From: Carney, Patricia A
To: Vidal, Bert J.;
Subject: FW: Winson WTP TM 8 - Site Development PRE-FINAL
Date: Tuesday, October 30, 2012 4:38:35 PM

From: Pierre-Louis, Wisler [mailto:PWisler@northmiamifl.gov]
Sent: Tuesday, October 30, 2012 4:15 PM
To: Carney, Patricia A
Subject: RE: Winson WTP TM 8 - Site Development PRE-FINAL

Thanks, you may proceed.

From: Carney, Patricia A [mailto:pcarney@hazenandsawyer.com]
Sent: Thursday, October 18, 2012 9:02 AM
To: Pierre-Louis, Wisler
Subject: FW: Winson WTP TM 8 - Site Development PRE-FINAL

Wisler, With the exception of Item 3, the comments below were addressed on TM Pre-Final sent to the City on 9-21-12 after our City review meeting – please see the attached copy. With regard to Item 3, we had not graphically shown the well field protection 100-ft set back requirement in Exhibit 8-4, but it was discussed on Page 5 of 7. We can add the radius on the Final BODR submission, however, the proposed layout complies with the requirements.

Please note, this entire memo will need to be revised with the City requesting revisions based on the new land purchase. The attached meeting notes from the BODR kickoff meeting are attached for summary of each memo as agreed. If you'd like we can clarify any of the above during our meeting next Wednesday.

Thanks,
Trish

Patricia Carney, PE
Hazen and Sawyer, PC
4000 Hollywood Blvd.
STE. 750N
Hollywood, FL 33021
954-987-0066

From: Vidal, Bert J.
To: "Pierre-Louis, Wisler";
cc: Atoche, Jorge C; Brown, George A.; Carney, Patricia A; Ghany, Aleem;
Subject: RE: Winson WTP BODR TM 9 Estimated Cost and Schedule for BP 3
Date: Monday, February 25, 2013 11:27:00 AM
Attachments: Exhibit 9-11 Proposed Program Cost BODR.pdf
Exhibit 9-12 Proposed Program Schedule BODR.pdf
Exhibit 5-1.pdf

See below – RESPONSES ARE IN CAPS TO DIFFERENTIATE FROM COMMENT

Bert Vidal P.E.
Hazen and Sawyer, P.C
4000 Hollywood Boulevard, Suite 750N
Hollywood, Fl. 33021
954 987-0066

From: Pierre-Louis, Wisler [mailto:PWisler@northmiamifl.gov]
Sent: Monday, February 25, 2013 10:23 AM
To: Vidal, Bert J.
Cc: Atoche, Jorge C
Subject: RE: Winson WTP BODR TM 9 Estimated Cost and Schedule for BP 3

Bert,

Please address the comments below from our OER in your final TM 9.

- Comment 2.f – There seems to be the possibility of a future budget overrun. Confirmation if a budget overrun is projected should occur so the City can make more informed decisions that impact costs, or take efforts to secure additional project funding, if required. AS DISCUSSED WITH THE CITY DURING OUR REVIEW MEETING OF 2-5-13, H&S WILL DEVELOP MORE DEFINED COST ESTIMATES AT HE 60% DESIGN STAGE WHERE A GREATER LEVEL OF DETAIL WILL BE AVAILABLE ON WHICH TO BASE TAKEOFFS INSTEAD OF JUST "LUMP SUM" ESTIMATES SUCH AS THOSE USED CURRENTLY FOR YARD PIPING, I/C ETC. WE WILL CONTINUE TO TRACK AND KEEP THE CITY ABREAST OF THE ESTIMATES ACCORDINGLY.

- Comment 2.g – It seems the response attempts to address the comment, however Exhibit 9-11 still does not reflect the estimated $1.5M budget overrun, so the report revisions that were made to address this comment appear to be incomplete. Further clarification in Exhibit 9-11

showing the projected budget overrun is necessary. CLARIFICATION WAS INADVERTENTLY NOT MADE – IT IS ATTACHED AND WILL BE INSERTED INTO TM 9 ACCORDINGLY

- Comment 3.a – The review time for each submittal should be shown as a separate schedule line item, even if it is a parallel activity to other critical path tasks. REVIEW BY CITY TASKS HAVE BEEN ADDED TO 50% AND 90% SUBMITTALS. SEE ATTACHED. THIS WILL BE INSERTED INTO TM 9 ACCORDINGLY

- Comment 3.b – Permitting review time (by the agency) does not seem to be shown. The schedule should include all elements needed for the successful delivery of the project. To show anything less than 30 days would not be advised. Typically, 60 days are used to allow for one request for additional information from the agency and a response. THE PRELIMINARY PERMITTING TASK AFTER 60% SUBMITTAL IS INTENDED TO COVER THE REVIEW OF THE DOCUMENTS WITH NM BUILDING, MD-DOH AND MD-FIRE. IT HAS BEEN EXTENDED TO 60 DAYS. DEWATERING WITH SFWMD WILL BE DISCUSSED DURING DETAILED DESIGN AND AGREEMENT REACHED AT THE 60% STAGE ALSO. FINAL PERMITTING WITH 90% DOCUMENTS WAS EXTENDED TO 25 DAYS – ALTHOUGH IT IS ANTICIPATED THAT PRELIMINARY REVIEWS WILL RESOLVE MAJORITY OF ISSUES.

- Comment 3.c Response: BP3 Construction Schedule - The H&S response does cause some concern with the critical path for construction that is contingent upon a TCO for the electrical room. If the current concept is maintained, any delay due to TCO issues could result in a significant claim from the construction Contractor. To avoid the risk of a delay, another approach would be to construct the electrical room as a separate structure. With this approach the electrical room can still be in the same general vicinity (assuming the point was to keep it close to the operations areas and control room), but could be completed well in advance of the Operations Building. In the last layout of the admin building/electrical room provided, the electrical room did not have any doors connecting directly to the Operations Building, so the limitation to exterior access would be identical in both cases. The updated admin building layout should be reviewed to confirm this concept. WE AGREE THAT THIS IS A CRITICAL ISSUE. AS DISCUSSED DURING THE MEETING WITH THE CITY ON 2-5-13, A MEETING WITH THE NORTH MIAMI BUILDING DEPARTMENT WAS REQUESTED ASAP SO THAT THE TEAM COULD MEET WITH JOHN JACKSON AND DISCUSS THE REQUIREMENTS THAT NM-BD WOULD REQUIRE TO ALLOW ISSUANCE OF A

TCO. THE PROPOSED BUILDING LAYOUT ISOLATES THE MAIN ELECTRICAL ROOM FROM THE REMAINDER OF THE ADMINISTRATION BUILDING TO FACILITATE THIS DISCUSSION – SEE ATTACHED EXHIBIT 5-1. WE ARE AWAITING A DATE FROM CITY WHEN THE MEETING WITH BUILDING DEPARTMENT CAN BE SCHEDULED. TWO ALTERNATIVE DATES WERE REQUESTED TO FACILITATE THE REQUISITE TEAM MEMBERS ATTENDANCE.

Thanks

From: Vidal, Bert J. [mailto:bvidal@hazenandsawyer.com]
Sent: Thursday, February 07, 2013 2:43 PM
To: Pierre-Louis, Wisler
Cc: Atoche, Jorge C
Subject: Winson WTP BODR TM 9 Estimated Cost and Schedule for BP 3

Hi Wisler
Attached is revised TM 9 per our discussion on Tuesday 2-5-13
Thanks

Bert Vidal P.E.
Hazen and Sawyer, P.C
4000 Hollywood Boulevard, Suite 750N
Hollywood, Fl. 33021
954 987-0066

The City of North Miami is a public entity subject to Chapter 119 of the Florida Statutes concerning public records. E-mail messages are covered under such laws and thus subject to disclosure. All E-mail sent and received is captured by our servers and kept as a public record.

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HAZEN AND SAWYER

Environmental Engineers & Scientists

Exhibit 8

Filter Rehab - Florida Department of Health Permit

Rick Scott
Governor

FLORIDA DEPARTMENT OF HEALTH

Steven L. Harris, M.D., M.Sc.
Interim State Surgeon General

May 10, 2012

PERMITTEE:
City of North Miami
C/O Mr. Wisler Pierre-Louis
12098 NW 11th Avenue
North Miami, Florida 33168

PWS NO.: 4130977
PERMIT NUMBER: 127614-065-WC/M1
DATE OF ISSUE: May 10, 2012
EXPIRATION DATE: May 9, 2017
PROJECT: Filter Rehabilitation
ADDRESS: 12098 NW 11th Avenue
COUNTY: Miami-Dade

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-550, 62-555 and 62-560. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

TO CONSTRUCT: Rehabilitation of the Existing four Single Media Anthracite Filters which have a surface area of 540 square feet each.

PROPOSED CONSTRUCTION INCLUDES:

- The removal and disposal of the existing filter media.
- The removal and disposal of the existing surface wash and underdrain systems.
- The installation of new plastic type underdrains without air scour.
- The installation of new filters media beds.
- The installation of a new fixed type surface wash system.
- The replacement of the existing filter gallery piping etc...

IN ACCORDANCE WITH: The permit application Form 62-555.900(1), contract documents binder and drawings prepared, signed, and sealed by Mr. H. J. Vidal, P.E, and Mr. Jean Paul Silva of Hazen and Sawyer Environmental Engineers and Scientists on April 30, 2012.

LOCATED AT: 12098 NW 11th Avenue, North Miami, Florida 33168
TO SERVE: The North Miami Winson Water Treatment Plant
SUBJECT TO: General Conditions 1-15 and Specific Conditions 1-7.

Samir Elmir, PhD, PE, DEE, CEHP, Director
Environmental Health and Engineering
Miami-Dade County Health Department
1725 NW 167th Street, Miami Gardens, Florida 33056
Tel: (305) 623-3500 Fax: (786) 623-3502
Email: Samir_Elmir@doh.state.fl.us
Website: www.dadehealth.org

Public Health

GENERAL CONDITIONS:

The following General Conditions are referenced in Florida Administrative Code Rule 62-4.160.

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
   a. Have access to and copy any records that must be kept under conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
   c. Sample or monitor any substances or parameters at any location reasonable necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
   a. A description of and cause of noncompliance; and

b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300 F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:
    a. Determination of Best Available Control Technology (BACT)
    b. Determination of Prevention of Significant Deterioration (PSD)
    c. Certification of compliance with state Water Quality Standards (Section 401, PL 92-500)
    d. Compliance with New Source Performance Standards

14. The permittee shall comply with the followings:
    a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
    c. Records of monitoring information shall include:
        1. the date, exact place, and time of sampling or measurements;
        2. the person responsible for performing the sampling or measurements;
        3. the dates analyses were performed;
        4. the person responsible for performing the analyses;
        5. the analytical techniques or methods used;
        6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. The Permittee shall retain a Florida-licensed professional engineer in accordance with subsection **62-555.530(3), F.A.C.**, to take responsible charge of inspecting construction of the project for the purpose of determining in general if the construction proceeds in compliance with the permit, including the approved preliminary design report or drawings and specifications for the project.
2. The Permittee shall have complete record drawings produced for the project in accordance with subsection **62-555.530(4), F.A.C.**
3. The Permittee shall provide an operation and maintenance manual for all new or altered facilities to fulfill the requirements under subsection **62-555.350(13) F.A.C.**
4. The Permittee shall submit a certification of construction completion to the Department [Form 62-555.900(9)] and obtain approval or clearance, from the Department per **Rule 62-555.345, F.A.C.**, before placing any public water system components constructed or altered under this permit in operation for any purpose other than disinfection, testing for leaks, or testing equipment operation. This does not prohibit the Permittee from cutting into existing water mains, and returning the water mains to operation in accordance with subsection **62-555.340(5), F.A.C.**, without the Department's approval.
5. Chemicals that are contained in coatings that are applied to a surface in contact with drinking water, or are otherwise on equipment surfaces that come into contact with the water, and additives and chemicals used to treat water shall conform to American National Standards Institute (ANSI)/NSF International Standard 60-1988. Water system components whose surfaces come into contact with drinking water shall conform to ANSI/NSF Standard 61-1991. The authorized representative of the public water system shall certify in writing that each item conforms to the appropriate standard prior to release for operation. ***Ref. 62-555.320(3)(a), 62-555.320(3)(b) and 62-555.320(3)(d).***
6. No more than one filter may be out of service at any one time. During the individual filter basin shutdown periods, the permittee should purchase water from other utilities to augment water production of the remaining three operating filters at the water treatment plant. In addition, no one new filter should be placed into operation without proper clearance from the department.
7. The proposed facility (well, raw/finished water mains, treatment units and tanks) shall be cleaned, disinfected and bacteriologically cleared in accordance with Chapter 62-555, F.A.C. The bacteriological clearance data shall be submitted to the Department with the engineer's certification of construction completion. ***Ref. 62-555.340***

Issued this 10th day of May, 2012

STATE OF FLORIDA
DEPARTMENT OF HEALTH

May 10, 2012

Samir Elmir, P.E., PhD., CEHP — Date
Director
Environmental Health and Engineering

cc: H. J. Vidal, P.E., Hazen Sawyer
Carlos Hernandez, P.E. PERA

This space intentionally left blank.

Rick Scott
Governor

FLORIDA DEPARTMENT OF HEALTH

Steven L. Harris, M.D., M.Sc.
Interim State Surgeon General

May 10, 2012

In the Matter of an Application for Permit by:
Winson Water Treatment Plant
C/o Mr. Wisler Pierre-Louis
12098 NW 11 Avenue
North Miami, Florida 33168

DOH File No. 127614-065-WC/M1
Miami Dade County
Filter Rehabilitation
PWS I.D.: 4130977

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number 127614-065-WC/M1 to rehabilitate the existing four filters at Winson Water Treatment Plant. The water treatment plant is located in Miami Dade County, at 12098 NW 11 Avenue, North Miami, FL 33170. This permit is issued under Section(s) 403.087 of the Florida Statutes.

A person whose substantial interests are affected by the proposed permitting decision of the Department may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 of the Florida Statutes (F.S.).

The petition must contain the information set forth below and must be filed (received) in the Department of Environmental Protection, Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any other person must be filed within fourteen (14) days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 of the Florida Statutes, or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information:

(a) The name, the address, and the telephone number of each petitioner; the Department permit identification number and the county in which the subject matters or activity is located; DOH File No. 308175-001-WC/M2

(b) A statement of how and when each petitioner received notice of the Department action;

(c) A statement of how each petitioner's substantial interests are affected by the Department action;

(d) A statement of the material facts disputed by the petitioner, if any;

Samir Elmir, PhD, PE, DEE, CEHP, Director
Environmental Health and Engineering
Miami-Dade County Health Department
1725 NW 167th Street, Miami Gardens, Florida 33056
Tel: (305) 623-3500 Fax: (305) 623-3502
Email: Samir_Elmir@doh.state.fl.us
Website: www.dadehealth.org

Public Health
Prevent. Promote. Protect.

(e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;

(f) A statement of which rules or statutes the petitioner contends require reversal or modification of the Department action; and

(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the final action of the Department may be different from the position taken by it in this notice of intent. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation under Section 120.573 of the Florida Statutes is not available for this proceeding.

This action is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this order will not be effective until further order of the Department.

Any party to the order has the right to seek judicial review of the order under Section 120.68 of the Florida Statutes, by the filing of a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.

Executed in Miami Dade, Florida.

STATE OF FLORIDA DEPARTMENT
OF HEALTH

May 10, 2012

Samir Elmir, P.E., PhD., CEHP — Date
Director
Environmental Health and Engineering

Rick Scott
Governor

FLORIDA DEPARTMENT OF HEALTH

John H. Armstrong, MD
State Surgeon General

Lillian Rivera, RN, MSN, PhD Administrator

PWS No. 4130977
Permit No. 127614-065-WC/M1
Project: Filter Rehabilitation
Date of Issue: May 10, 2012
Date of Expiration: May 9, 2017
Date of Addendum: Jan. 29, 2013

ADDENDUM

This is to respond to Ms. Patricia Carney of Hazen and Sawyer letter dated January 22, 2013 in which she requested that the Specific Condition No. 6 indicated in the above referenced permit be revised to allow two (2) filters to be placed out of service at one time.

The department has reviewed her request and determined that allowing two (2) filters to be rehabilitated at one time in a project that includes a total of four filters would increase cost effectiveness without compromising the water treatment plant operation including water quality and quantity since the total volume of water to be purchased by Miami-Dade Water and Sewer Department would remain the same.

Based upon this finding, the department hereby approves this request and therefore agrees to replace specific condition No. 6 indicated in page 4 of 5 of said permit to read as follow:

"No more than two (2) filters may be out of service at any one time. During the filter basin shutdown periods, the permitted should purchase water from other utilities to augment water production of the remaining two operating filters at the water treatment plant. In addition, no new filter should be placed into operation without proper clearance from the department."

HAZEN AND SAWYER
Environmental Engineers & Scientists

RECEIVED
JAN 25 2013
Miami Dade County
Department of Health
Engineering Section

January 22, 2013

Mr. Paul Andre, P.E., CEHP
Professional Engineer Supervisor I
MIAMI-DADE COUNTY HEALTH DEPARTMENT
1725 NW 167th Street
Opa-Locka, Florida 33056

Winson Water Treatment Plant Filter Rehabilitation
City of North Miami
PWS No.: 4130977
Permit Number: 127614-065-WC/M1

Dear Mr. Andre:

As discussed in our meeting on January 18, 2013, the original bid documents for this project required that only one (1) filter at a time be taken out of service for rehabilitation. The bid documents allowed 50 days of downtime per filter including:

- Take the unit off-line.
- Remove and dispose of the existing filter media.
- Remove and dispose of the existing surface wash and underdrain systems.
- Install new plastic type underdrains without air scour.
- Install new filters media beds.
- Install new fixed type surface wash system.
- Disinfection and bacteriological clearance
- Bring the unit on-line.

During bidding of this project one of the potential contractors proposed additional time for this process, on the order of 70 days per filter. Hazen and Sawyer discussed this proposal with the Owner and ultimately agreed with the Owner that allowing two (2) filters to be rehabilitated at a time with a total allotted time of 100 days (for two filters) for would be more cost effective for the Owner as the total volume of additional water that have to be purchased from Miami-Dade Water and Sewer Department would remain the same.

Therefore, we respectfully request that Specific Condition No.6 be revised to allow two filters to be out of service at any one time. Requested revised language is below:

6. No more than two filters may be out of service at any one time. During the filter basin shutdown periods, the permittee should purchase water from other utilities to augment water production of the remaining two operating filters at the water treatment plant. In addition, no new filter should be placed into operation without proper clearance from the department.

As you know, MDWASD has confirmed, in their letter to you dated May 22, 2012, that, "The MDWASD hereby confirms that Public Water System No. 4130871 has the sufficient capacity to serve the City of North Miami its current finished water demand (approximately 13 MGD) via eight actively maintained interconnects as accorded in the "Contract for the Provision of Water Service to the City of North Miami" dated August 8, 2007, which has a 20-year duration.".

Thank you for your attention to this request. Should you have any questions, please contact me at 954-987-0066.

Very truly yours,

HAZEN AND SAWYER, P.C.

Patricia Carney, P.E.
Senior Associate

O:\ 44238-004 L002

Exhibit 9

DRC Site Plan Approval

The City of North Miami will provide copies of the approved site plan drawings to the selected design/build team.

NORTH MIAMI
FLORIDA
COMMUNITY PLANNING & DEVELOPMENT

MEMORANDUM

To: Wisler Pierre-Louis, Interim Public Works Director

Cc: Tanya Wilson-Séjour, AICP, Community Planning & Development Manager

From: Nixon Lebrun, AICP, CFM, Zoning Administrator

Date: May 7, 2014

RE: Winson Water Treatment Plant Expansion-DRC Site Plan Approval

---

Applicant:	City of North Miami/Public Works Department
Property Location:	1080-1092-1094 N.W. 122nd Street/1075-1085 N.W. 121st Street/12105 N.W. 11th Avenue/12100 N.W. 11th Avenue
Folio Numbers(s):	06-2126-016-0390/06-2126-016-0400/06-2126-016-0410/06-2126-016-0440/06-2126-016-0420/06-2126-016-0420/06-2126-016-07320
Size of Property	2.88 Acres
Existing Zoning:	PU, Public Use

Pursuant to Article 3, Division 12, Sub-section 2-306 (B) of the City of North Miami Land Development Regulations (LDRs), the Community Planning and Development Department has reviewed the above-captioned DRC site plan application for the proposed expansion and upgrade of the Winson Water Treatment Plant, and is granting site plan approval subject to the following conditions:

1. Plans. That the property be developed substantially in compliance with the precise plans submitted and titled "City of North Miami Public Works Public Works Utilities Winson Water Treatment Plant" as prepared by Hazen and Sawyer Environmental Engineers & Scientists and the City of North Miami Public Works Department, consisting of a Title Sheet and Location Map, Sheet 1; an Existing Site Plan, Sheets 2 & 3; an Existing Site Aerial and Zoning Map, Sheet 4; a Proposed Site Plan, Sheets 5 & 6; a Pavement Marking and Signage Plan, Sheet 7; a Site Plan Details, Sheet 8; a Setback Plan, Sheets 9 & 10; a Paving, Grading & Drainage Plan, Sheet 11; a

Proposed Landscape Plan, Sheets 11 thru 13; a Building & Tanks Elevation/View Plan, Sheet 14; A Landscape Elevation Plan, Landscape Plan Rendering, Landscape Notes, & Landscape Detail, Sheets 15 thru 20; Demolition Aerial Plan, Sheet 21; Master Pump Station key Plan, Sheet 22; Sodium Hypochlorite Facilities Proposed Plan, Sheet 23; New Administration Building 1st & 2nd Floors Plan, Sheets 24-25; New Administration Building Roof Plan, Sheet 26; New Administration Building Elevations, w/ Landscaping, Sheets 27-28; Existing WTP Exterior Painting, Sheet 29; Site Lightning Plan & Schedule, Sheet 30; Site Security Plan, Sheet 31; dated & sealed 4/21, 4/22 & 4/25/2014.

2. Landscaping & Buffers: That lush landscaping and buffering be provided all around the properties to screen the noise and appearance of the utility use from the neighboring single-family residences. That, in addition to the landscaped hedge, a six-foot masonry wall, finished on the exterior side, be constructed along the east side of the newly acquired lots directly abutting the single-family residences.
3. Green Building Design Standards: That, in accordance with Section 5-805 of the City's LDRs, LEED standards or the City's alternative green standards be incorporated in the proposed administration building in order to support the City's environmental initiatives; said standards to include energy saving fixtures aiming at minimizing water and electric consumption.
4. Tanks Design: That the new tanks incorporate decorative treatment to provide for greater aesthetic appeal and enables it not to contrast too much, but rather smoothly blend in with its surroundings. Said decorative treatment shall be in addition to the required landscaping features.
5. Tree Removal Permit Required. That, prior to the removal of any tree, a tree removal permit be obtained from the Building & Minimum Housing Department for compliance with the standards set forth in Section 20-19, Article 2 of the City's LDRs.
6. Conditional Use Permit. Consistent with Ordinance 1366 approving the rezoning of the newly acquired lots, a conditional use permit and the precise plan being reviewed through this DRC process shall be submitted to the Community Planning & Development Department for approval by the Planning Commission and the City Council, prior to obtaining final building permits.
7. Unity of Title: A unity of title unifying the newly-acquired residential lots, which meets the approval of the Community Planning & Development Department and the City's Attorney Office, shall be submitted for final recordation in the public records of Miami-Dade County.
8. Development Commencement. That the site plan approval shall remain in full force and effect subject to commencement of development within eighteen (18) months of the date of this approval in accordance to Section 3-206(I), Article 3, Division 2 of the City's LDRs.

9. Building Permits: That, upon the submittal of an application for building permits the submitted plans be substantially in accordance with the precise plans approved through this DRC and by the Planning Commission; said plans to include among other things, but not limited thereto, location of structures, light standards, landscaping, walls, fences, ingress and egress points, drainage, etc.
10. Construction fence, removal of construction debris and construction storage. Construction fence(s) shall be provided on the property under construction so as not to disturb the adjacent single-family residences; all construction debris shall be removed from the property; and the storage of construction materials shall meet the approval of the Building Official.
11. Certificate of Occupancy. That a Certificate of Occupancy from the Building & Minimum Housing Department shall only be issued upon compliance with all terms and conditions of approval, the same subject to cancellation upon violation of any of the conditions herein listed.
12. Approval by Other Agencies: That the development comply with all applicable conditions and requirements of the Department of Environment Resources management (DERM), and all other County and State agencies.

Please note that the precise plan approved through this DRC site plan review is not a final development order. This plan shall be included in the conditional use permit application package, which needs to be submitted to this Department for further approval by both the Planning Commission and the City Council. Please contact the City Planner, Ms. Bhairvi Pandya, to discuss the submittal requirements for said application and be scheduled for the next available Planning Commission hearing.

Exhibit 10

Design Criteria

NM Winson WTP
Proposed Design Criteria Summary

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
Off-Site Production Wells	-	-	Not in scope of Project
On-Site Production Wells			
Well No. 1			
No. Of Pumps	#	1	
Well diameter	inches	12	per Craig Smith April 2006 Capacity Analysis Report (Table 1-1)
pump capacity	gpm	1,500	
TDH	ft	60	subject to adjustment once well is redevelop well
	BHP	28	assume 80% eff - pending final pump selection
drive motor	HP	40	
total Connected HP	HP	40	
permitted flow	gpm	1,500	per M&E/AECOM Feasibility Study Table 2-1 and WUP No. 13-00059-W
	cfs	3.34	
pipe length	ft	135	
pipe diameter	inches	10	
	sq ft	0.55	
	fps	6.1	OK
Well No. 2			
No. Of Pumps	#	1	
Well diameter	inches	12	Craig Smith April 2006 Capacity Analysis Report (Table 1-1)
pump capacity	gpm	1,500	
TDH	ft	60	subject to adjustment once well is redevelop well
	BHP	28	assume 80% eff - pending final pump selection
drive motor	HP	40	
total Connected HP	HP	40	
permitted flow	gpm	1,500	M&E/AECOM Feasibility Study Table 2-1 says 1100 gpm - corrected per WUP No. 13-00059-W
	cfs	3.34	
pipe length	ft	210	
pipe diameter	inches	10	
	sq ft	0.55	
	fps	6.1	OK
Aerator			
no. of units	#	2	Article 2.3.1 M&E / AECOM Feasibility Study
capacity	mgd	20	2 units in one structure
permitted flow	mgd	9.3	
	gpm	6,458	
	cfs	14.39	
pipe diameter	inches	24	
	sq ft	3.14	
	fps	4.6	OK
Accelator (Line Softening Unit)			
no. of units	#	1	Article 2.3.1 M&E / AECOM Feasibility Study
Permitted Capacity	mgd	9.30	Operating Permit PWO-000014-2011/2012
	gpm	6,458	
diameter (@ Top minus launders)	ft	61	
area	sf	2,921	
clarifier surface loading rate	gpm/sf	2.21	
drive motor	HP	20	with variable frequency drive proposed
Lime Slaking System			
no. of units	#	2	
Silo Capacity	cuft	2,800	Article 2.3.1 M&E / AECOM Feasibility Study
Lime Feeder	HP	1	
Slaker Capacity	pph	1,000	
Slaker drive motor	HP	0.5	
Slaked Lime Pump	HP	5	
slaked lime grit removal	HP	1	
total connected HP	HP	7.0	
Slaker Water Supply			
Flow rate of water needed for each slaker to produce 5% slurry	gpm	50	Based on O&M manual for City's existing slaker
Number of slakers that run simultaneously	#	1	
Filters			
number of filters	#	4	

NM Winson WTP
Proposed Design Criteria Summary

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
width	ft	18.0	
length	ft	30.0	
filter area, each	sq ft	540	
total filter area	sq ft	2,160	
filter media depth - existing	ft	3.5	per M&E / AECOM Feasibility Study (Page 9)
filter media depth - proposed	ft	3.0	6-inch gravel, 20-inch anthracite, 10-inch sand
filter box depth (bottom slab to trough)	ft	13.0	
filter box volume	cu ft	7,020	
	gals	52,517	
Filter Loading Rates @ Peak Production Capacity of 9.3 mgd			
average (all filters in service)	gpm / sq ft	3.0	
peak (one filter out of service)	gpm / sq ft	4.0	
Filter Pipeline Sizing			
Combined Filter Feed Line Sizing			
Capacity Required	mgd	9.30	
	gpm	6,458	
	cfs	14.388	
Pipe Diameter - Existing	in	24	
	sq ft	3.14	Target Maximum velocity < 5 fps
	fps	4.6	ok
Individual Filter Feed Line Sizing			
No. of Filters on Line (with one out of service)	#	3	peak conditions assume backwash one filter out of service
Capacity per filter (MAX)	mgd	3.1	
	gpm	2,153	
	cfs	4.80	
Pipe Diameter - Existing	in	14	
	sq ft	1.07	Target Maximum velocity < 5 fps
	fps	4.5	ok
Individual Filter Discharge - Combined as Backwash Feed			
No. of Filters on Line (with one out of service)	#	3	choose 3 or 4 to see impacts on Velocities
Capacity per filter (MAX)	mgd	3.1	
	gpm	2,153	
	cfs	4.796	
Pipe Diameter - Existing	in	20	
	sq ft	2.18	Target Maximum velocity < 5 fps
	fps	2.2	ok
Individual Filter Discharge to Clearwell Line Sizing			
Capacity Required	mgd	3.1	A full 9.3 mgd capacity
	gpm	2,153	
	cfs	4.796	
Pipe Diameter - Existing	in	10	8-inch valve proposed for Cv control
	sq ft	0.55	@ 10-inch Friction Loss = 4.45 FT per 100 LF (Approx 10 ft run)
	fps	8.8	High
			Portion of Existing Main must be used
Backwash Pump			
No. of Pumps	#	2	Pump curve from City 3-19-12 (6300 gpm @ TDH = 28 ft)
pump capacity	gpm	9,720	new pumps for WTP Upgrade
TDH	ft	35	
	BHP	107	
drive motor	HP	125	Non-overloading full stable range
total Connected HP	HP	250	Pending Final Pump Selection during detailed design
Backwash System Design Capacity			
no of backwash cycles per day per filter (maximum)	#	1	
backwash pump capacity - existing	gpm	9,720	Existing pump curve from City 3-19-12 (6300 gpm @ TDH = 28 ft)
no of backwash cycles per day (all filters) - max	#	8	2 backwashes per day per filter
backwash rate	gpm/sf	18	
time between backwash cycles (min)	mins	180	
Backwash Cycle Sequence / Times			
low flow (surface scour) backwash	minutes	1.0	Existing cycle per discussion with WTP Staff
high flow (regular) backwash	minutes	6.0	
simultaneous surface wash	minutes	1.5	

NM Winson WTP
Proposed Design Criteria Summary

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
low flow backwash	minutes	1.0	
filter resting period	minutes	1.0	
filter to drain	minutes	30.0	see calc below for impact on backwash return (decant) pump sizing
total backwash cycle time	minutes	40.5	
Total Backwash Water Used per Cycle	gal	73,053	
Total Backwash Water Used per Day - maximum)	gal	584,420	
		6.3%	as percentage of total 9.3 mgd production
Filter to Drain - Volume Calculation			Filter to drain enters the backwash basin via the BWW line
filter to drain duration	minutes	30	This duration is adjustable at the HMI with a range of 3 to 30 mins.
filter loading rate (all filters in service) for 9.3 mgd rated plant	gpm / sq ft	3.0	
filter area, each	sq ft	540	
filter loading rate	gpm	1,615	
filter to drain volume per backwash cycle	gal	48,438	assumes production of each filter is drained to BWW for 30 min/day
total backwash volume (BW plus drain) per cycle	gal/day	121,490	
Transfer Pump			
No. of Pumps	#	2	
type of pump	-	vertical turbine	
no. of pumps in service	#	1	
	gpm	6,458	
estimated discharge head	ft	40	Pump curve from City 3-19-12 (6300 gpm @ TDH = 28 ft)
pump efficiency	%	83%	
	BHP	78.6	
drive motor	HP	100	Non-overloading full stable range
Total Connected Load	HP	200	Pending Final Pump selection during detailed design
Transfer Pump Line Sizing - Individual Discharge			
Capacity	gpm	6,458	
	cfs	14.388	
Pipe Diameter	in	24	
	sq ft	3.14	
	fps	4.6	ok
Transfer Pump Line Sizing - Combined Discharge			
Capacity	gpm	6,458	
	cfs	14.388	
Pipe Diameter	in	24	
	sq ft	3.14	
	fps	4.6	ok
Transfer + Backwash Suction Line Sizing - Combined			
Capacity	gpm	16,178	
	cfs	36.043	
Pipe Diameter	in	36	
	sq ft	7.07	
	fps	5.1	ok
Backwash Supply Line Sizing - Discharge			
Capacity	gpm	9,720	
	cfs	21.655	
Pipe Diameter - Existing	in	24	
	sq ft	3.14	
	fps	6.9	High, but
			Portion of Existing Main must be used
Individual Backwash Supply Line Sizing - Combined with Filter Drain			
Capacity	gpm	9,720	
	cfs	21.655	
backwash pump capacity - existing	in	20	
	sq ft	2.18	@ 20-inch Friction Loss = 1.7 FT per 100 LF
	fps	9.9	High, but
			Portion of Existing Main must be used
Waste Backwash Line Sizing to Holding Basins (Top)			
Capacity	gpm	9,720	
	cfs	21.655	
Pipe Diameter - Existing	in	24	Replace with upsize outside of Filter Building footprint

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
	sq ft	3.14	@ 24-inch Friction Loss = 0.66 FT per 100 LF
	fps	6.9	High, but
			Portion of Existing Main must be used
Drain Line Sizing to Holding Basins (Bottom)			
Capacity	gpm	1,750	estimated by gravity for V = <5 fps
	cfs	3.899	
Pipe Diameter - Existing	in	12	
	sq ft	0.79	
	fps	5.0	ok
Estimated Filter Box Drain Time	min	30.0	gravity
Surface Scour System			
no of scour cycles per day per filter (maximum)	#	1	flow is "shaved" from off-site high service distribution manifold
required flow rate	gpm	61	
required pressure	psi	50	
no of backwash cycles per day (all filters)	#	4	
Supply Line Sizing off High Service Pumps			
Capacity	gpm	61	
	cfs	0.136	
Pipe Diameter - Existing	in	6	
	sq ft	0.20	
	fps	0.7	
Individual Supply Line Sizing			
Capacity	gpm	61	
	cfs	0.136	
Pipe Diameter - Existing	in	6	
	sq ft	0.20	
	fps	0.7	
Existing 0.75 MG Storage Tank			To remain in service until new Tanks are constructed on land to north of WTP
No. of Tanks	#	1.0	
Diameter	ft	80.0	
Sidewall Height (est.)	ft	22.5	
Existing 1.5 MG Storage Tank		to be demolished in Phase I	To remain in service until new Tanks are constructed on land to north of WTP
No. of Tanks	#		
Diameter	ft	-	
Sidewall Height (est.)	ft	-	
New 1.25 MG Storage Tanks			pending City prep[aeration of new land to north of WTP (demolition and EIS upgrades)
No. of Tanks	#	2	
Diameter	ft	80.0	
Sidewall Height	ft	33.3	
High Service Pumps from Storage Tank			Craig Smith April 2006 Capacity Analysis Report (Table 1-1)
Total City Demand (approximately)	mgd	13.3	
Water Purchased from MDWASD (average)	mgd	4.0	
Capacity required - average	mgd	9.30	
	gpm	6,458	
PHF/ADF Peaking factor	#	1.60	flow factors per (MC) NM Water Model 6-7-12
	gpm	10,333	
Minimum Flow factor	#	0.48	
	gpm	3,100	
No. of Pumps	#	4	proposed pumps with VFDs
pump capacity	gpm	3,444	
TDH	ft	162	70 psi
drive motor	BHP	168	assumes 83.5% eff
drive motor	HP	200	Non-overloading full stable range
Total Installed Capacity at WTP			
minimum (1 pump)	gpm	2,067	assumed 60% turndown via VFD
	mgd	2.98	
average (2 to 3 pumps)	gpm	6,889	

NM Winson WTP
Proposed Design Criteria Summary

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
	mgd	9.92	
maximum (all pumps)	gpm	13,778	
	mgd	19.84	
Total Connected Load	HP	800	
Total Number of Distribution Pumps	#	4	reduction in two total high service pumps
Total Number of Pumps Installed in new Master Pump Station	#	8	equal pumps to existing with redundant transfer and backwash
Supply Line Sizing to High Service Pumps			
Max Capacity	gpm	10,333	max based on 9.3 WTP capacity @ 1.6 PF.
	cfs	23.021	Does not include additional 4 mgd purchased by City from WASD
from storage tank	in	30	
	sq ft	4.91	
	fps	4.7	ok
Min Capacity	gpm	3,100	max based on 9.3 WTP capacity @ 0.48 PF.
	cfs	6.906	
Total Connected Load	in	30	
	sq ft	4.91	
	fps	1.4	ok
Discharge Line Sizing off High Service Pumps			
Max Capacity	gpm	10,333	max based on 9.3 WTP capacity @ 1.6 PF.
	cfs	23.021	
to Distribution System	in	24	
	sq ft	3.14	
	fps	7.3	High, but
Individual Pumps			short run at peak condition
Capacity	gpm	3,100	max based on 9.3 WTP capacity @ 0.48 PF.
	cfs	6.906	
Min Capacity	in	16	
	sq ft	1.40	
	fps	4.9	ok
Backwash Holding Basin			
No of Basins	#	2	
Basin Dimensions			
length	ft	61.33	
width	ft	30	
depth	ft	6.0	
usable depth	ft	4.0	
area	sq ft	1,840	
volume (both basins)	cu ft	14,719	
	gal	110,114	Volume of both basins
Decant Pumps			
No. of pumps	#	2	
type	-	self priming centrifugal	
capacity	gpm	612	
	cfs	1.36	This analysis assumes that one basin is out of service for cleaning
TDH	ft	33.0	
drive motor	BHP	8.6	
drive motor	HP	15.0	
total connected load	HP	30.0	
Return Water Line diameter	inches	6.0	
area	sq ft	0.20	
velocity	fps	6.9	
total backwash volume (BW plus drain) per cycle	gal	121,490	
Decant Volume used to flush Waste Lime Pump Station	gal	2,936	1 line volume in 6.67 minutes
decant volume returned continuously	gpm	612	
backwash cycle duration when filling holding basin	mins	40.5	
total backwash (BW plus drain minus flush) per cycle to be returned	gal	118,554	
backwash returned during fill cycle	gal	24,782	
net backwash require storage	gal	93,772	
Total usable Volume of Both Basins	gal	110,114	ok
interval between backwash cycles - return time to process allowable	mins	180	based on 8 cycles per day evenly spaced at 180 mins each
return time proposed	mins	153	ok
Backwash Sludge Pump To Waste Lime P. Station			
backwash holding basin solids sump size - each			

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
length	ft	4.0	
width	ft	4.0	
depth	ft	2.0	
volume	cu ft	32.0	
	gal	239.4	
Proposed discharge line size	in	4.0	
	sq ft	0.087	
desired velocity	fps	3.0	
capacity - target	cf/sec	0.3	
	gpm	117.5	
No. of pumps	#	2	
type of pump	-	self priming centrifugal	
capacity	gpm	117	
	cfs	0.26	
TDH	ft	15.0	
drive motor	BHP	1.5	
drive motor	HP	3.0	
total connected load	HP	6.0	
Waste Line diameter to Waste Lime Pump Station	inches	4.0	
area	sq ft	0.09	
velocity	fps	3.0	
Waste Lime Sludge Pump Station			
Waste Solids to New Waste Lime Pump Station			
	ppd	18,500	H&S W-WTP Sludge Master Plan Aug 2010
	gpd @ 6%	36,970	
Lime Sludge Wasting Cycle	gph	1,540	all generated in one waste cycle (7.5 mins per hour)
	gpm	12,323	equivalent in 7.5 mins
Pump Capacity	gpm	440	
net volume rate into Pump Station	gpm	11,883	
New Pump Station Volume required	gal	8,809	
diameter	ft	10	
depth	ft	15	reference Alternative 2 Sanitary Sewer Discharge in 44238-003 TM
volume	cuft	1,178	
	gal	8,809	
time to empty a waste discharge cycle	mins	27	
Force Main Diameter to Pump Station A	inch	6.0	
	sq ft	0.196	
velocity	fps	5.00	
time to flush entirety of line	mins	6.67	
target pumping rate	cfs	0.98	
	gpm	440	
length of line	ft	2,000	
volume in line	cu ft	393	
	gals	2,936	for flush cycle volume with decant return water Calcs
friction loss	ft	68.10	
No. of Pumps	#	2	
pump type	-	submersible screw centrifugal	
pump capacity	gpm	440	
time to empty the pump station after a wasting cycle	min	28.0	
TDH	ft	66	1.64 ft / 100 ft plus 2.0 SF
drive motor	BHP	11.6	
	HP	15.0	
total connected load	HP	30.0	
Chemical Handling Facility			
Chemical Feed Pumps - Fluoride			
Chemical Used	-	23% Fluorosilic Acid	SG = 1.2 @ 20 degrees C
Density of Solution	lbs/gal	10.01	
Chemical delivered per gallon	lbs	2.30	
Dosage	mg/l	0.5	
WTP Permitted Capacity	mgd	9.3	
Chemical Usage per Day	ppd	38.8	
	gpd	16.8	
No. of Pumps	#	2	
type of pump	-	diaphragm metering	micrometer stroke control
Capacity	gph	1.5	0.7

NM Winson WTP
Proposed Design Criteria Summary

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
drive motor	HP	0.25	
Fluoride Supply Line Sizing			
Capacity	gpm	0.025	
	cfs	0.000	
carrier pipe size	in	0.50	
	sq ft	0.001363	
	fps	0.041	ok
Bulk Storage Tank - Fluoride			
no. of tanks	-	1	
material of construction	-	FRP	
bulk storage required	days	30	
volume required	gals	505	
proposed tank capacity	gals	750	
proposed tank dimensions			
diameter	ft	5.0	Belding Tank Technologies
sidewall height	ft	5.0	Top / Bottom Dished. Total height with legs =8.2 feet
capacity	gals	780	
Day Tank - Fluoride			
no. of tanks	-	1	
material of construction	-	FRP	
bulk storage required	days	1	
volume required	gals	17	
proposed tank capacity	gals	75	
proposed tank dimensions			
diameter	ft	3.0	Belding Tank Technologies
sidewall height	ft	1.5	Top / Bottom Dished. Total height with legs =4.0 feet
capacity	gals	75	
Chemical Transfer Pumps - Fluoride			
No. of Pumps	#	2	
type of pump	-	magnetic drive	constant speed
Transfer time	min	7.5	
Capacity	gpm	10.0	
drive motor	HP	0.125	
Containment Area - Fluoride			
net volume	gal	#REF!	see Calcs in worksheet at end
Chemical Feed Pumps - Ammonia			
Chemical Used	-	29.4% Ammonium Hydroxide	SG = 0.8974 @ 20 degrees C
Density of Solution	lbs/gal	7.48	
Chemical delivered per gallon	lbs/gal	2.20	
Dosage	mg/l	0.75	
WTP Permitted Capacity	mgd	9.3	
Chemical Usage per Day	ppd	58.2	
	gpd	26.4	
No. of Pumps	#	2	
type of pump	-	diaphragm metering	micrometer stroke control
Capacity	gph	2.0	1.1
drive motor	HP	0.25	
Ammonia Supply Line Sizing			
Capacity	gpm	0.033	
	cfs	0.000	
carrier pipe size	in	0.50	
	sq ft	0.001363	
	fps	0.1	ok
Bulk Storage Tank - Ammonia			
no. of tanks	-	1	
material of construction	-	Carbon Steel	
bulk storage required	days	30	
volume required	gals	793	
proposed tank capacity	gals	1,000	
proposed tank dimensions			
diameter	ft	6.0	Belding Tank Technologies
sidewall height	ft	4.5	Top / Bottom Dished. Total height with legs =8 feet
Capacity	gals	1,066	
Containment Area - Ammonia			
net volume	gal	#REF!	see Calcs in worksheet at end
Chemical Feed Pumps - Anti-Coagulant			TBD
Chemical Used	-	CARUS - Poly Pro 4941-275	

NM Winson WTP
Proposed Design Criteria Summary

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
Density of Solution	lbs/gal	8.70	
Chemical delivered per gallon	lbs	8.70	
Dosage	mg/l	250	
WTP Permitted Capacity	gpd	37,600	
Chemical Usage per Day	ppd	78	
	gpd	9.0	
No. of Pumps	#	2	
Capacity	gph	1.0	
drive motor	HP	0.25	
Bulk Storage - Anti-Coagulant (Totes)			TBD
no. of tanks	-	1	
material of construction	-	Tote (HDPE)	
bulk storage required	days	30	
volume required	gals	270	
proposed tank capacity	gals	275	
proposed tank dimensions			Tote: 48"x40"x48"
diameter	ft	N/A	
sidewall height	ft	N/A	
Chemical Feed Pumps - Coagulant Aid			
Chemical Used	-	WhisperFloc	17 lbs of whisper floc per 300 gal of water
Density of Solution	lbs/gal	8.34	
Chemical delivered per gallon	lbs / gal	0.057	
Dosage	mg/l	0.26	
WTP Permitted Capacity	mgd	9.3	
Chemical Usage per Day	ppd	20.2	
	gpd	355.9	
No. of Pumps	#	2	
Capacity	gph	20.0	14.8
drive motor	HP	0.25	
Bulk Storage Tank - Coagulant Aid		N/A	dry polymer based
Hypochlorite Facility			
Chemical Feed Pumps - Hypochlorite - Pre Chlorination			
Chemical Used	-	12.5% NaOCl	City currently uses hypochlorite at this delivery concentration.
Density of Solution	lbs/gal	9.70	Hence, dilution of hypochlorite is not needed.
Chemical delivered per gallon	lbs	1.00	Reduced to 1.0 lb of Cl2 per gallon based on degradation over 7 days
Dosage	mg/l	4.00	Pre Chlorination - see Chem Usage Worksheet
WTP Permitted Capacity	mgd	9.3	
Chemical Usage per Day	ppd	310.2	
	gpd	310.2	
No. of Pumps	#	2	
Capacity	gph	15.0	12.9
drive motor	HP	0.25	
NaOCl Supply Line Sizing - (Pre)			
Capacity	gpm	0.250	
	cfs	0.001	
carrier pipe size	in	0.50	
	sq ft	0.001363	
	fps	0.4	ok
Chemical Feed Pumps - Hypochlorite - Post Chlorination			
Chemical Used	-	12.5% NaOCl	City currently uses hypochlorite at this delivery concentration.
Density of Solution	lbs/gal	9.70	Hence, dilution of hypochlorite is not needed.
Chemical delivered per gallon	lbs	1.00	Reduced to 1.0 lb of Cl2 per gallon based on degradation over 7 days
Dosage	mg/l	4.00	Post Chlorination - see Chem Usage Worksheet
WTP Permitted Capacity	mgd	9.3	
Chemical Usage per Day	ppd	310.2	
	gpd	310.2	
No. of Pump Skids	#	2	
No. of Pumps per skid	#	2	1 duty + 1 in service (per skid)
Capacity	gph	15.0	12.9
drive motor	HP	0.25	
NaOCl Supply Line Sizing - (Post)			
Capacity	gpm	0.250	
	cfs	0.001	
carrier pipe size	in	0.50	
	sq ft	0.001363	

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS
	fps	0.4	ok
Bulk Storage Tank - Hypochlorite			
no. of tanks	-	2	1 duty + 1 in service
material of construction	-	FRP	Note: day tank not required by MD Dept. of Health (per meeting with Paul Andre)
Capacity			
bulk storage required	days	15	assume a 15 day reorder cycle to avoid excessive degradation
volume required (based on usage)	gals	9,307	
Hypochlorite Tanker Delivery Size	gals	5,100	Per discussion with Odyssey Manufacturing
Minimum Tank Volume (w/ 1 tank out of service)	gals	7,650	Based on compliance with 10 States Stds 5.1.9.a.4 (1.5 times truck)
Nominal tank capacity	gals	8,000	
proposed tank dimensions			Current tanks are 2000 gal (2)
proposed tank type	-	Flat bottom, dome top	
diameter	ft	10'-0"	
sidewall height	ft	14'-0"	
overall height with dome included	ft	15'-8"	
Actual tank capacity	gals	8,222	
Hypochlorite Recirculation / Transfer Pump			Same pump would be used for transfer and recirculation.
Chemical Used	-	12.5% NaOCl	
Density of Solution	lbs/gal	9.70	
Specific Gravity	--	1.2	
No. of Pumps	#	1	
Pump Type			
Preliminary Size of Pump Based on Recirculation			Recirculation would be used for mixing after transfer of content of
Volume to Recirculate	gals	24,665	one tank to the other. This ensures mixing to obtain a uniform
Recirculation Time	min	200	concentration. Recirculation would also be used if the City decided
	hrs	3.33	
Capacity	gpm	123	to dilute in the future. Assume 3 full tank volumes for mixing.
Preliminary Size of Pump Based on Transfer			
Volume to Transfer	gals	4,000	Assume 50% of one tank
Transfer Time	min	35	
Capacity	gpm	120	Rounded up to the nearest 10 gpm
Design Basis			
Manufacturer	--	Iwaki	
Model No.	--	MX-F403	
Capacity	gpm	120	
Total Dynamic Head	feet	23	
Nominal Motor Speed	rpm	3,500	
Motor Horsepower	HP	5.0	
Piping Sizing			
Truck Unloading			
Time to unload 5,500 gallon hypochlorite delivery truck	min	60	
Truck pumping flow rate	gpm	92	
Truck pumping flow rate	cfs	0.204	
Line Capacity Required	cfs	0.204	
Target Line Velocity	fps	5.0	
Calculated Line Diameter Required	in	2.7	
Proposed Nominal Diameter (sch 80 steel)	in	3	The largest PVC quick coupling available is 2" diameter
Proposed Actual Inside Diameter (sch 80 steel)	in	3.068	
Proposed Line Velocity	fps	4.0	OKAY
Recirculation / Transfer			
Transfer pump flow rate	gpm	120	
Truck pumping flow rate	cfs	0.267	
Line Capacity Required	cfs	0.267	
Target Line Velocity	fps	5.0	
Calculated Line Diameter Required	in	3.1	
Proposed Nominal Diameter (sch 80 steel)	in	3	The largest PVC quick coupling available is 2" diameter
Proposed Actual Inside Diameter (sch 80 steel)	in	3.068	
Proposed Line Velocity	fps	5.2	OKAY
Containment Area - Sodium Hypochlorite			
net volume	gal	9,500	

NM Winson WTP
Proposed Design Criteria Summary

DESCRIPTION	UNITS	PROPOSED WTP REHAB	COMMENTS

Exhibit 11

Record Drawings for the

Winson Water Treatment Plant

These drawings are provided for informational purposes only.

CITY OF

NORTH MIAMI, FLORIDA.

PROJECT Nº. 1203

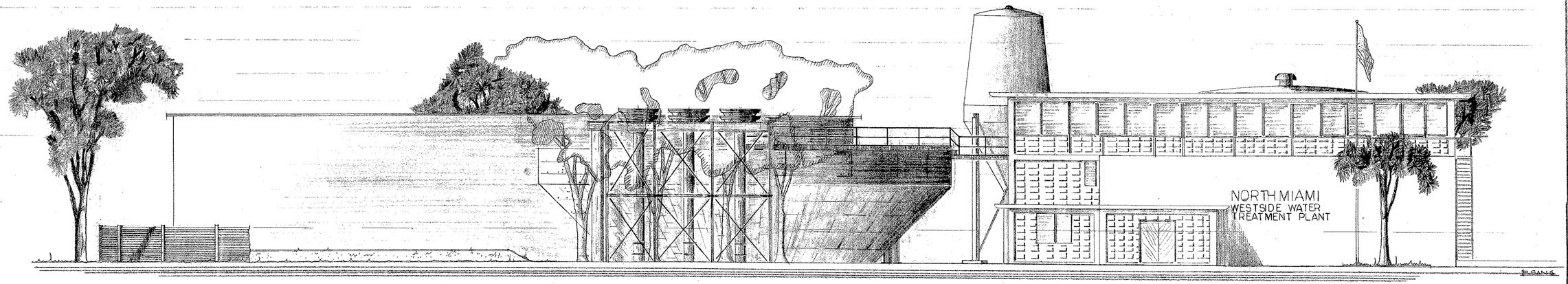
H. AND H.F.A. PROJECT Nº. APW-FLA-30G.

WEST SIDE WATER TREATMENT PLANT

COUNCILMEN
JAMES G MILLER MAYOR
LEONARD KIMBALL VICE-MAYOR
JOHN B. BOUDROT
EDMUND G. VISCHI
CHARLES KINZEL

PREPARED BY
INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

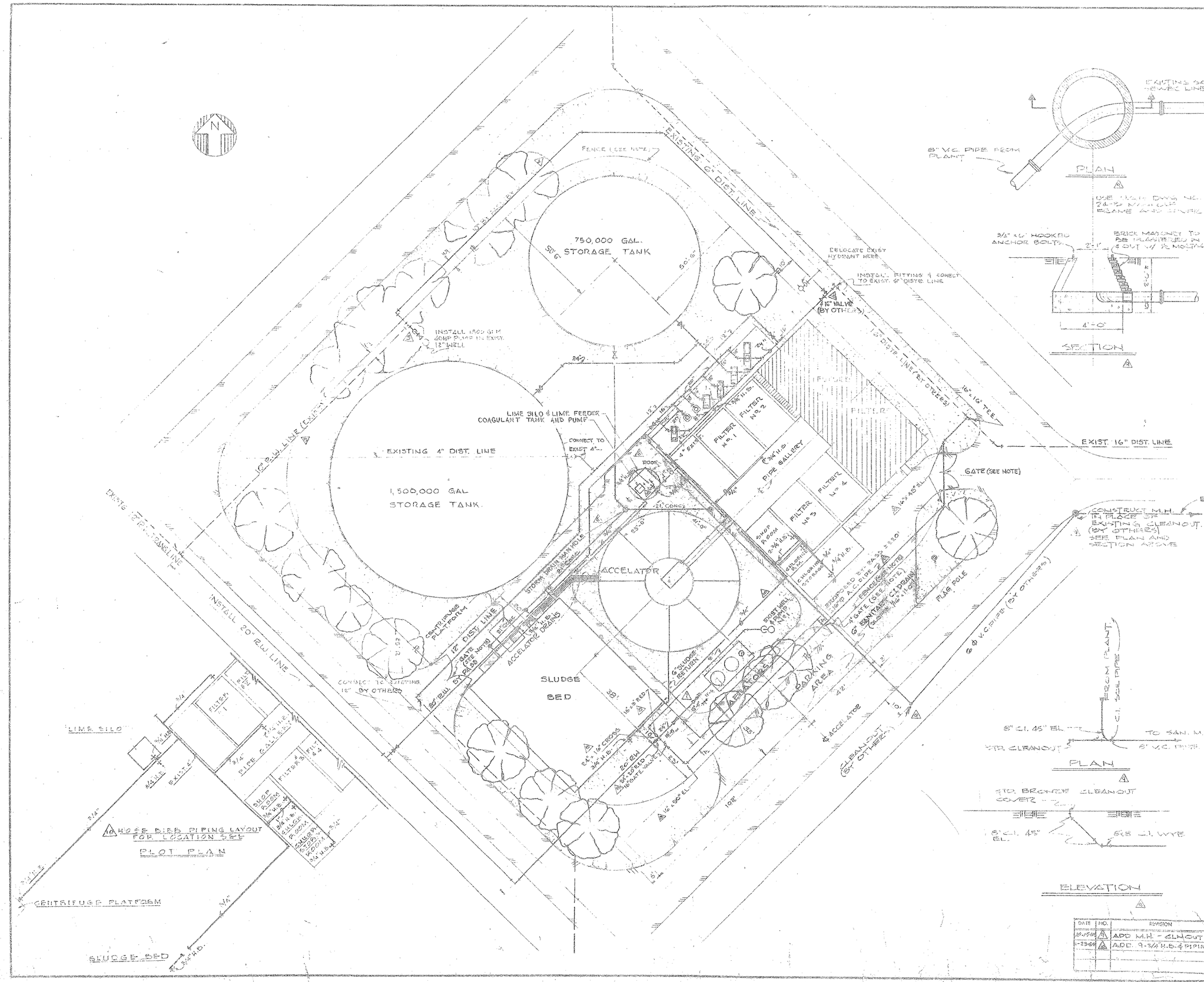
WOODWARD M. HAMPTON, CITY MANAGER
E. MAY AVIL, CITY CLERK
DONOVAN W. JONES
DIRECTOR, DEPARTAMENT OF WATER & SEWERS



SOUTH EAST ELEVATION

NORTH MIAMI
WEST SIDE WATER TREATMENT PLANT

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS.
NORTH MIAMI. FLORIDA.



INDEX OF SHEETS

COVER SHEET
1. PLOT PLAN
2. PLOT PLAN - EXISTING FACILITIES TO BE REMOVED
3. LIME SILO AND ABRATOR
4. FILTER, C. EAR WE... & DRYWELL ROOM ELEVATIONS
5. ARCHITECTURAL PLAN & SECTION
6. STRUCTURAL DETAILS
7. STRUCTURAL DETAILS
8. STRUCTURAL DETAILS
9. BEAM & COLUMN SCHEDULE
10. STRUCTURAL DETAILS
11. STRUCTURAL DETAILS
12. PUMP ROOM
13. PLANT PIPING FLOW DIAGRAM
14. PLANT PIPING DETAIL
15. PLANT PIPING DETAIL
16. PLANT PIPING DETAIL
17. PLANT PIPING DETAIL
18. SLUDGE DRYING BED, ACCELATOR BASE, CLEAR WELL SUMP
19. GROUND STORAGE TANK
20. ELECTRICAL - LIGHTING & POWER CONDUIT - DIAGRAM
21. ELECTRICAL - OUTSIDE LIGHTING, WELL PUMP CONTROL CABLE,
22. ELECTRICAL - SINGLE LINE POWER DIAGRAM
23. ELECTRICAL - PLANT & WELL CONTROL DIAGRAM
24. ELECTRICAL - SERVICE PUMP CENTRIFUGE CONTROL
25. ELECTRICAL - CONTROL CONSOLE LAYOUT
26. NEW WELL FIELD & TRANSMISSION FACILITIES
27. CENTRIFUGAL FILTER & ACCELATOR WALKWAY

NOTE:
A LOUVERED CONCRETE FENCE TO BE CONSTRUCTED AT LOCATIONS SHOWN. GATES TO BE WOVEN WIRE WITH GALVANIZED STEEL POSTS, CYCLONE OR EQUAL.

HHFA PROJECT NO. APW FLA 30-6

DATE	No.	REVISION	CHK'D
1-2-63	1	CHANGE LOCATION - LIME SILO	R.T.C.
3-4-63	2	GENERAL REVISIONS	A.S.H.
3-15-63	3	10" R.W. LINE (BY OTHERS) TO (EXIST)	W.H.B.
4-15-63	4	10" BY PASS (BY OTHERS)	W.R.C.
4-16-63	5	REVISE LAYOUT OF FITTINGS	W.H.B.
4-18-63	6	CHANGE LOCATION - LIME SILO & COAGULANT TANK AND PUMP	C.D.M.
4-18-63	7	ADDITION OF A 24"x20" TEE	C.D.M.
9-30-63	8	ADD. OF PROPOSED BY-PASS 16"Φ	

DATE	NO.	REVISION	BY
10-15-63	9	ADD M.H. - CLNOUT	A.S.H.
1-23-64	10	ADD. 9-3/4" H.B. & PIPING	S.D.

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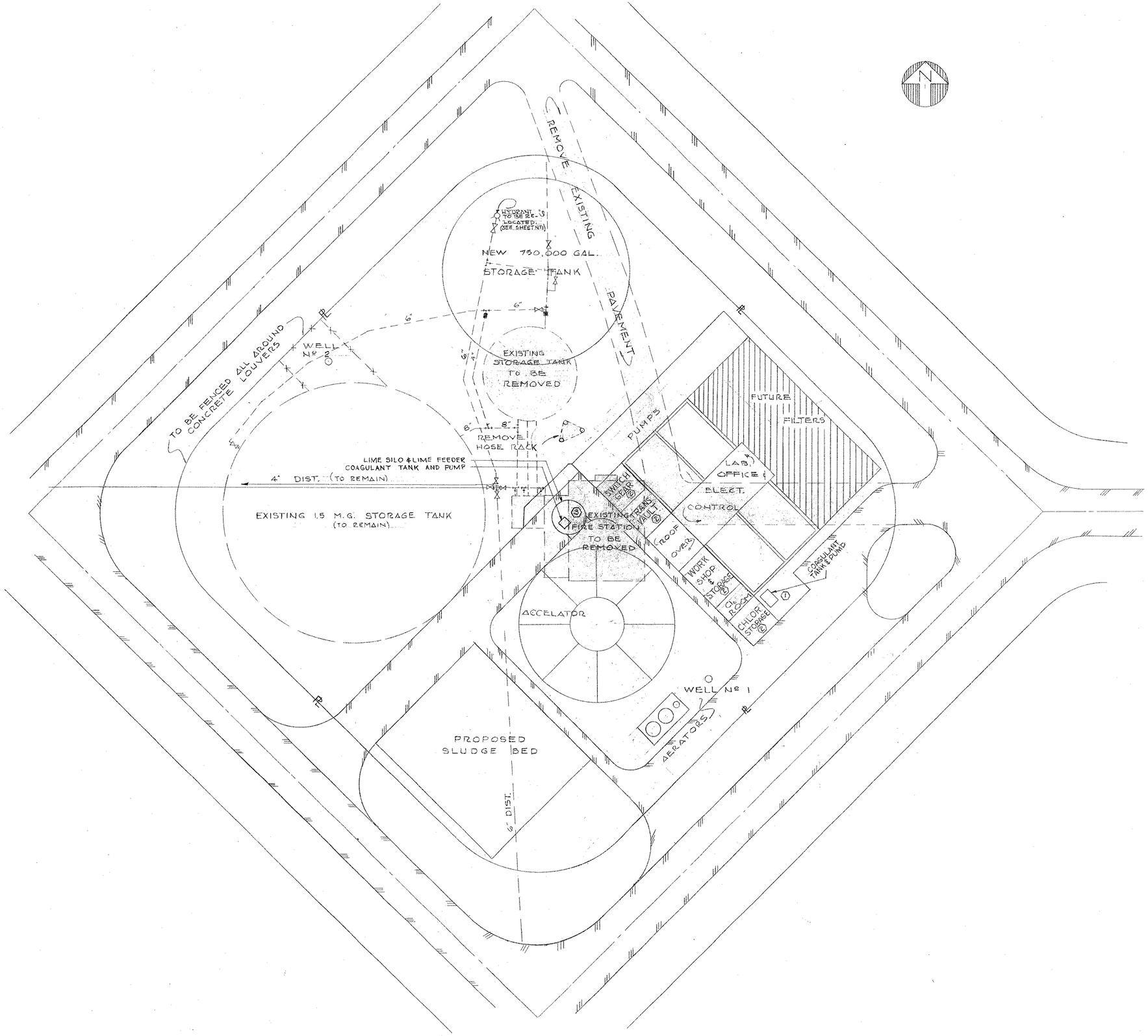
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
PLOT PLAN
AND OUTSIDE PIPING

DRAWN BY: A.S.H.
CHECKED BY:
DATE: DEC. 1962
SCALE: 1" = 20'
PROJECT NO. 1203
SHEET 1 OF 27
DRAWING No. D1203-1



HHFA PROJECT NO. APW FLA 30-G

DATE	No.	REVISION	CHK'D
1-3-63	1	CHANGE LOCATION - LIME SILO	R.T.C.
1-3-63	2	CORRECT NAMES - SERVICE ROOMS	R.T.C.
4-18-63	3	CHANGE LOCATION - LIME SILO & COAGULANT TANK AND PUMP	C.D.M.

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NORTH MIAMI, FLORIDA

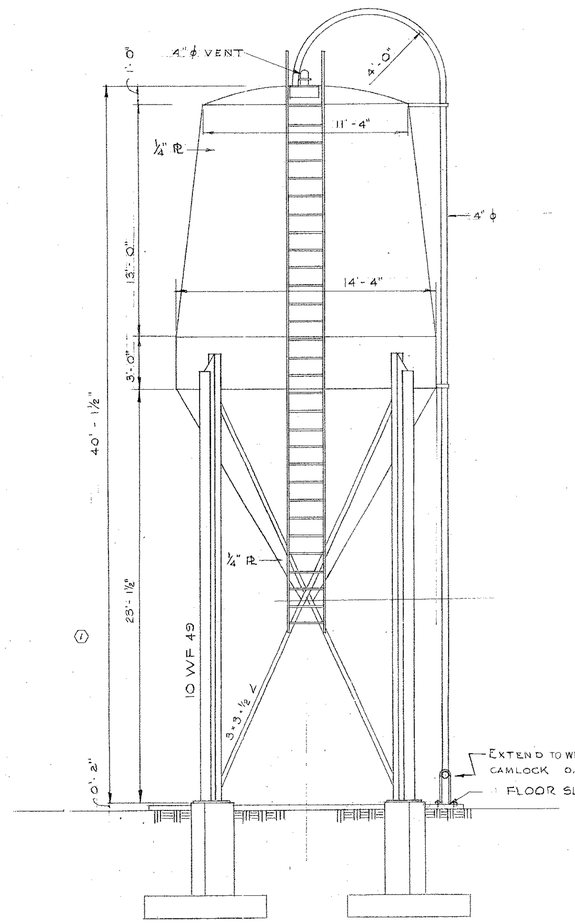
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
PLAN OF EXISTING FACILITIES
TO BE REMOVED

DRAWN BY: A. S. H.
CHECKED BY:
DATE: DEC. 1962
SCALE: 1" = 20'

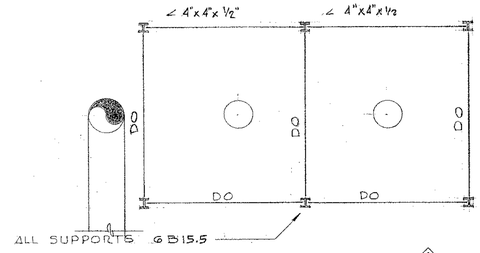
PROJECT NO. 1203

SHEET 2 OF 27
DRAWING NO. D1203-2



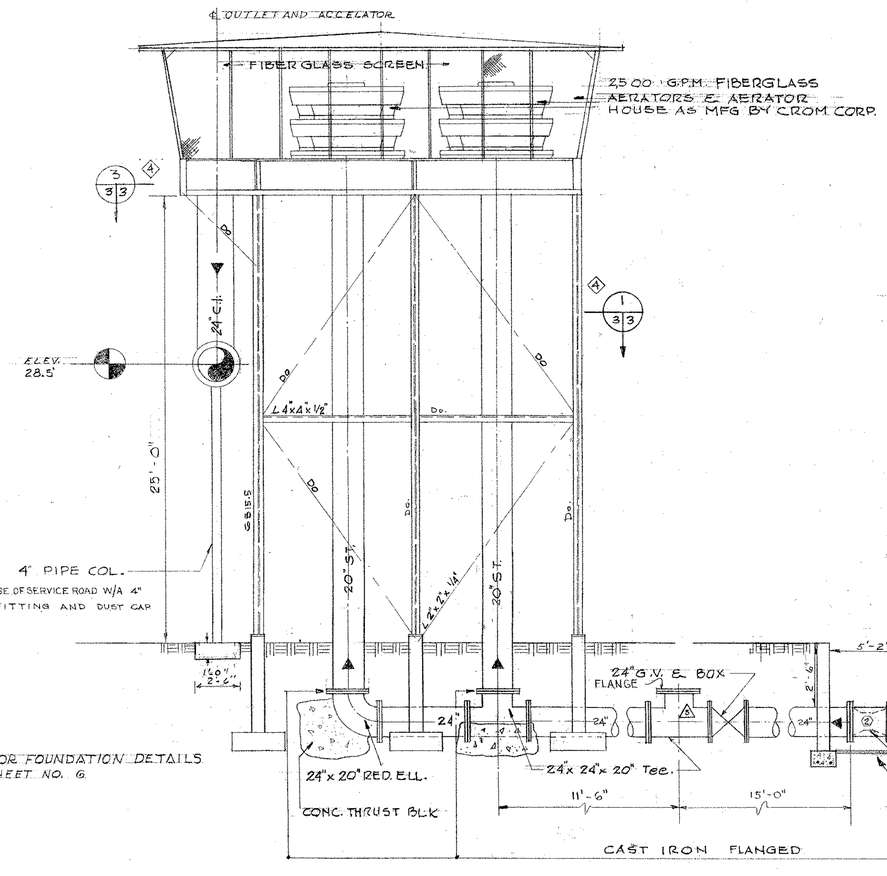
LIME SILO ELEVATION

SCALE 1/4" = 1'-0"



SECTION 1/3|3 (4)

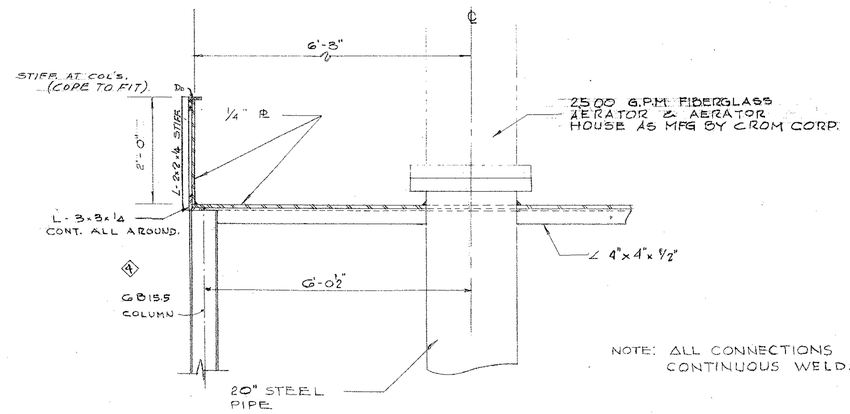
SCALE 1/4" = 1'-0"



NOTE: FOR FOUNDATION DETAILS SEE SHEET NO. 6

AERATOR ELEVATION

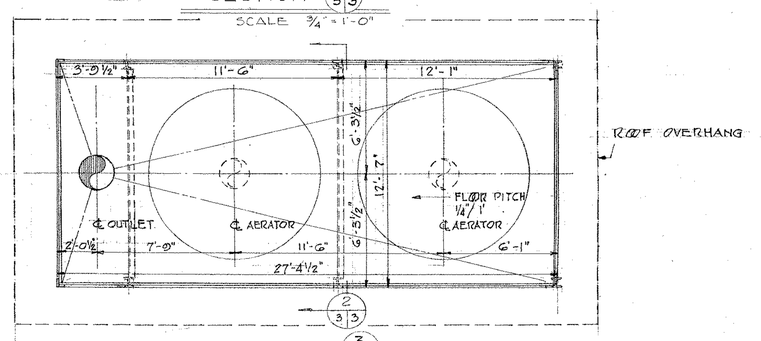
NOT TO SCALE



NOTE: ALL CONNECTIONS CONTINUOUS WELDS.

SECTION 2/3|3

SCALE 3/4" = 1'-0"



SECTION 3/3|3

SCALE 1/4" = 1'-0"

HHFA PROJECT NO. APW FLA 30-G

DATE	No.	REVISION	CHK'D
1-3-63	1	REVISE LIME SILO ELEVATION & CONNECTIONS	R.T.C.
1-14-63	2	CHANGE RAW WATER IN TAKE AND	R.T.C.
		DALL FLOW TUBE TO 24"	
3-2-63	3	GEN. AREATOR REV.	
3-13-63	4	AREATOR SUPPT. FRAMING.	J.J.G.
4-18-63	5	ADDITION OF A 24"x20" TEE	C.D.M.

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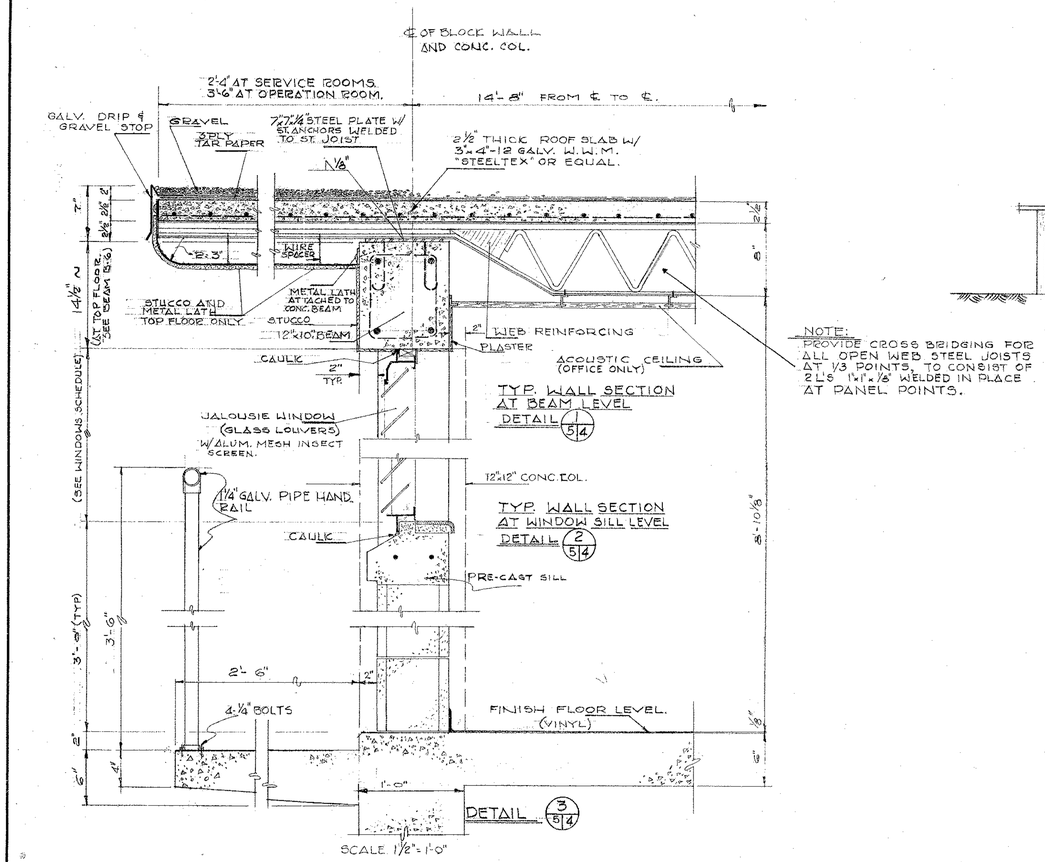
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

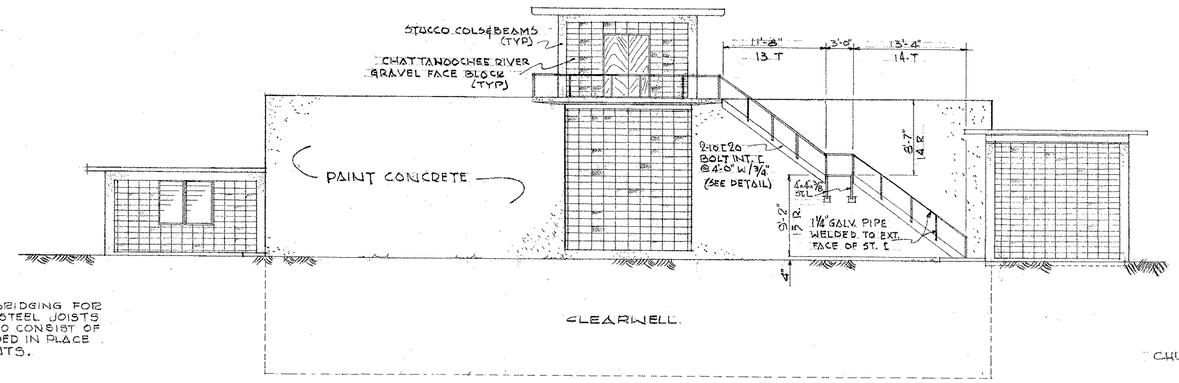
WEST SIDE WATER TREATMENT PLANT

LIME SILO & AERATORS

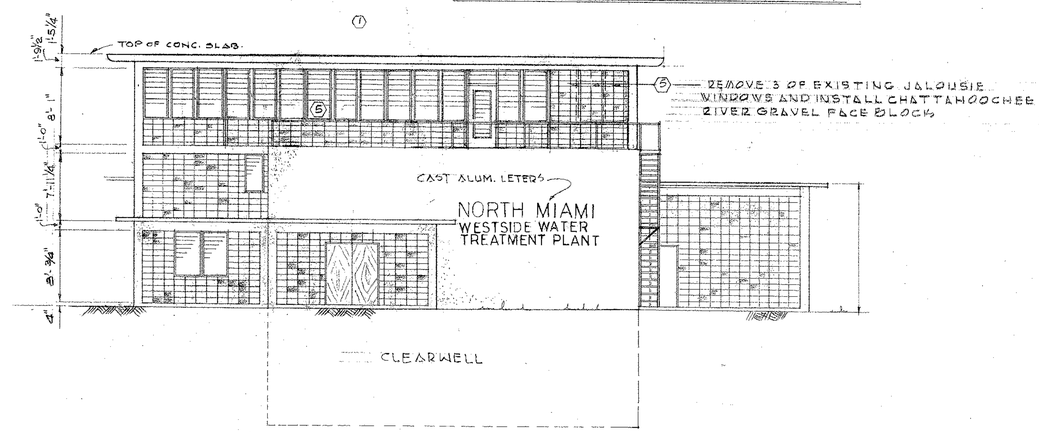
DRAWN BY: A.S.H.	PROJECT NO. 1203	SHEET 3 OF 27
CHECKED BY:		DRAWING NO. D1203-3
DATE: DEC. 1962		
SCALE: AS SHOWN		



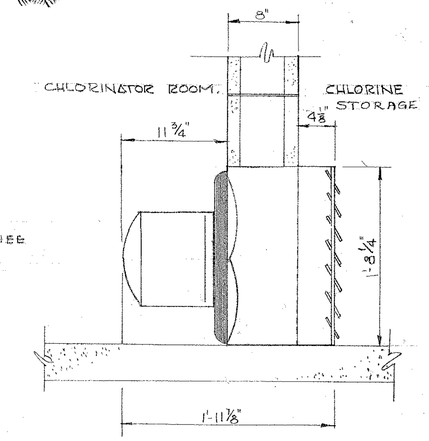
NOTE:
PROVIDE CROSS BRIDGING FOR ALL OPEN WEB STEEL JOISTS AT 1/3 POINTS, TO CONSIST OF 2 L'S 1"x1"x1/8" WELDED IN PLACE AT PANEL POINTS.



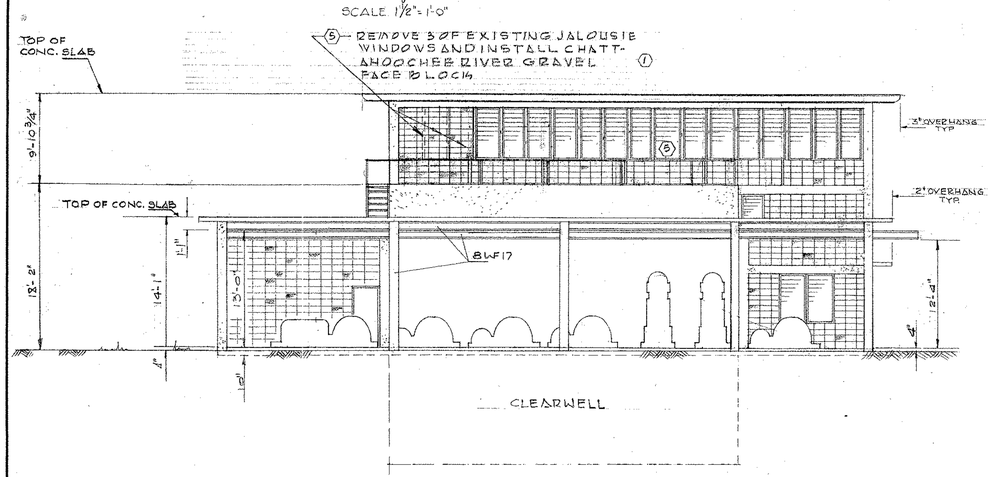
NORTH EAST ELEVATION



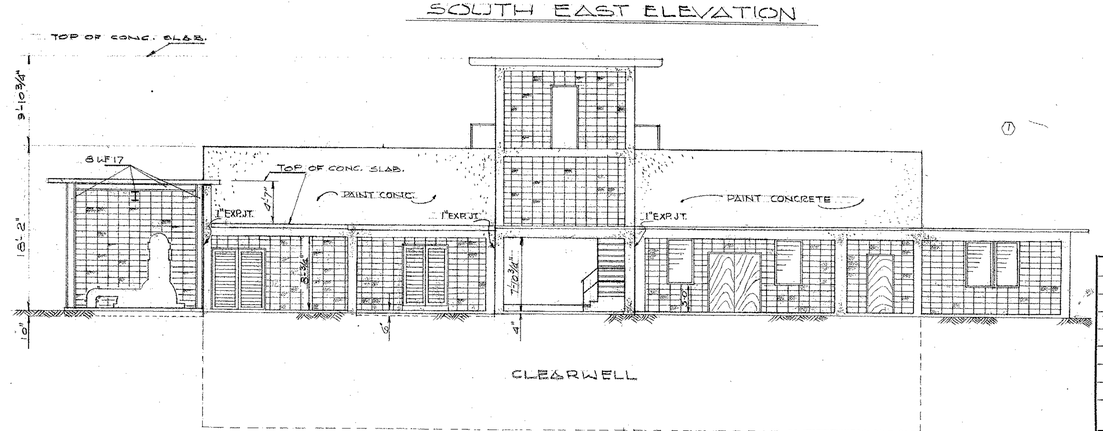
SOUTH EAST ELEVATION



EXHAUST FAN DETAIL 4/5/4
NEW YORK BLOWER CO.
MODEL E-14-H OR EQUAL
SCALE 1 1/2" = 1'-0"

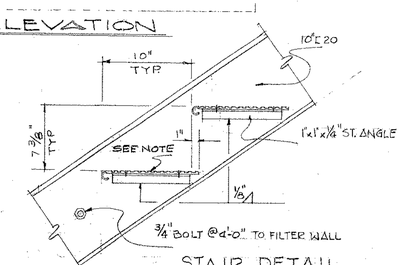


NORTH WEST ELEVATION



SOUTH WEST ELEVATION

NOTE:
TREAD OF DIAMOND ST. PLATE W/ 1" PLAIN NOSING AND NO RISER.



STAIR DETAIL
SCALE 1 1/2" = 1'-0"

HHFA PROJECT NO. APW FLA 30-G

DATE	No.	REVISION	CHK'D
1-3-63	1	DELETE LIME SILO	R.T.C.
1-3-63	2	DELETE DETAILS	R.T.C.
1-3-63	3	ADD DETAIL EXHAUST FAN	R.T.C.
3-4-63	4	GENERAL REVISION.	
3-17-64	5	REMOVE 3 JAL. WINDOWS & INSTALL BLK (DRAW IN JAL. AS-BUILT)	KKB

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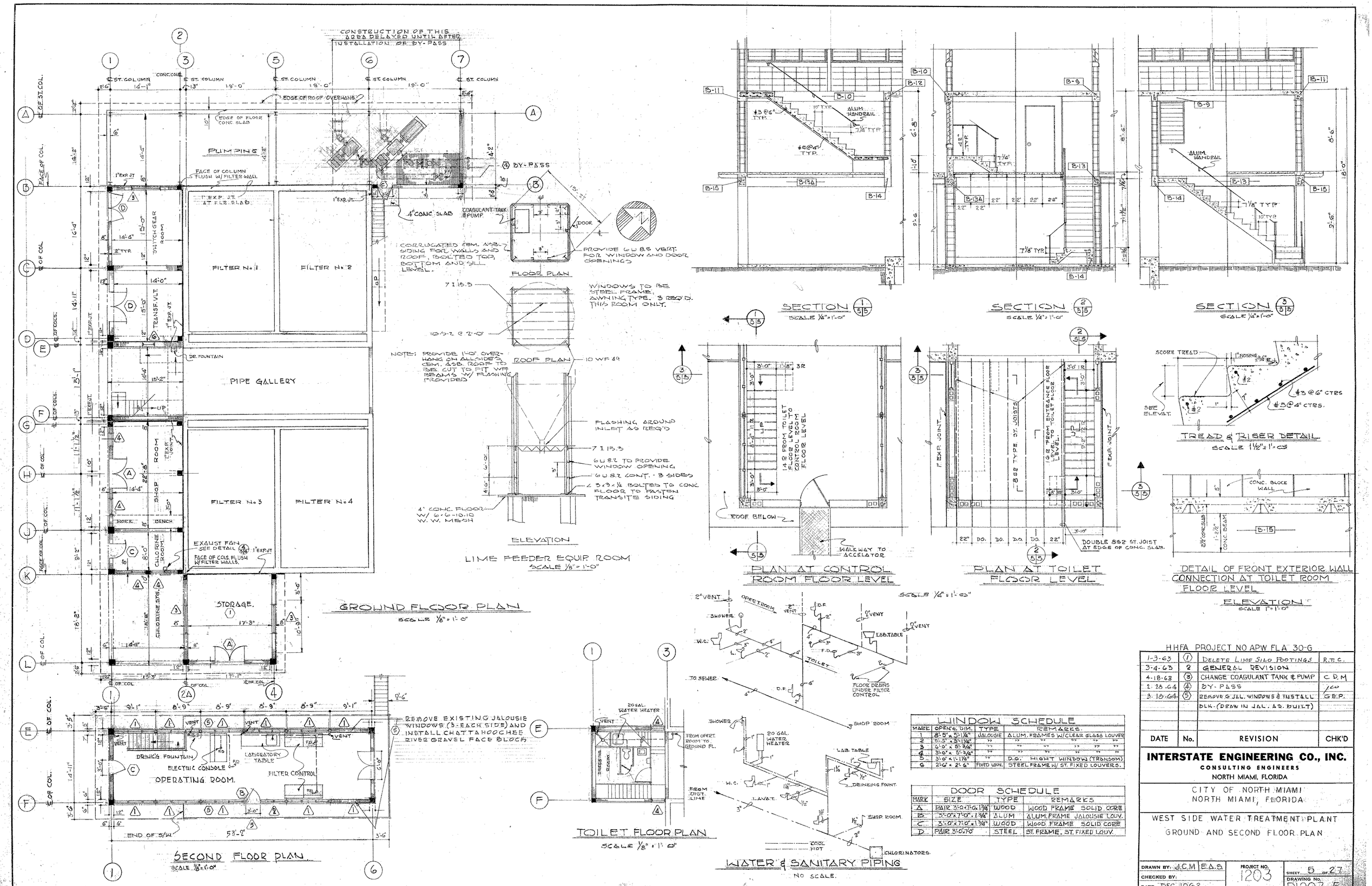
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
FILTER, CLEARWELL AND
OPERATING ROOM ELEVATIONS

DRAWN BY: EMIL A. SANS
CHECKED BY:
DATE: DEC. 1962
SCALE: AS SHOWN
PROJECT NO. 1203
SHEET 4 OF 27
DRAWING NO. D1203-4



HHFA PROJECT NO APW FLA 30-G

DATE	No.	REVISION	CHK'D
1-3-63	1	DELETE LIME SILO FOOTINGS	R.T.C.
3-4-63	2	GENERAL REVISION	
4-18-63	3	CHANGE COAGULANT TANK & PUMP	C.D.M
2-28-64	4	BY-PASS	
3-18-64	5	REMOVE & JAL. WINDOWS & INSTALL DL14 - (DRAW IN JAL. AS BUILT)	G.E.P.

WINDOW SCHEDULE

MARK	OPENG. DIM.	TYPE	REMARKS
1	8'-0" x 5'-1¼"	JALOUSIE	ALUM. FRAMES W/ CLEAR GLASS LOUVER
2	5'-3" x 5'-1¼"	"	" " " " "
3	6'-0" x 5'-3¼"	"	" " " " "
4	3'-0" x 5'-3¼"	"	" " " " "
5	3'-0" x 1'-1⅞"	"	D.O. HIGHT WINDOW (TRANSOM)
6	2'-6" x 2'-6"	FIXED LOUV.	STEEL FRAME W/ ST. FIXED LOUVERS.

DOOR SCHEDULE

MARK	SIZE	TYPE	REMARKS
A	PAIR 3'-0" x 7'-0" x 1¾"	WOOD	WOOD FRAME SOLID CORE
B	3'-0" x 7'-0" x 1¾"	ALUM	ALUM. FRAME JALOUSIE LOUV.
C	3'-0" x 7'-0" x 1¾"	WOOD	WOOD FRAME SOLID CORE
D	PAIR 3'-0" x 7'-0"	STEEL	ST. FRAME. ST. FIXED LOUV.

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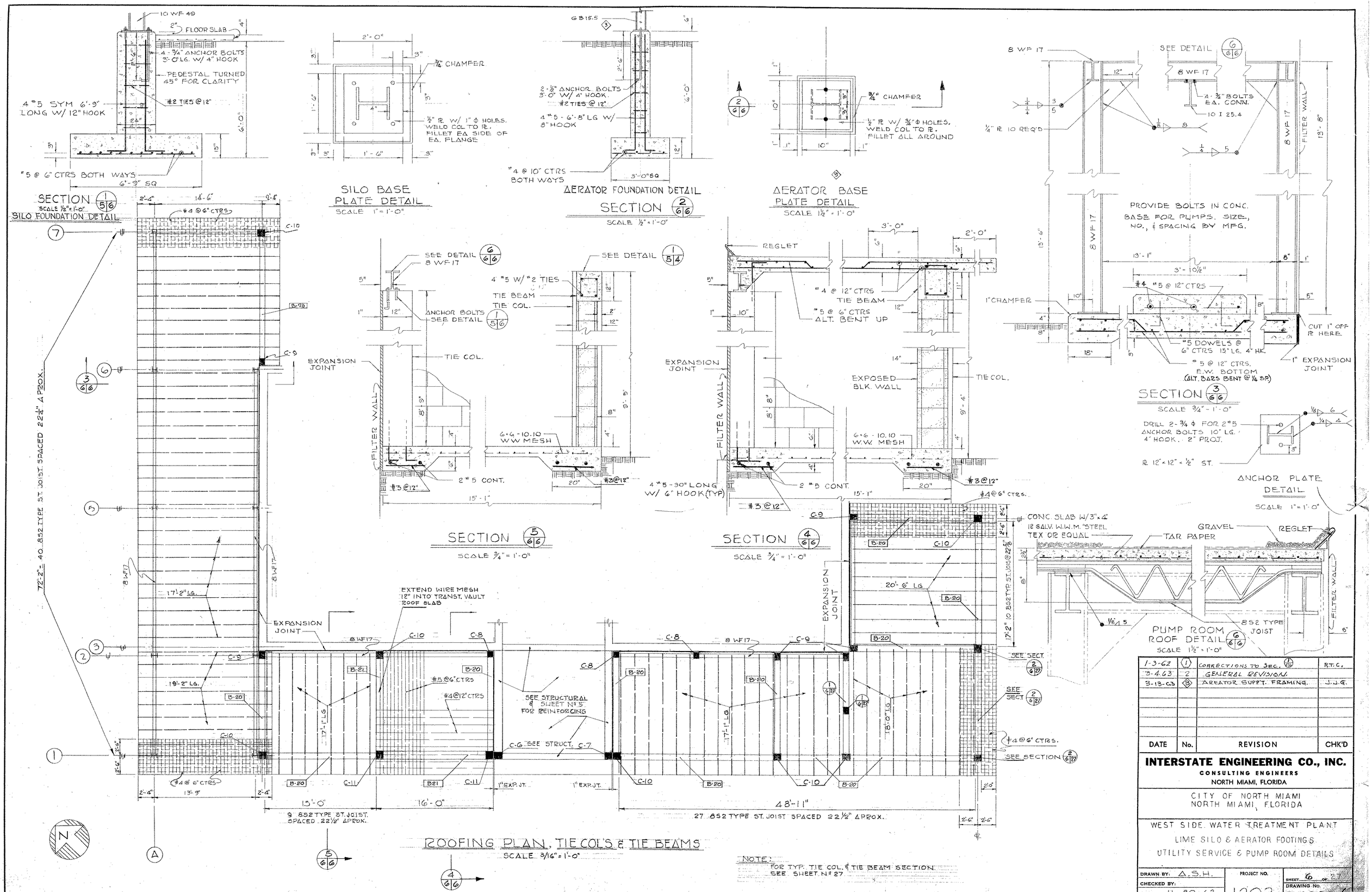
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
GROUND AND SECOND FLOOR PLAN

DRAWN BY: J.C.M | E.A.S.
CHECKED BY:
DATE: DEC. 1962
SCALE: AS SHOWN
PROJECT NO. 1203
SHEET 5 OF 27
DRAWING No. D1203-5



DATE	No.	REVISION	CHK'D
1-3-62	1	CORRECTIONS TO SEC. 1/5/6	R.T.C.
3-4-63	2	GENERAL REVISION.	
3-13-63	3	AREATOR SUPP'T. FRAMING.	J.J.G.

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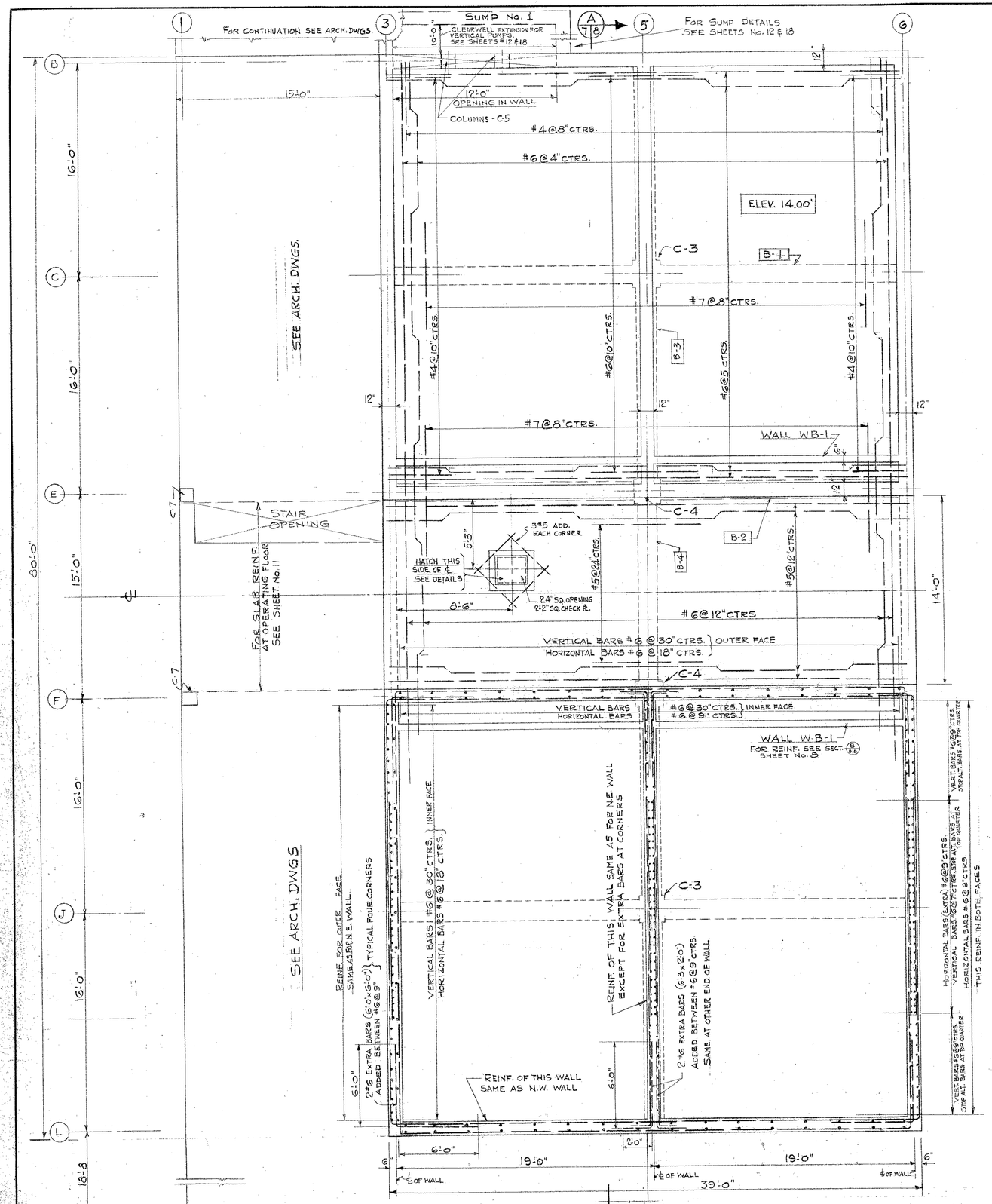
NORTH MIAMI, FLORIDA

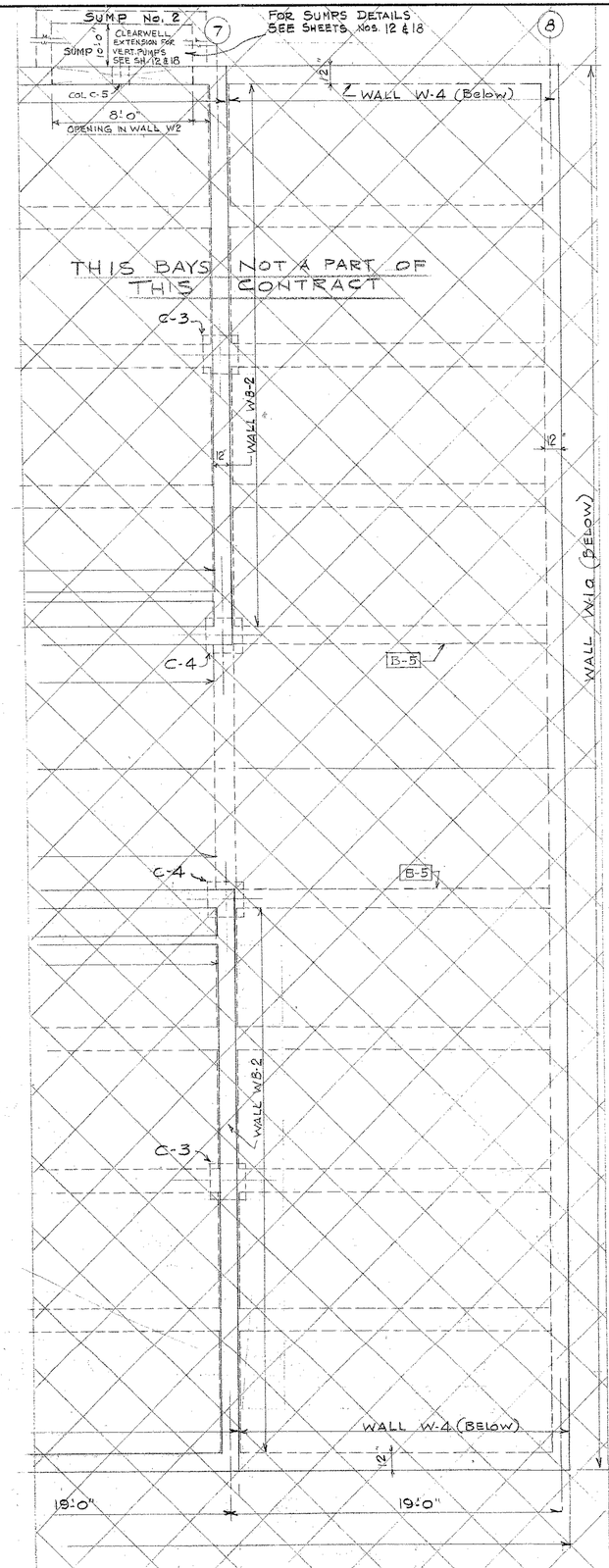
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

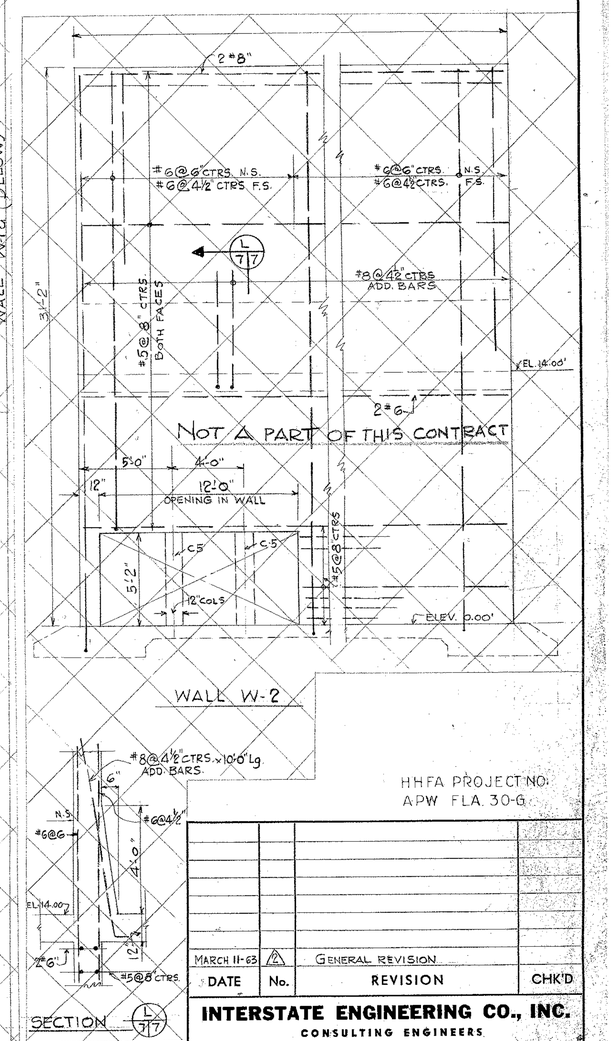
WEST SIDE WATER TREATMENT PLANT
LIME SILO & AERATOR FOOTINGS
UTILITY SERVICE & PUMP ROOM DETAILS

DRAWN BY: A.S.H.	PROJECT NO. 1203	SHEET 6 OF 27
CHECKED BY:		DRAWING No. D-1203-6
DATE: 11-30-62		
SCALE: AS SHOWN		



PLAN AT ELEV. 14.00'
(SHOWING WALLS & SLAB REINF.)





HHFA PROJECT NO.
APW FLA. 30-G

DATE	No.	REVISION	CHK'D
MARCH 11-63	2	GENERAL REVISION	

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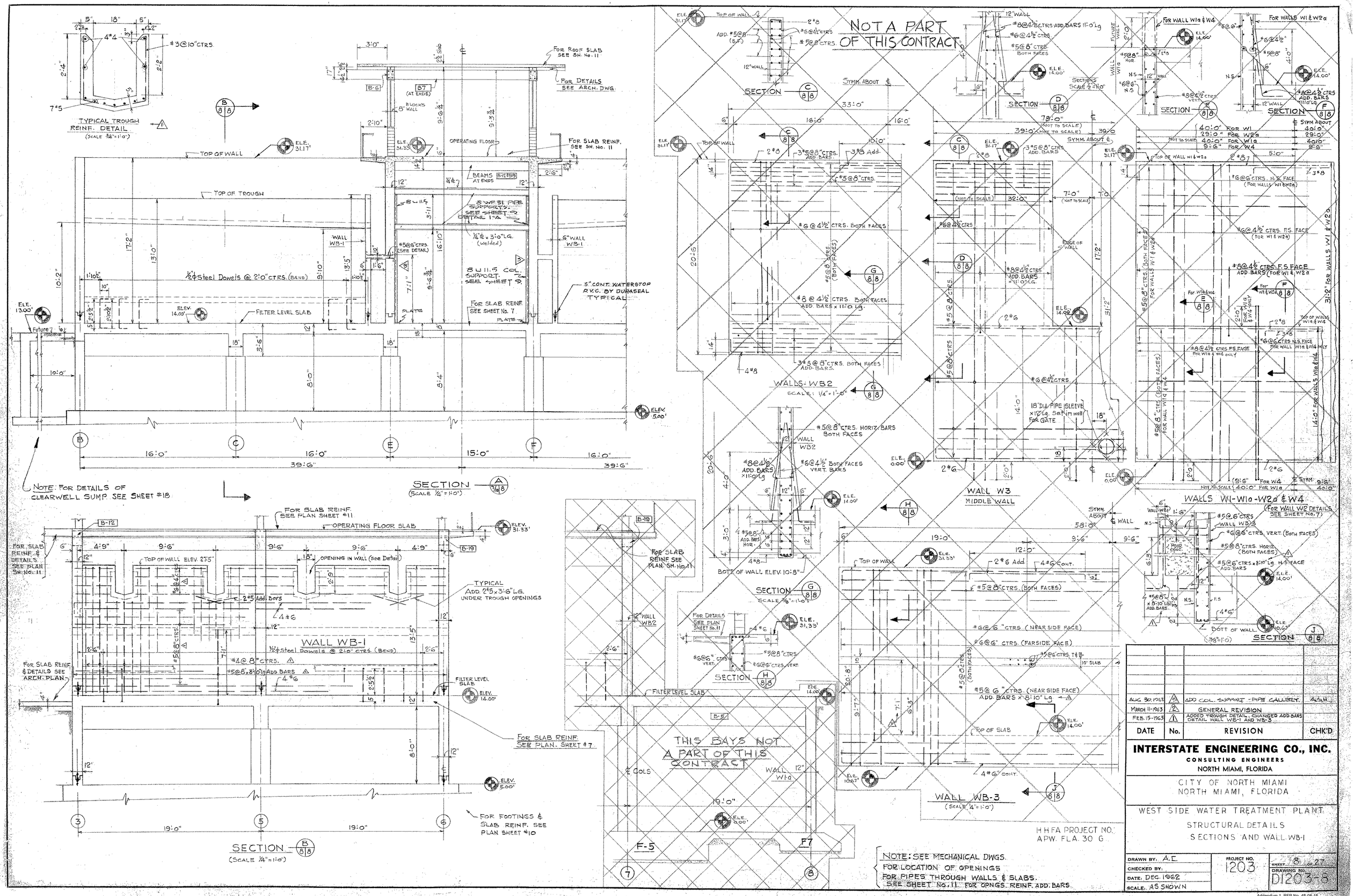
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT

STRUCTURAL DETAILS
GENERAL PLAN

DRAWN BY: A.E.	PROJECT NO. 1203	SHEET 7 OF 27
CHECKED BY:		DRAWING NO. D-1203-7
DATE: DEC. 1962		
SCALE: 1/4" = 1'-0"		



DATE	No.	REVISION	CHK'D
AUG. 30, 1963	3	ADD COL. SUPPORT - PIPE GALLERY	ASH
MARCH 11-1963	2	GENERAL REVISION	
FEB. 15-1963	1	ADDED TROUGH DETAIL, CHANGED ADD. BARS DETAIL WALL WB-1 AND WB-3	

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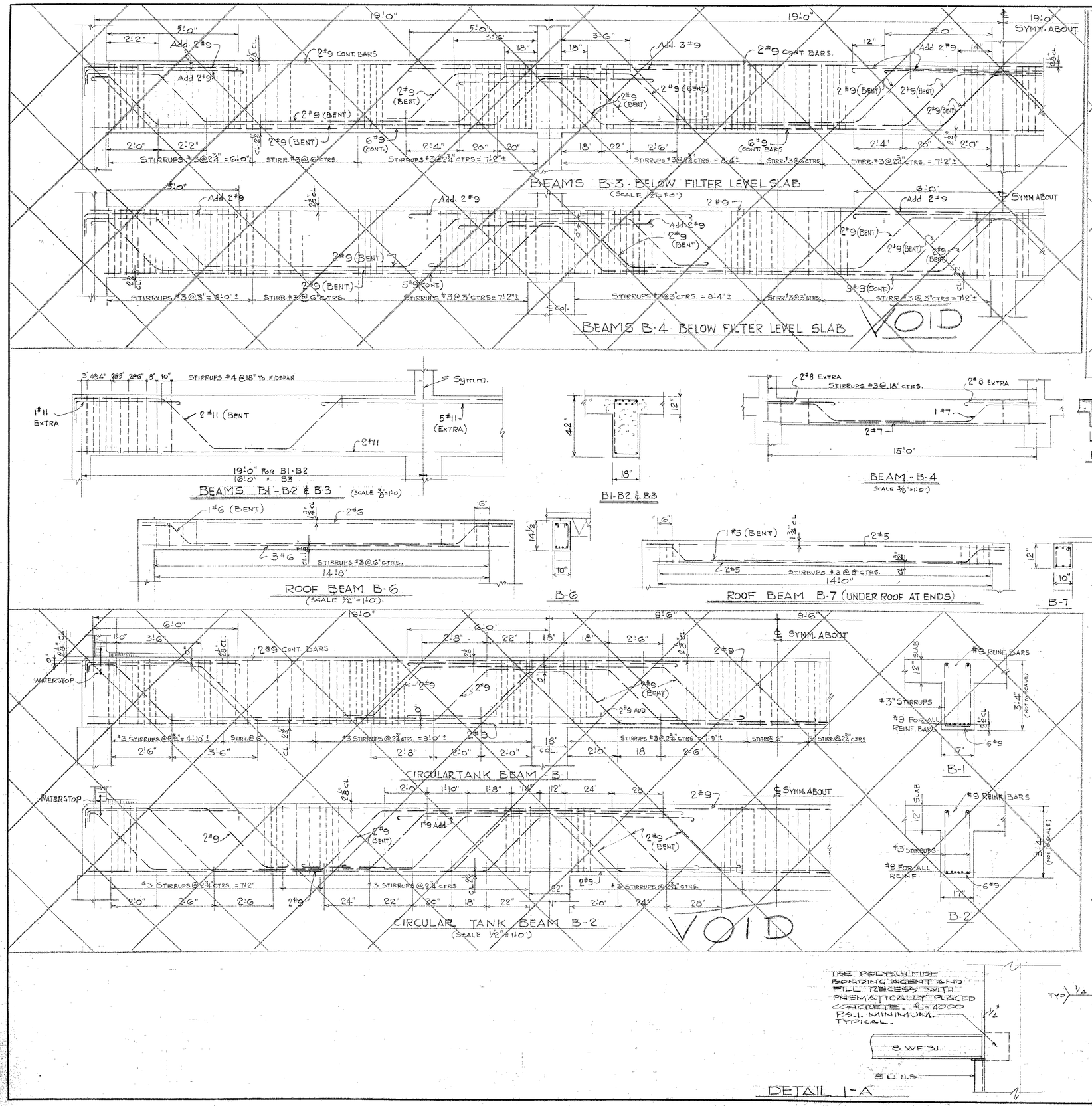
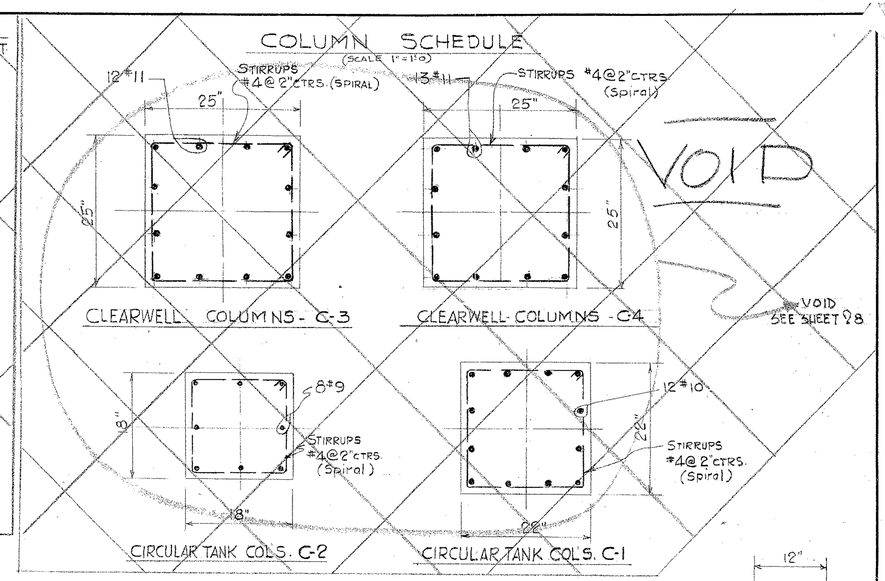
NORTH MIAMI, FLORIDA

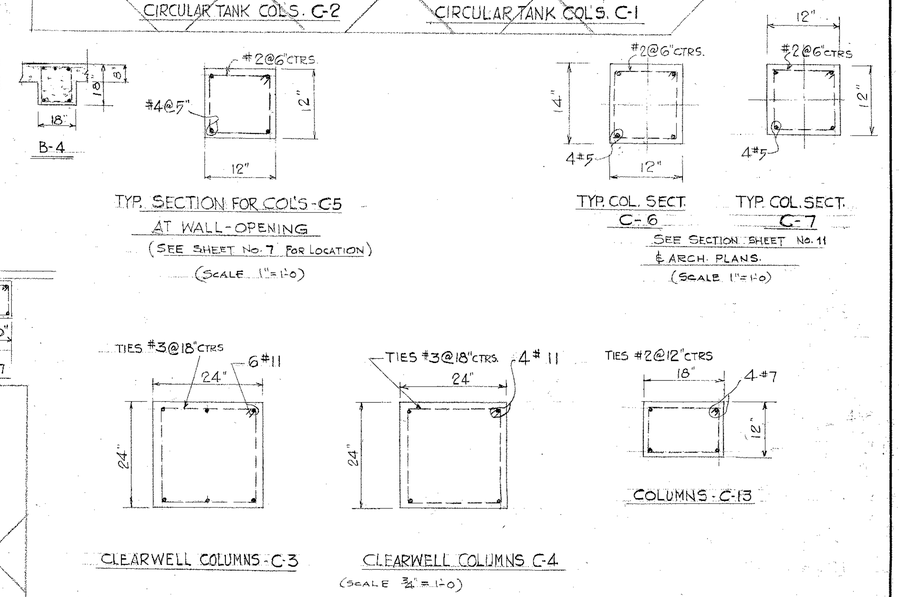
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

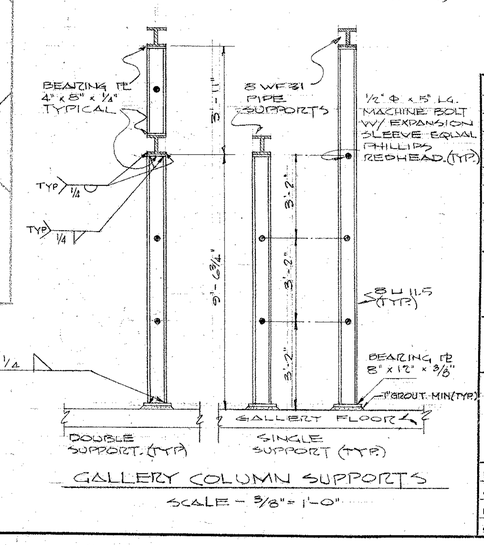
WEST SIDE WATER TREATMENT PLANT
STRUCTURAL DETAILS
SECTIONS AND WALL WB-1

DRAWN BY: A.E.
CHECKED BY:
DATE: DEC. 1962
SCALE: AS SHOWN
PROJECT NO. 1203
SHEET 8 OF 27
DRAWING NO. D1203-8









HHFA PROJECT NO.
APW FLA. 30 G

DATE	No.	REVISION	CHK'D
AUG. 20 63	3	ADD GALLERY COL. SUPPORTS	A.S.H.
MARCH 11-1963	2	GENERAL REVISION	
FEB-20-63	1	COLS-C1, C2, C3 & C4. SEE SHEET 28	

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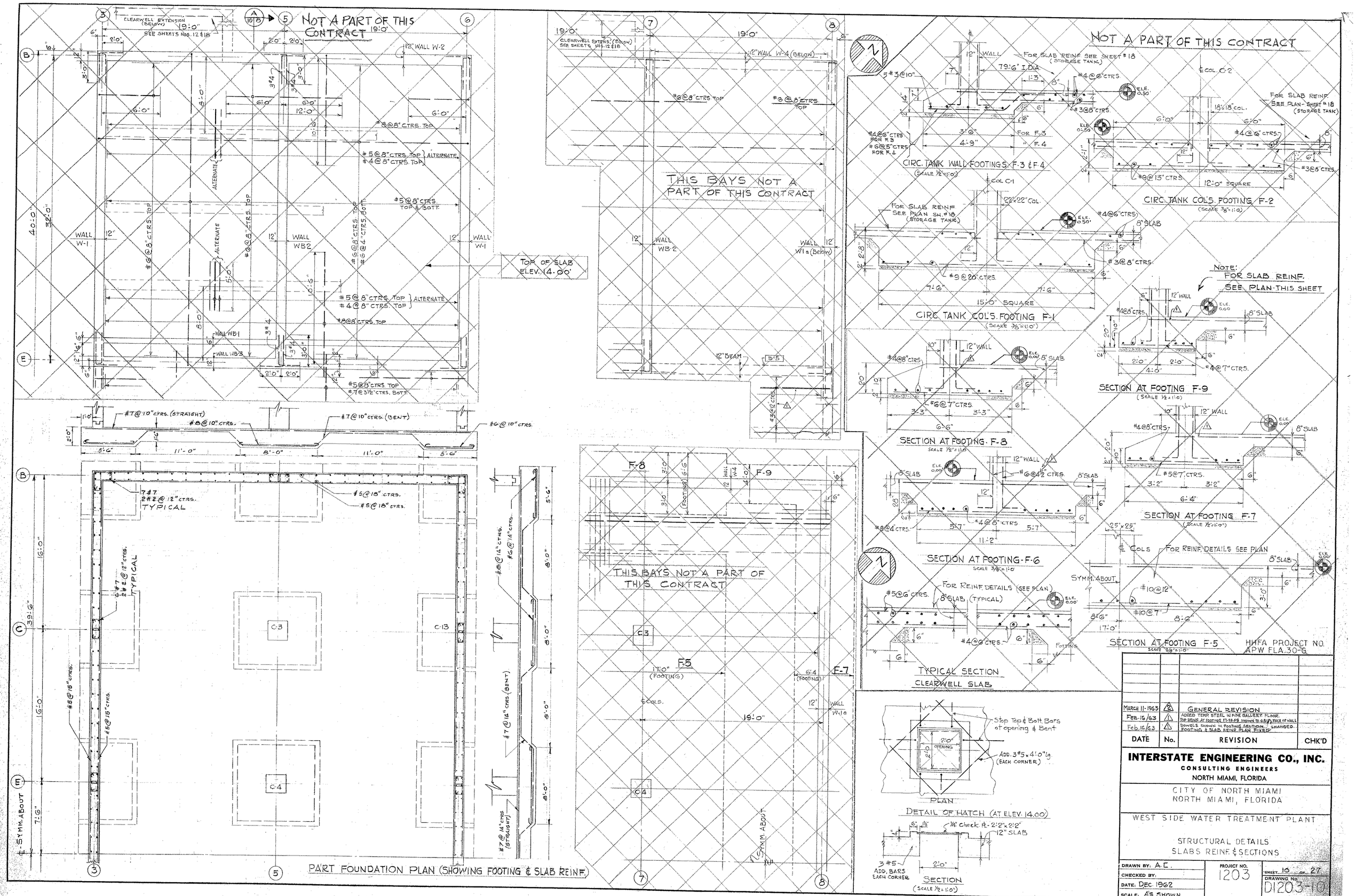
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
STRUCTURAL DETAILS
BEAMS, COLUMNS & SECTIONS

DRAWN BY: A.E.
CHECKED BY:
DATE: DEC. 1962
SCALE: AS SHOWN
PROJECT NO. 1203
SHEET 9 OF 27
DRAWING NO. D1203-9



HUFA PROJECT NO. APW FLA.30-G

DATE	No.	REVISION	CHK'D
MARCH 11-1963	2	GENERAL REVISION	
FEB.-16/63	1	ADDED TEMP. STEEL IN PIPE GALLERY FLOOR. TOP REINF. AT FOOTING F1-F4-F5 SHOWN TO 0.5" FROM FACE OF WALL	
Feb.16/63	1	DOWELS SHOWN IN FOOTING SECTION. CHANGED FOOTING & SLAB REINF. PLAN FIXED.	

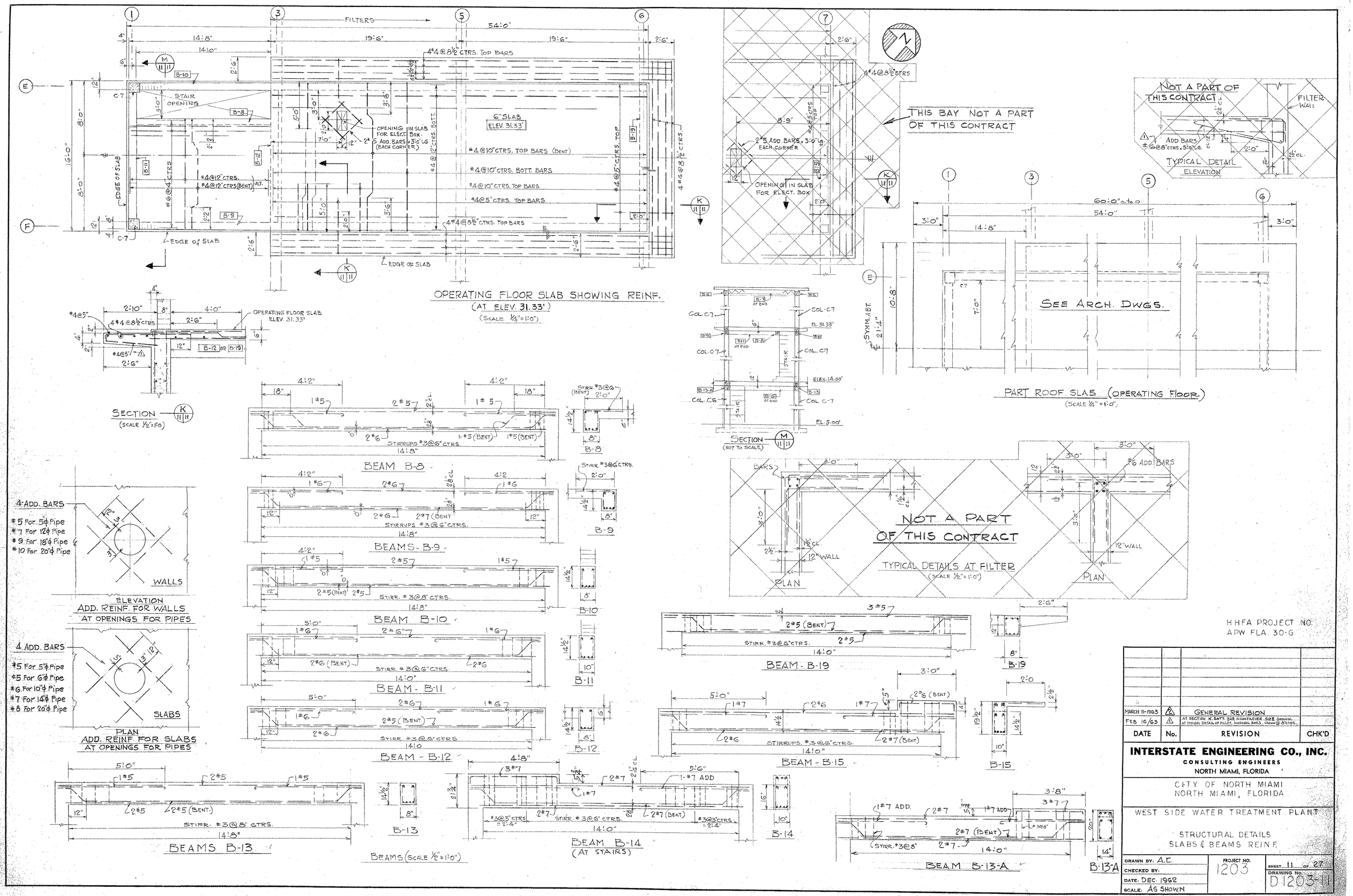
INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT

STRUCTURAL DETAILS
SLABS REINF. & SECTIONS

DRAWN BY: A.E.
CHECKED BY:
DATE: DEC. 1962
SCALE: A'S SHOWN
PROJECT NO. 1203
SHEET 10 OF 27
DRAWING No. D1203-10



HHFA PROJECT NO.
APW FLA. 30-G

DATE	No.	REVISION	CHK'D
MARCH 11-1963	2	GENERAL REVISION	
FEB. 16/63	1	AT SECTION K, BOTT. BAR IN CANTILEVER - SIZE SHOWN. AT TYPICAL DETAIL OF FILLET, DIAGONAL BARS - SHOWN @ 8" CTRS.	

INTERSTATE ENGINEERING CO., INC.
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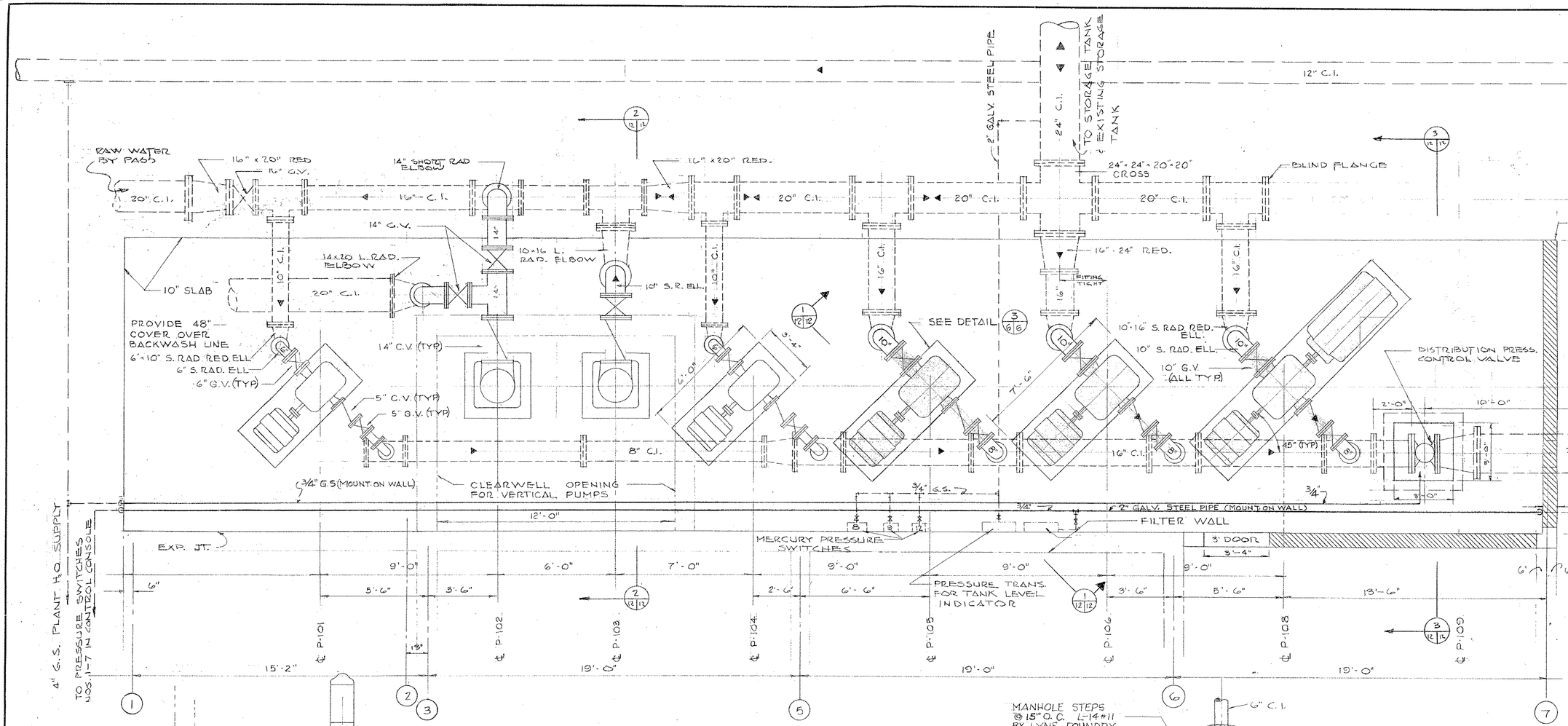
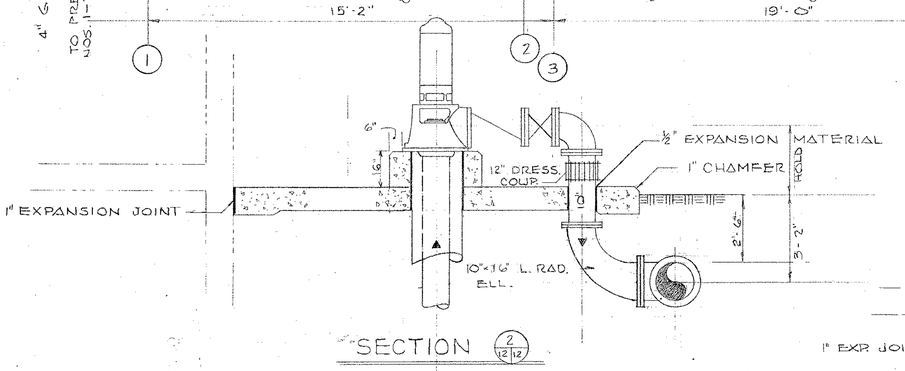
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT

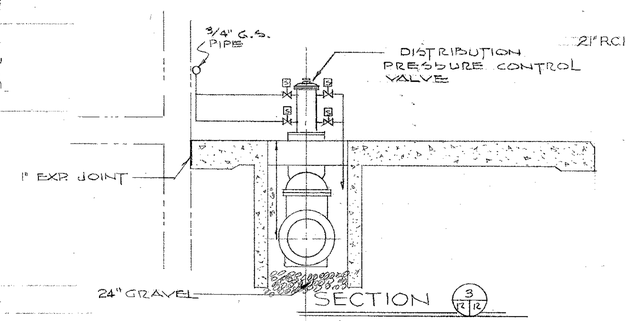
STRUCTURAL DETAILS
SLABS & BEAMS REINF.

DRAWN BY: A.E.
CHECKED BY:
DATE: DEC. 1962
SCALE: AS SHOWN
PROJECT NO. 1203
SHEET 11 OF 27
DRAWING No. D-1203-11

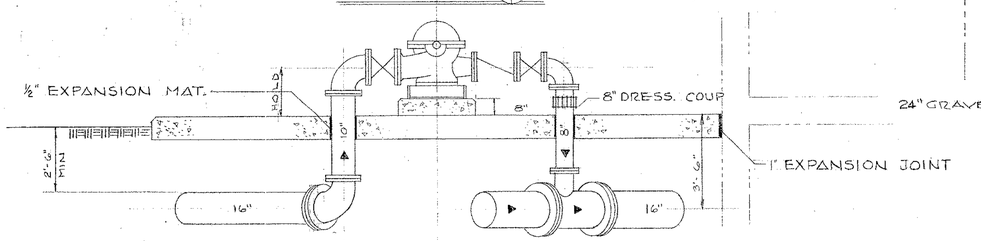




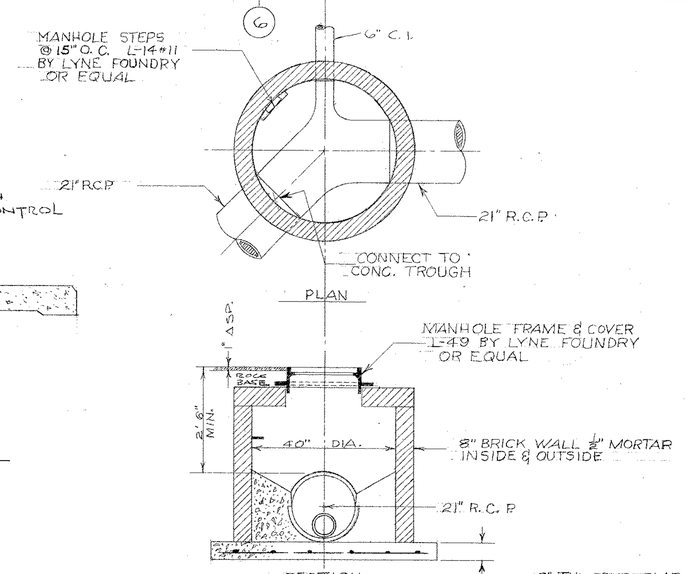
SECTION 2/12/12



SECTION 3/12/12



SECTION 1/12/12



SECTION

TYP. MANHOLE DETAIL

SCALE: 1" = 2'0"

NOTE:
PUMPS & FITTINGS SHOWN SHADED TO BE FURNISHED AND INSTALLED BY OTHERS

HHFA PROJECT NO. APW FLA 30-0

DATE	No.	REVISION	CHK'D
3-2-63	1	GENERAL REVISION	

INTERSTATE ENGINEERING CO., INC.
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NORTH MIAMI, FLORIDA

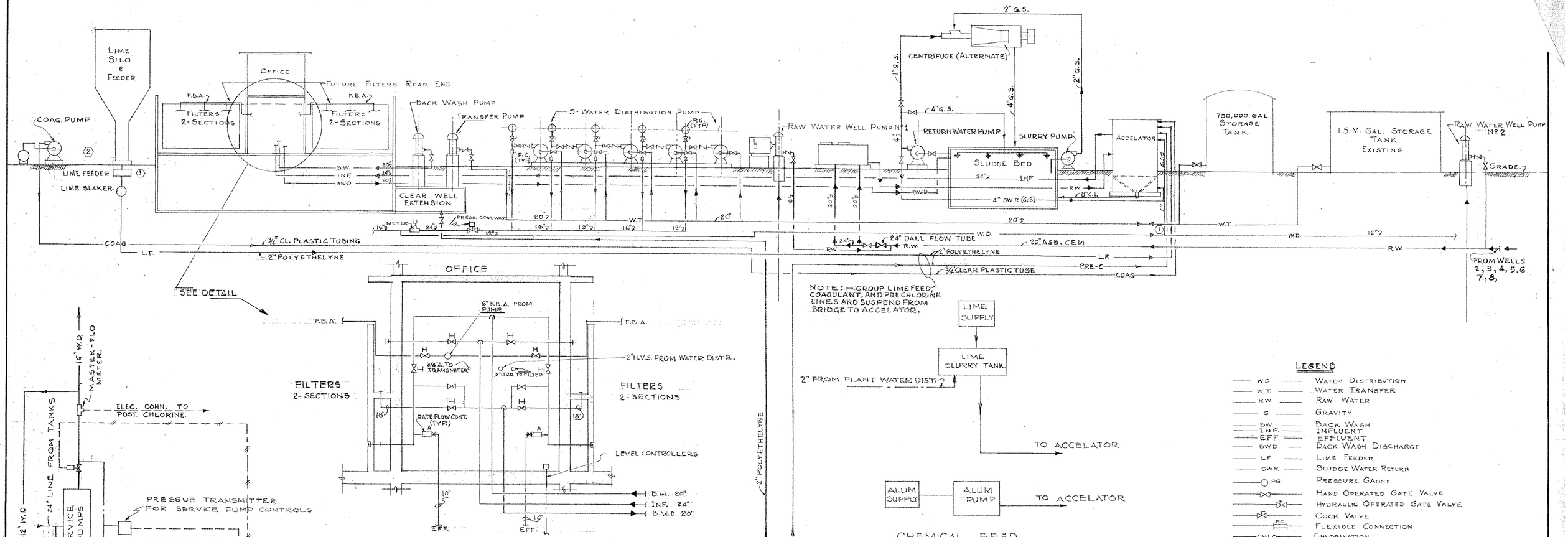
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
MECHANICAL
PUMP ROOM DETAILS

DRAWN BY: A.S.H.
CHECKED BY: N.B.L.
DATE: DEC. 1962
SCALE: 3/8" = 1'-0"

PROJECT NO. 1203

SHEET 12 OF 27
DRAWING No. D1203-12



NUMBER	ITEM	LEGEND
1	LOSS OF HEAD INDICATOR	FILTER LOSS OF HEAD
2	RATE OF FLOW INDICATOR	FILTER RATE OF FLOW
3	RATE SETTER	FILTER CONTROLLER
4	SET RATE INDICATOR	FILTER CONTROLLER
5	PNEUMATIC SWITCH (MANUAL-CLOSE-AUTOMATIC)	EFFLUENT-CONTROLLER
6	HYDRAULIC SWITCH (OPEN-CLOSE)	INFLUENT VALVE
7	HYDRAULIC SWITCH (OPEN-CLOSE)	SURFACE WASH VALVE
8	HYDRAULIC SWITCH	MAIN WASH VALVE
9	HYDRAULIC SWITCH (OPEN-CLOSE)	MAIN DRAIN VALVE

LEGEND

W.D.	WATER DISTRIBUTION
W.T.	WATER TRANSFER
RW	RAW WATER
G	GRAVITY
BW	BACK WASH
I.N.F.	INFLUENT
EFF	EFFLUENT
BWD.	BACK WASH DISCHARGE
LF	LIME FEEDER
SWR	SLUDGE WATER RETURN
PG	PRESSURE GAUGE
	HAND OPERATED GATE VALVE
	HYDRAULIC OPERATED GATE VALVE
	COCK VALVE
F.C.	FLEXIBLE CONNECTION
CHLO	CHLORINATION
PRE-C.	PRE-CHLORINATION.
POST-C.	POST CHLORINATION.
	SOLENOID VALVE.
F.B.A.	FILTER BED AGITATOR.
H.V.S.	HYDRAULIC VALVE SUPPLY.
H.V.D.	" " DRAIN.
A	AIR.
W.S.	WATER SUPPLY.
W.D.	WATER DRAIN.
	CHECK VALVE.
	CONTROLLER WITH TRANSMITTER
COAG.	COAGULANT.
F.C.	FLEXIBLE CONNECTION.
E.S.	EDUCTOR SUPPLY

HHFA PROJECT NO. APW 30-G

DATE	No.	REVISION	CHK'D
1-3-63	1	ADD EDUCTOR SUPPLY	R.T.C.
1-3-63	2	DELETE LIME PUMP	R.T.C.
1-3-63	3	ADD LIME FEEDER	R.T.C.
1-11-63	4	ADD TRANSMITTER ON 12" W.D.	R.T.C.
1-14-63	5	CHANGE RW INTAKE AND CALL	
	6	~~FLOW TUBE TO 24"~~	R.T.C.
3-4-6	7	GENERAL REVISION	

INTERSTATE ENGINEERING CO., INC.
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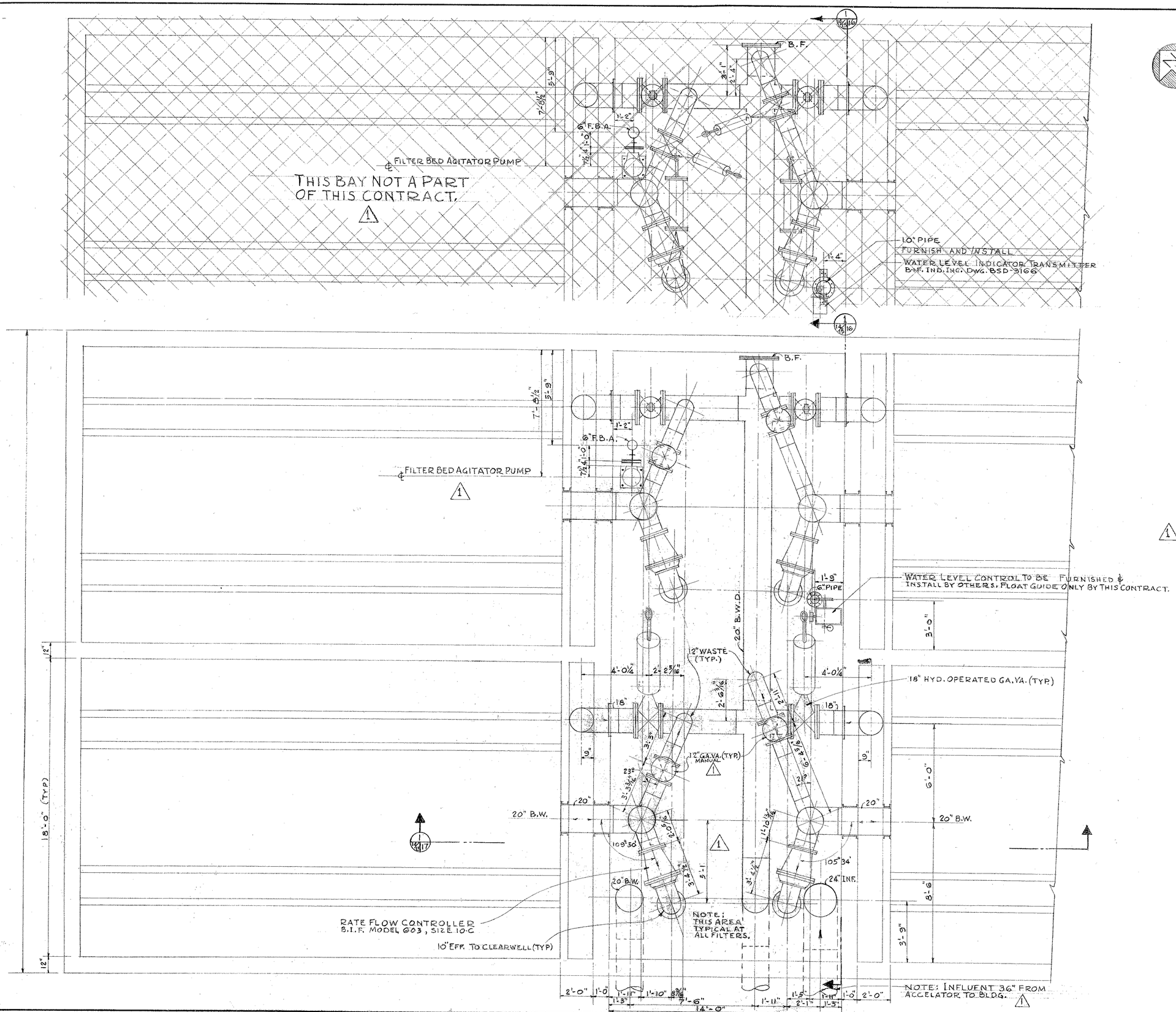
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
MECHANICAL
PLANT PIPING FLOW DIAGRAM

DRAWN BY: J.C.M.
CHECKED BY: N.B.L.
DATE: DEC - 1962
SCALE: NO SCALE
PROJECT NO. 1203
SHEET 13 OF 27
DRAWING No. D1203-13



NOTE:

1 - FOR LEGEND SEE DWG. # 13

2 - GALLERY PIPE SPECS:

(a.) PIPE OVER 3" - STEEL, STD. WGT. WELDED JT.
(b.) PIPE 3" & UNDER - STEEL, GALV., STD. THREADED
(c.) FILTER BED SWEEP PIPING COPPER PER MFG. SPEC.
(d) WELDED CONNECTIONS -
BY FORGED FITTINGS WHERE LESS THAN 2 PIPE SIZES DIFFERENCE IN DIA.
BY CUT & WELD DIRECT WHERE 2 OR MORE PIPE SIZES DIFFERENCE IN DIA.
(e) HYDRAULIC VALVE SUPPLY - GALV. STEEL
(f) AIR HEADER - GALV. STEEL
(g) AIR TO CONTROL INSTRUMENT - COPPER TYPE K, SOFT.

1 *NOTE: WELDED STEEL SHOWN - CONTRACTOR MAY SUBSTITUTE FLANGED CAST IRON. LAYOUT DRAWINGS TO BE APPROVED PRIOR TO FABRICATION.

HHFA PROJECT NO. APW-FLA-30G

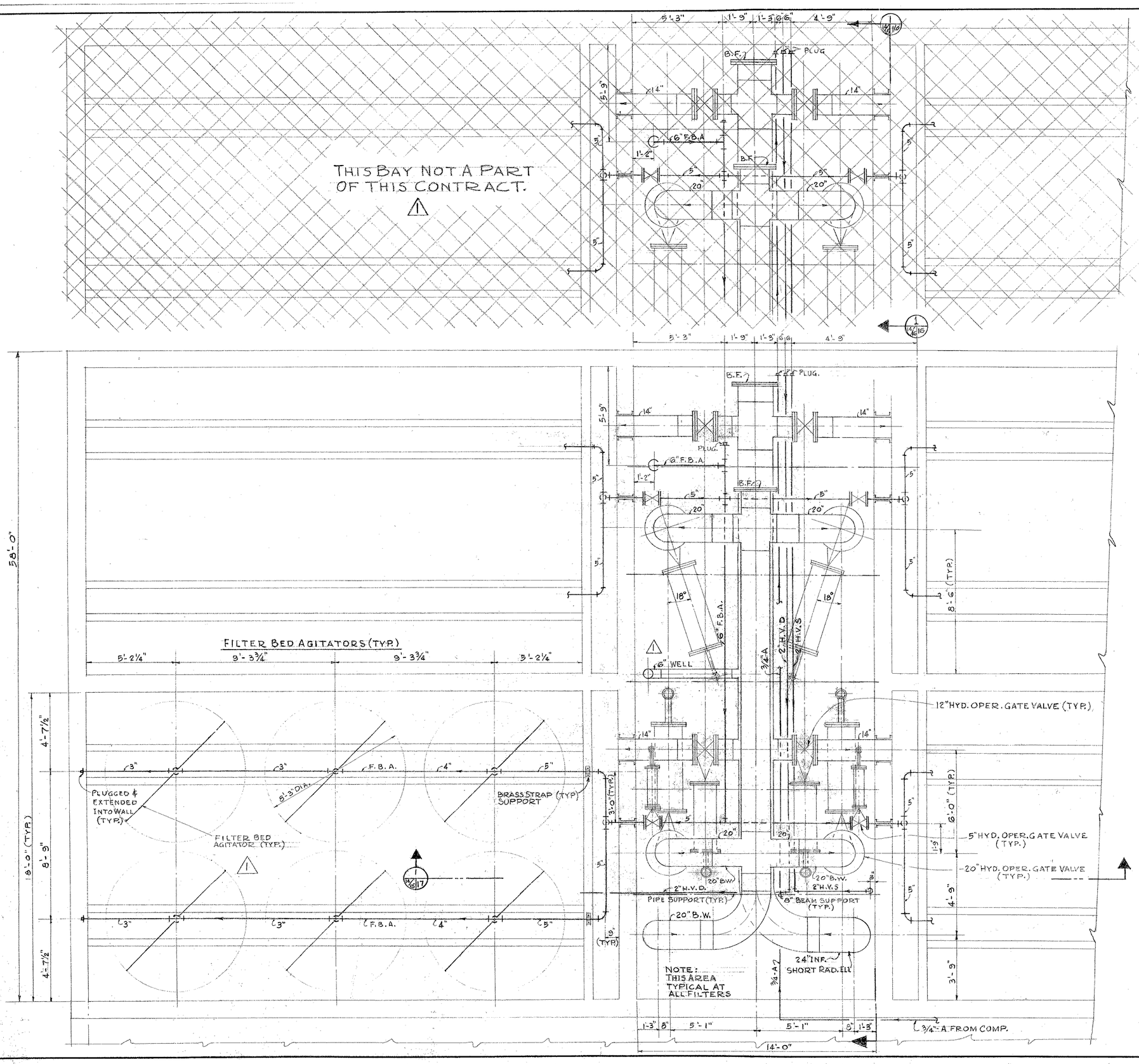
DATE	No.	REVISION	CHK'D
3/5/63	1	GENERAL REVISION FOR REBID	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
MECHANICAL
PIPING GALLERY FLOOR PLAN
LOWER LEVEL

DRAWN BY: R. Martin
CHECKED BY:
DATE: DEC. 1962
SCALE: 3/8" = 1'-0"
PROJECT NO. 1203
SHEET 14 OF 27
DRAWING NO. D1203-14



NOTE:
1 - FOR LEGEND SEE DWG. NO. 13
2 - FOR PIPING SEE STANDARD SPECIFICATION
3 - FOR DESIGN SEE "do." "do."
4 - FOR GALLERY PIPE SPEC. SEE DWG. # 26

HHFA PROJECT NO. APW-FLA-30 G

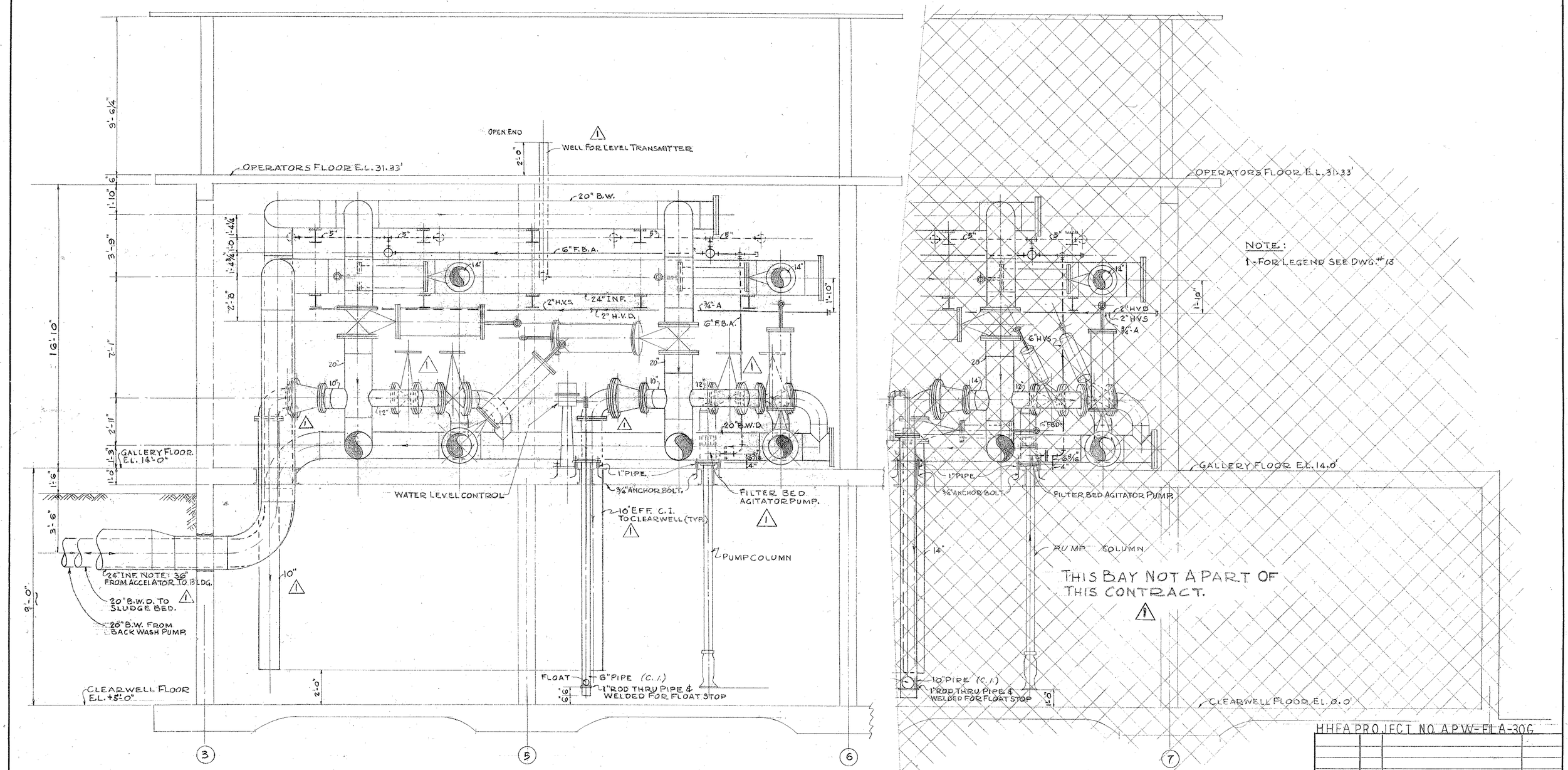
DATE	No.	REVISION	CHK'D
3/5/63	1	GENERAL REVISION FOR REBID.	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
MECHANICAL
PIPING GALLERY FLOOR PLAN
UPPER LEVEL

DRAWN BY: R. Martin
CHECKED BY:
DATE: DEC. 1962
SCALE: 3/8" = 1'-0"
PROJECT NO. 1203
SHEET 15 OF 27
DRAWING NO. D1203-15



SECTION 1 (4/15/16)

NOTE:
FOR LEGEND SEE DWG. #13

HHFA PROJECT NO. APW-FLA-30G

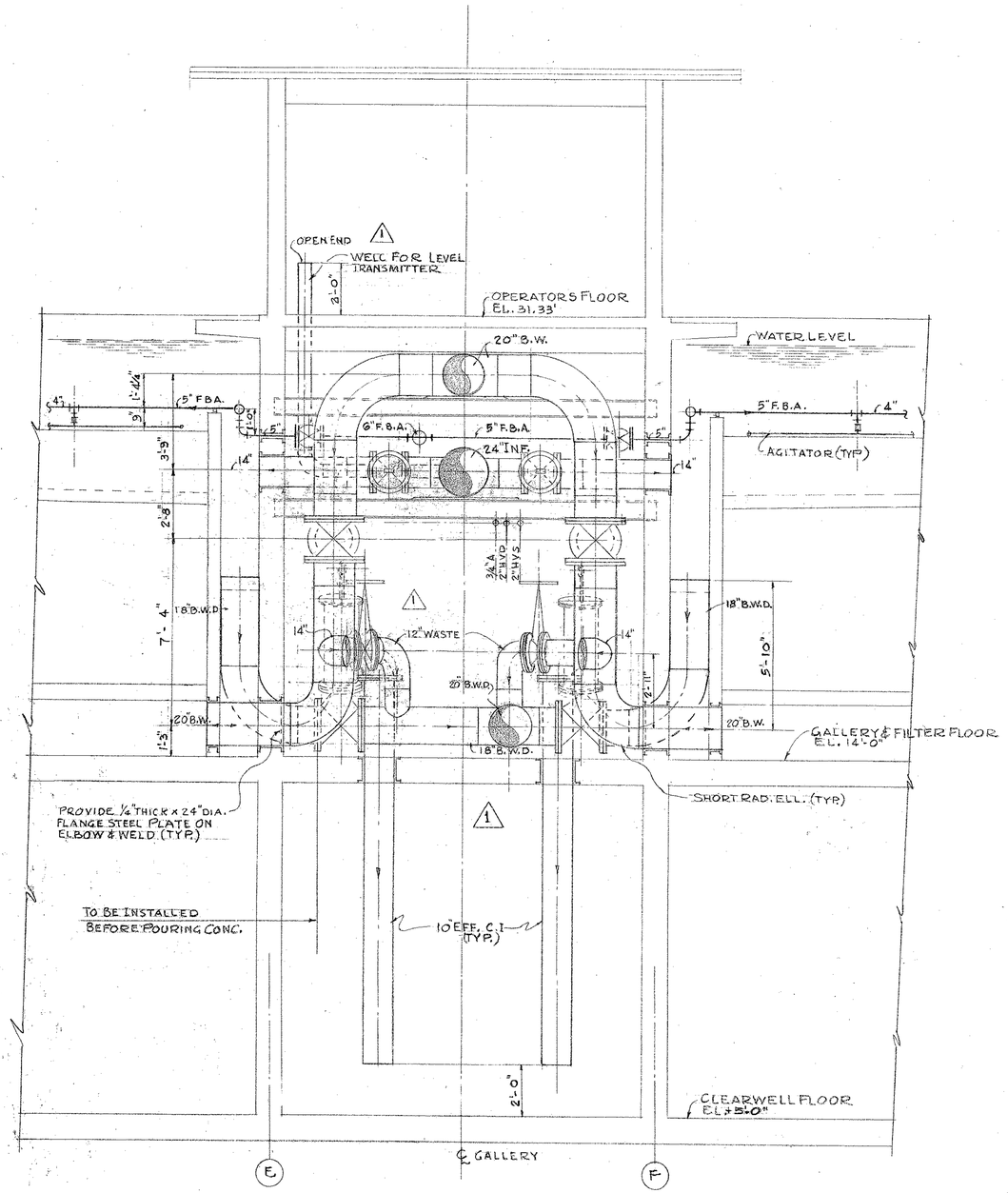
DATE	No.	REVISION	CHK'D
3/5/63	1	GENERAL REVISION FOR REBID	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
MECHANICAL
PIPING GALLERY
LONGITUDINAL SECTION

DRAWN BY: E. Martin
CHECKED BY:
DATE: DEC. 1962
SCALE: 3/8" = 1'-0"
PROJECT NO. 1203
SHEET 16 OF 27
DRAWING No. D1203-16



SECTION 1/16/17

NOTE:
1- FOR LEGEND SEE DWG. #13
2- FOR PIPING SEE STANDARD SPECIFICATION.

HHFA PROJECT NO. APW-FLA-30G

DATE	No.	REVISION	CHK'D
3/5/63	1	GENERAL REVISION FOR REBID	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

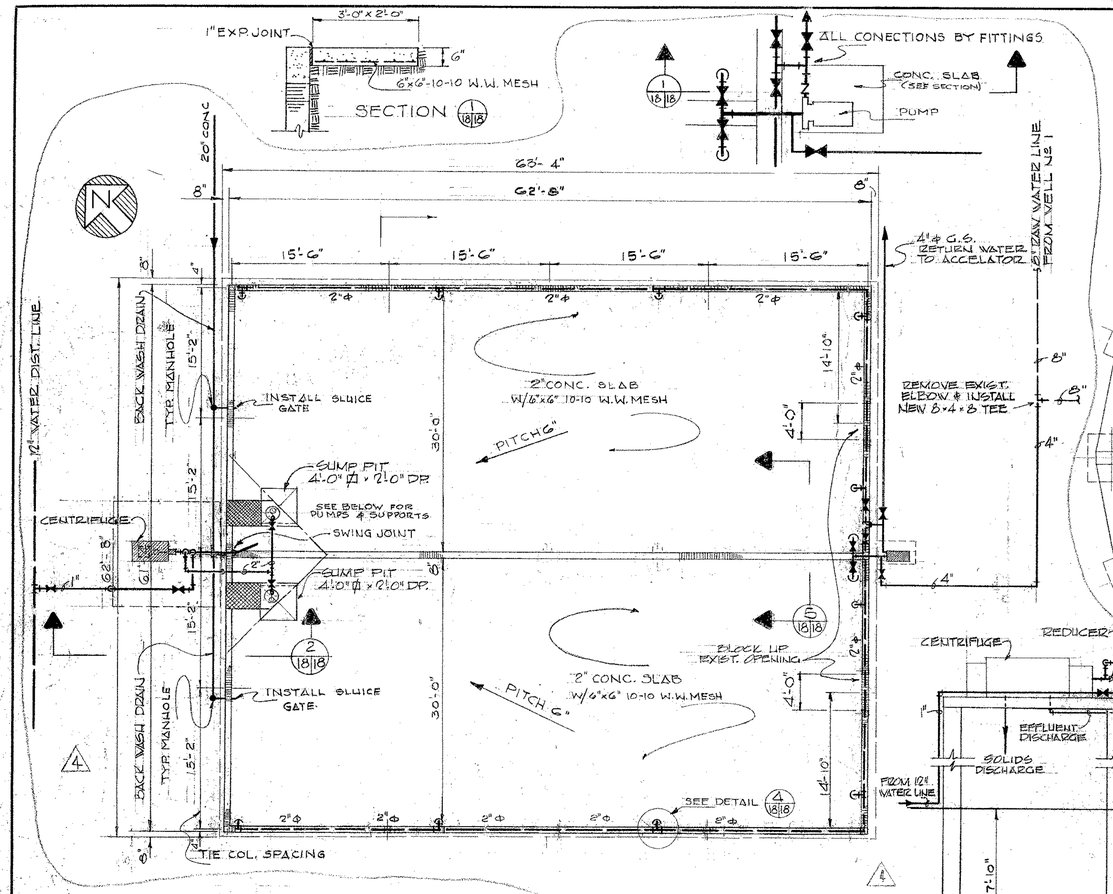
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

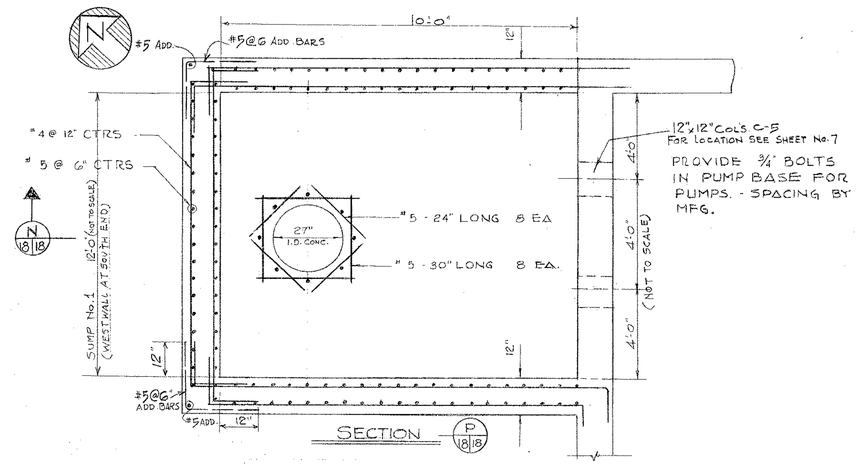
WEST SIDE WATER TREATMENT PLANT
MECHANICAL
GALLERY PIPING
TYPICAL CROSS SECTION

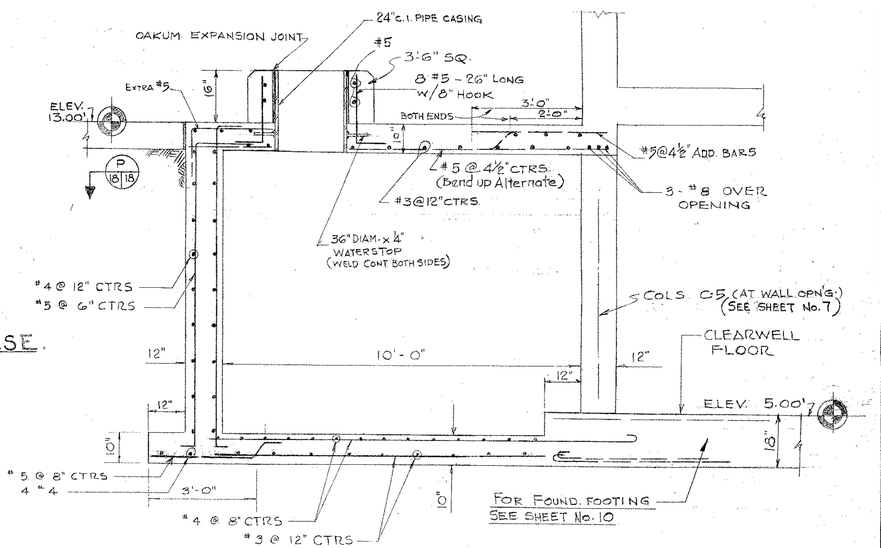
DRAWN BY: R. Martin
CHECKED BY:
DATE: DEC. 1962
SCALE: 3/8" = 1'-0"

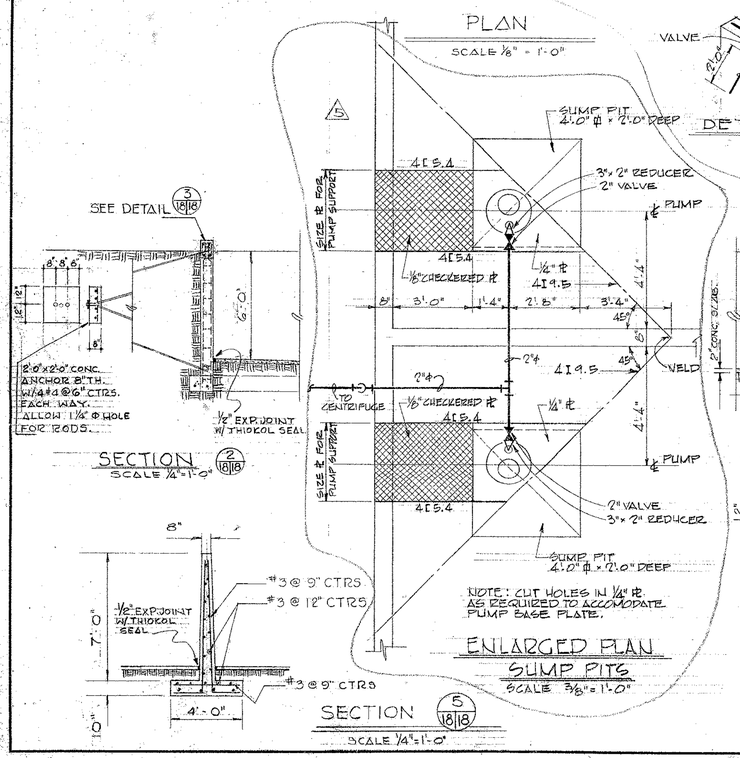
PROJECT NO. 1203

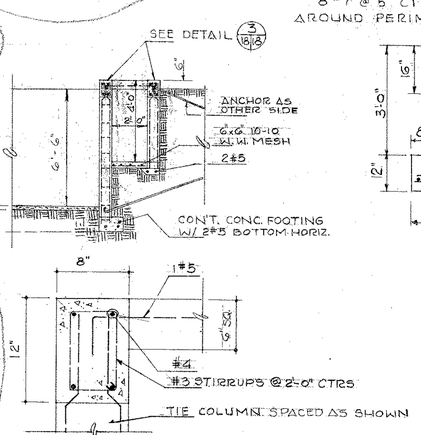
SHEET 17 OF 27
DRAWING No. D1203-17

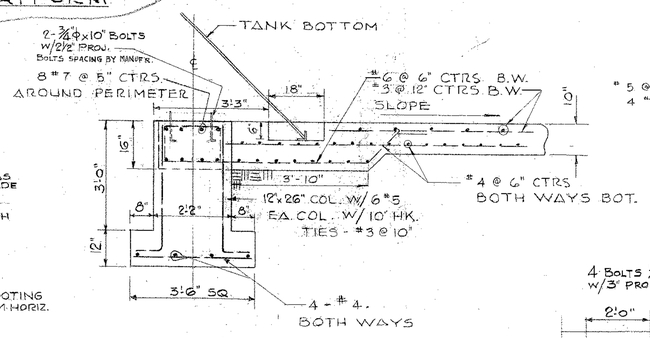


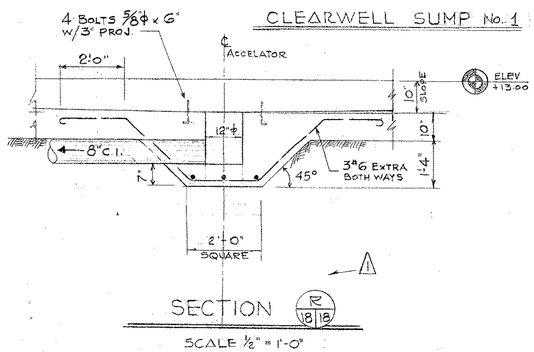












HHFA PROJECT NO. APW FLA 30-G

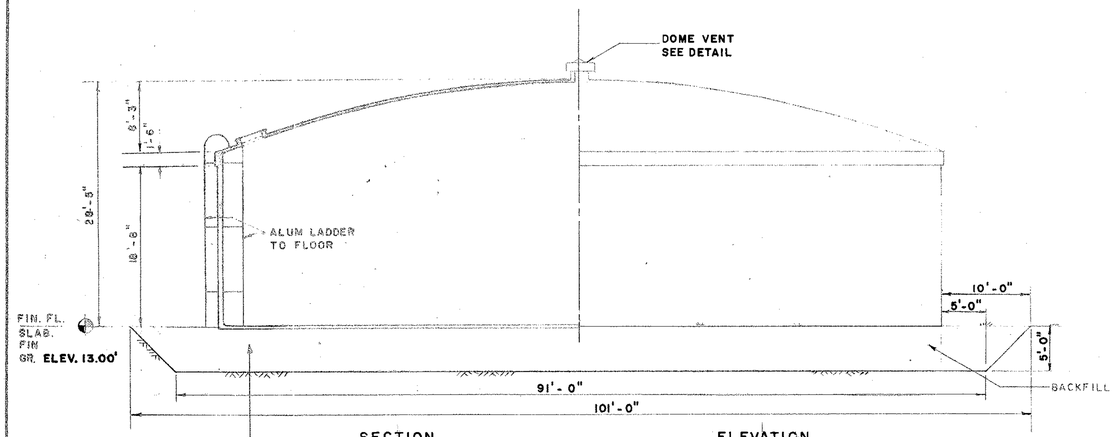
DATE	No.	REVISION	CHK'D
2-11-64	5	REVISED CENTRIFUGE FEED PUMPS	WL
1-29-64	4	REVISE CENTRIFUGE & PIPING	WL
5-28-63	3	SLUDGE BEDS & PLATFORM	JFV
MARCH 11-1963	2	GENERAL REVISION	
FEB 17/63	1	ACCELATOR TANK BASE, PLAN & SECTIONS (R) & (S) CHANGED	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
CLEARWELL EXTENSION AND
SLUDGE PITS

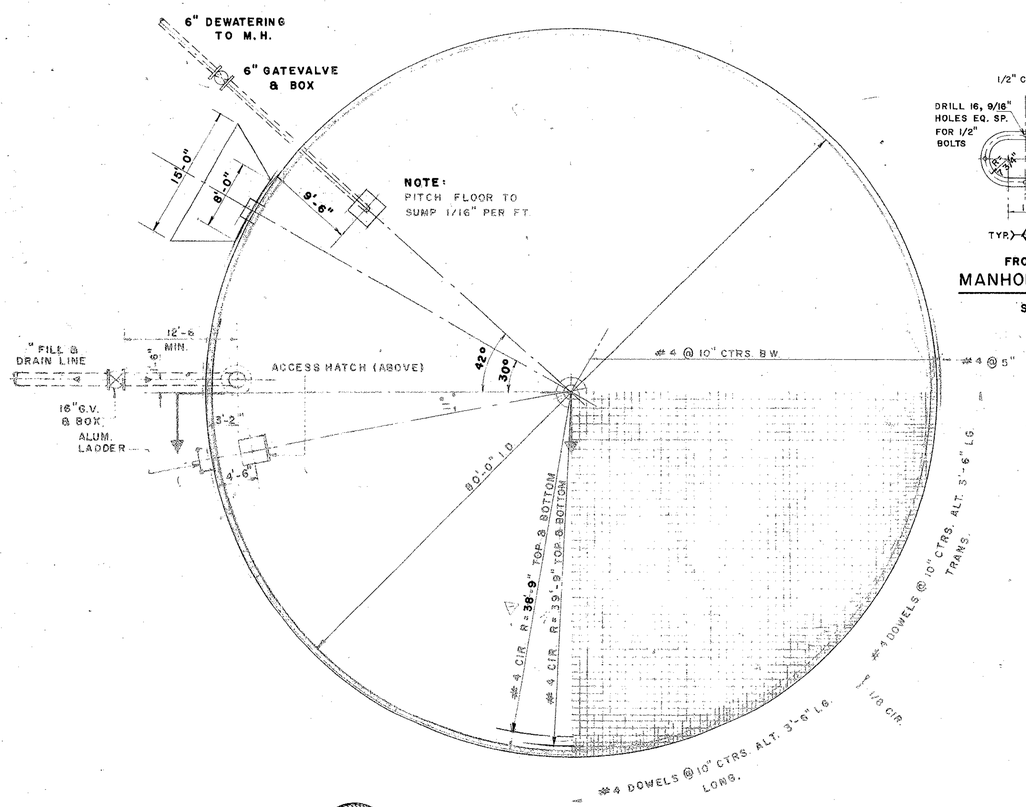
DRAWN BY: EMIL SANS.
CHECKED BY:
DATE: DEC. 1962
SCALE: AS SHOWN.
PROJECT NO. 1203
SHEET 18 OF 27
DRAWING No. D1203-18



SECTION ELEVATION

SCALE 1/8" = 1'-0"

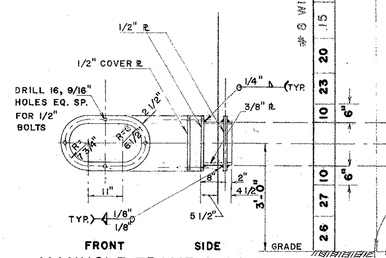
EXCAVATE 5'-0" DEEP AND FILL TO ELEV. 13.00' WITH SELECT FOUNDATION MATERIAL, COMPACT IN 12" LAYERS TO 100% OF MAX. DENSITY. LAB TEST AT EACH LIFT.



QUARTER REINF. PLAN

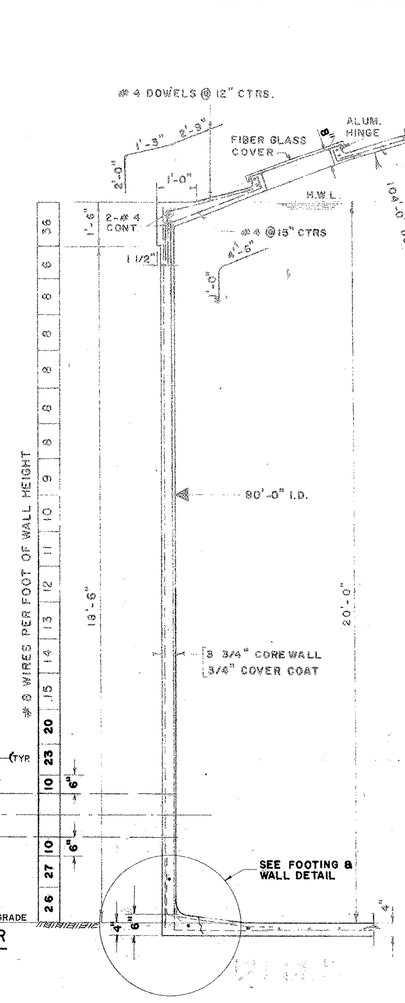
PLAN

SCALE 1/8" = 1'-0"



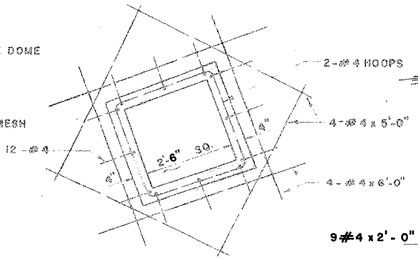
MANHOLE FRAME & COVER

SCALE: 1/2" = 1'-0"



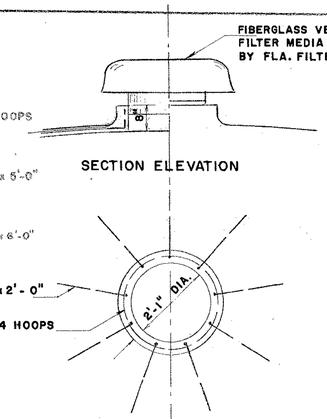
WALL SECTION

SCALE: 1/2" = 1'-0"



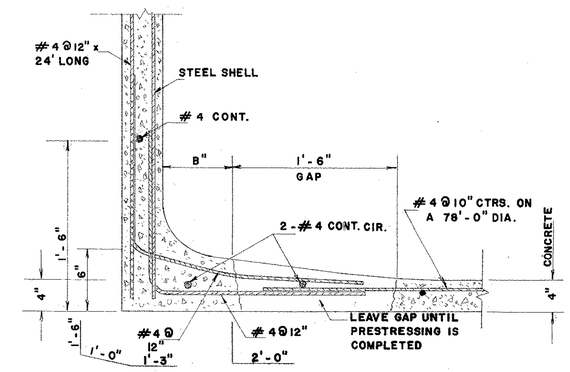
HATCH DETAIL

SCALE: 1/2" = 1'-0"



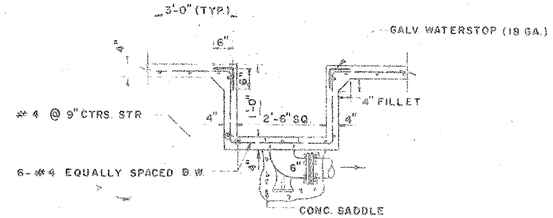
DOME VENT CURB DETAIL

SCALE 1/2" = 1'-0"



FOOTING & WALL DETAIL

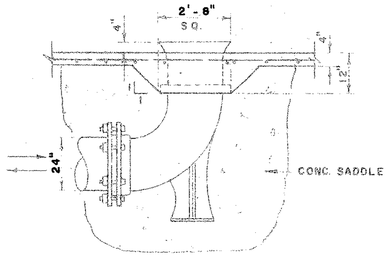
SCALE 1 1/2" = 1'-0"



NOTE: USE HATCH PLAN DETAIL FOR 4-#4 x 5'-0" & 4-#4 x 6'-0" ADDITIONAL BARS AROUND EDGES AND CORNERS, IN FLOOR SLAB.

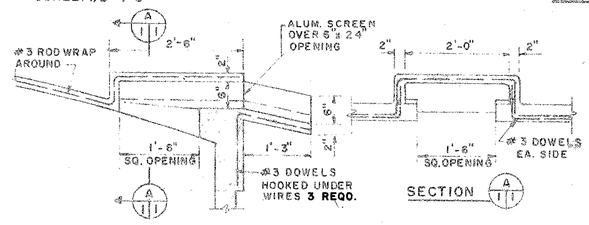
SUMP DETAIL

SCALE: 1/2" = 1'-0"



FLARE DETAIL

NOT TO SCALE



OVERFLOW DETAIL

SCALE: 3/4" = 1'-0"

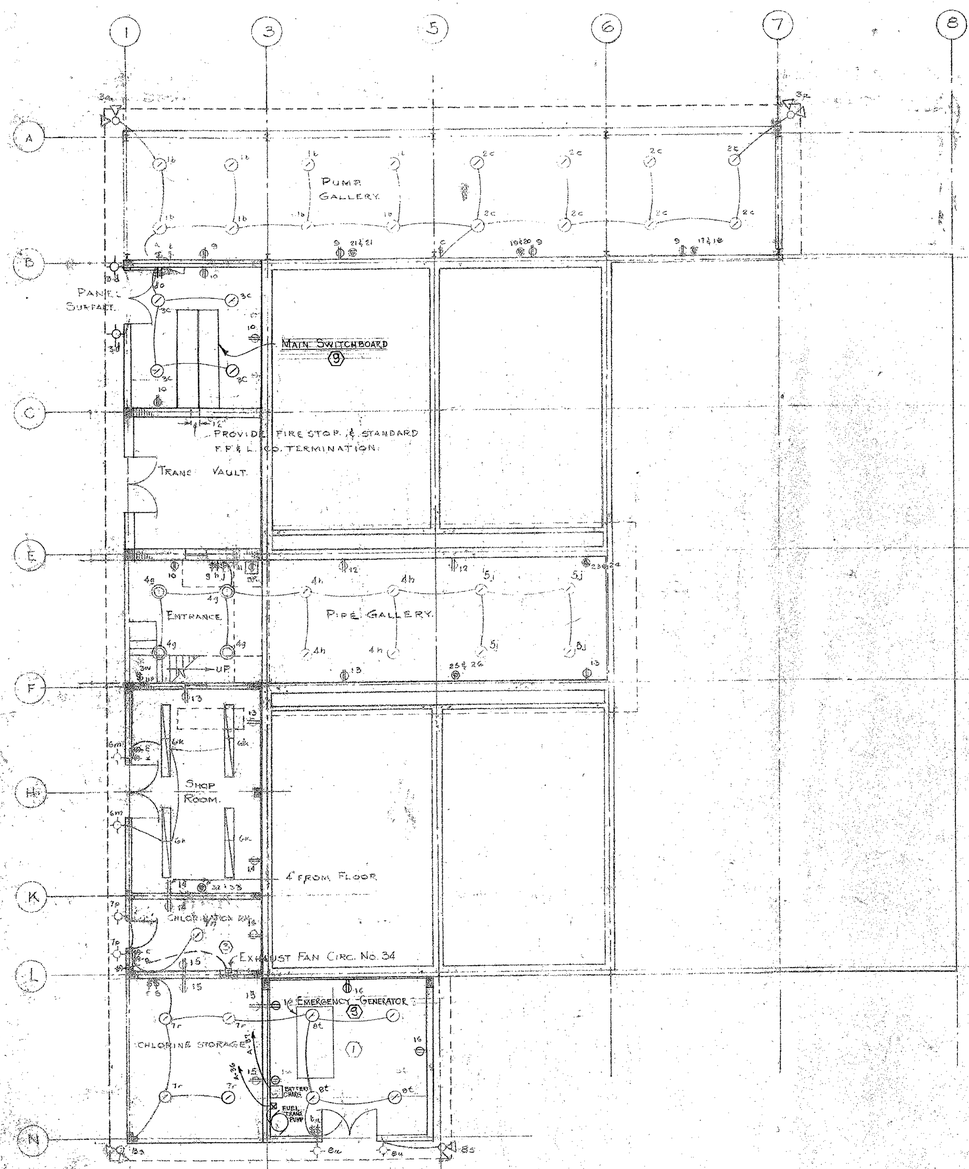
DATE	No.	REVISION	CHK'D
NOV., 1962	1	DIMENSION CORRECTED	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

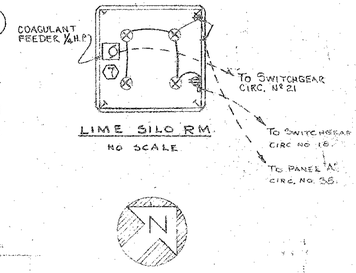
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
750,000 GALLON
WATER STORAGE TANK
STRUCTURAL

DRAWN BY: WHB JFV
CHECKED BY: NBL
DATE: APRIL, 1962
SCALE: AS INDICATED
PROJECT NO. 1203
SHEET 19 OF 27
DRAWING NO. D 1203-19



GROUND FLOOR PLAN



LIME SILO RM.
NO SCALE

SWITCHGEAR EQUIP.

	CIRC.	USE
	1	DIST. PUMP No. 1 - 100 HP - 3φ - 480V
	2	" " 2 - 100 HP - 3φ - 480V
	3	" " 3 - 100 HP - 3φ - 480V
	4	" " 1 - 50 HP - 3φ - 480V
	5	" " 2 - 50 HP - 3φ - 480V
	6	TRANSFORMER 37.5 KVA 1φ 480V.
	7	TRANSFER PUMP No. 1 - 50 HP - 3φ - 480V
	8	" " 2 - 50 HP - 3φ - 480V
4	9	WASH WATER PUMP 75 HP. 3φ - 480V
	10	WELL PUMP No. 2 - 40 HP 3φ - 480V
	11	" " No. 1 - 30 HP 3φ - 480V
	12	ACCELATOR 10 HP - 3φ - 480V
8	13	SURFACE WASH PUMP 5 HP - 3φ - 480V
	14	RETURN WATER 1 HP - 3φ - 480V
	15	TRANSFORMER 5 KVA - 1φ 480V (CONTROL CONSOLE)
	16	PANEL "A" 1ST FLOOR - 100A 1φ - 220V, 2-P
	17	PANEL "B" 2ND. FLOOR - 50A - 3φ - 220V, 2-P
	18	LIME FEEDER ¼ HP, 110V, 1φ, 1-P
8	19	AIR CONDITIONER - 5 HP - 3φ - 480 VOLTS
	20	CHLORINATION RM. VAPORS - 3 - 15A, 1-P, 110V.
	21	COAGULANT FEEDER ½ HP, 1φ, 15A, 1-P, 110V.
	22	CENTRIFUGE MOTOR 15 HP. 3φ 480V.
	23	SLURRY PUMP - HP - 3φ - 480 VOLTS
	24	AUTOMATIC TRANSFER SW. 3φ 480V.
8	25	AIR COMPRESSOR - 5 HP - 3φ - 480 V

NOTE:
ALL CONDUIT ¾" Φ AND AS SHOWN

PANEL "A"

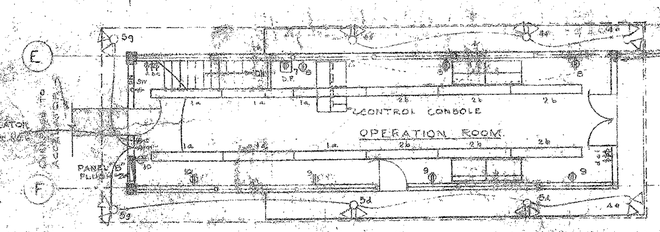
CIRC. No.	LOCATION	WATTS	AMP.
1	PUMPS GALLERY LTS	800	8
2	" " "	800	8
3	SWITCHGEAR RM. LTS.	1000	10
4	ENTRANCE & PIPE GALLERY LTS.	800	8
5	PIPE GALLERY LTS.	400	4
6	SHOP ROOM LTS	800	8
7	CHLORINATION RM. & STORAGE LTS	700	7
8	ALUM. STORAGE RM. LTS & OUTSIDE	1000	10
9	PUMP GALLERY RECEP.	400	4
10	SWITCHGEAR RM. RECEP.	400	4
11	DRINKING FOUNTAIN "	400	4
12	PIPE GALLERY RECEP.	400	4
13	" & SHOP RM. RECEP.	400	4
14	SHOP RM. & CHLORINATION RM. "	400	4
15	CHLORINATION RM. & STORAGE "	400	4
16	ALUM. STORAGE RM. RECEP.	400	4
17 & 18	POWER RECEP. IN PUMP GALLERY 1-P	2000	10
19 & 20	" " 2-P	2000	10
21 & 22	" " 2-P	2000	10
23 & 24	" PIPE GALLERY 1-P	2000	10
25 & 26	" " "	2000	10
27 & 28	WATER HEATER 2-P. OUTLETS	3000	15
29	FLOOD LIGHT NORTH	500	5
30	" SOUTH	500	5
31	2-P - 220V.		
32	SHOT ROOM POWER RECEP.	2000	10
33	WELL & CENTRIFUGE & RETURN PUMP LTS.	800	8
34	EXHAUST FAN IN CHLORIN. RM.	400	4
35	LIME SILO RM. LTS	500	5
36	FUEL TRANSFER PUMP	500	5
37	BATTERY CHARGER	500	5
38, 39 & 40	SPARE		
	TOTAL	23,700	100 AMP

PANEL "B"

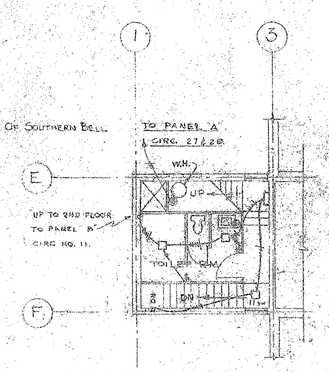
CIRC. No.	LOCATION	WATTS	AMP
1	OPERATION RM. LTS.	1200	12
2	" "	1200	12
3	SPARE		
4	OUTSIDE OPERATION RM. LTS	800	8
5	" " "	800	8
6	ACCELATOR LTS.	200	2
7	DRINKING FOUNTAIN RECEP	400	4
8	OPERATION RM. RECEP.	400	4
9	" " "	400	4
10	" " "	400	4
11	STAIR & TOILET LTS.	500	5
12 TO 14	SPARE		
	TOTAL	6300W.	51 A.

LEGEND

- INCANDESCENT FIXTURE WEATHER-PROOF & VAPOR TIGHT 100W. ART METAL CAT. No. 2686, NUMBER & LETTER INDICATES CIRCUIT & SWITCH RESPECTIVELY.
- WALL MOUNTED INCANDESCENT FIXTURE WEATHER-PROOF 100W. ART METAL CAT. No. 3540.
- ROUND RECESSED INCANDESCENT FIXTURE 100 W. ART METAL CAT. No. 3642-AB.
- SQUARE DROP INCANDESCENT FIXTURE 2-60 W. ART METAL CAT. No. 605.
- SURFACE FLUORESCENT FIXTURE, 4 LAMP 40W. 8' LONG. WAKEFIELD SYMMETRIC CAT. No. SYR-218-T. CLOSE CEILING MOUNTING.
- FLUORESCENT FIXTURE 8' LONG. 4-LAMP 40 WATT 2-STA-BRITE CAT. No. C-2-40. EACH.
- INCANDESCENT FIXTURE OUTDOOR, DOUBLE SHADE UNIT FOR OUTLET BOX. SWIVELIER CAT. No. TORPEDO H-257
- INCANDESCENT FIXTURE WALL MOUNTING 2-75 WATT ART METAL CAT. No. 3549-AA
- DUPLEX RECEPTACLE 3 WIRE GROUNDING 125 V., 15A.
- S.P.S.T. SWITCH LETTER INDICATES FIXTURES THAT IT TURN-ON.
- POWER RECEPTACLE 20-A. 240V. 3 WIRE. NUMBERS INDICATE CIRCUITS.
- LIGHTING PANELS. PANEL "A" AT 1ST. FLOOR 1-Φ, 120/240V. 40 No. OF POLES FOR BREAKERS SEE ABOVE. PANEL "B" AT 2ND FLOOR 1-Φ 120/240V. 14 No. OF POLES FOR BREAKERS SEE ABOVE
- TELEPHONE
- TELEPHONE CONDUIT ¾" Φ
- PORCELAIN LAMP HOLDER 100W.

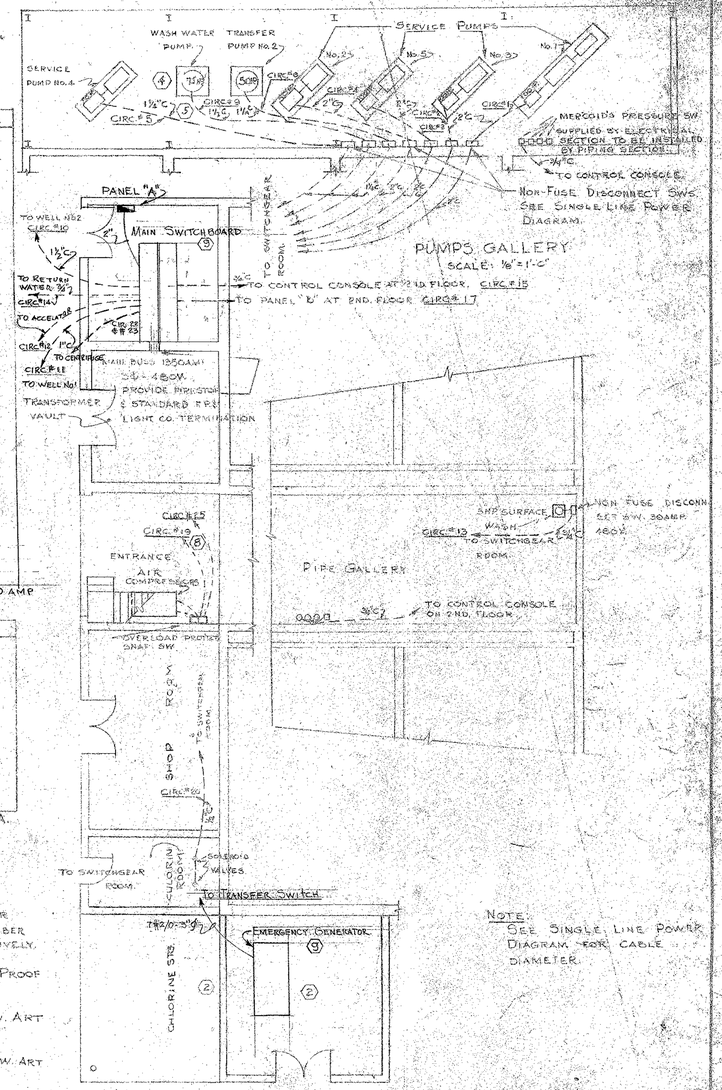


SECOND FLOOR PLAN



TOILET FLOOR PLAN

LIGHTING DIAGRAM



POWER CONDUIT DIAGRAM
SCALE ⅛" = 1'-0"

NOTE:
SEE SINGLE LINE POWER DIAGRAM FOR CABLE DIAMETER.

HHFA PROJECT NO. APW-FLA-30-6

DATE	No.	REVISION	CH'D
1-3-63	1	DELETE LIME SILO FOOTINGS	R.T.C.
1-3-63	2	DELETE TWO SLAKER MOTORS	R.T.C.
1-3-63	3	ADD EXHAUST FAN - CIR. 34	R.T.C.
1-19-63	4	CHANGE N.E. BACKWASH PUMP	R.T.C.
1-19-63	5	CHANGE CONDUIT SIZE	R.T.C.
3-4-63	6	GENERAL REVISION	
4-18-63	7	CHANGE COAGULANT FEEDER	C.D.M.
4-18-63	8	CHANGE PER ADDENDUM #3	C.D.M.

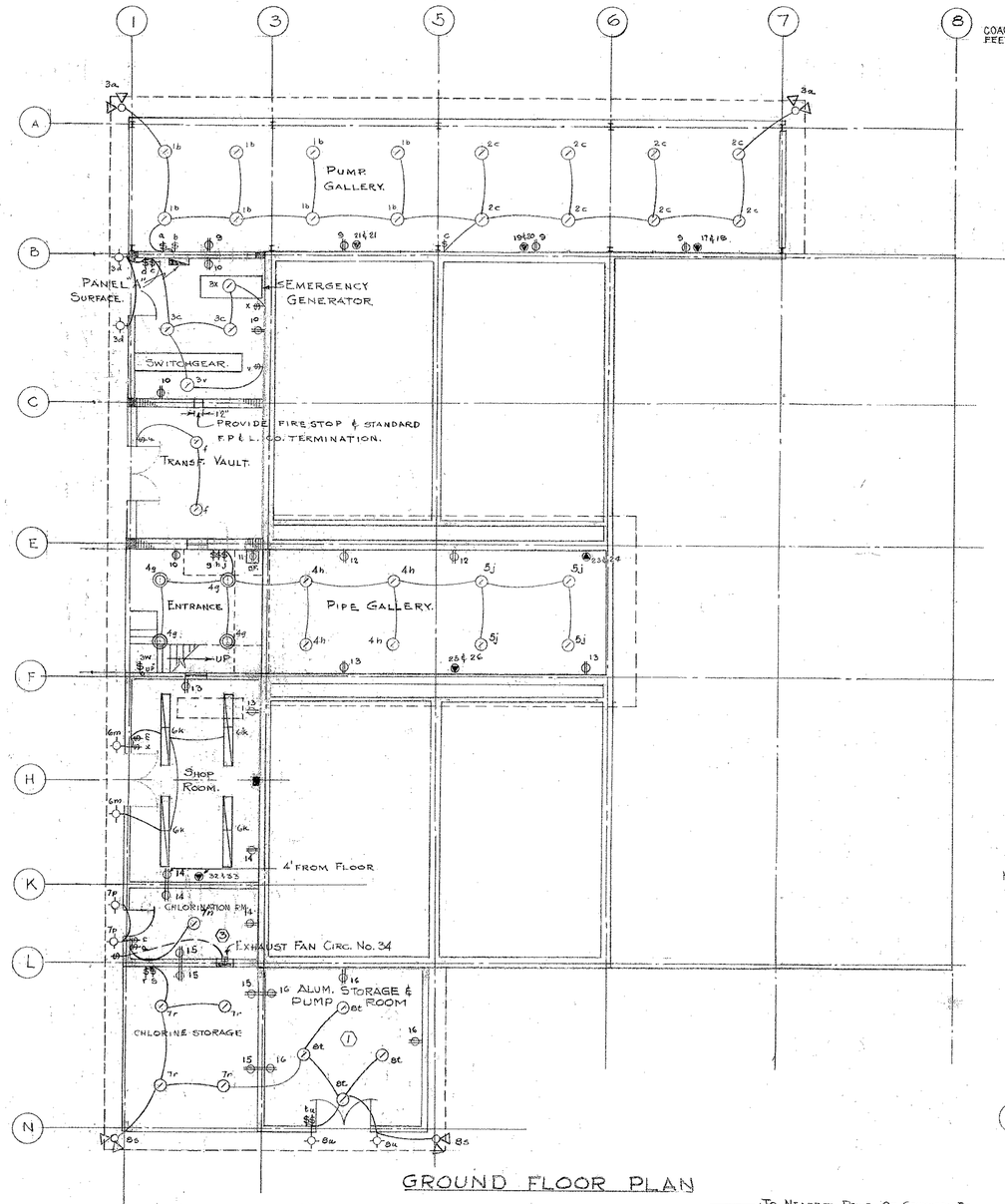
INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

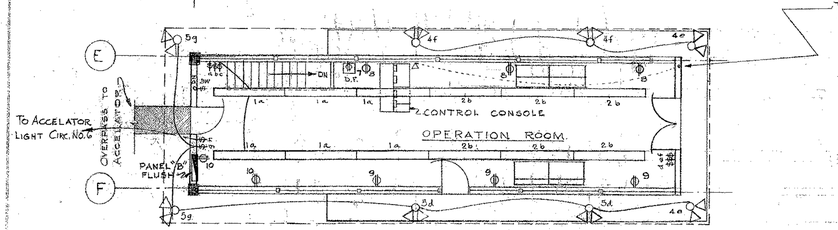
WEST SIDE WATER TREATMENT PLANT
ELECTRICAL
LIGHTING & POWER
CONDUIT DIAGRAM

DRAWN BY: J.C.M.	PROJECT NO.	SHEET 20 OF 27	
CHECKED BY: N.S.L.	1203	DRAWING NO. D-120	
DATE: DEC. 1962			
SCALE: ⅛" = 1'-0"			

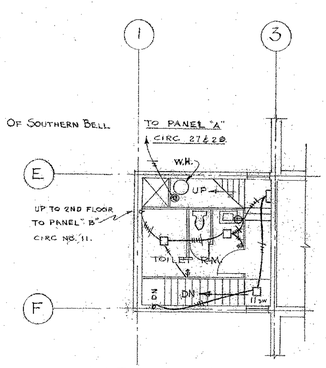
7-23-63	8	AS NOTED	C.D.M.



GROUND FLOOR PLAN

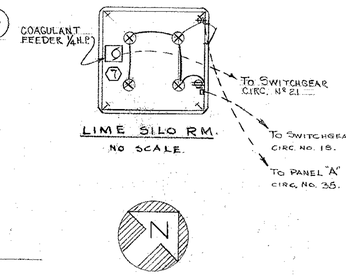


SECOND FLOOR PLAN



TOILET FLOOR PLAN

LIGHTING DIAGRAM



LIME SILO RM.
NO SCALE.

SWITCHGEAR EQUIP.

CIRC.	USE.
1	DIST. PUMP NO. 1 - 100HP - 3Φ-480V
2	" " 3 - 100 HP - 3Φ-480V.
3	" " 5 - 100HP. - 3Φ-480V.
4	" " 2 - 50 HP - 3Φ-480V.
5	" " 4 - 50 H.P. - 3Φ-480V
6	TRANSFORMER 37.5KVA. 1Φ 480V.
7	TRANSFER PUMP No. 1 - 50HP. - 3Φ-480V.
8	" " " 2 - 50HP. - 3Φ-480V.
(4) 9	WASH WATER PUMP 75 H.P. - 3Φ-480V.
10	WELL PUMP NO. 2 - 40 HP - 3Φ-480V.
11	" " No. 1 - 20 HP - 3Φ-480V.
12	ACCELATOR 20HP - 3Φ - 480V.
(8) 13	SURFACE WASH PUMP 5HP. - 3Φ-480V.
14	RETURN WATER 1 HP. - 3Φ-480V.
15	TRANSFORMER 5KVA - 1Φ 480V (CONTROL CONSOLE)
16	PANEL "A" 1ST FLOOR - 150A-1Φ-220V, 2-P
17	PANEL "B" 2ND. FLOOR - 50A.-1Φ-220V.-2-P
18	LIME FEEDER ½ HP, 110V, 1Φ, 1-P
(8) 19	AIR COMPRESSOR - 5HP - 3Φ - 480 VOLTS
20	CHLORINATION RM. VALVES, 1Φ - 15A., 1-P, 110V.
21	COAGULANT FEEDER ½ HP, 1Φ, 15A, 1-P-110V.
22	CENTRIFUGE MOTOR 15HP. 3Φ 480V.
23	SLURRY PUMP - 1HP - 3Φ - 480 VOLTS
24	AUTOMATIC TRANSFER SW. 3Φ, 480V.
(8) 25	AIR COMPRESSOR - 5HP - 3Φ 480 V

NOTE:
ALL CONDUIT ¾"Φ AND AS SHOWN

PANEL "A"

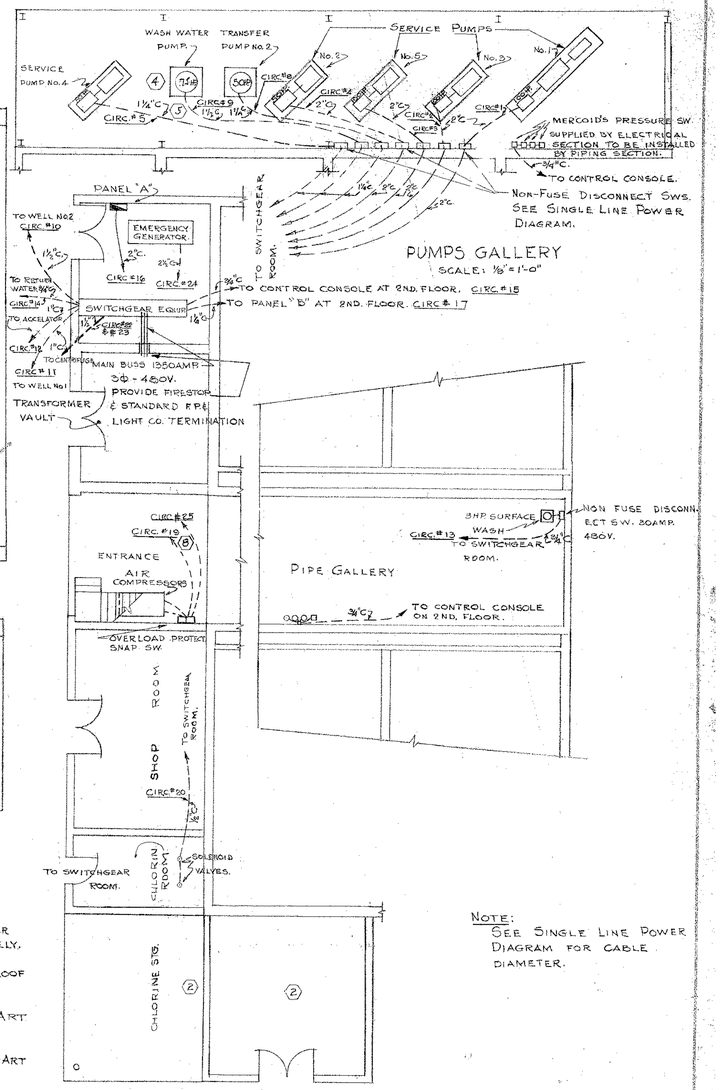
CIRC. No.	LOCATION	WATTS	AMP.
1	PUMPS GALLERY LTS.	800	8
2	" "	800	8
3	SWITCHGEAR RM. LTS.	1000	10
4	ENTRANCE & PIPE GALLERY LTS.	800	8
5	PIPE GALLERY LTS.	400	4
6	SHOP ROOM LTS	800	8
7	CHLORINATION RM. & STORAGE LTS.	700	7
8	ALUM. STORAGE RM. LTS & OUTSIDE	1000	10
9	PUMP GALLERY RECEP.	400	4
10	SWITCHGEAR RM. RECEP.	400	4
11	DRINKING FOUNTAIN "	400	4
12	PIPE GALLERY RECEP.	400	4
13	" " & SHOP RM. RECEP.	400	4
14	SHOP RM & CHLORINATION RM. "	400	4
15	CHLORINATION RM. & STORAGE "	400	4
16	ALUM. STORAGE. RM. RECEP.	400	4
17 & 18	POWER RECEP. IN PUMP. GALLERY 2-P	2000	10
19 & 20	" " " " 2-P	2000	10
21 & 22	" " " " 2-P	2000	10
23 & 24	" " " PIPE GALLERY 2-P	2000	10
25 & 26	" " " " "	2000	10
27 & 28	WATER HEATER 2-P. OUTLET.	3000	15
29	FLOOD LIGHT NORTH	500	5
30	" " SOUTH.	500	5
31 } 32 }	2-P - 220V. SHOP ROOM POWER RECEP.	2000	10
33	WELLS, CENTRIFUGE & RETURN PUMP LTS.	800	8
34	EXHAUST FAN IN CHLORIN. RM.	400	4
35	LIME SILO RM. LTS.	500	5
36 TO 40	SPARE TOTAL	22,700	121 A.

PANEL "B"

CIRC No.	LOCATION	WATTS	AMP
1	OPERATION RM. LTS.	1200	12
2	" "	1200	12
3	SPARE.		
4	OUTSIDE OPERATION RM. LTS.	800	8
5	" " " "	800	8
6	ACCELATOR LTS.	200	2
7	DRINKING FOUNTAIN RECEP.	400	4
8	OPERATION RM. RECEP.	400	4
9	" " "	400	4
10	" " "	400	4
11	STAIR & TOILET LTS.	500	5
12 TO 14	SPARE.		
	TOTAL.	6300W.	31 A.

LEGEND.

- (16) INCANDESCENT FIXTURE WEATHER-PROOF & VAPOR TIGHT 100W. ART METAL CAT. No. 2686, NUMBER & LETTER INDICATES CIRCUIT & SWITCH RESPECTIVELY.
- WALL MOUNTED INCANDESCENT FIXTURE WEATHER-PROOF 100W. ART METAL CAT. No. 3540.
- ROUND RECESSED INCANDESCENT FIXTURE 100 W. ART METAL CAT No. 3642-AB.
- SQUARE DRUM INCANDESCENT FIXTURE 2-60W. ART METAL CAT No. 605.
- SURFACE FLUORESCENT FIXTURE. 4 LAMP 40W. 8' LONG. WAKEFIELD SYMMETRIC CAT. No. SYR-218-T. CLOSE CEILING MOUNTING.
- FLUORESCENT FIXTURE 8' LONG. 4-LAMP 40 WATT 2-STA-BRITE CAT. No. C-2-40. EACH.
- INCANDESCENT FIXTURE OUTDOOR, DOUBLE SHADE UNIT FOR OUTLET BOX. SWIVELIER CAT No. TORPEDO H-257.
- INCANDESCENT FIXTURE WALL MOUNTING 2-75 WATT ART METAL CAT. No. 3549-AA.
- DUPLEX RECEPTACLE 3WIRE GROUNDING 125V. 15A.
- $a S.P.S.T. SWITCH LETTER INDICATES FIXTURES THAT IT TURN-ON.
- 25&26 POWER RECEPTACLE 20-A. 240V. 3WIRE. NUMBERS INDICATE CIRCUITS.
- LIGHTING PANELS. PANEL "A" AT 1ST FLOOR 1-Φ, 120/240V. 40 No. OF POLES FOR BREAKERS SEE ABOVE. PANEL "B" AT 2ND. FLOOR 1-Φ, 120/240V. 14 No. OF POLES, FOR BREAKERS SEE ABOVE
- TELEPHONE
- TELEPHONE CONDUIT ¾"Φ.
- PORCELAIN LAMP HOLDER 100W.



POWER CONDUIT DIAGRAM.

SCALE 1/8" = 1'-0"

NOTE:
SEE SINGLE LINE POWER DIAGRAM FOR CABLE DIAMETER.

HHFA PROJECT NO APW FLA 30-G

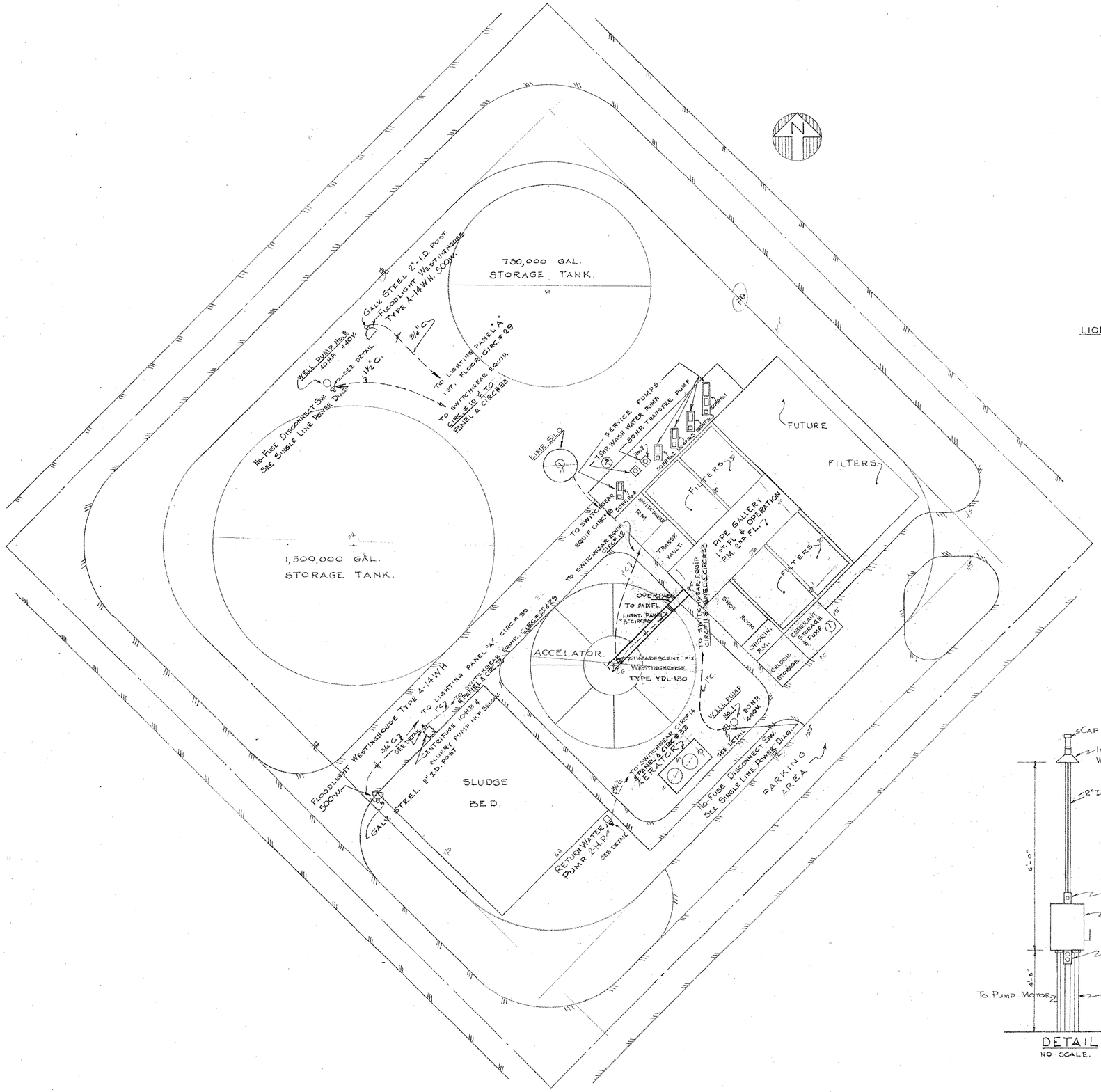
DATE	No.	REVISION	CHK'D
1-3-63	1	DELETE LIME SILO FOOTINGS	R.T.C.
1-3-63	2	DELETE TWO SLAKER MOTORS	R.T.C.
1-3-63	3	ADD EXHAUST FAN - CIR. 34	R.T.C.
1-19-63	4	CHANGE H.P. BACKWASH PUMP	R.T.C.
1-19-63	5	CHANGE CONDUIT SIZE	R.T.C.
3-4-63	6	GENERAL REVISION	
4-18-63	7	CHANGE COAGULANT FEEDER	C.D.M.
4-18-63	8	CHANGE PER ADDENDUM # 3	C.D.M.

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

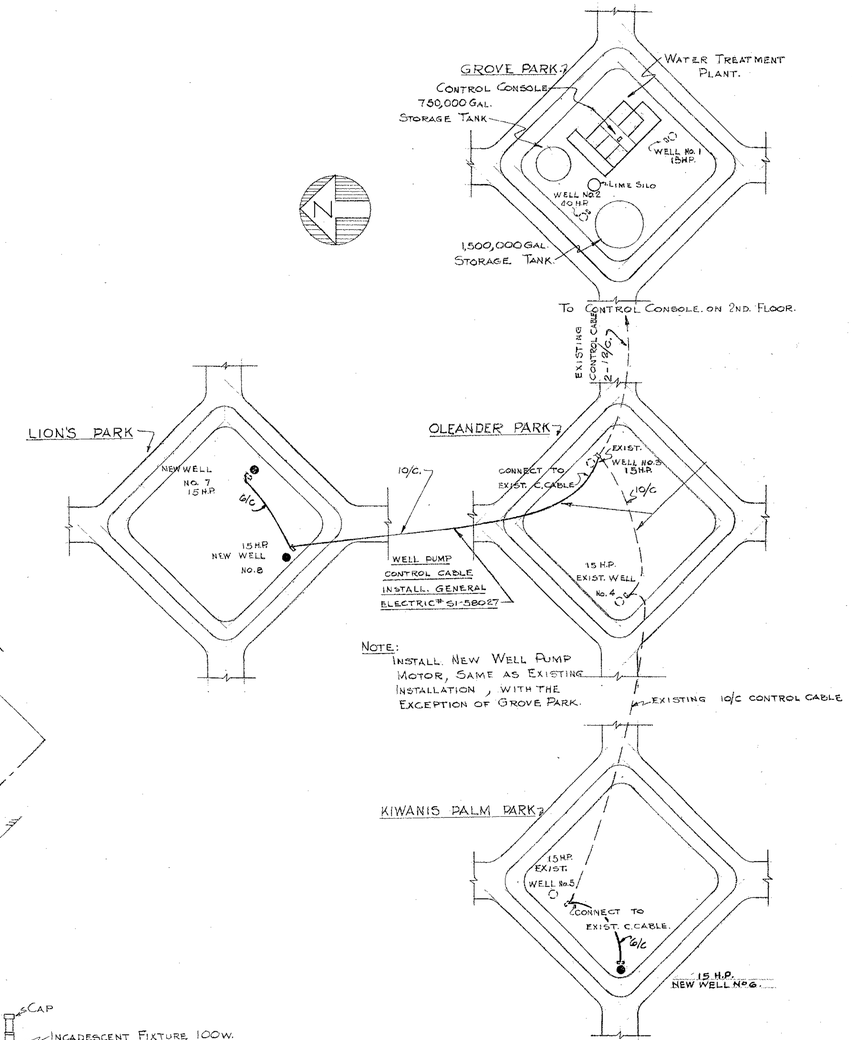
WEST SIDE WATER TREATMENT PLANT
ELECTRICAL
LIGHTING & POWER
CONDUIT DIAGRAM

DRAWN BY: J.C.W.	PROJECT NO.	SHEET 20 OF 27
CHECKED BY: N.B.L.	1203	DRAWING NO.
DATE: DEC. 1962		D-1203-20
SCALE: 1/8" = 1'-0"		



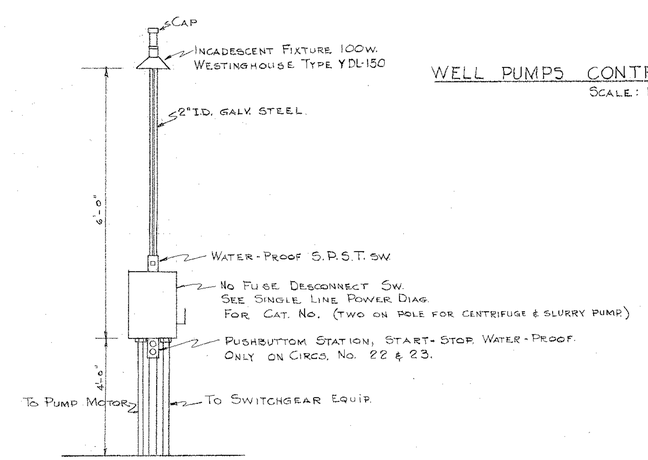
OUTSIDE LIGHTING & FEEDERS DIAGRAM

SCALE 1" = 20'



WELL PUMPS CONTROL CABLE INSTALL.

SCALE: 1" = 100'



DETAIL

NO SCALE.

HHFA PROJECT NO. APW FLA 30-G

DATE	No.	REVISION	CHK'D
1-3-63	1	CHANGE LOCATION - LIME SILO	R.T.C.
1-18-63	2	CHANGE H.P. - BACK WASH PUMP	R.T.C.
3-4-63	3	GENERAL REVISION	
5-16-63	4	WELL RELOCATION PER CITY	

INTERSTATE ENGINEERING CO., INC.

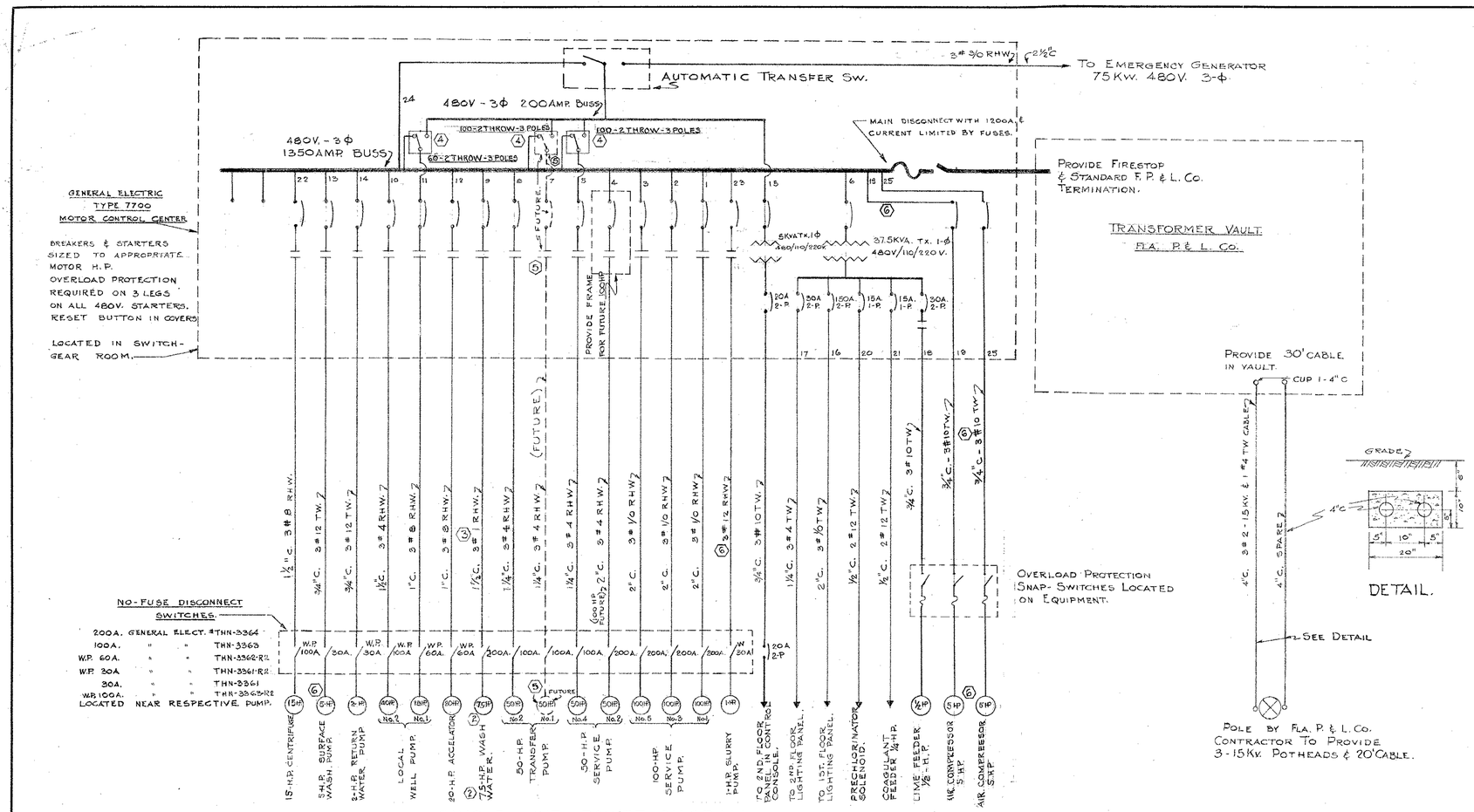
CONSULTING ENGINEERS

NORTH MIAMI, FLORIDA

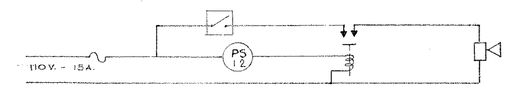
CITY OF NORTH MIAMI
NORTH MIAMI FLORIDA

WEST SIDE WATER TREATMENT PLANT
ELECTRICAL
OUTSIDE LIGHTING
WELL PUMPS CONTROL CABLE

DRAWN BY: JCM	PROJECT NO. 1203	SHEET 21 OF 27
CHECKED BY: N.B.L.		DRAWING NO. D-1203-21
DATE: DEC. 1962		
SCALE: AS SHOWN.		



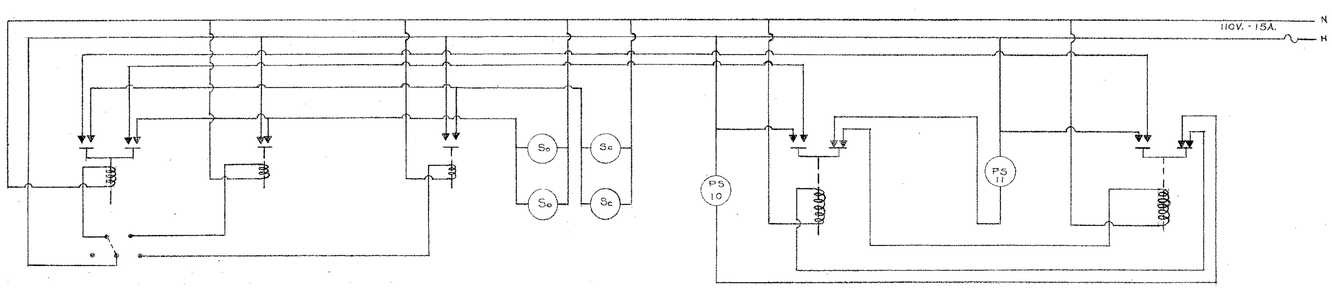
SINGLE-LINE POWER DIAGRAM.



HIGH WATER ALARM.

LEGEND.

- BREAKER 15 A. 1-P. IN PANEL IN CONTROL CONSOLE.
- PS 12 — PRESSURETROL MINEAPOLIS-HONEYWELL MERCURY SWITCH TYPE. CLOSE ON HIGH WATER IN STORAGE TANK. LOCATED IN PUMP GALLERY.
- RELAY ALLEN-BRADLEY BULLETIN #700 TYPE C. LOCATED IN CONTROL CONSOLE
- HORN LOCATED IN CONTROL CONSOLE. BENJAMIN TYPE SNP BUZZER No. 8797-115VOLT. OR SIMILAR.
- S.P.S.T. SWITCH LOCATED IN CONTROL CONSOLE.



DISTRIBUTION LINE PRESSURE CONTROL DIAGRAM.

LEGEND.

- PS 10 — MERCOID CORP. SWITCH CONTACTS CLOSE ON FALLING DISTRIBUTION PRESSURE ACTING TO OPEN THROTTLE VALVE. LOCATED IN CONTROL CONSOLE.
- PS 11 — MERCOID CORP. SWITCH CONTACTS CLOSE ON RISING DISTRIBUTION PRESSURE ACTING TO CLOSE THROTTLE VALVE. LOCATED IN CONTROL CONSOLE.
- So — SOLENOID VALVE GENERAL CONTROLS MAGNETIC VALVES TYPE K-21E TO OPEN DISTRIBUTION PRESSURE CONTROL VALVE. LOCATED AT VALVE.
- Sc — SOLENOID VALVE GENERAL CONTROLS MAGNETIC VALVES TYPE K-21E TO CLOSE DISTRIBUTION PRESSURE CONTROL VALVE. LOCATED AT VALVE.
- FOUR POSITION SELECTOR SWITCH, OFF-AUTO-OPEN-CLOSE LOCATED CONTROL CONSOLE.
- RELAY ALLEN BRADLEY BULLETIN #700 TYPE C. LOCATED IN CONTROL CONSOLE.
- RELAY ALLEN BRADLEY BULLETIN #700 TYPE C. LOCATED IN CONTROL CONSOLE.

HHFA PROJECT NO APW FLA. 30-G

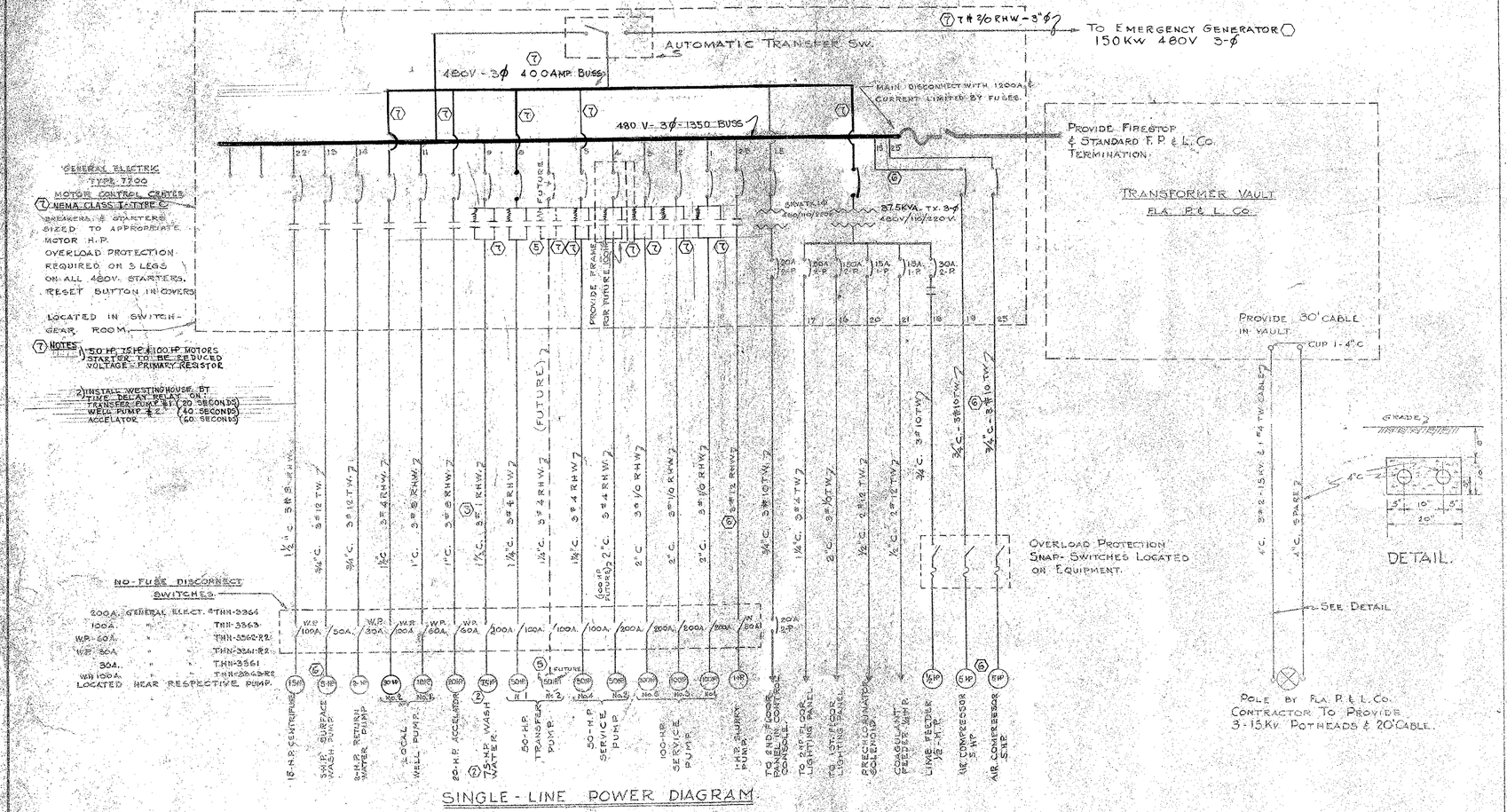
DATE	No.	REVISION	CHK'D
1-3-63	1	DELETE TWO LIME SLAKER MOTORS	R.T.C.
1-19-63	2	CHANGE H.P.-BACK WASH PUMP	R.T.C.
1-19-63	3	CHANGE CONDUIT & WIRE SIZE	R.T.C.
2-6-63	4	DOUBLE THROW-3 POLES SWITCH ADDITION	C.D.M.
3-4-63	5	GENERAL REVISION.	
4-18-63	6	CHANGE PER ADDENDUM #3	C.D.M

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

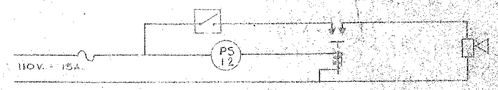
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
ELECTRICAL
SINGLE LINE POWER DIAGRAM
DISTRIBUTION LINE PRESSURE CONTROL DIAG.

DRAWN BY: J.C.M.
CHECKED BY: N.B.L.
DATE: DEC. 1962
SCALE: NO SCALE
PROJECT NO. 1203
SHEET 22 OF 27
DRAWING No. DI203-22



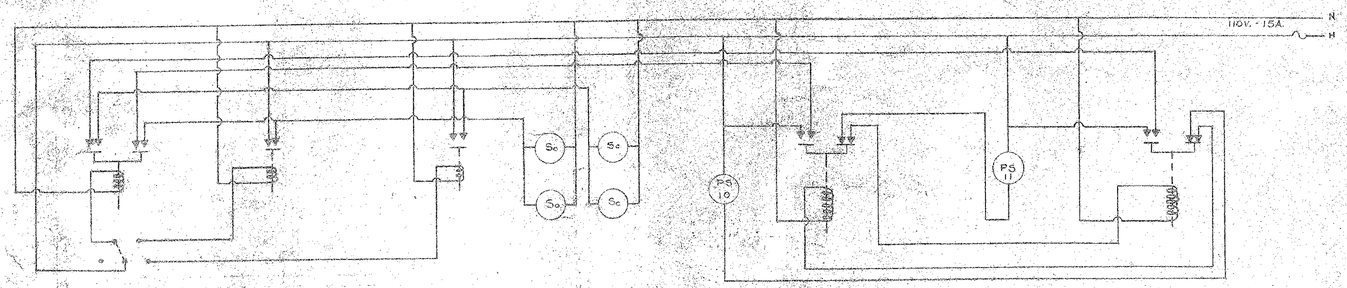
SINGLE-LINE POWER DIAGRAM



HIGH WATER ALARM

LEGEND

- Breaker 15 A. 1-P in Panel in Control Console.
- PS 12 — Pressuretrol Minneapolis Honeywell Mercury Switch Type, Close on High Water in Storage Tank. Located in Pump Gallery.
- Relay Allen-Bradley Bulletin #700 Type C, Located in Control Console.
- Horn Located in Control Console. Benjamin Type SNF Buzzer No. 8797-115 Volt or Similar.
- S.P.S.T. Switch Located in Control Console.



DISTRIBUTION LINE PRESSURE CONTROL DIAGRAM

LEGEND

- PS 10 — Mercoid Corp. Switch Contacts Close on Falling Distribution Pressure Acting to Open Throttle Valve. Located in Control Console.
- PS 11 — Mercoid Corp Switch Contacts Close on Rising Distribution Pressure Acting to Close Throttle Valve. Located in Control Console.
- So — Solenoid Valve General Controls Magnetic Valves Type K-21E to Open Distribution Pressure Control Valve. Located at Valve.
- Sc — Solenoid Valve General Controls Magnetic Valves Type K-21E to Close Distribution Pressure Control Valve. Located at Valve.
- Four Position Selector Switch, Off-Auto-Open-Close Located Control Console.
- Relay Allen Bradley Bulletin #700 Type C. Located in Control Console.
- Relay Allen Bradley Bulletin #700 Type C. Located in Control Console.

HHFA PROJECT NO. APW-FLA 30-6

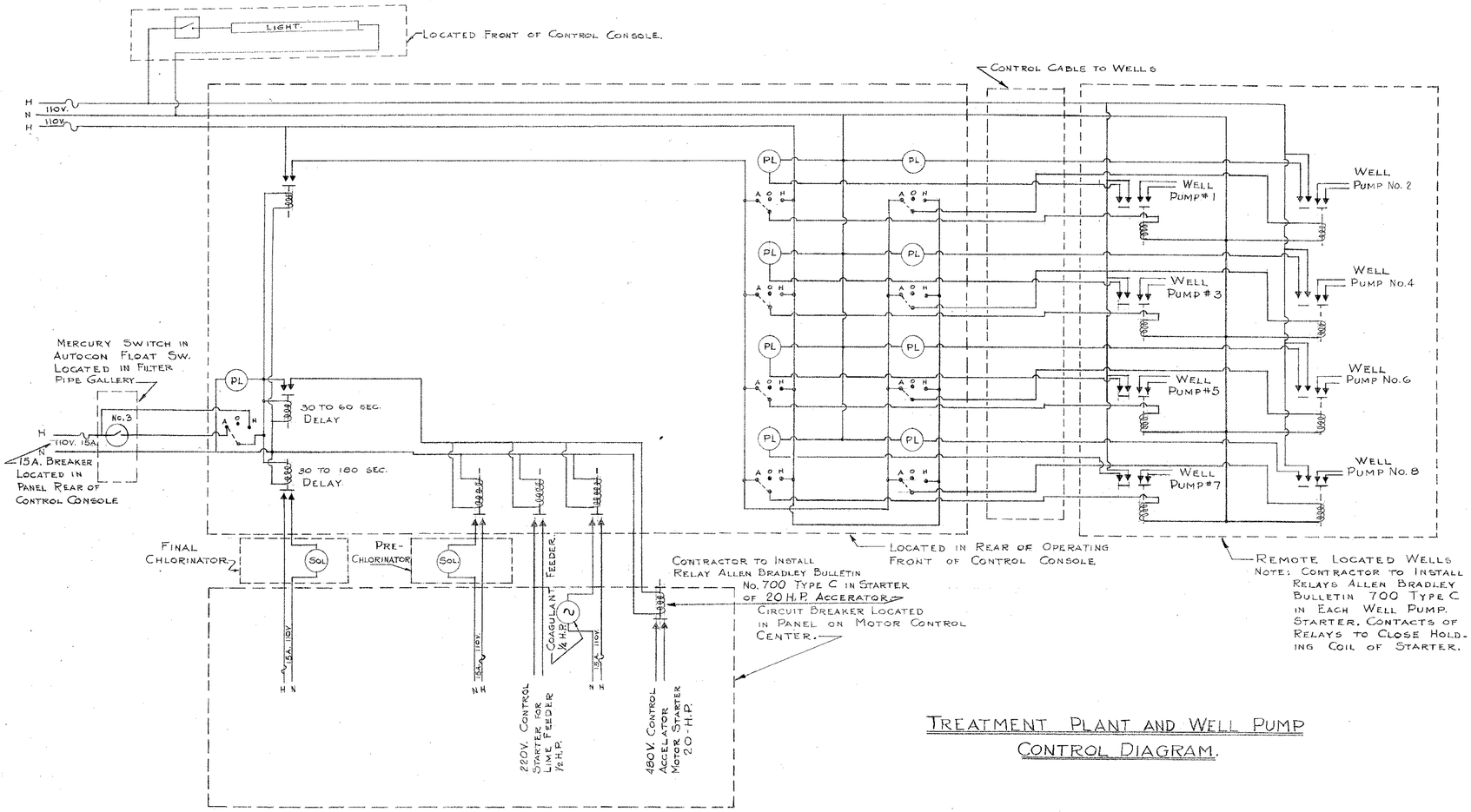
DATE	No.	REVISION	CHK'D
1-3-63	1	DELETE TWO LINE PLANTS HISTORY	
1-19-63	2	CHANGE H.P. - BACK WASH PUMPS	
1-19-63	3	CHANGE CONDUIT & WIRE SIZE	
3-4-63	5	GENERAL REVISION.	
4-18-63	6	CHANGE PER ADDENDUM #2	C.P.M.
4-23-63	7	AS NOTED	C.P.M.

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
ELECTRICAL
SINGLE LINE POWER DIAGRAM
DISTRIBUTION LINE PRESSURE CONTROL DIAGRAM

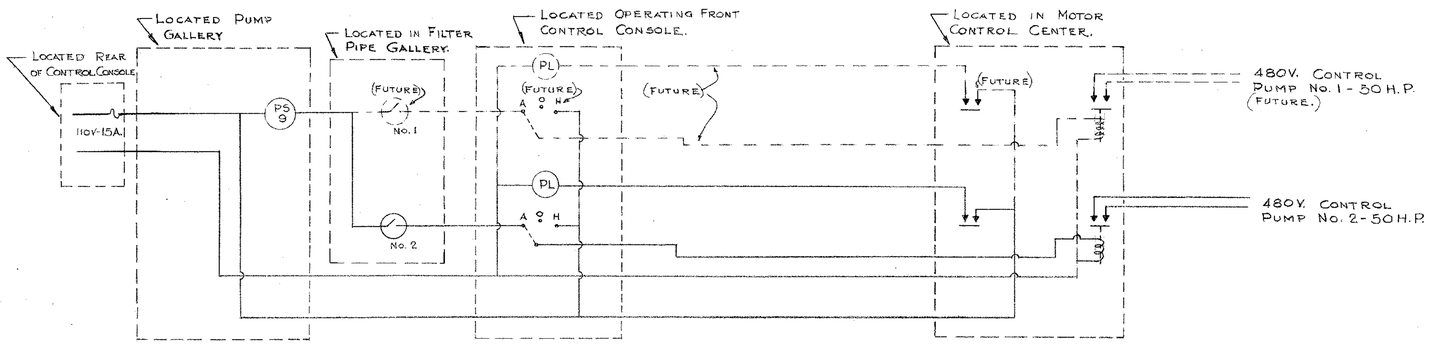
DRAWN BY: JCM
CHECKED BY: N.B.L.
DATE: DEC. 1962
SCALE: NO SCALE
PROJECT NO. 1203
DRAWING 72



LEGEND.

- PL — PILOT LTS. GENERAL ELECTRIC CAT. No. CR-104G-322
- A O H — HAND-OFF-AUTO. SW. GENERAL ELECTRIC CAT. No. CR-104 B-201
- 30 TO 60 SEC. — TIME DELAY RELAYS ALLEN BRADLEY BULLETIN No. 849
- RELAY ALLEN BRADLEY BULLETIN No. 700 TYPE C.
- AUX. CONTACTS OF STARTERS TO CLOSE PILOT LTS. CIRCUIT.
- SOL — SOLENOID VALVE
- MERCURY SW. IN AUTOCON FLOAT SW. LOCATED IN FILTER PIPE GALLERY
- 15A. BREAKER
- PS 9 — MERCOID CORP. PRESSURE SWITCH OPERATED BY STORAGE TANK WATER LEVEL. OPEN AT HIGH WATER
- S.P.S.T. SW. LOCATED FRONT OF CONTROL CONSOLE
- LIGHT — FLUORESCENT FIXTURE BUILT IN CONTROL CONSOLE BY MFG.

TREATMENT PLANT AND WELL PUMP CONTROL DIAGRAM.



TRANSFER PUMP CONTROL DIAGRAM.

NOTE:
MERCURY SWITCH No 1. CLOSES AT A LOWER CLEARWELL THAN No. 2. BOTH SWS. OPEN AT LOW CLEARWELL.

HHFA PROJECT NO. APW FLA 30-G

DATE	No.	REVISION	CHK'D
3-4-63	1	GENERAL REVISION	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

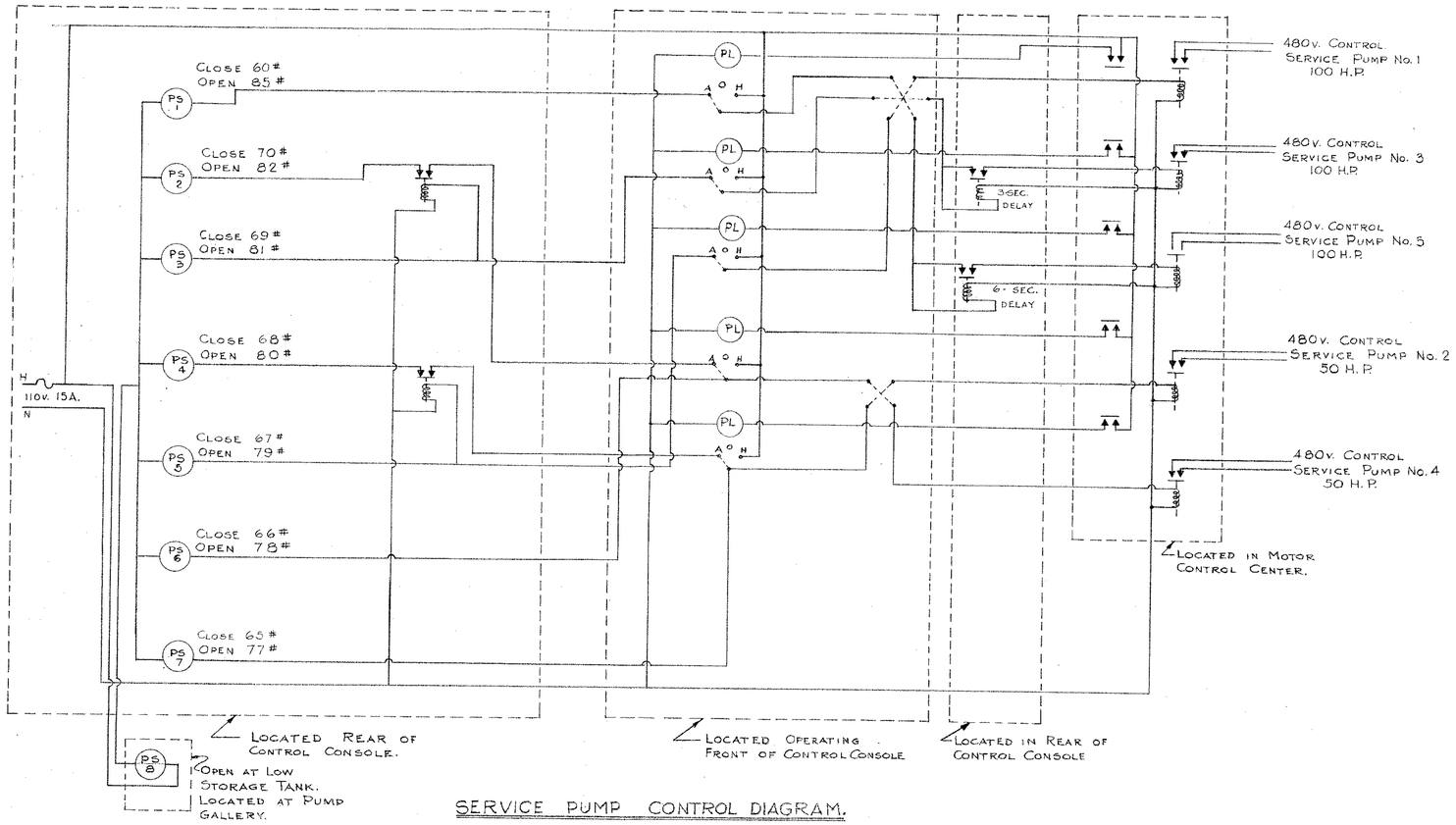
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
ELECTRICAL
TREATMENT PLANT & WELL
PUMP CONTROL DIAGRAM

DRAWN BY: JCM
CHECKED BY: N.B.L.
DATE: DEC. 1962
SCALE: NO SCALE

PROJECT NO. 1203

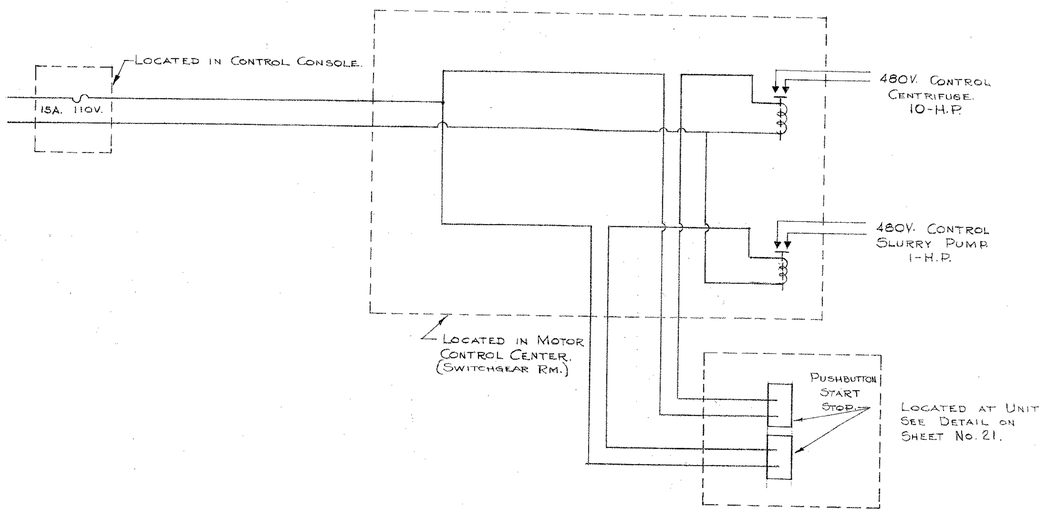
SHEET 23 OF 27
DRAWING No. D1203-23



SERVICE PUMP CONTROL DIAGRAM.

LEGEND

- 15A. BREAKER LOCATED REAR OF CONTROL CONSOLE.
- P.S. # — MERCOID CORP. PRESSURE SW. CONTACS OPEN & CLOSE AS INDICATED IN DIAGRAM. NOS. 1, 2, 3, 4, 5, 6 & 7 OPERATED BY DISTRIBUTION LINE PRESSURE, NO. 8 AT LOW WATER IN STORAGE TANKS.
- RELAYS ALLEN BRADLEY BULLETIN No. 700 TYPE C.
- PL — PILOT LIGHTS GENERAL ELECTRIC CAT No. CR-104-C-322
- A O H — HAND-OFF-AUTO SW. GENERAL ELECTRIC CAT. No. CR-104-B-201
- & ALTERNATOR SW. MANUALLY OPERATED TO CHANGE LEAD PUMP.
- SEC. DELAY — TIME DELAY RELAYS ALLEN BRADLEY BULLETIN No. 849. TIME AS INDICATED IN DIAGRAM.
- PILOT LIGHTS CONTACTS TO BE AUXILIARY CONTACTS ON MOTOR STARTERS IN MOTOR CONTROL CENTER.



CENTRIFUGE & SLURRY PUMP CONTROL DIAGRAM.

HHFA PROJECT NO. APW FLA. 30-G

DATE	No.	REVISION	CHK'D
3-4-63	0	GENERAL REVISION.	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

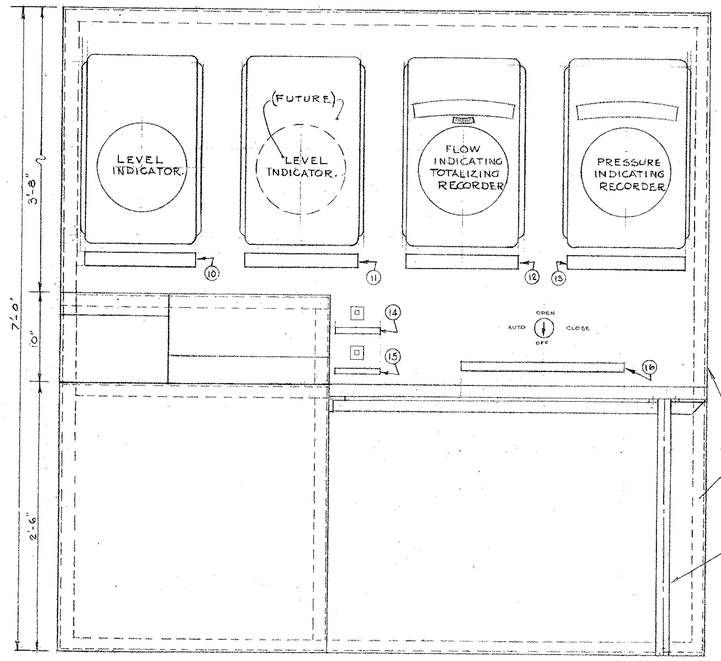
WEST SIDE WATER TREATMENT PLANT

ELECTRICAL
SERVICE PUMP, CENTRIFUGE &
SLURRY PUMP CONTROL DIAGRAM

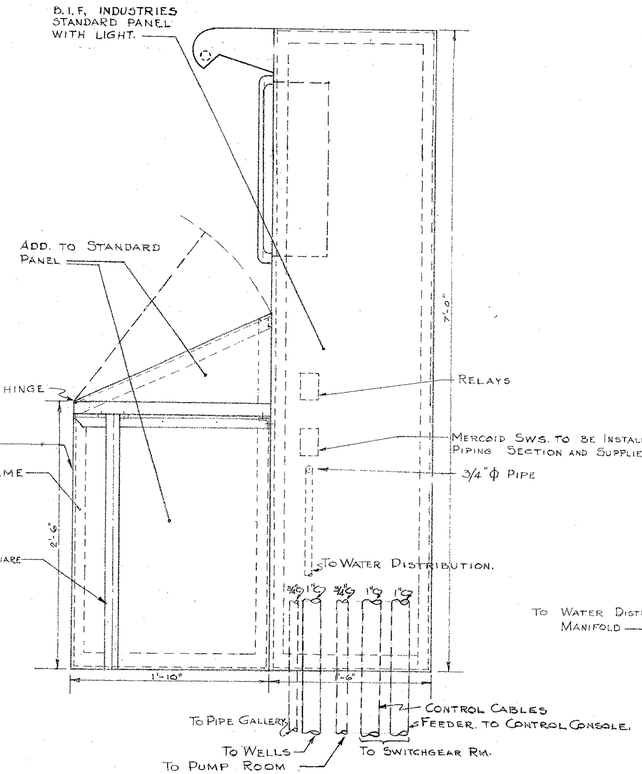
DRAWN BY: JCM
CHECKED BY:
DATE: DEC. 1962
SCALE: NO SCALE

PROJECT NO. 1203

SHEET 24 OF 27
DRAWING No. D1203-24



FRONT ELEVATION



MERCOID PS'S SW. (12)

2 - CONTACTS CLOSE ON RISING PRESSURE.
8 - CONTACTS CLOSE ON FALLING PRESSURE.
1 - CONTACTS OPEN ON RISING PRESSURE.
1 - CONTACTS CLOSE ON FALLING PRESSURE.

RELAYS. (25)

4 - TIME DELAY RELAY "A" CONTACTS 1-POLE
2 - "B" CONTACTS 1-POLE
15 - "A" CONTACTS 1-POLE
4 - "A" + "B" CONTACTS 1-POLE.

CONTROL PANEL.

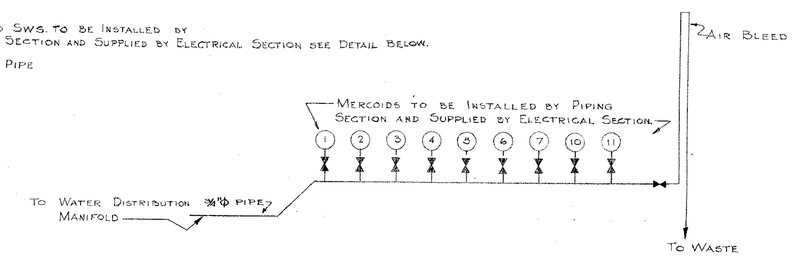
10 - 15A. 1-POLE BREAKERS.
1 - HIGH WATER ALARM.
2 - DISTRIBUTION PRESSURE.
3 - TRANSFER PUMPS & ALTITUDE VALVE
4 - SERVICE PUMPS.
5 - WELL PUMPS PILOT LTS.
6 - " " CONTROL.
7 - TREATMENT PLANT CONTROL.
8 - WASH WATER & FILTER BOOSTER PUMP
9 - FLOWMETER.
10 - CENTRIFUGE & SLURRY PUMP CONTROL.
11 - SPARE.
12 - "

ALTERNATOR SW. (2)

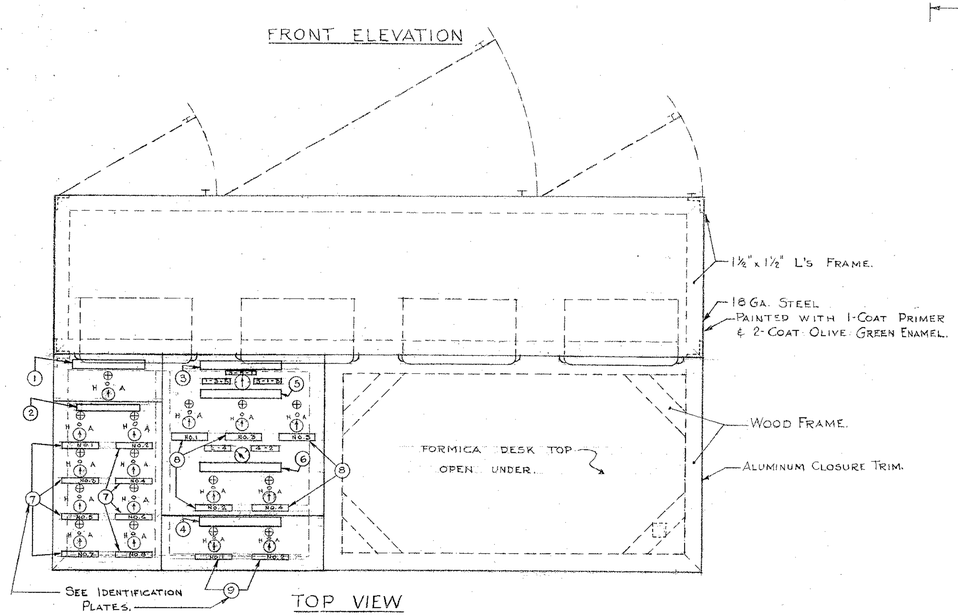
1 - 3-POLE DOUBLE THROW 3-POSITIONS.
1 - 2-POLE DOUBLE THROW

PILOT LTS & H.O.A. SW. (16 EACH)

8 - WELLS
1 - TREATMENT PLANT
5 - SERVICE PUMPS.
2 - TRANSFER PUMPS.



MERCOID PS'S. SW. DETAIL



TOP VIEW

1	TREATMENT PLANT F	1½"	10" MAX.
2	WELL PUMPS		10" MAX.
3	SERVICE PUMPS		10" MAX.
4	TRANSFER PUMPS		10" MAX.
5	PRIMARY SEQUENCE SELECTOR SW. F	1½"	12" MAX.
6	SECONDARY SEQUENCE SELECTOR SW.		12" MAX.
7	WELL NO. 1 & NO'S 2, 3, 4, 5, 6, 7 & 8		5" MAX.
8	PUMP NO. 1 & NO'S 2, 3, 4 & 5		5" MAX.
9	PUMP NO. 1 & NO. 2		5" MAX.
10	STORAGE TANK LEVEL F	1½"	12" MAX.
11	(FUTURE)		12" MAX.
12	RAW WATER		12" MAX.
13	DISTRIBUTION PRESSURE		12" MAX.
14	ALARM STOP		5" MAX.
15	CONTROL CONSOLE LIGHT		6" MAX.
16	DISTRIBUTION PRESSURE CONTROL F	1½"	16" MAX.

IDENTIFICATION PLATES

NOTE: ALL PLATES TO BE ENGRAVED LAMINATED BAKELITE. NO SCALE.

CONTROL CONSOLE LAYOUT.

SCALE: 1½" = 1'-0"

HHFA PROJECT NO. APW FLA 30-G

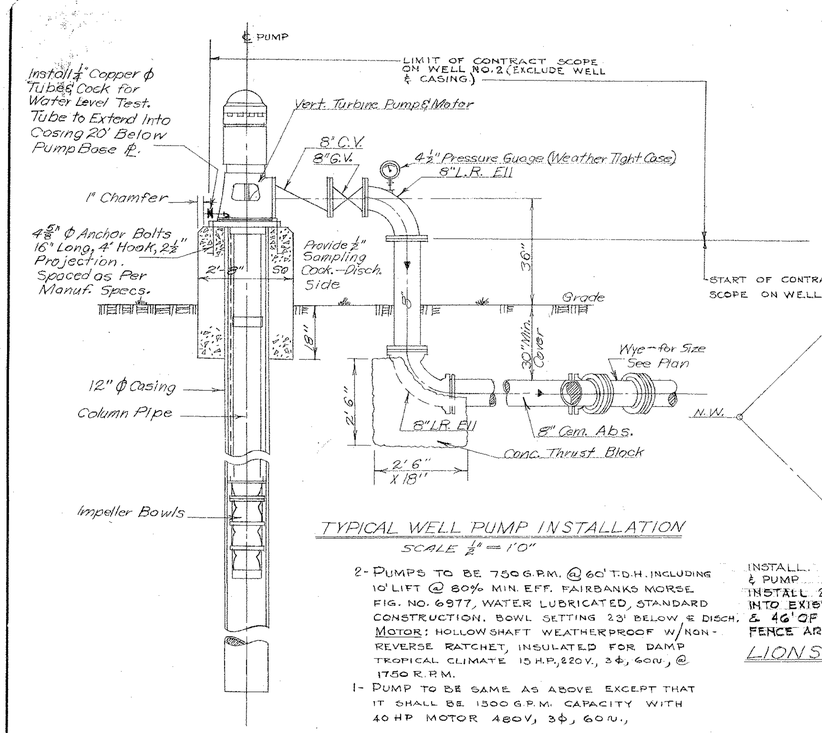
DATE	No.	REVISION	CHK'D
3-4-63	0	GENERAL REVISION.	

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
ELECTRICAL
CONTROL CONSOLE LAYOUT

DRAWN BY: JCM	PROJECT NO. 1203	SHEET 25 OF 27
CHECKED BY: N.B.L.		DRAWING NO. D1203-25
DATE: DEC. 1962		
SCALE: NO SCALE		

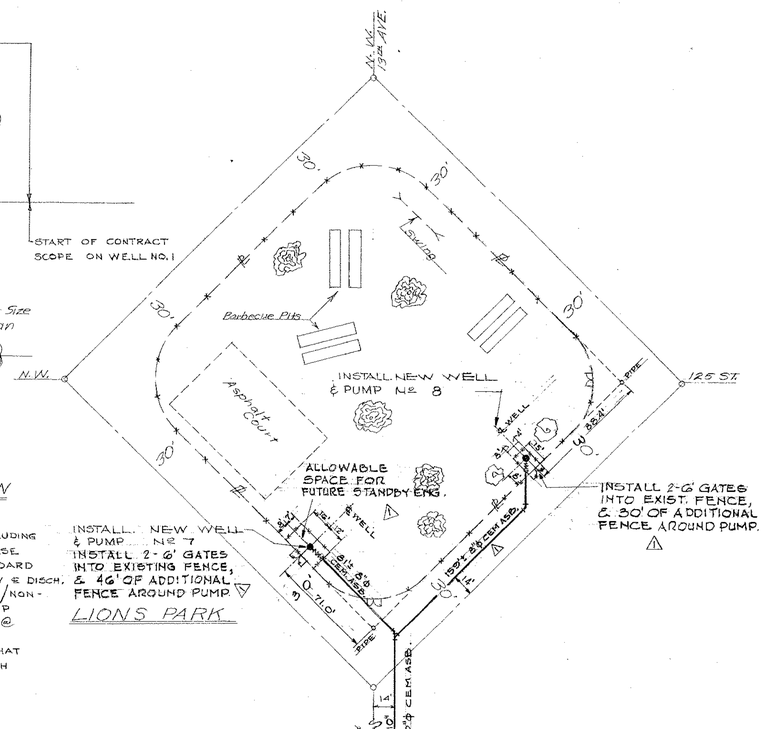


TYPICAL WELL PUMP INSTALLATION

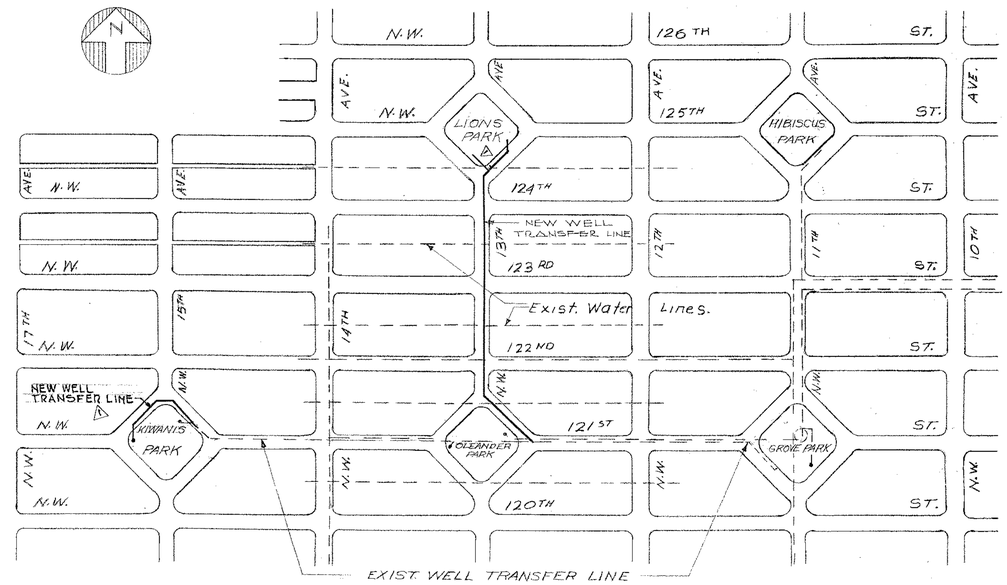
SCALE 1/2" = 1'0"

2- PUMPS TO BE 750 G.P.M. @ 60' T.D.H. INCLUDING 10' LIFT @ 80% MIN. EFF. FAIRBANKS MORSE FIG. NO. 6977, WATER LUBRICATED, STANDARD CONSTRUCTION. BOWL SETTING 23' BELOW ℄ DISCH. MOTOR: HOLLOW SHAFT WEATHERPROOF W/NON-REVERSE RATCHET, INSULATED FOR DAMP TROPICAL CLIMATE 15 H.P., 220 V., 3 Φ, 60 ~, @ 1750 R.P.M.

1- PUMP TO BE SAME AS ABOVE EXCEPT THAT IT SHALL BE 1500 G.P.M. CAPACITY WITH 40 HP MOTOR 480V, 3 Φ, 60 ~.

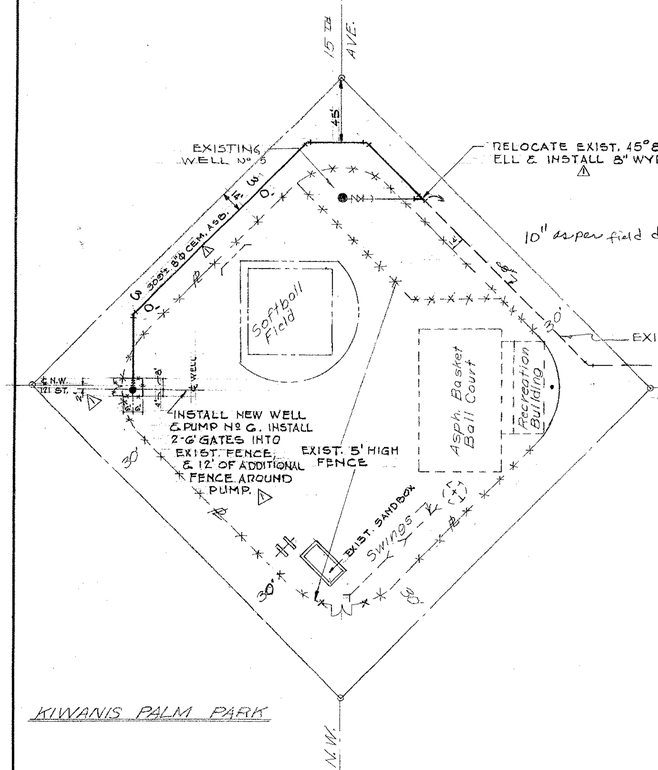


LIONS PARK

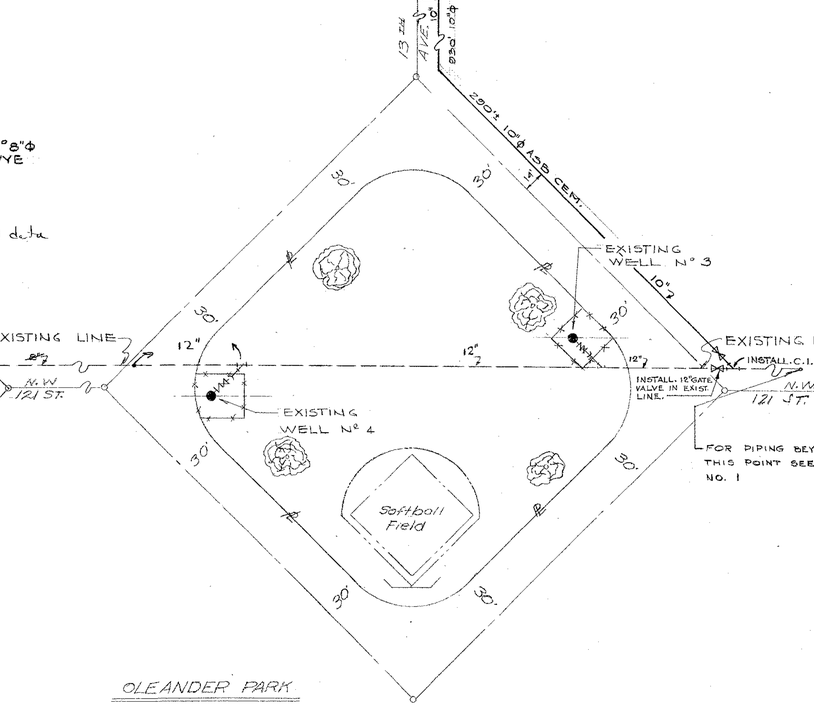


LOCATION PLAN

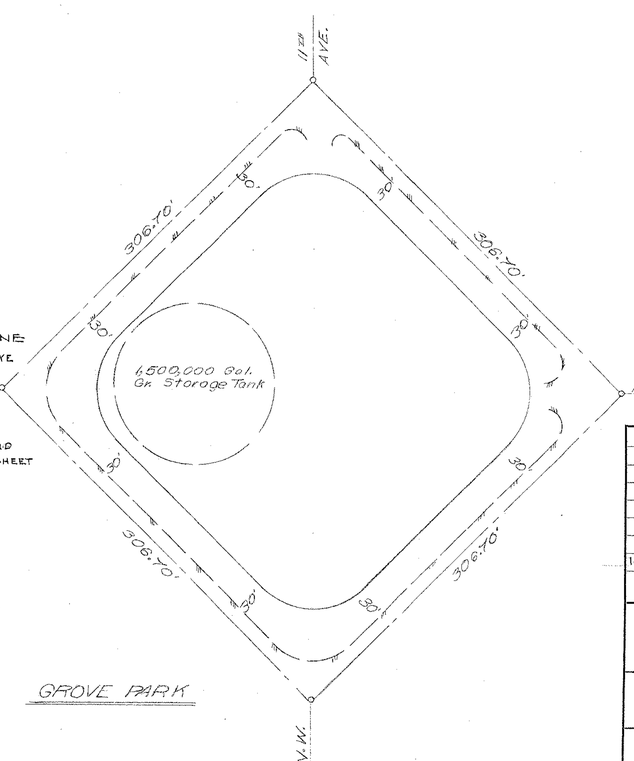
SCALE: 1" = 300'



KIWANIS PALM PARK



OLEANDER PARK



GROVE PARK

SCALE: 1" = 50'

HHFA PROJECT NO. APW FLA 30-G

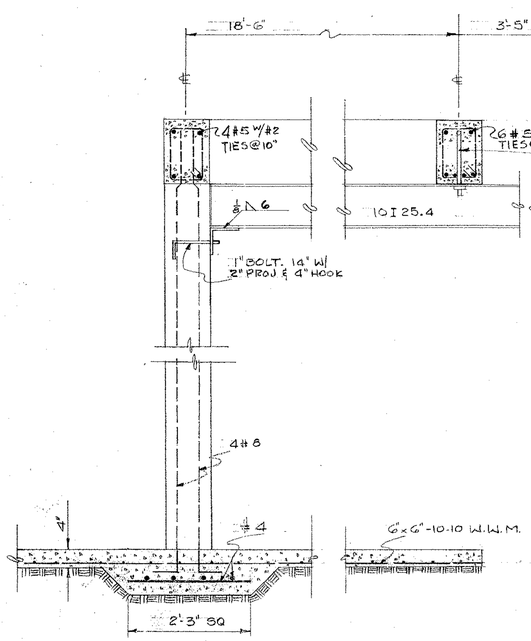
DATE	No.	REVISION	CHK'D
16 MAY 63	1	RELOCATION WELLS BY CITY REQUEST	JCO

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

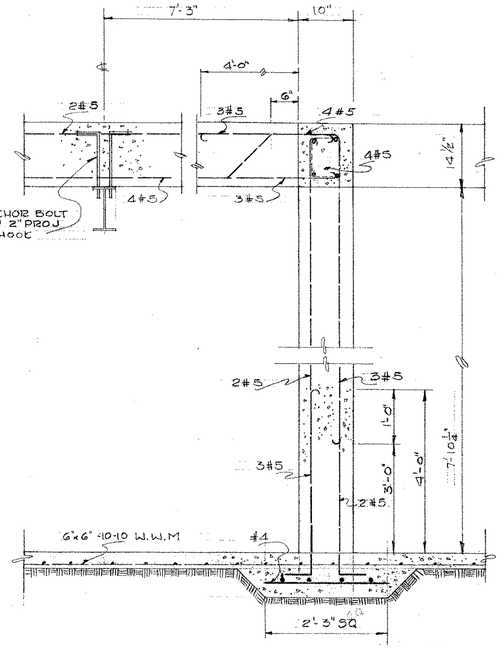
CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT
NEW WELL FIELD & TRANSMISSION FACILITIES
LOCATION AND DETAILS

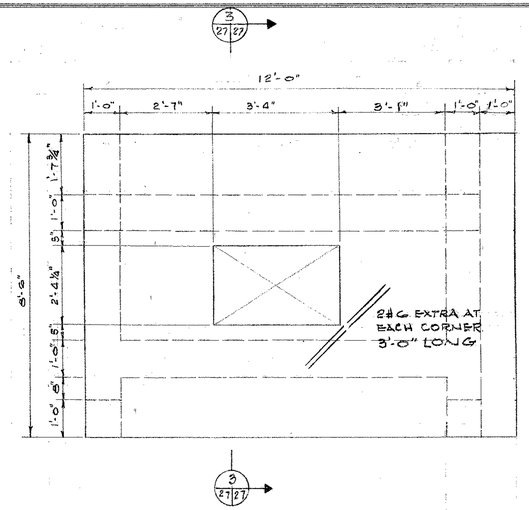
DRAWN BY:
CHECKED BY:
DATE:
SCALE:
PROJECT NO. 1203
SHEET 26 OF 27
DRAWING NO. D1003-26



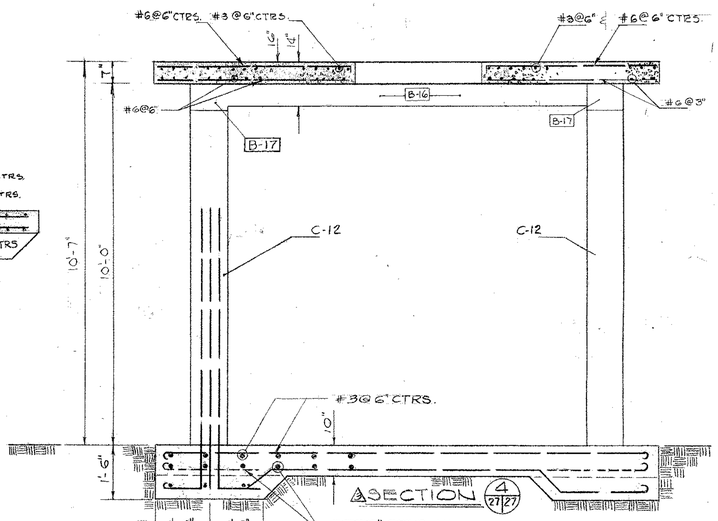
SECTION 1/6/27



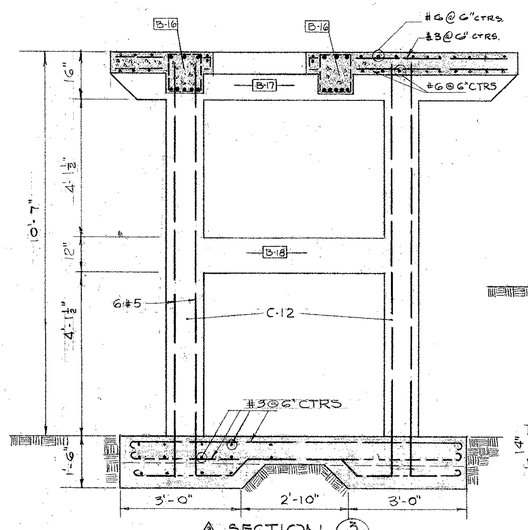
SECTION 2/6/27



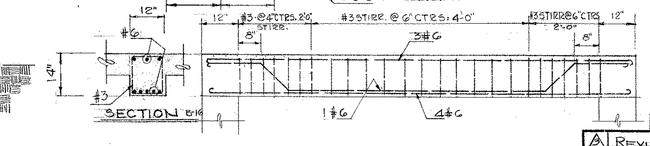
PLAN



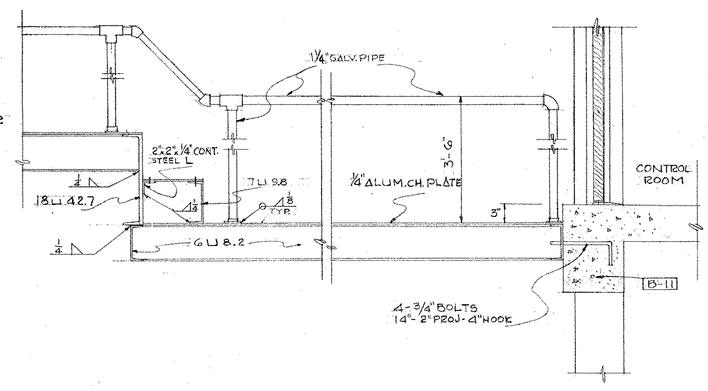
SECTION 4/27/27



SECTION 3/27/27



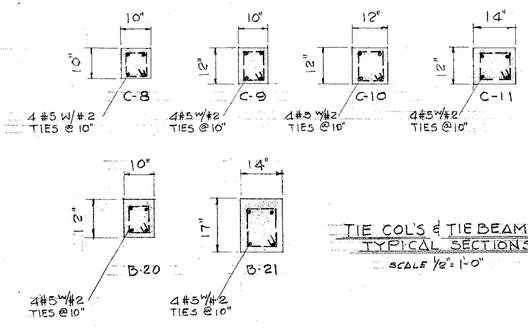
BEAM B-16



ACCELATOR WALKWAY

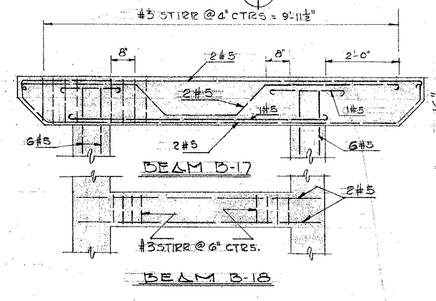
LONG. SECTION

SCALE 1" = 1'-0"



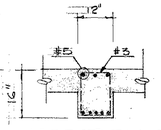
TIE COL'S & TIE BEAMS TYPICAL SECTIONS

SCALE 1/2" = 1'-0"

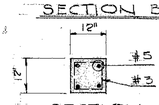


BEAM B-17

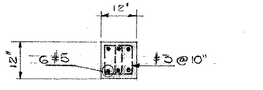
BEAM B-18



SECTION B-17



SECTION B-18



TYP. COLUMN SECTION C-12

SCALE 1/2" = 1'-0"

HHFA PROJECT NO. APW-FLA-306

No.	REVISION	By	CHECKED	DATE
3	Revise Sections 3 & 4	W.R.C.	JPA	2-3-64
2	Revision of Platform	J.F.V.		5-28-63
1	Changed Size of Contr. Opening	B.S.E.	W.R.C.	9 Mar. 1963

INTERSTATE ENGINEERING CO., INC.

Consulting Engineers

NORTH MIAMI FLORIDA

WEST SIDE WATER TREATMENT PLANT
CENTRIFUGAL FILTER AND
ACCELATOR WALKWAY

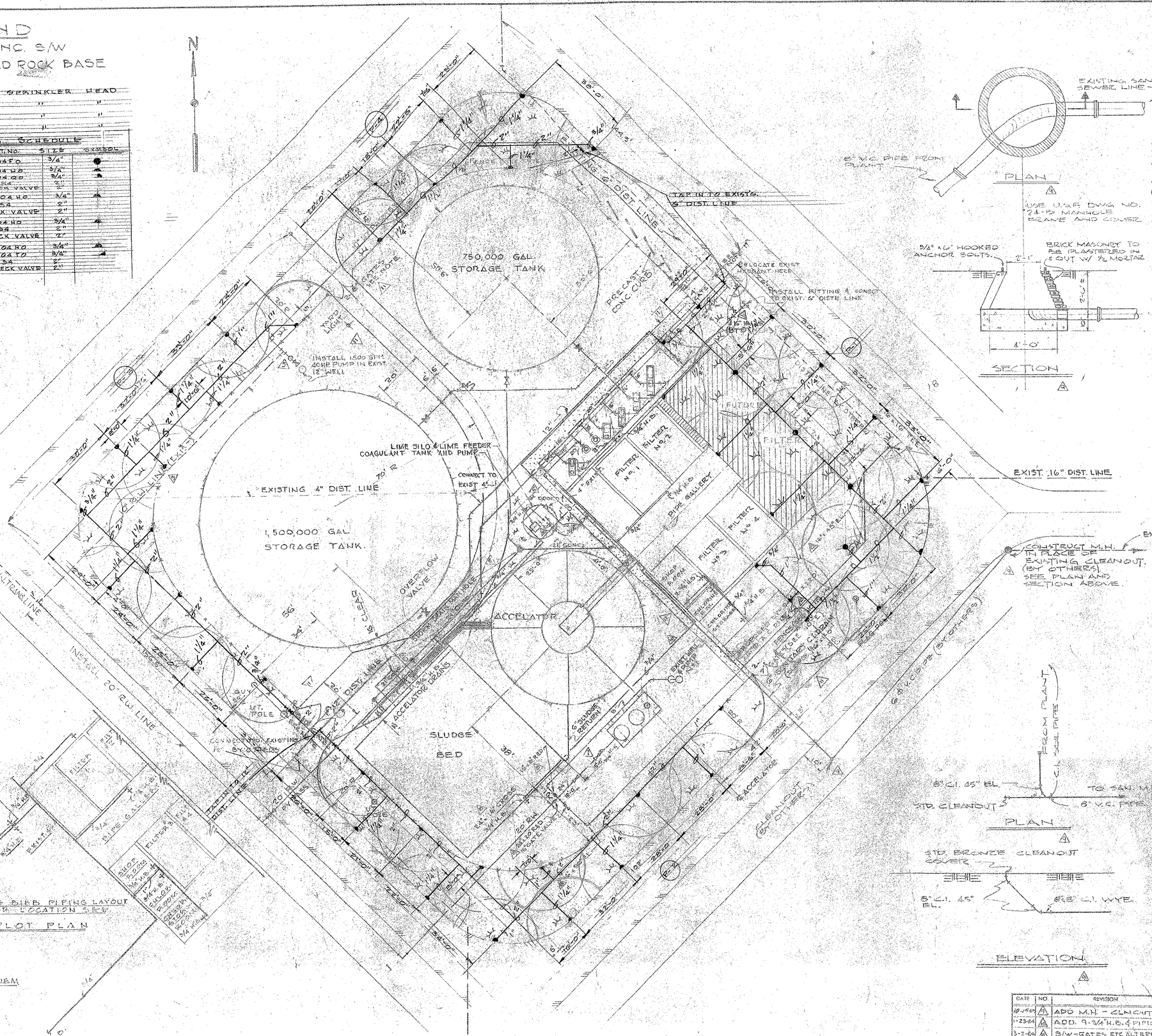
Design	Proj. No. 1203	SEAL
Drawn EMIL A. SANS.	Sheet No. 27 of 27 Sheets	
Checked WRL	Scale AS SHOWN	
Date DEC. 1962		

LEGEND

- 5' WIDE CONC. S/W
- 6" THICK ROAD ROCK BASE
- GRASSED
- FULL CIRCLE SPRINKLER HEAD
- HALF " " "
- QUARTER " " "
- THIRD " " "

SPRINKLER HEADS SCHEDULE

P.No.	No.Req'd.	MFG. BY	CAT.No.	SIZE	SYMBOL
P-1	4	BUCKNER	404 F.O.	3/4"	
"	11	"	404 H.O.	3/4"	
"	3	"	404 Q.O.	3/4"	
"	1	"	54	2"	
"	1	STD.	CHECK VALVE	2"	
P-2	12	BUCKNER	404 H.O.	3/4"	
"	1	"	54	2"	
"	1	STD.	CHECK VALVE	2"	
P-3	12	BUCKNER	404 H.O.	3/4"	
"	1	"	54	2"	
"	1	STD.	CHECK VALVE	2"	
P-4	6	BUCKNER	404 H.O.	3/4"	
"	1	"	404 T.O.	3/4"	
"	1	"	54	2"	
"	1	STD.	CHECK VALVE	2"	



INDEX OF SHEETS

COVER SHEET
1. PLOT PLAN
2. PLOT PLAN - EXISTING FACILITIES TO BE REMOVE
3. LIME SILO AND AERATOR
4. FILTER, CLEARWELL & OPERATION ROOM ELEVATIONS
5. ARCHITECTURAL PLAN & SECTION
6. STRUCTURAL DETAILS
7. STRUCTURAL DETAILS
8. STRUCTURAL DETAILS
9. BEAM & COLUMN SCHEDULE
10. STRUCTURAL DETAILS
11. STRUCTURAL DETAILS
12. PUMP ROOM
13. PLANT PIPING FLOW DIAGRAM
14. PLANT PIPING DETAIL
15. PLANT PIPING DETAIL
16. PLANT PIPING DETAIL
17. PLANT PIPING DETAIL
18. SLUDGE DRYING BED, ACCELATOR BASE, CLEAR WELL SUMP
19. GROUND STORAGE TANK
20. ELECTRICAL - LIGHTING & POWER CONDUIT DIAGRAM
21. ELECTRICAL - OUTSIDE LIGHTING, WELL PUMP CONTROL CABLE
22. ELECTRICAL - SINGLE LINE POWER DIAGRAM
23. ELECTRICAL - PLANT & WELL CONTROL DIAGRAM
24. ELECTRICAL - SERVICE PUMP CENTRIFUGE CONTROL
25. ELECTRICAL - CONTROL CONSOLE LAYOUT
26. NEW WELL FIELD & TRANSMISSION FACILITIES
27. CENTRIFUGAL FILTER & ACCELATOR WALKWAY

NOTE:
A LOUVERED CONCRETE FENCE TO BE CONSTRUCTED AT LOCATIONS SHOWN. GATES TO BE WOVEN WIRE WITH GALVANIZED STEEL POSTS, CYCLONE OR EQUAL.

(A) ALL OPEN AREA WITHIN ℄ FENCE NOT OCCUPIED BY STRUCTURES AND NOT COVERED WITH A 6" MIN. ROAD ROCK BASE TO BE COVERED WITH A 2" MIN. WASH ROCK BASE.

HHFA PROJECT NO. APW FLA 30-6

DATE	No.	REVISION	CHK'D
1-23-63	1	CHANGE LOCATION - LIME SILO	R.T.C.
3-4-63	2	GENERAL REVISIONS	A.S.H.
3-18-63	3	10" R.W. LINE (BY OTHERS) TO (EXIST)	W.H.S.
4-15-63	4	10" BY-PASS (BY OTHERS)	W.S.C.
4-16-63	5	REVISE LAYOUT OF FITTING	W.H.S.
4-18-63	6	CHANGE LOCATION - LIME SILO & COAGULANT TANK AND PUMP	S.D.M.
4-18-63	7	ADDITION OF A 24" x 20" TEE	C.D.M.
9-20-63	8	ADD. OF PROPOSED BY-PASS 16"Φ	M.L.

INTERSTATE ENGINEERING CO., INC.
CONSULTING ENGINEERS
NORTH MIAMI, FLORIDA

CITY OF NORTH MIAMI
NORTH MIAMI, FLORIDA

WEST SIDE WATER TREATMENT PLANT

SPRINKLER SYSTEM

DATE	NO.	REVISION	BY
10-15-63	1	ADD M.H. - CLNOUT	A.S.H.
1-23-64	2	ADD. 9-24" H.B. & PIPING	J.D.
3-2-64	3	B/W - GATES ETC. ALTERED	M.M.

DRAWN BY: A.S.H.
CHECKED BY:
DATE: DEC. 1962
SCALE: 1" = 20'
PROJECT NO. 1203
SHEET 1 OF 27
DRAWING NO. 1126-28