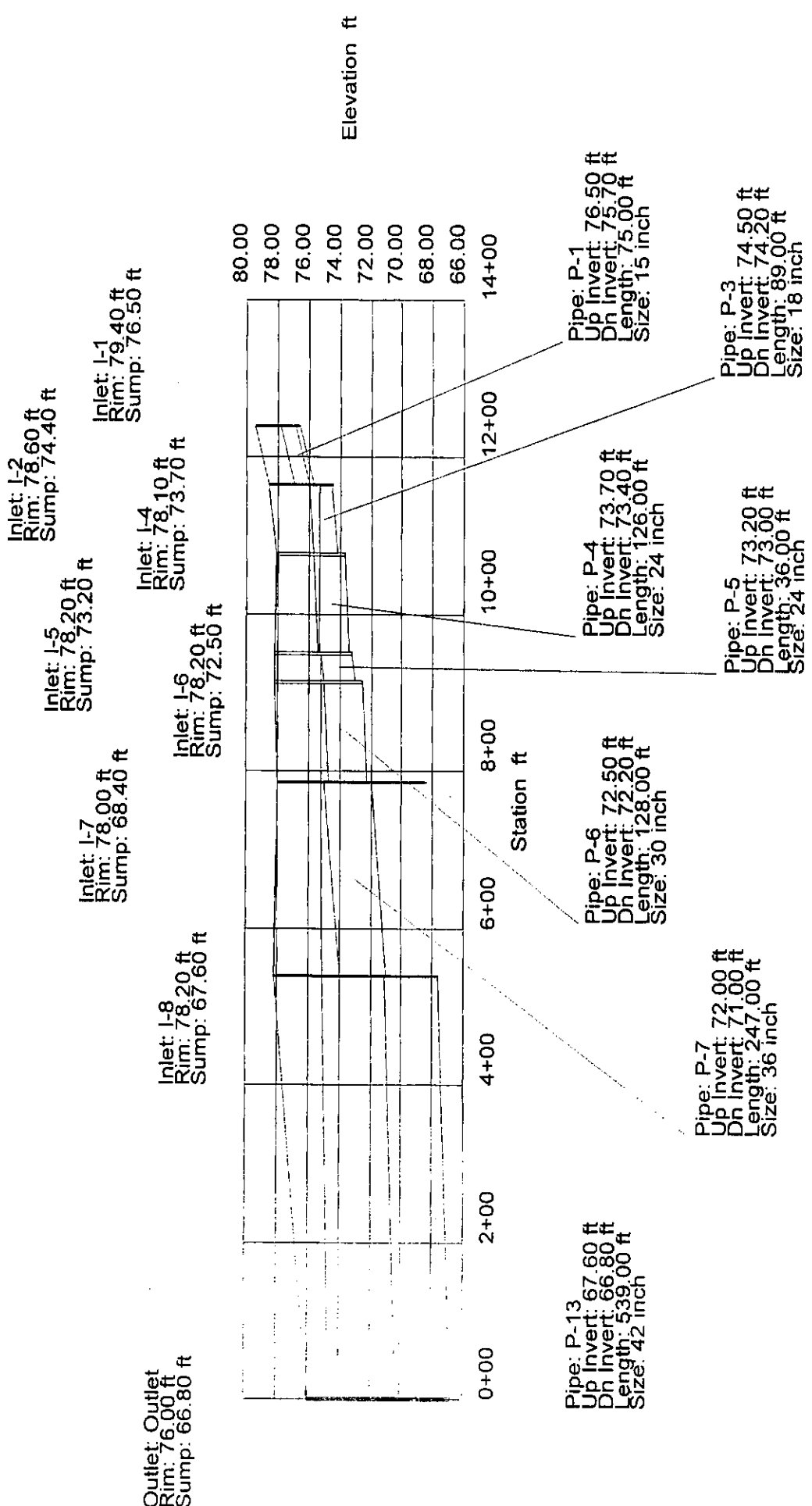
By neglecting the storage volume between the static level and the elevation of the gravity outlet, the 100-yr water surface will achieve an elevation of 75.6 city datum. Allowing for freeboard, the minimum lowest opening to the structures will be established at elevation 77.0 city datum.

The rainfall volume collected by the pond, as previously submitted, is 28.3 ac-ft (approximately 1,233,000 c.f.). The uniform flow capacity of a 15-inch RCP at a 0.38% slope is 4 cfs. Dividing the rainfall volume by the rate of discharge and converting, the 100-yr rainfall would be dissipated (i.e. reclamation of storage capacity) in under 86 hrs. (3.6 days).



System Report

| Pipe | Additional Flow (cfs) | Total Upstream Added (cfs) | Structure Discharge (cfs) | -Node- Upstream Downstream | Section- Shape Size | Upstream Invert Elevation (ft) | Downstream Invert Elevation (ft) | -Ground- Upstream Downstream | -HGL- Upstream Downstream | -Slope- Energy Constructed (ft/ft) | -Section- Discharge Capacity (cfs) | Length (ft) | Average Velocity (ft/s) | Description |
|-------|-----------------------|----------------------------|---------------------------|----------------------------|---------------------|--------------------------------|----------------------------------|------------------------------|---------------------------|------------------------------------|------------------------------------|-------------|-------------------------|-------------|
| P-101 | 4.00 | 0.00 | 4.00 | I-101 | Circular | 71.50 | 70.80 | 76.00 | 77.73 | 0.003835 | 4.00 | 137.00 | 3.26 | |
| P-102 | N/A | 4.00 | 4.00 | J-1 | 15 inch Circular | 70.70 | 70.30 | 76.00 | 77.21 | 0.005109 | 4.62 | | | |
| P-103 | N/A | 4.00 | 4.00 | J-2 | 15 inch Circular | 70.20 | 68.90 | 80.00 | 77.58 | 0.003835 | 4.00 | 98.00 | 3.26 | |
| P-104 | N/A | 4.00 | 4.00 | J-3 | 15 inch Circular | 68.80 | 68.50 | 80.10 | 77.21 | 0.004082 | 4.13 | | | |
| P-8 | 1.50 | 0.00 | 1.50 | I-12 | 15 inch Circular | 74.60 | 74.20 | 79.30 | 77.12 | 0.003835 | 4.00 | 38.00 | 3.26 | |
| P-9 | 9.20 | 1.50 | 10.70 | I-10 | 18 inch Circular | 73.20 | 73.00 | 77.30 | 75.83 | 0.003846 | 4.01 | | | |
| P-10 | 4.10 | 10.70 | 14.80 | I-11 | 30 inch Circular | 72.50 | 72.00 | 77.30 | 75.75 | 0.003835 | 4.00 | 70.00 | 3.26 | |
| P-11 | 0.80 | 18.80 | 19.60 | I-12 | 36 inch Circular | 68.30 | 68.20 | 79.30 | 75.48 | 0.004286 | 4.23 | | | |
| P-12 | 0.40 | 19.60 | 20.00 | I-13 | 36 inch Circular | 68.10 | 67.70 | 79.30 | 75.78 | 0.000200 | 1.50 | 131.00 | 0.93 | |
| P-2 | 1.50 | 0.00 | 1.50 | I-3 | 15 inch Circular | 74.80 | 74.40 | 78.20 | 75.76 | 0.003053 | 5.80 | | | |
| P-1 | 0.70 | 0.00 | 0.70 | I-1 | 15 inch Circular | 76.50 | 75.70 | 79.40 | 75.72 | 0.000681 | 10.70 | 41.00 | 2.18 | |
| P-3 | 0.00 | 2.20 | 2.20 | I-2 | 15 inch Circular | 74.50 | 74.20 | 78.60 | 75.69 | 0.004878 | 28.65 | | | |
| P-4 | 0.00 | 2.20 | 2.20 | I-4 | 18 inch Circular | 73.70 | 73.40 | 78.10 | 75.66 | 0.000492 | 14.80 | 372.00 | 2.09 | |
| P-5 | 2.90 | 2.20 | 5.10 | I-5 | 24 inch Circular | 73.20 | 73.00 | 78.20 | 75.48 | 0.001344 | 24.45 | | | |
| P-6 | 1.80 | 5.10 | 6.90 | I-6 | 24 inch Circular | 72.50 | 72.20 | 78.20 | 75.42 | 0.000864 | 19.60 | 48.00 | 2.77 | |
| P-7 | 0.90 | 6.90 | 7.80 | I-7 | 30 inch Circular | 72.00 | 71.00 | 78.00 | 75.38 | 0.002083 | 30.44 | | | |
| P-13 | 1.70 | 27.80 | 29.50 | I-8 | 36 inch Circular | 67.60 | 66.80 | 78.20 | 75.38 | 0.000899 | 20.00 | 266.00 | 2.83 | |
| | | | | Outlet | 42 inch Circular | | | 76.00 | 75.14 | 0.001504 | 25.86 | | | |
| | | | | | | | | | 75.40 | 0.001238 | 1.50 | 86.00 | 2.02 | |
| | | | | | | | | | 75.36 | 0.004651 | 4.41 | | | |
| | | | | | | | | | 76.83 | 0.010358 | 0.70 | 75.00 | 3.13 | |
| | | | | | | | | | 75.97 | 0.010667 | 6.67 | | | |
| | | | | | | | | | 75.33 | 0.000863 | 2.20 | 89.00 | 1.91 | |
| | | | | | | | | | 75.28 | 0.003371 | 6.10 | | | |
| | | | | | | | | | 75.28 | 0.000091 | 2.20 | 126.00 | 0.77 | |
| | | | | | | | | | 75.27 | 0.002381 | 11.04 | | | |
| | | | | | | | | | 75.25 | 0.000508 | 5.10 | 36.00 | 1.62 | |
| | | | | | | | | | 75.23 | 0.005556 | 16.86 | | | |
| | | | | | | | | | 75.22 | 0.000283 | 6.90 | 128.00 | 1.41 | |
| | | | | | | | | | 75.18 | 0.002344 | 19.86 | | | |
| | | | | | | | | | 75.17 | 0.000137 | 7.80 | 247.00 | 1.10 | |
| | | | | | | | | | 75.14 | 0.004049 | 42.44 | | | |
| | | | | | | | | | 75.06 | 0.000850 | 29.50 | 339.00 | 3.07 | |
| | | | | | | | | | 74.60 | 0.001484 | 38.76 | | | |



Inlet: I-4
Rim: 78.10 ft
Sump: 73.70 ft

Inlet: I-3
Rim: 77.70 ft
Sump: 74.80 ft

Inlet: I-6
Rim: 78.20 ft
Sump: 72.50 ft

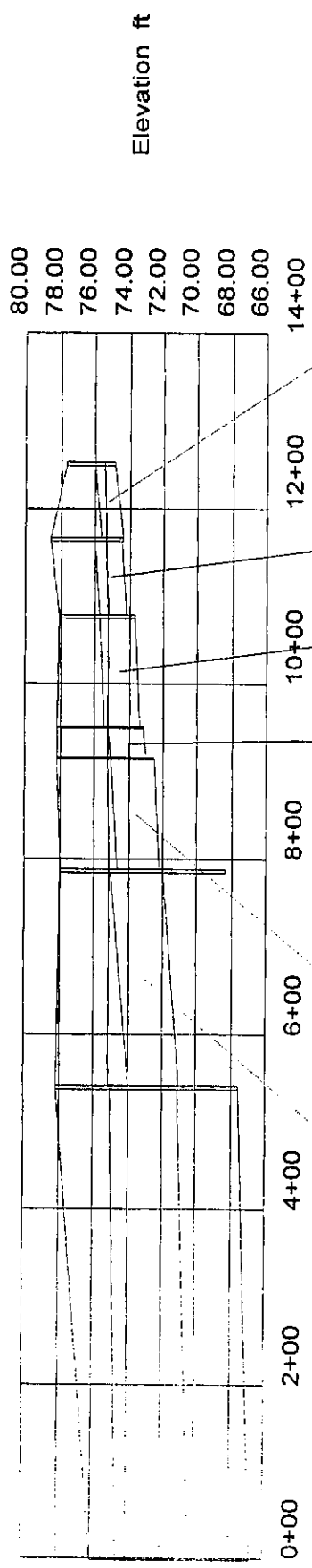
Inlet: I-2
Rim: 78.60 ft
Sump: 74.40 ft

Inlet: I-5
Rim: 78.20 ft
Sump: 73.20 ft

Inlet: I-7
Rim: 78.00 ft
Sump: 68.40 ft

Inlet: I-8
Rim: 78.20 ft
Sump: 67.60 ft

Outlet: Outlet
Rim: 76.00 ft
Sump: 66.80 ft



Pipe: P-13
Up Invert: 67.80 ft
Dn Invert: 539.00 ft
Length: 42 inch
Size: 42 inch

Pipe: P-6
Up Invert: 72.50 ft
Dn Invert: 72.20 ft
Length: 128.00 ft
Size: 30 inch

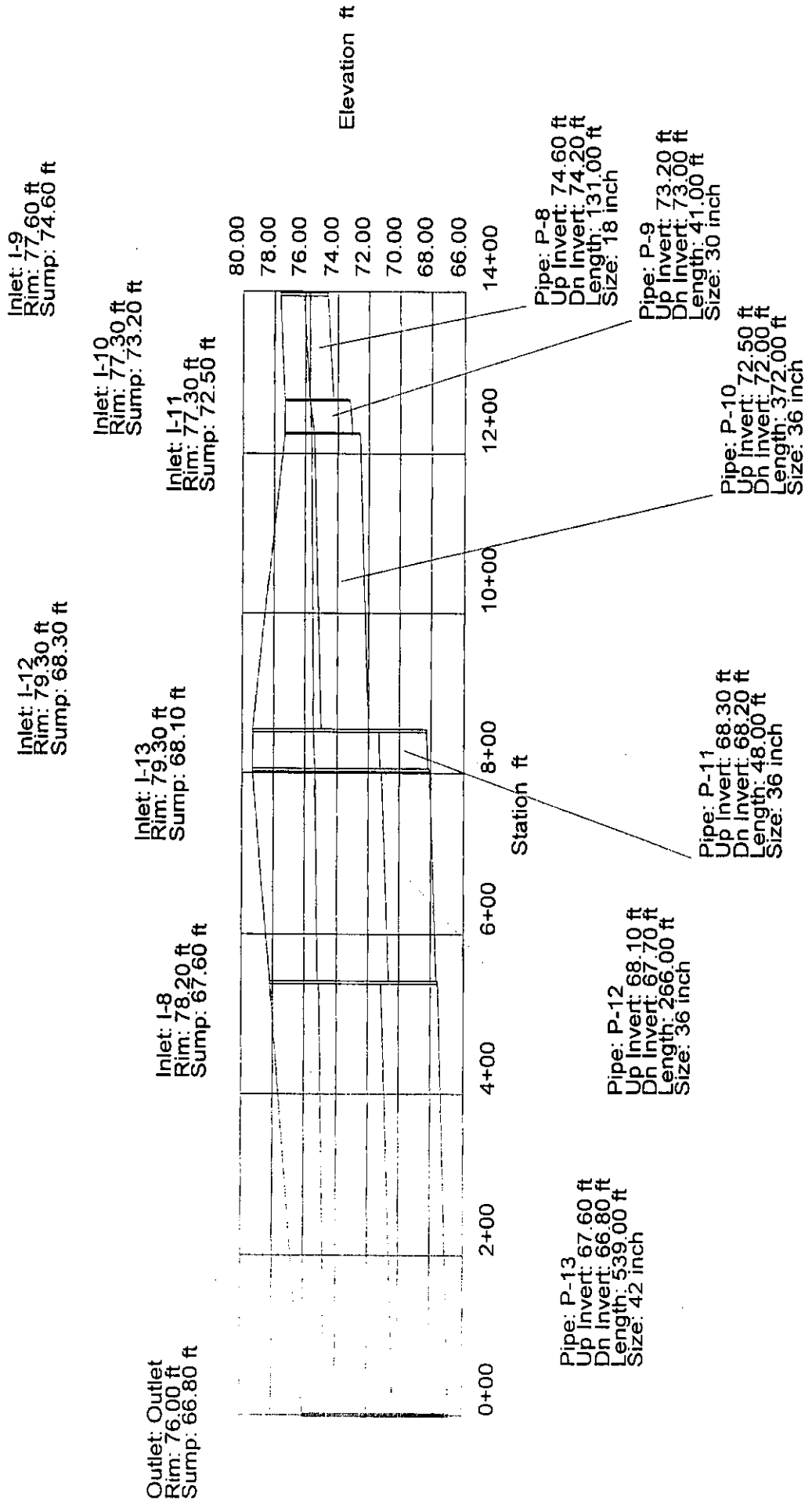
Pipe: P-7
Up Invert: 72.00 ft
Dn Invert: 71.00 ft
Length: 247.00 ft
Size: 36 inch

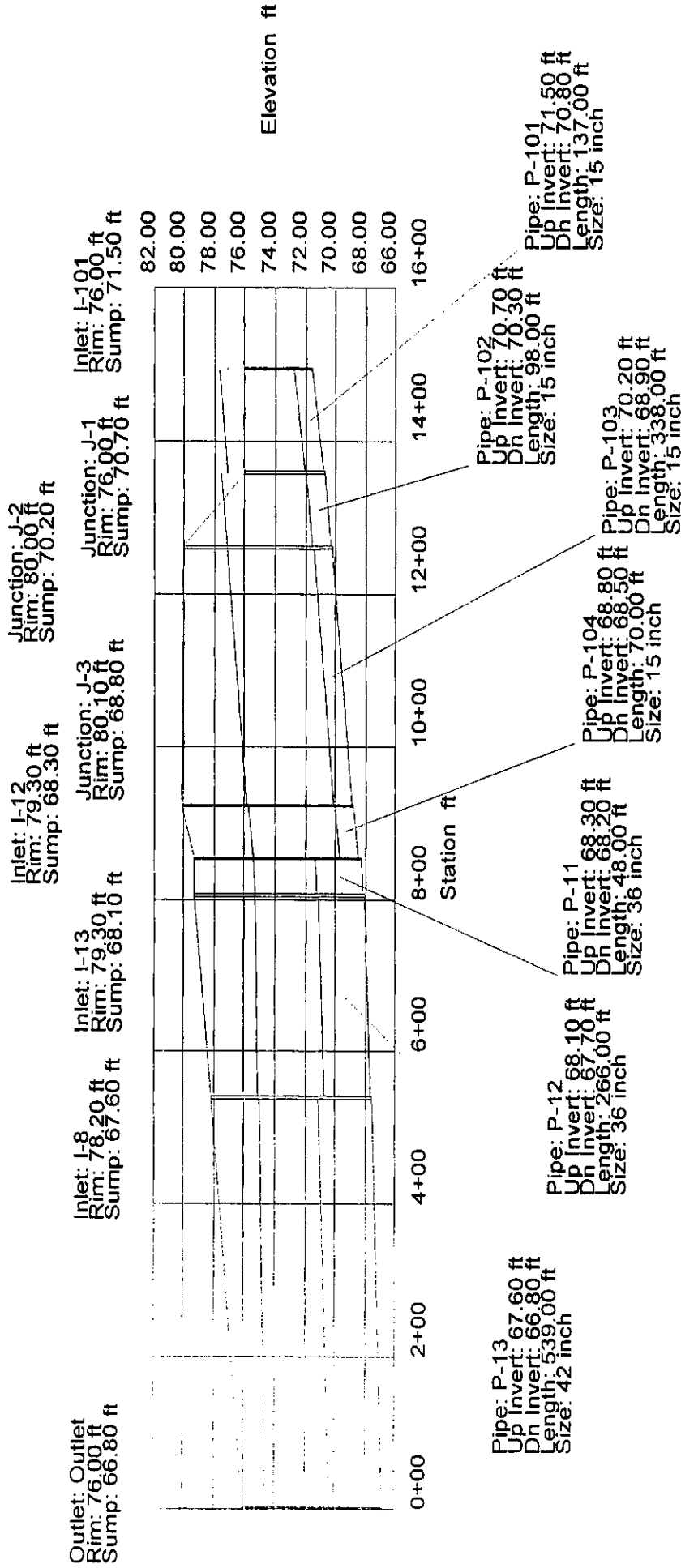
Pipe: P-5
Up Invert: 73.20 ft
Dn Invert: 73.00 ft
Length: 36.00 ft
Size: 24 inch

Pipe: P-4
Up Invert: 73.70 ft
Dn Invert: 73.40 ft
Length: 126.00 ft
Size: 24 inch

Pipe: P-3
Up Invert: 74.50 ft
Dn Invert: 89.00 ft
Length: 89.00 ft
Size: 18 inch

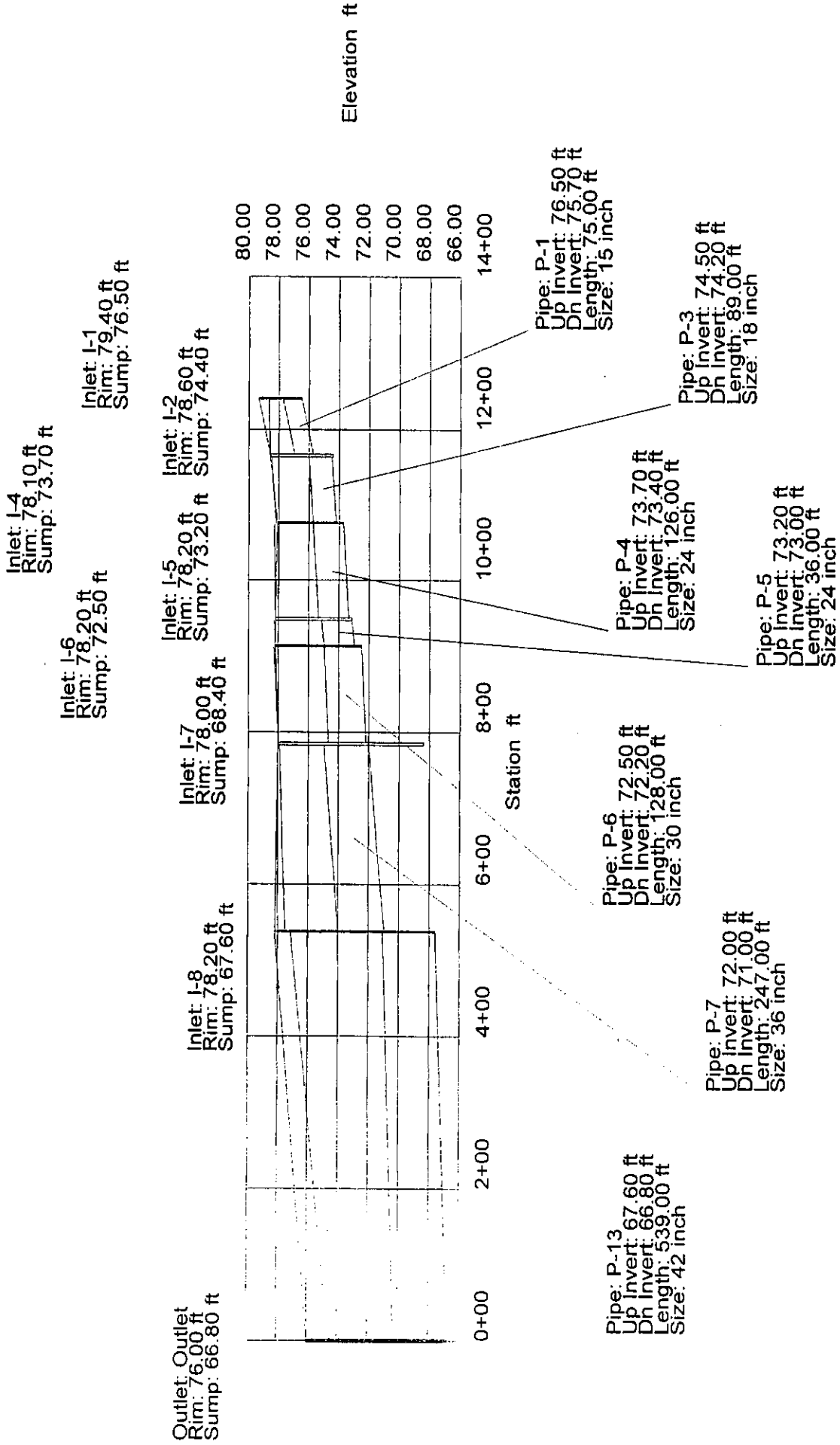
Pipe: P-2
Up Invert: 74.80 ft
Dn Invert: 74.40 ft
Length: 86.00 ft
Size: 15 inch

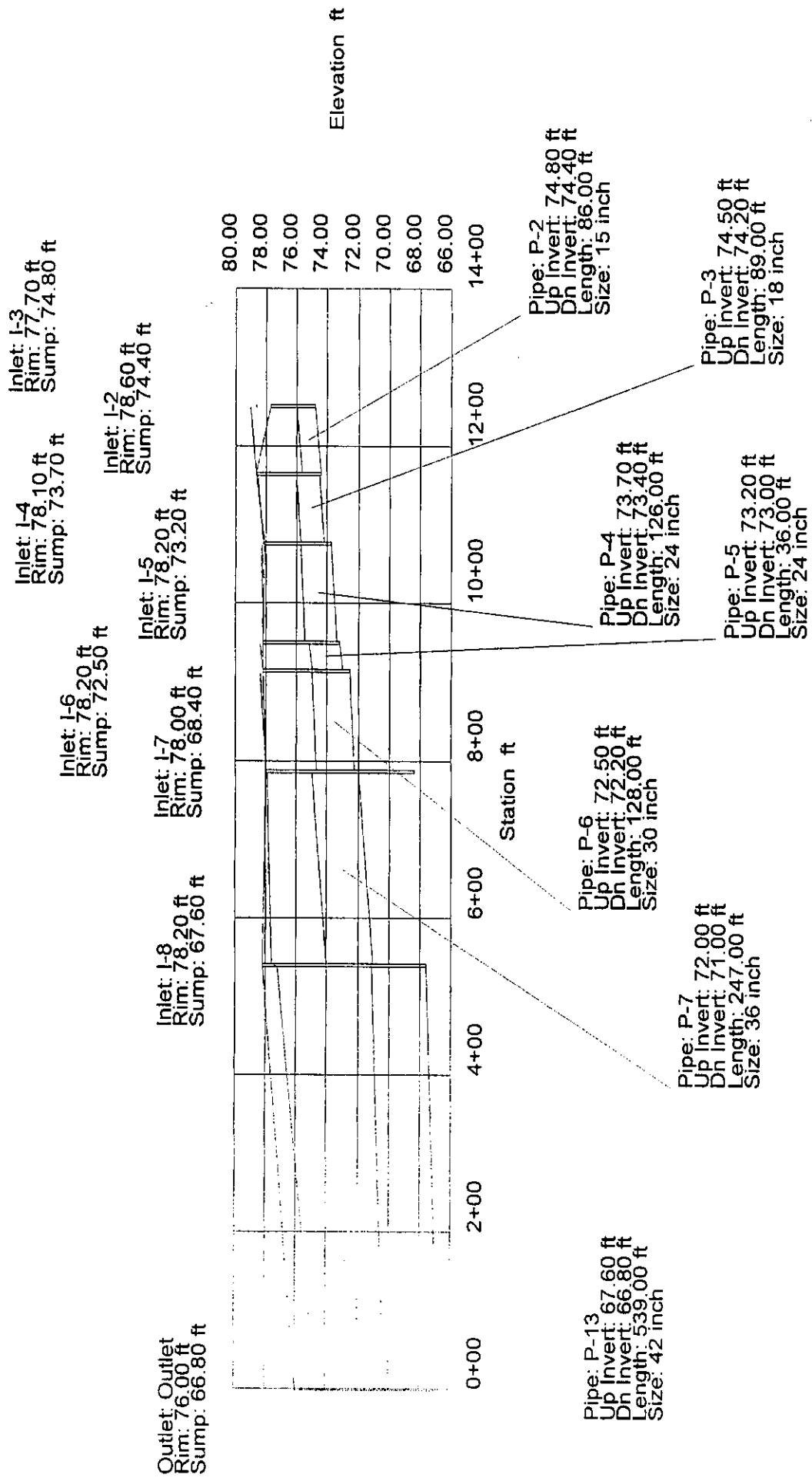


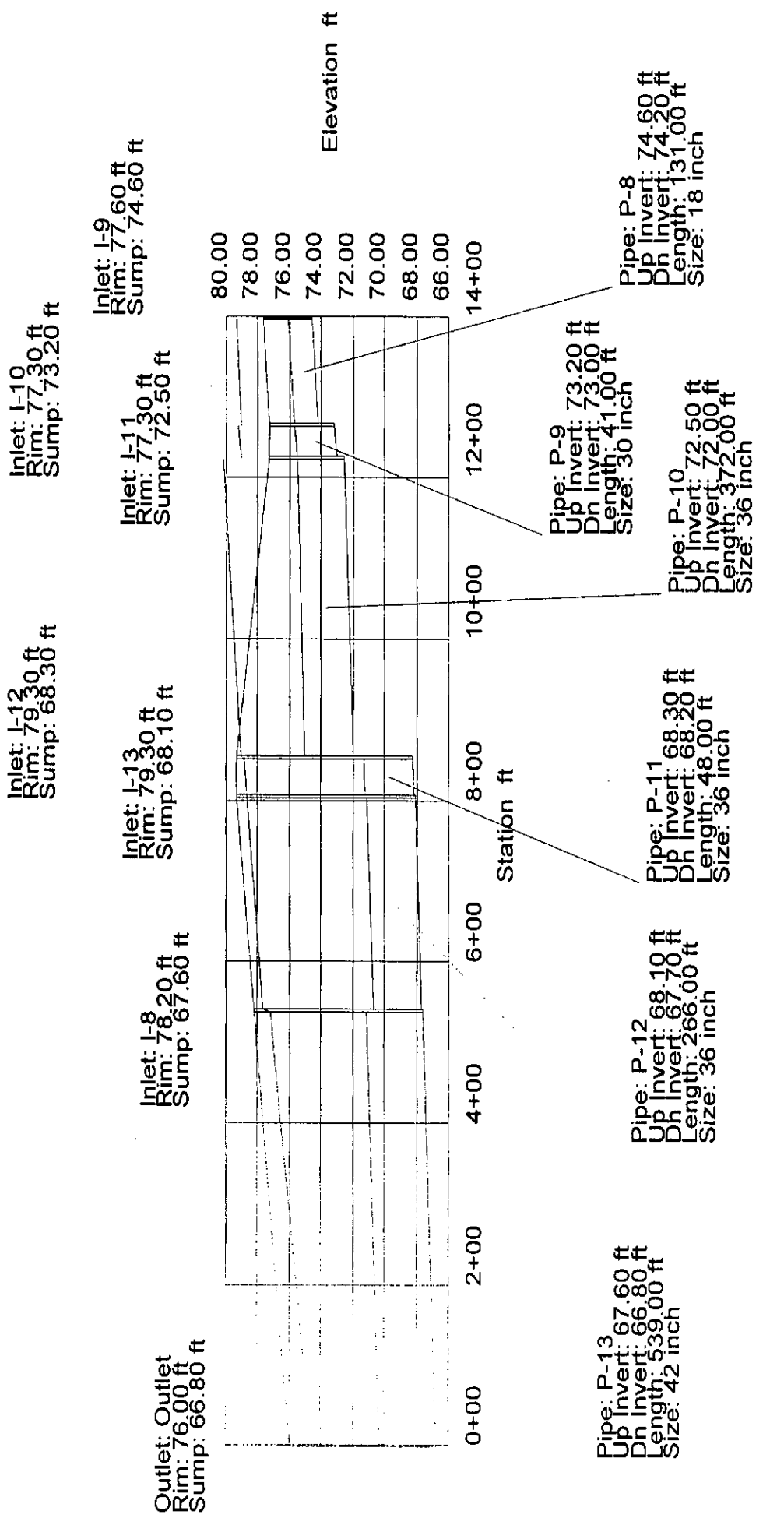


System Report

| Pipe | Additional Flow (cfs) | Total Upstream Added (cfs) | Structure Discharge (cfs) | -Node- Upstream Downstream | Section- Shape Size | Upstream Invert Elevation (ft) | Downstream Invert Elevation (ft) | -Ground- Upstream Downstream | -HGL- Upstream Downstream | -Slope- Energy Constructed (ft/ft) | Section- Discharge Capacity (cfs) | Length (ft) | Average Velocity (ft/s) | Description |
|-------|-----------------------|----------------------------|---------------------------|----------------------------|---------------------|--------------------------------|----------------------------------|------------------------------|---------------------------|------------------------------------|-----------------------------------|-------------|-------------------------|-------------|
| P-101 | 4.00 | 0.00 | 4.00 | I-101 | Circular 15 inch | 71.50 | 70.80 | 76.00 | 80.53 | 0.003835 | 4.00 | 137.00 | 3.26 | |
| P-102 | N/A | 4.00 | 4.00 | J-1 | Circular 15 inch | 70.70 | 70.30 | 76.00 | 80.00 | 0.005109 | 4.62 | 98.00 | 3.26 | |
| P-103 | N/A | 4.00 | 4.00 | J-2 | Circular 15 inch | 70.20 | 68.90 | 80.00 | 80.00 | 0.004082 | 4.13 | 338.00 | 3.26 | |
| P-104 | N/A | 4.00 | 4.00 | J-3 | Circular 15 inch | 68.80 | 68.50 | 80.10 | 80.71 | 0.003835 | 4.01 | 70.00 | 3.26 | |
| P-8 | 4.40 | 0.00 | 4.40 | I-12 | Circular 15 inch | 74.60 | 74.20 | 79.30 | 79.33 | 0.003835 | 4.00 | 131.00 | 2.49 | |
| P-9 | 18.00 | 4.40 | 22.40 | I-10 | Circular 18 inch | 73.20 | 73.00 | 77.30 | 79.29 | 0.001755 | 4.40 | 41.00 | 4.56 | |
| P-10 | 13.00 | 22.40 | 35.40 | I-11 | Circular 30 inch | 72.50 | 72.00 | 77.30 | 79.06 | 0.002983 | 22.40 | 372.00 | 5.01 | |
| P-11 | 1.90 | 39.40 | 41.30 | I-12 | Circular 36 inch | 68.30 | 68.20 | 79.30 | 80.11 | 0.002817 | 35.40 | 24.45 | 5.84 | |
| P-12 | 0.00 | 41.30 | 41.30 | I-13 | Circular 36 inch | 68.10 | 67.70 | 79.30 | 79.06 | 0.001344 | 41.30 | 48.00 | 5.84 | |
| P-2 | 4.40 | 0.00 | 4.40 | I-3 | Circular 36 inch | 74.80 | 74.40 | 77.70 | 78.61 | 0.003835 | 41.30 | 266.00 | 5.84 | |
| P-1 | 2.20 | 0.00 | 2.20 | I-1 | Circular 15 inch | 76.50 | 75.70 | 79.40 | 77.59 | 0.001504 | 25.86 | 86.00 | 3.59 | |
| P-3 | 0.00 | 6.60 | 6.60 | I-2 | Circular 15 inch | 74.50 | 74.20 | 78.60 | 79.00 | 0.004640 | 4.40 | 75.00 | 1.79 | |
| P-4 | 0.00 | 6.60 | 6.60 | I-4 | Circular 18 inch | 73.70 | 73.40 | 78.10 | 78.60 | 0.004651 | 4.41 | 126.00 | 2.10 | |
| P-5 | 8.70 | 6.60 | 15.30 | I-5 | Circular 24 inch | 73.20 | 73.00 | 78.20 | 78.69 | 0.001160 | 2.20 | 36.00 | 4.87 | |
| P-6 | 5.50 | 15.30 | 20.80 | I-6 | Circular 24 inch | 72.50 | 72.20 | 78.20 | 78.60 | 0.010667 | 6.67 | 128.00 | 4.24 | |
| P-7 | 2.70 | 20.80 | 23.50 | I-7 | Circular 30 inch | 72.00 | 71.00 | 78.00 | 78.55 | 0.002344 | 19.86 | 247.00 | 3.32 | |
| P-13 | 4.90 | 64.80 | 69.70 | I-8 | Circular 36 inch | 67.60 | 66.80 | 78.20 | 77.90 | 0.001242 | 23.50 | 339.00 | 7.24 | |
| | | | | Outlet | Circular 42 inch | | 76.00 | 76.00 | 77.59 | 0.004049 | 42.44 | | | |







Inlet: I-12
Rim: 79.30 ft
Sump: 68.30 ft

Inlet: I-10
Rim: 77.30 ft
Sump: 73.20 ft

Inlet: I-9
Rim: 77.60 ft
Sump: 74.60 ft

Inlet: I-11
Rim: 77.30 ft
Sump: 72.50 ft

Inlet: I-13
Rim: 79.30 ft
Sump: 68.10 ft

Inlet: I-8
Rim: 78.20 ft
Sump: 67.60 ft

Outlet: Outlet
Rim: 76.00 ft
Sump: 66.80 ft

80.00
78.00
76.00
74.00
72.00
70.00
68.00
66.00

Elevation ft

0+00 2+00 4+00 6+00 8+00 10+00 12+00 14+00

Station ft

Pipe: P-13
Up Invert: 67.60 ft
Dn Invert: 66.80 ft
Length: 539.00 ft
Size: 42 inch

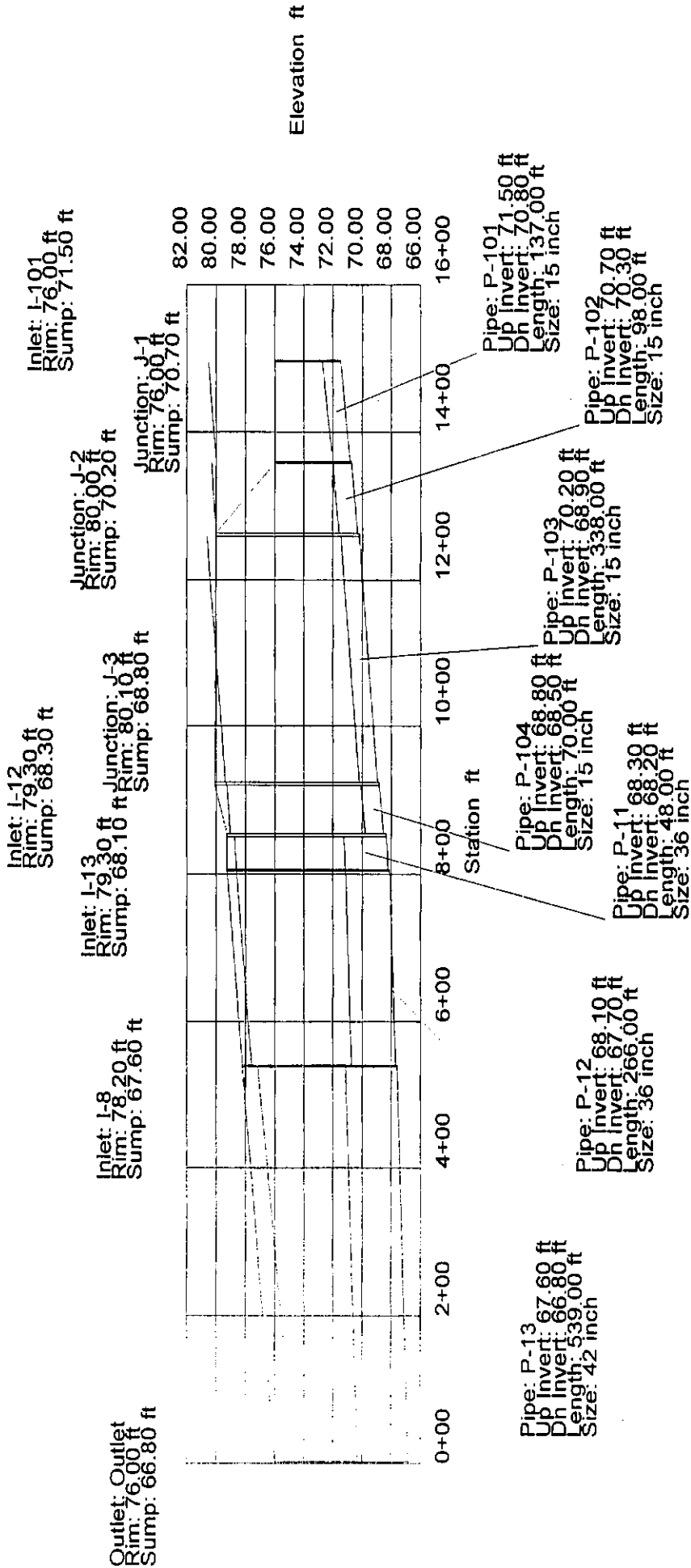
Pipe: P-12
Up Invert: 68.10 ft
Dn Invert: 67.70 ft
Length: 266.00 ft
Size: 36 inch

Pipe: P-11
Up Invert: 68.30 ft
Dn Invert: 68.20 ft
Length: 48.00 ft
Size: 36 inch

Pipe: P-10
Up Invert: 72.50 ft
Dn Invert: 72.00 ft
Length: 372.00 ft
Size: 36 inch

Pipe: P-9
Up Invert: 73.20 ft
Dn Invert: 73.00 ft
Length: 41.00 ft
Size: 30 inch

Pipe: P-8
Up Invert: 74.60 ft
Dn Invert: 74.20 ft
Length: 131.00 ft
Size: 18 inch



CLOSURE - RIVENDALE ADDITION

| | | |
|-------|----------------------|-------------------|
| PT 01 | North: 24341.0190 | East : 19746.3245 |
| Line | Course: S 00-00-50 W | Length: 399.1500 |
| PT 02 | North: 23941.8690 | East : 19746.2277 |
| Line | Course: S 89-42-57 W | Length: 300.0000 |
| PT 03 | North: 23940.3811 | East : 19446.2314 |
| Line | Course: S 00-00-50 W | Length: 263.0000 |
| PT 04 | North: 23677.3811 | East : 19446.1677 |
| Line | Course: S 89-42-57 W | Length: 259.7100 |
| PT 05 | North: 23676.0930 | East : 19186.4609 |
| Line | Course: S 00-02-21 W | Length: 316.3900 |
| PT 06 | North: 23359.7031 | East : 19186.2446 |
| Line | Course: N 90-00-00 W | Length: 100.0000 |
| PT 07 | North: 23359.7031 | East : 19086.2446 |
| Line | Course: S 00-02-21 W | Length: 345.9600 |
| PT 08 | North: 23013.7432 | East : 19086.0081 |
| Line | Course: N 89-44-36 E | Length: 100.0000 |
| PT 09 | North: 23014.1911 | East : 19186.0071 |
| Line | Course: S 00-02-21 W | Length: 661.9100 |
| PT 10 | North: 22352.2813 | East : 19185.5546 |
| Line | Course: S 89-46-15 W | Length: 362.3900 |
| PT 11 | North: 22350.8318 | East : 18823.1675 |
| Line | Course: N 00-00-00 E | Length: 311.1400 |
| PT 12 | North: 22661.9718 | East : 18823.1675 |
| Line | Course: S 89-46-15 W | Length: 140.0000 |
| PT 13 | North: 22661.4119 | East : 18683.1686 |
| Line | Course: S 00-01-33 E | Length: 251.1400 |
| PT 14 | North: 22410.2719 | East : 18683.2819 |
| Line | Course: S 00-01-33 E | Length: 20.1900 |
| PT 15 | North: 22390.0819 | East : 18683.2910 |
| Line | Course: S 00-01-33 E | Length: 39.8100 |
| PT 16 | North: 22350.2719 | East : 18683.3089 |
| Line | Course: S 89-46-15 W | Length: 258.3600 |
| PT 17 | North: 22349.2386 | East : 18424.9510 |
| Line | Course: N 00-04-41 E | Length: 399.1700 |
| PT 18 | North: 22748.4082 | East : 18425.4948 |
| Line | Course: S 89-43-51 W | Length: 330.3000 |
| PT 19 | North: 22746.8565 | East : 18095.1984 |
| Line | Course: S 00-06-53 W | Length: 398.8800 |
| PT 20 | North: 22347.9773 | East : 18094.3998 |
| Line | Course: S 89-46-55 W | Length: 330.5200 |
| PT 21 | North: 22346.7194 | East : 17763.8821 |
| Line | Course: N 00-08-33 E | Length: 478.4800 |
| PT 22 | North: 22825.1979 | East : 17765.0722 |
| Line | Course: S 89-43-51 W | Length: 295.7100 |

Closure

| | | |
|-------|----------------------|-------------------|
| PT 23 | North: 22823.8087 | East : 17469.3654 |
| Line | Course: N 02-30-05 W | Length: 716.9900 |
| PT 24 | North: 23540.1156 | East : 17438.0734 |
| Line | Course: N 37-59-47 E | Length: 162.4600 |
| PT 25 | North: 23668.1421 | East : 17538.0857 |
| Line | Course: N 37-58-10 E | Length: 842.4600 |
| PT 26 | North: 24332.2861 | East : 18056.4018 |
| Line | Course: N 89-42-14 E | Length: 1689.9100 |
| PT 01 | North: 24341.0197 | East : 19746.2892 |