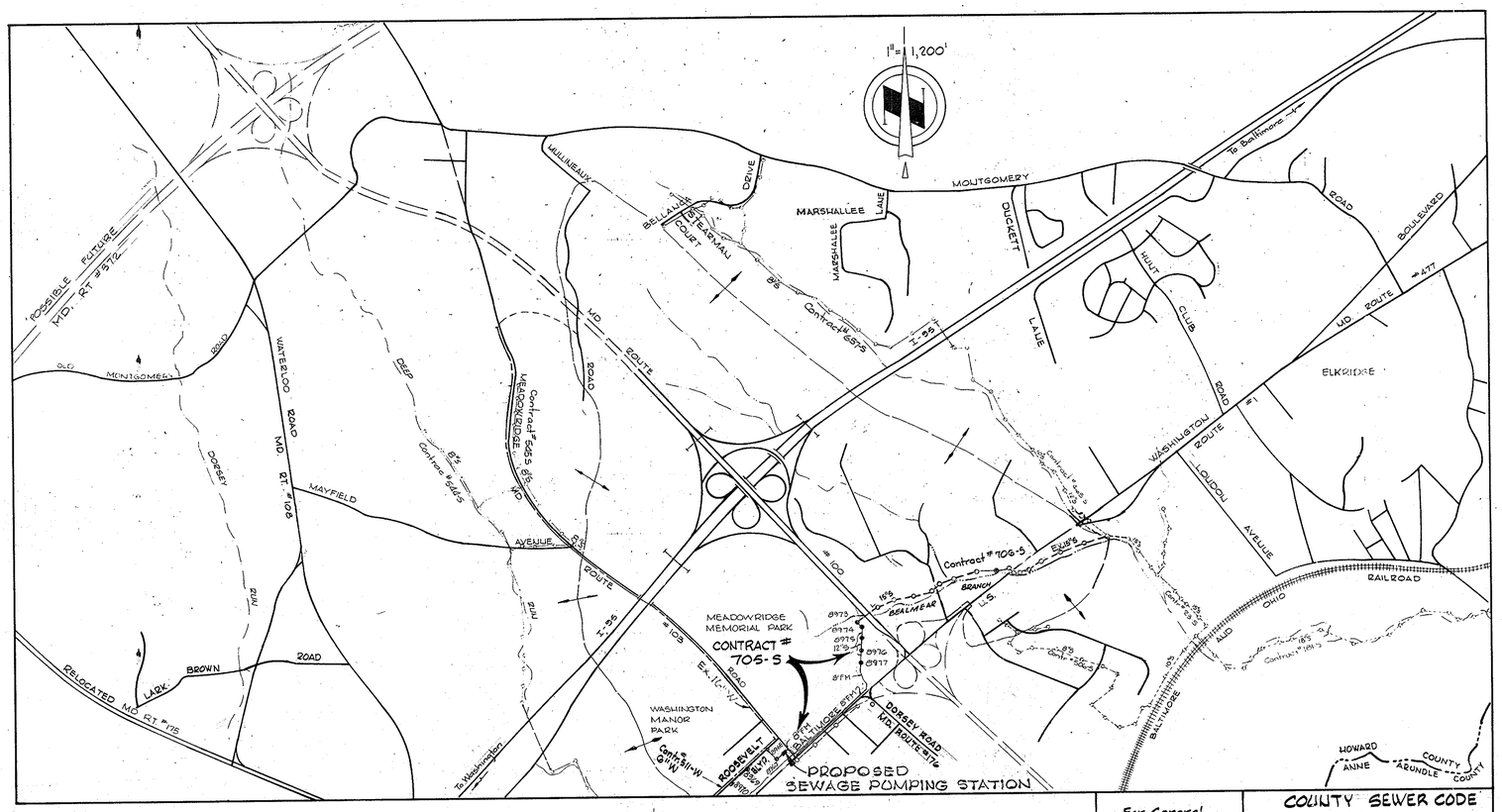
E.P.A. No.
C-240365-01 (14)



For General Notes See Drawing No. 6	COUNTY SEWER CODE 2152200 2152201 COUNTY USE ONLY

DRAWING INDEX

DRAWING NO.	SHEET NO.	TITLE
1	C-1	TITLE, VICINITY MAP, LIST OF DRAWINGS
2	C-2	SITE DEVELOPMENT PLAN
3	C-3	SEDIMENT CONTROL PLAN
4	C-4	SEDIMENT CONTROL DETAILS
5,6	C-5, C-6	PLAN OF SEWER MAIN
7	C-7	PROFILE OF SEWER MAIN
8	C-8	DETAILS & CROSS-SECTIONS
9	A-1	ARCHITECTURAL PLANS, ELEVATIONS, SECTIONS
10	A-2	ARCHITECTURAL SECTIONS & DETAILS
11	S-1	STRUCTURAL SECTION & PLANS
12	S-2	STRUCTURAL SECTION & DETAILS
13	S-3	STRUCTURAL SECTIONS, DETAILS & NOTES
14	M-1	MECHANICAL PLANS & SECTION
15	M-2	SYSTEM CURVE & DETAILS
16	E-1	ELECTRICAL PLANS & DETAILS
17, 18	E-2, E-3	ELEMENTARY DIAGRAMS & DETAILS

PROJECT NO. S-4-6048

MEADOWRIDGE

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

QUANTITIES

ITEM	BID	AS-BUILT	MATERIAL/SUPPLIER
8" Sewer	155 LF	151 LF	P.V.C. CERTAINTEED
10" Sewer	1285 LF	1265.5 LF	P.V.C. CERTAINTEED
12" Sewer	695 LF	674 LF	P.V.C. CERTAINTEED
Manholes	9 Each	9	PRECAST TERRE-HILL
8" F.M.	2550 LF	2446 LF	D.I.P. ATLANTIC STATES
P.S.	LS	1	PER SHOP DRAWING

STATE OF MARYLAND KENNETH A. McCORD 1974 REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR

Kenneth A. McCord

Meadowridge Sewer & P.S.
Project No. S-4-6048
Contract # 705-S

Sheet No. C-1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert Beringer 4/29/81 — CHIEF-BUREAU OF UTILITIES — DATE
Allen S. Brown 4/15/81 — CHIEF-UTILITIES DIVISION — DATE

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
George F. Nemeyer 4-28-81 — DIRECTOR OF PUBLIC WORKS — DATE
William E. Riley 4/16/81 — CHIEF-BUREAU OF ENGINEERING — DATE

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

LOCATION MAP

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING NO. 1 OF 18

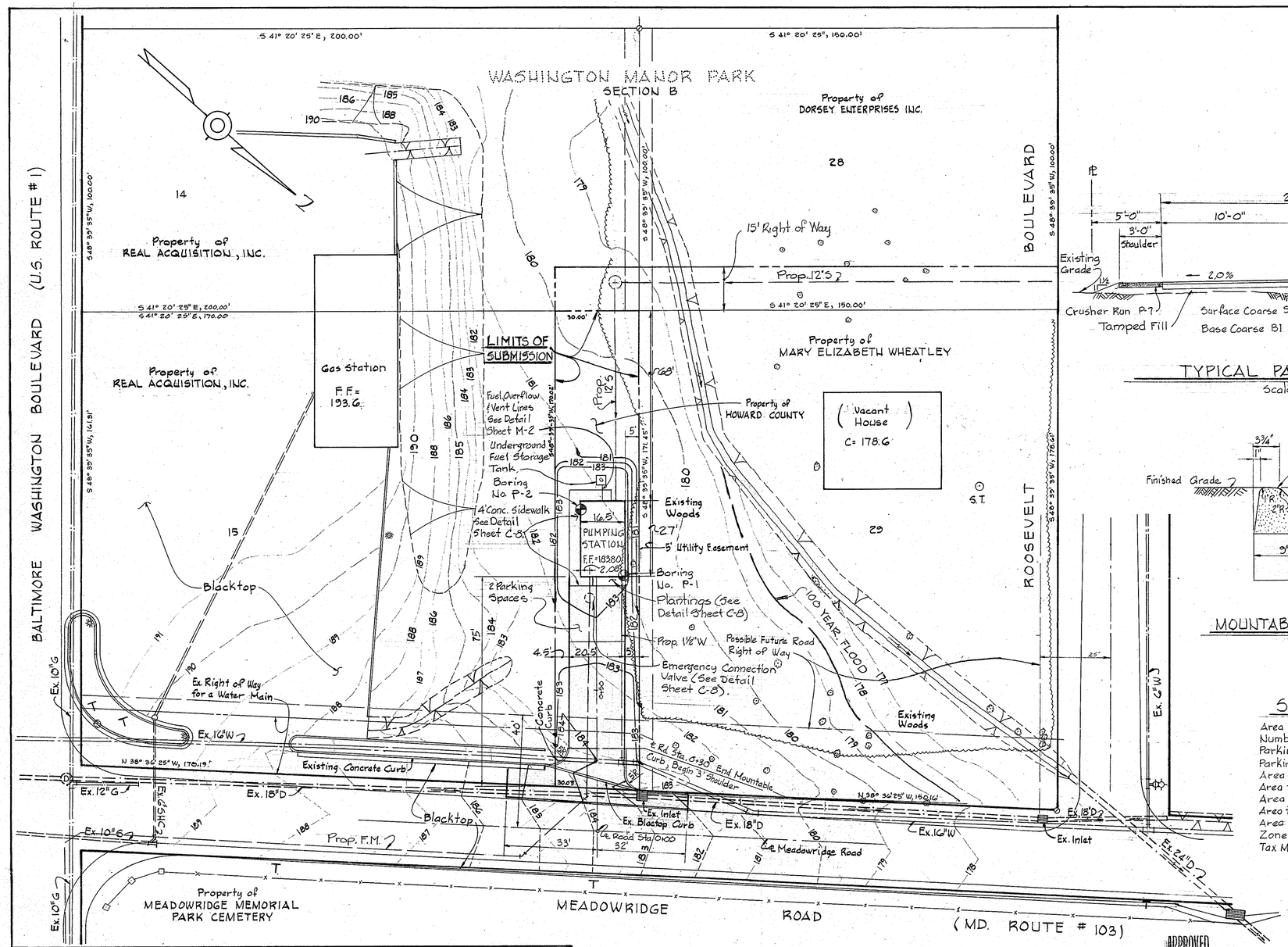
SCALE 1" = 1200'

H.B.# 5751, 5752, 5758, 64[illegible]

AS-BUILT October 25, 1984 December 4, 1981

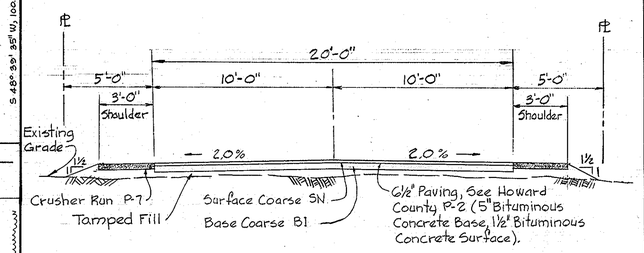
W.O. 7555-2

WS 705-S/1



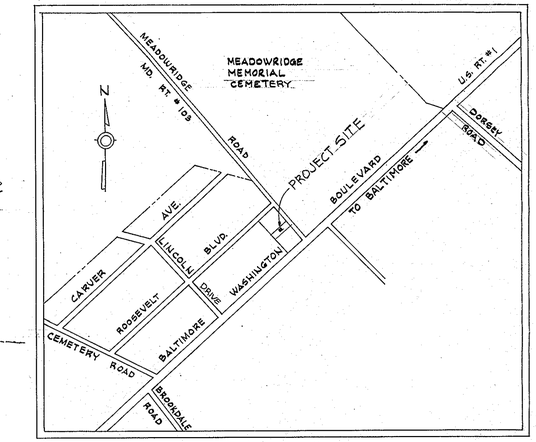
SITE PLAN

Scale: 1"=20'



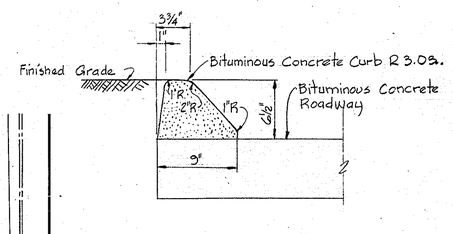
TYPICAL PAVING SECTION

Scale: ¼"=1'-0"



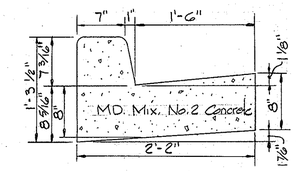
LOCATION PLAN

Scale: 1"=600'



MOUNTABLE CURB SECTION

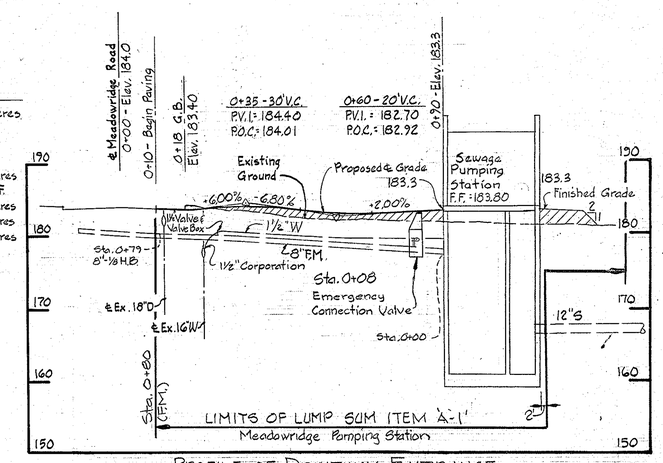
Scale: 1½"=1'-0"



CONCRETE CURB SECTION

SITE ANALYSIS

Area of Site	0.12 Acres
Number of Employees	0
Parking Required	2
Parking Provided	2
Area to be graded	0.08 Acres
Area to be roofed	330 S.F.
Area to be paved	0.05 Acres
Area to be seeded	0.03 Acres
Area to be undisturbed	0.04 Acres
Zoned	M-1
Tax Map Number	43



PROFILE OF DRIVEWAY ENTRANCE

Scale: H: 1"=20' V: 1"=10'

TYPICAL PARKING

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
1304 ST. PAUL STREET
BALTIMORE, MARYLAND

Kenneth A. McCord
P.E. & L.S. No. 1974

HOWARD COUNTY, MARYLAND
OWNER AND DEVELOPER

Liber 304 Folio 470
Tax Map 43, Parcel 375 (lot 15)
Zoned M-1

APPROVED
DIVISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE 8-22-80

Sheet No. C-2

NO.	DATE	DESCRIPTION OF REVISION

Reviewed for Howard S.C.D. Name and meets technical requirements.

James M. Helm 8-1-80
Signature Date
U.S. Soil Conservation District

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

8-6-80
COUNTY HEALTH OFFICER DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

William T. Rowe 8-1-80
APPROVED (HOWARD S.C.D.) DATE

APPROVED:
FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Geo. F. Nemeyer 8-1-80
DIRECTOR DATE

Frederick L. Robey 6-16-80
CHIEF, BUREAU OF ENGINEERING DATE

James L. Gleig 7/30/80
CHIEF, BUREAU OF UTILITIES DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

Howard A. Harris Jr. 3-2-81
PLANNING DIRECTOR DATE

Charles Marcellino 3-1-81
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

CERTIFICATION BY THE ENGINEER

"I certify that this plan for Erosion and Sediment control represents a practical and workable plan based on my personal knowledge of the site condition and it was prepared in accordance with the requirements of the Howard Soil Conservation District."

STATE OF MARYLAND KENNETH A. McCORD 1974 PROFESSIONAL ENGINEER REGISTERED

Kenneth A. McCord 6/4/80
Signature of Engineer Date

CERTIFICATION BY THE DEVELOPER

"I certify that all development and/or construction will be done according to these Plans of Development and Plans for Erosion and Sediment Control and I also authorize periodic on site inspection by the Howard Soil Conservation District or their authorized agents as are deemed necessary." Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District.

Geo. F. Nemeyer 8-1-80
Signature of Developer Date

SITE DEVELOPMENT PLAN
FOR
MEADOWRIDGE SEWAGE PUMPING STATION

PROJECT NO. S-4-6048
CONTRACT NO. 705-S

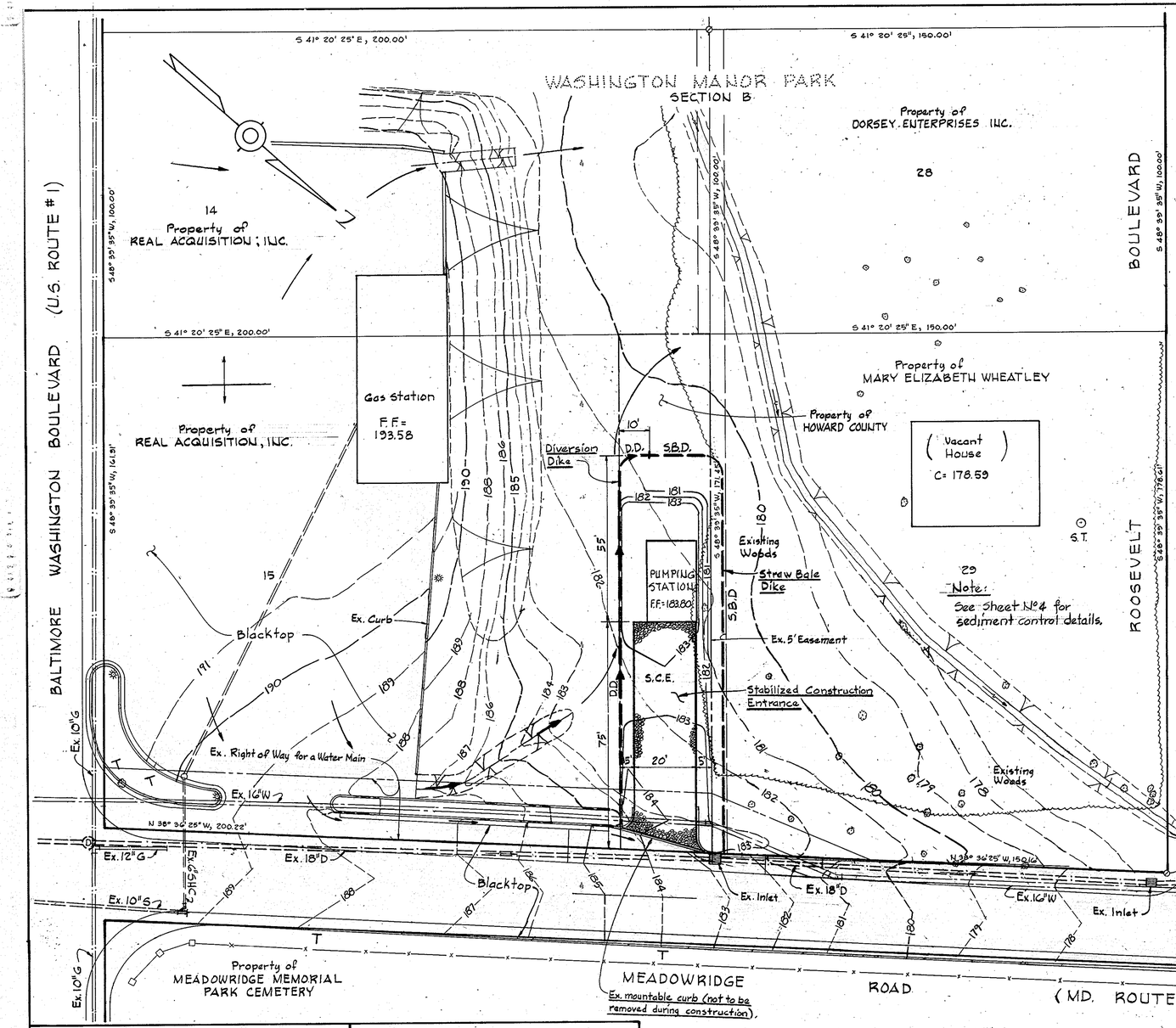
ELECTION DISTRICT - ELKRIDGE No. 1
HOWARD COUNTY, MARYLAND

Date: June 4, 1980 Scale: As Shown

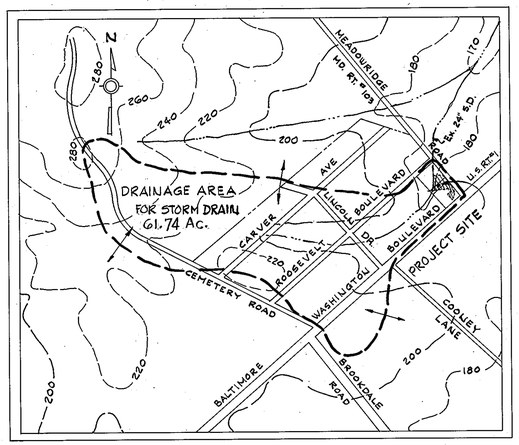
Drawing 2 of 18

W.O. 7555-2

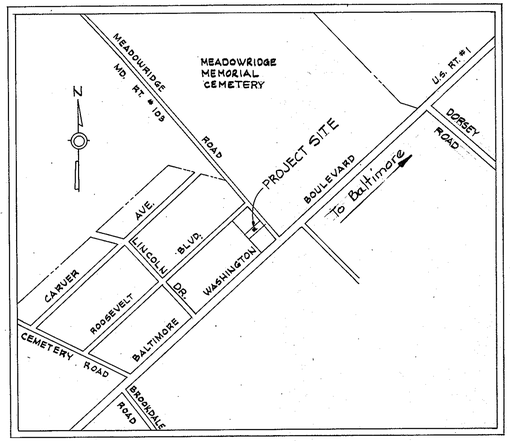
AS-BUILT October 25, 1984 SDP-81-24 August 17, 1981



SITE PLAN
Scale: 1"=20'



DRAINAGE AREA MAP
Scale: 1"=600'



LOCATION PLAN
Scale: 1"=600'

APPROVED
DIVISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE 8-22-80

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
1304 ST. PAUL STREET
BALTIMORE, MARYLAND
Kenneth A. McCord
P.E. & L.S. No. 1974

HOWARD COUNTY, MARYLAND
OWNER AND DEVELOPER
Liber 304 Folio 470
Tax Map 43, Parcel 375 (lot 15)
Zoned M-1

Sheet No. C-3

NO.	DATE	DESCRIPTION OF REVISION

Reviewed for Howard S.C.D. (Name) and meets technical requirements.
Signature — 8-1-80 Date
U.S. Soil Conservation District

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — 8-6-80 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
William V. Rowe — 8-1-80
APPROVED (HOWARD S.C.D.) DATE

APPROVED:
FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — 8-1-80 DATE
CHIEF, BUREAU OF ENGINEERING — 6-16-80 DATE
CHIEF, BUREAU OF UTILITIES — 7/30/80 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR — 3-2-81 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT — 3-1-81 DATE

CERTIFICATION BY THE ENGINEER
"I certify that this plan for Erosion and Sediment control represents a practical and workable plan based on my personal knowledge of the site condition and it was prepared in accordance with the requirements of the Howard Soil Conservation District."
Signature of Engineer — 6-4-80 Date

CERTIFICATION BY THE DEVELOPER
"I certify that all development and/or construction will be done according to these Plans of Development and Plans for Erosion and Sediment Control and I also authorize periodic on site inspection by the Howard Soil Conservation District or their authorized agents as are deemed necessary." Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District.
Signature of Developer — 8-1-80 Date

SEDIMENT CONTROL PLAN
FOR
MEADOWRIDGE SEWAGE PUMPING STATION

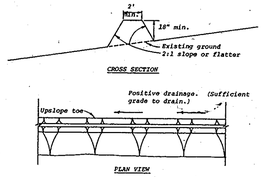
PROJECT NO. S-4-6048
CONTRACT NO. 705-S
ELECTION DISTRICT - ELKRIDGE No. 1
HOWARD COUNTY, MARYLAND

Date: June 4, 1980 — Drawing 3 of 18 — Scale: As Shown

AS-BUILT October 25, 1984 — SDP-81-24 — August 17, 1981

W.O. 7555-2

PERIMETER DIKE*
(not to scale)



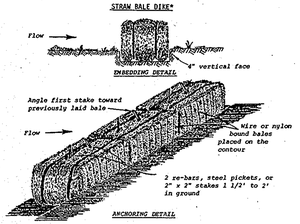
Construction Specifications

1. All dikes shall be machine compacted.
2. All perimeter dikes shall have positive drainage to an outlet.
3. A. Diverted runoff from a protected or stabilized upland area shall outlet directly onto an undisturbed stabilized area or into a level sprender or grade stabilization structure.
   B. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as sediment trap or a sediment basin or to an area protected by any of these practices.
4. Stabilization, when required, shall be done in accordance with Standard and Specifications for Grassed Waterway. The minimum area to be stabilized shall be the channel flow area.
5. Periodic inspection and required maintenance shall be provided.

Standard Symbol PD

* Drainage area less than 5 acres

STRAW BALE DIKE*



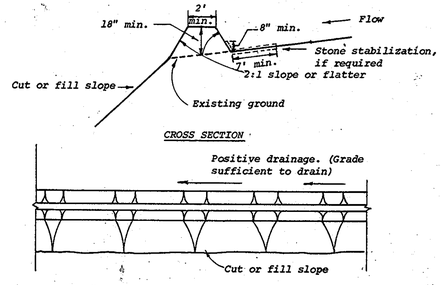
Construction Specifications

1. Bales shall be placed in a row with ends tightly abutting the adjacent bales.
2. Each bale shall be embedded in the soil a minimum of 4".
3. Bales shall be securely anchored in place by stakes or re-bars driven through the bales. The first stake in each bale shall be angled toward previously laid bale to force bales together.
4. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

Standard Symbol SBD

* Drainage area less than 1/2 acre.

DIVERSION DIKE*



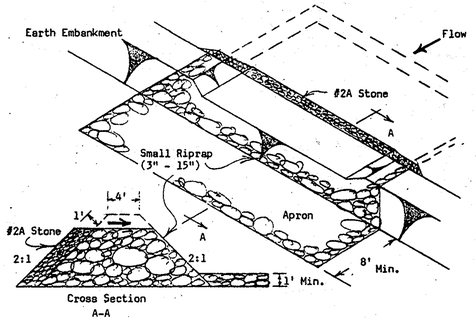
Construction Specifications.

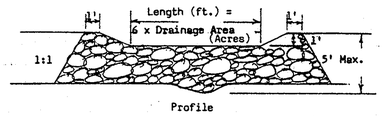
1. All dikes shall be machine compacted.
2. All diversion dikes shall have positive drainage to an outlet.
3. A. Diverted runoff from a protected or stabilized area shall outlet directly to an undisturbed stabilized area or into a level spreader or grade stabilization structure.
   B. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as a sediment trap or a sediment basin or to an area protected by any of these practices.
4. Stabilization, as specified by the plans, shall be: (1) in accordance with Standard and Specifications for Grassed Waterway, and the area to be stabilized shall be the channel (flow area); or (2) the flow area shall be lined with stone that meets MSHA size No. 2 or AASHTO M43 size No. 2 or 24 which is placed in a 3 inch thick layer and pressed into the soil. The area covered by the stone shall be as shown on the drawing above.
5. Periodic inspection and required maintenance shall be provided.

Standard Symbol DD

* Drainage area less than 5 acres

RIPRAP OUTLET SEDIMENT TRAP



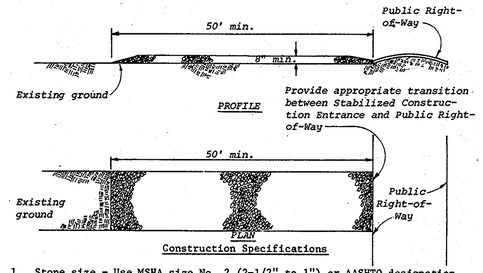


Construction Specifications

The construction specifications for this practice will be the same as the Stone Outlet Sediment Trap except for the following:

1. The stone used in the outlet shall be small riprap 3" - 15", with a 1' thickness of #2-A crushed stone placed on the up-grade side of the small riprap.
2. Drainage area for this practice is limited to 3 acres or less.

STABILIZED CONSTRUCTION ENTRANCE
(not to scale)



Construction Specifications

1. Stone size - Use MSHA size No. 2 (2-1/2" to 1") or AASHTO designation M43, size No. 2 (2-1/2" to 1-1/2"). Use crushed stone.
2. Length - As effective, but not less than 50 feet.
3. Thickness - Not less than eight (8) inches.
4. Width - Not less than full width of all points of ingress or egress.
5. Washing - When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved sediment trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch, or watercourse through use of sand bags, gravel, boards or other approved methods.
6. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.

Standard Symbol SCE

SEQUENCE OF CONSTRUCTION

1. Construct Straw Bale Dike, Diversion Dike and Stabilized Construction Entrance. Excess excavated material shall be disposed of off-site.
2. Construct Building and Pipe Lines.
3. Complete site work within confines of diversion and straw bale dikes.
4. Remove Stabilized Construction Entrance and construct roadway.
5. Remove dikes after ground cover is established within the construction area, sod disturbed areas.

APPROVED
DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND
DATE 8-22-80

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
1304 ST. PAUL STREET
BALTIMORE, MARYLAND
KENNETH A. McCORD P.E.& L.S. NO.1974

HOWARD COUNTY, MARYLAND
OWNER AND DEVELOPER
LIBER 304 & 470 FOLIO 470
TAX MAP 43 PARCEL 375 LOT 15
ZONED M-1

Sheet No. C-4

NO.	DATE	DESCRIPTION OF REVISION

REVIEWED FOR Howard S.C.D. NAME
AND MEETS TECHNICAL REQUIREMENTS
NAME 2-1-80 DATE
U.S. SOIL CONSERVATION SERVICE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER 8-6-80 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: (HOWARD S.C.D.) 8-1-80 DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND ROADS.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR 8-1-80 DATE
CHIEF, BUREAU OF ENGINEERING 6-16-80 DATE
CHIEF, BUREAU OF UTILITIES 7/30/80 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR 3-2-81 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT 3-2-81 DATE

CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT".
SIGNATURE OF ENGINEER 8/4/80 DATE

CERTIFICATION BY THE DEVELOPER
"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY" DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT.
SIGNATURE OF DEVELOPER 8-1-80 DATE

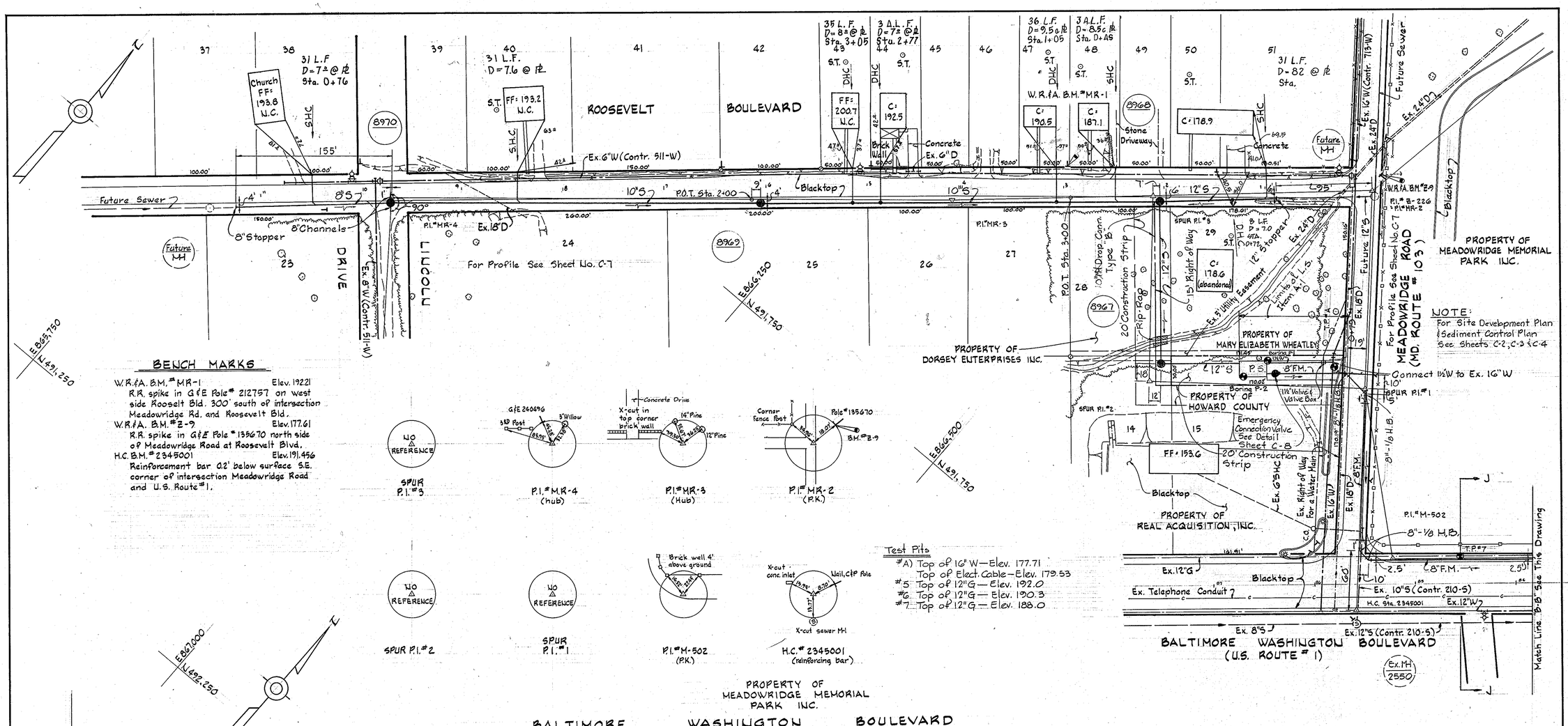
SEDIMENT CONTROL DETAILS
FOR
MEADOWRIDGE
SEWAGE PUMPING STATION
PROJECT NO. S-4-6048
CONTRACT NO. 705-S
ELECTION DISTRICT ELKRIDGE NO.1
HOWARD COUNTY, MARYLAND
DATE: June 4,1980 Drawing 4 of 18 SCALE: AS SHOWN

W.O.#7555-2

AS-BUILT October 25, 1984 August 17, 1981

SDP-81-24

K&E BALTIMORE 170453 PHOENIX MC 9132



BENCH MARKS

W.R.&A. B.M. #MR-1 — Elev. 192.21
R.R. spike in G&E Pole # 212757 on west side Roosevelt Bld. 300' south of intersection Meadowridge Rd. and Roosevelt Bld.

W.R.&A. B.M. #2-9 — Elev. 177.61
R.R. spike in G&E Pole # 135670 north side of Meadowridge Road at Roosevelt Blvd.

H.C. B.M. # 2345001 — Elev. 191.456
Reinforcement bar 0.2' below surface S.E. corner of intersection Meadowridge Road and U.S. Route #1.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Robert W. Beringer 4/24/81 — CHIEF-BUREAU OF UTILITIES — DATE Allen S. Brown 4/15/81 — CHIEF-UTILITIES DIVISION — DATE	
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND George F. Newman 4-23-81 — DIRECTOR OF PUBLIC WORKS — DATE Robert S. Roby 4/16/81 — CHIEF-BUREAU OF ENGINEERING — DATE

CONTRACT NO. 705-S PROJECT NO. S-4-6048	PLAN OF SEWER MAIN	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 5 OF 18	SCALE 1" = 50'

Meadowridge Sewer & P.S.
Project No. S-4-6048
Contract No. 705-S

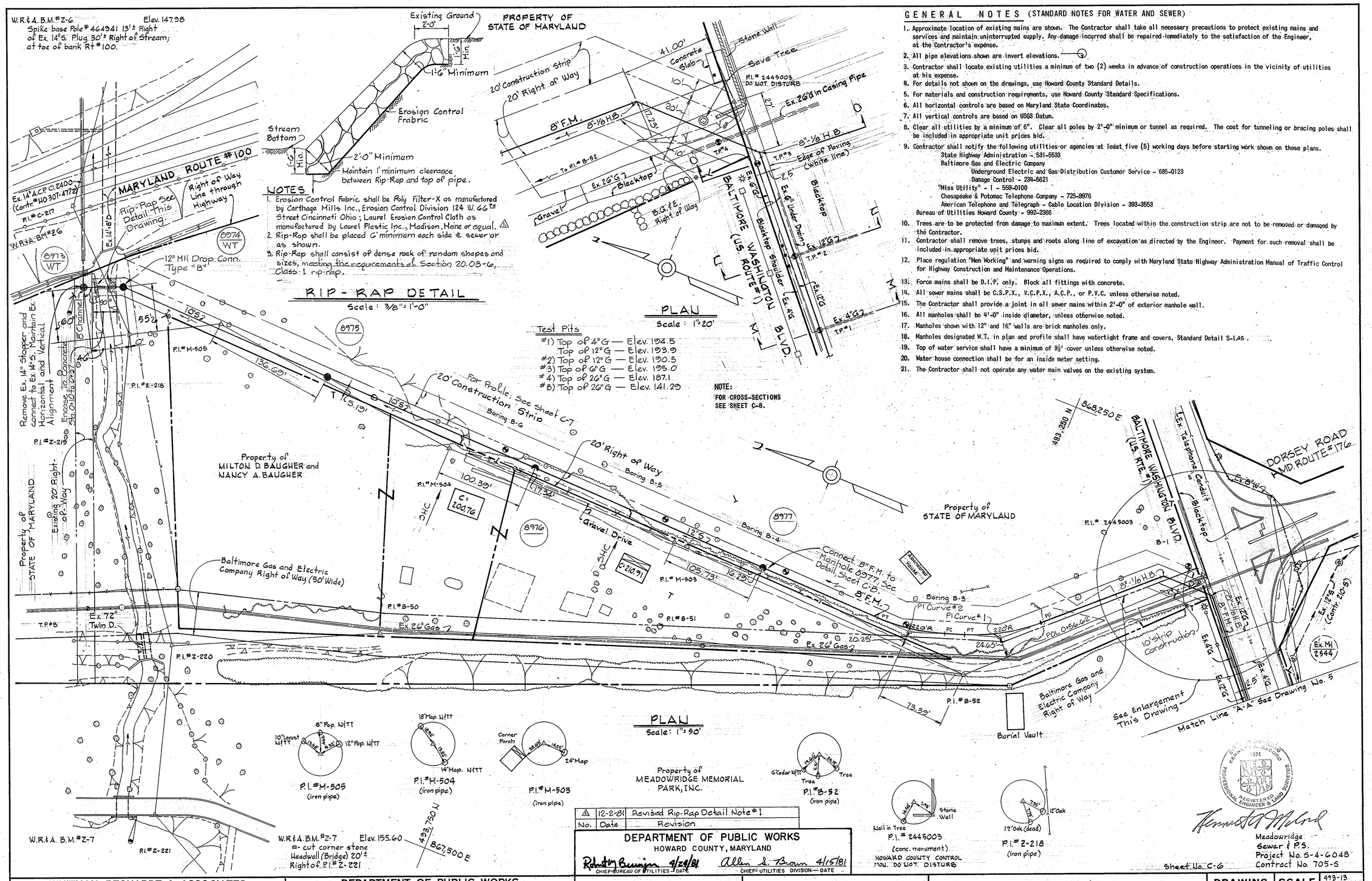
Sheet No. C-5

October 29, 1984 AS-BUILT — December 2, 1981 — F.B. # 5151, 5152, 5158 & 5158

W.O. 7555-2

WS 705-S/S

K&E BALTIMORE 170453 PHOENIX MC91324



No.	Date	Revision
1	12-2-81	Revised Rip-Rap Detail Note #1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert W. Berrigan 4/28/81 — CHIEF-BUREAU OF UTILITIES — DATE
Allen L. Brown 4/15/81 — CHIEF-UTILITIES DIVISION — DATE

GENERAL NOTES (STANDARD NOTES FOR WATER AND SEWER)

1. Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer, at the Contractor's expense.
2. All pipe elevations shown are invert elevations.
3. Contractor shall locate existing utilities a minimum of two (2) weeks in advance of construction operations in the vicinity of utilities at his expense.
4. For details not shown on the drawings, use Howard County Standard Details.
5. For materials and construction requirements, use Howard County Standard Specifications.
6. All horizontal controls are based on Maryland State Coordinates.
7. All vertical controls are based on USGS Datum.
8. Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. The cost for tunneling or bracing poles shall be included in appropriate unit prices bid.
9. Contractor shall notify the following utilities or agencies at least five (5) working days before starting work shown on these plans.
   - State Highway Administration - 531-5533
   - Baltimore Gas and Electric Company
     - Underground Electric and Gas Distribution Customer Service - 685-0123
     - Damage Control - 234-5621
   - "Miss Utility" - 1 - 559-0100
   - Chesapeake & Potomac Telephone Company - 725-9976
   - American Telephone and Telegraph - Cable Location Division - 393-3553
   - Bureau of Utilities Howard County - 992-2366
10. Trees are to be protected from damage to maximum extent. Trees located within the construction strip are not to be removed or damaged by the Contractor.
11. Contractor shall remove trees, stumps and roots along line of excavation as directed by the Engineer. Payment for such removal shall be included in appropriate unit prices bid.
12. Place regulation "Men Working" and warning signs as required to comply with Maryland State Highway Administration Manual of Traffic Control for Highway Construction and Maintenance Operations.
13. Force mains shall be D.I.P. only. Block all fittings with concrete.
14. All sewer mains shall be C.S.P.X., V.C.P.X., A.C.P., or P.V.C. unless otherwise noted.
15. The Contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
16. All manholes shall be 4'-0" inside diameter, unless otherwise noted.
17. Manholes shown with 12" and 16" walls are brick manholes only.
18. Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail S-1.45.
19. Top of water service shall have a minimum of 3½' cover unless otherwise noted.
20. Water house connection shall be for an inside meter setting.
21. The Contractor shall not operate any water main valves on the existing system.

REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR — KENNETH A. McLEAN — 1974

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Gary F. Newman 4-28-81 — DIRECTOR OF PUBLIC WORKS — DATE
Vincent G. Ray 4/16/81 — CHIEF-BUREAU OF ENGINEERING — DATE

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

PLAN OF SEWER MAIN

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING NO. 6 OF 18

SCALE AS SHOWN

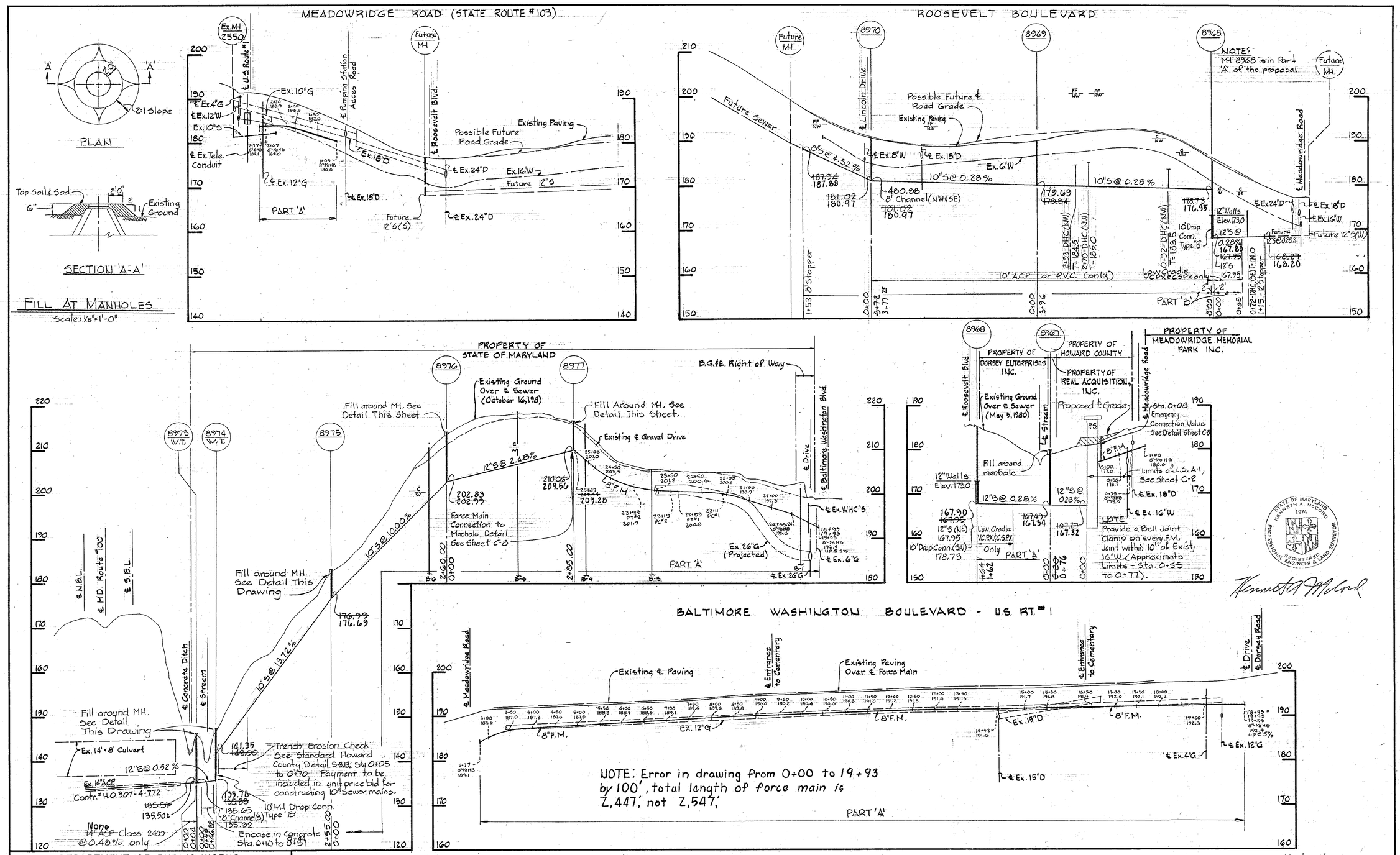
493-13	
493-14	
494-13	
494-14	

W.O. 7555-2

AS-BUILT October 29, 1984 December 2, 1981

WS 705-S/6

K&E BALTIMORE 170493 PHOENIX MC9132*



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert Bunting 4/24/81 — CHIEF-BUREAU OF UTILITIES — DATE
Allen S. Brown 4/15/81 — CHIEF-UTILITIES DIVISION — DATE

PROFILES
Scale: H: 1"=100' V: 1"=10'

Meadowridge Sewer & P.S.
Project No. S-4-6048
Contract No. 705-S
Sheet No. C-7

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Wm. F. Nemeyer 4-28-81 — DIRECTOR OF PUBLIC WORKS — DATE
William E. Riley 4/16/81 — CHIEF-BUREAU OF ENGINEERING — DATE

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

PROFILE OF SEWER MAIN

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING NO. 7 OF 18

SCALE AS SHOWN

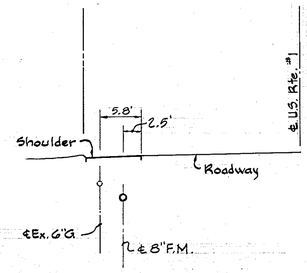
W.O. 7555-2

AS-BUILT October 29, 1984

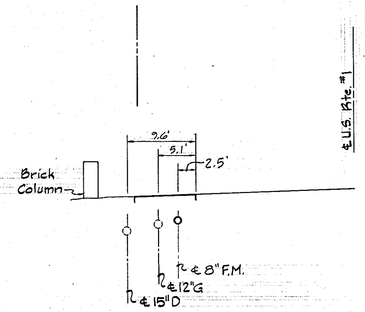
December 2, 1981

WS 705 - S/7

K&E BALTIMORE 170453 PHOENIX MC9132*



SECTION "O-O"



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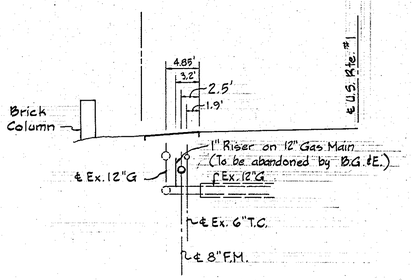

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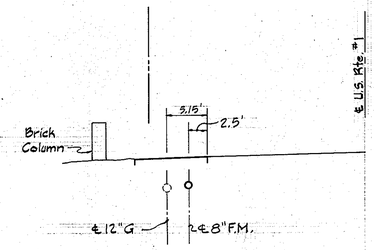

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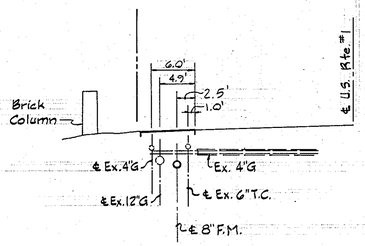
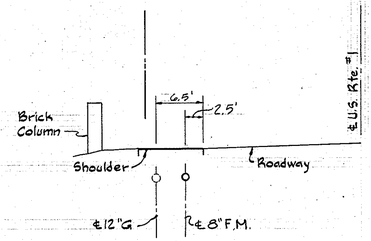


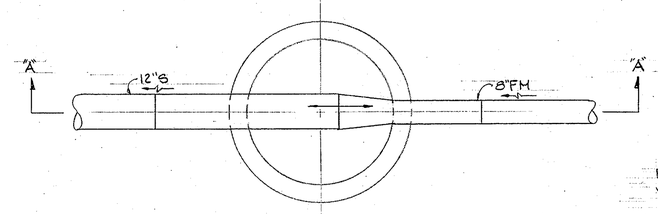
SECTION "M-M"



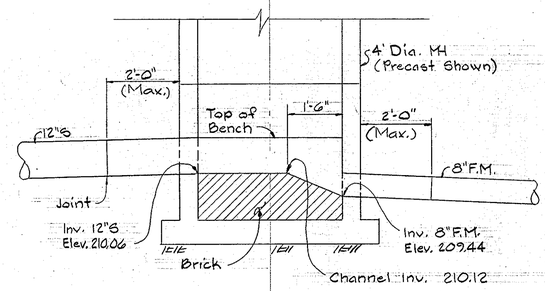
SECTION "J-J"

CROSS-SECTIONS

Scale: H: 1"=10'
V: 1"=10'



PLAN

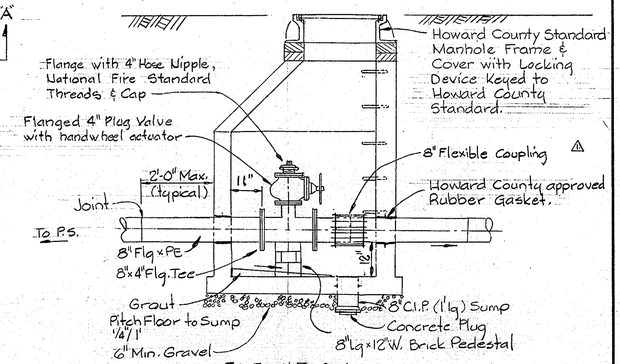


SECTION "A-A"

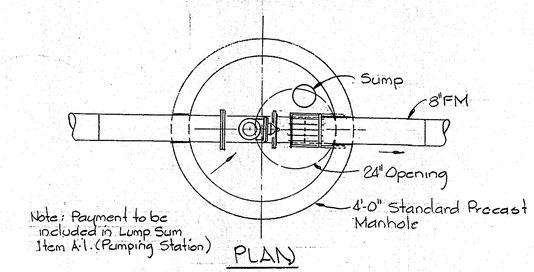
DETAIL MH # 8977

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

Note: Payment to be included in L.S. Item A-1.



ELEVATION

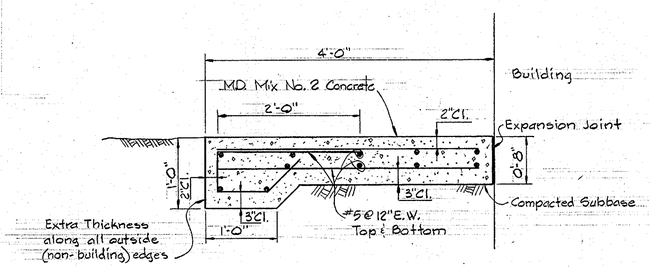


Note: Payment to be included in Lump Sum Item A-1. (Pumping Station)

PLAN

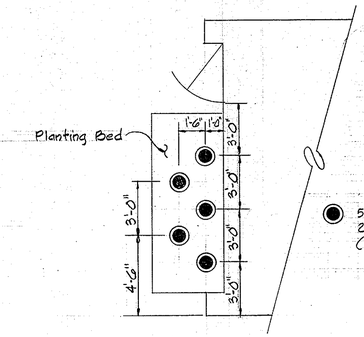
EMERGENCY CONNECTION VALVE DETAIL

Scale 1/2" = 1'-0"



SIDEWALK DETAIL

Scale: 1" = 1'-0"



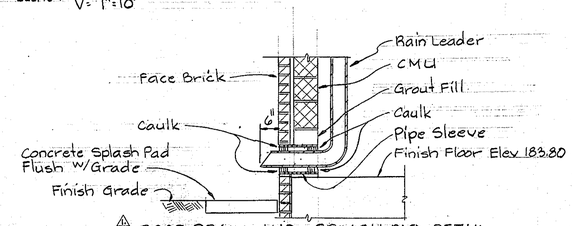
NOTES:

1. Planting mixture to consist of 4 parts topsoil, 1 part peat humus plus 2 pounds of 10-6-4 fertilizer per cubic yard.
2. All shrubs shall be watered and maintained for a period of 90 days after planting.

● 5 Firethorn Loboy 2-2½' (8" Cans) (Orange Berry)

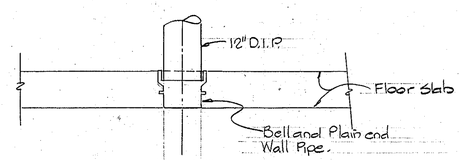
PLANTING BED DETAIL

Scale: 1/4" = 1'-0"



△ ROOF DRAIN AND SPLASH PAD DETAIL

Scale 1/2" = 1'-0"



WET WELL VENT PIPE SUPPORT DETAIL

Scale 1/2" = 1'-0"

STATE OF MARYLAND KENNETH A. McCORD 1574 REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR

Kenneth A. McCord

No.	Date	Revision
△	12-2-81	Revised Emergency Connection Valve Detail and Added Roof Drain and Splash Pad Detail

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert W. Bunnigan 4/24/81 — CHIEF-BUREAU OF UTILITIES — DATE
Allen S. Brown 4/15/81 — CHIEF-UTILITIES DIVISION — DATE

Meadowridge Sewer & P.S.
Project No. S-4-6048
Contract No. 705-S

Sheet No. C-8

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Leon F. Newman 4-28-81 — DIRECTOR OF PUBLIC WORKS — DATE
W. Calvin Bishop 4/16/81 — CHIEF-BUREAU OF ENGINEERING — DATE

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

DETAILS & CROSS — SECTIONS

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING NO. 8 OF 18

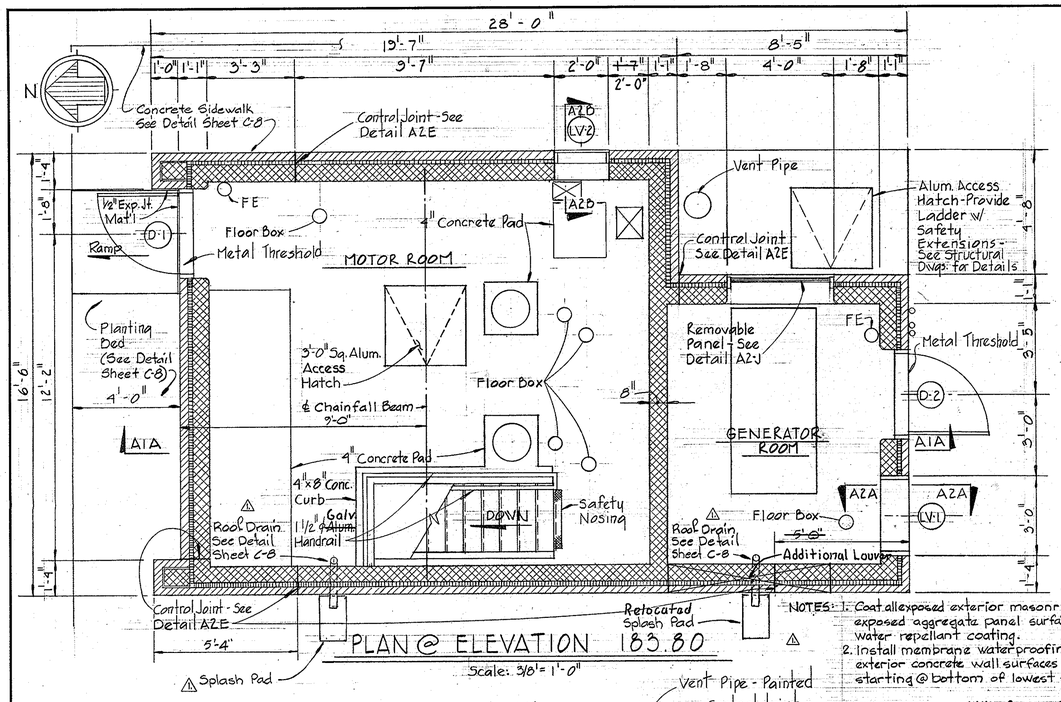
SCALE AS SHOWN

W.O. 7555-2

AS-BUILT October 30, 1984 December 2, 1981

WS 705 - S/8

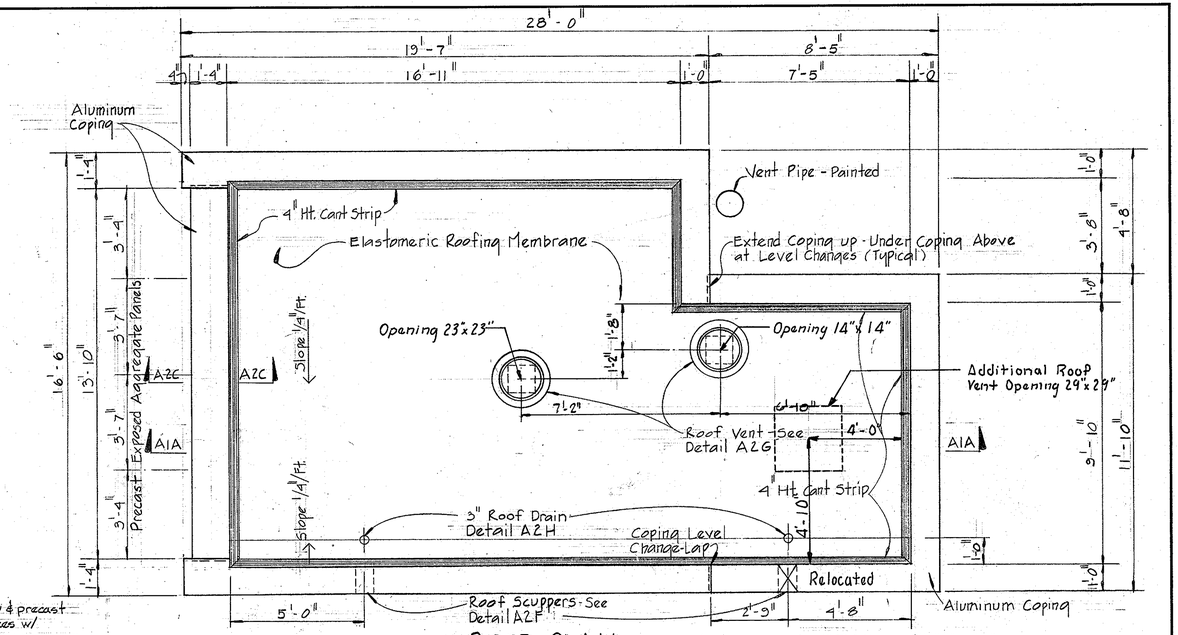
K&E BALTIMORE 170453 PHOENIX MC9132



PLAN @ ELEVATION 183.80

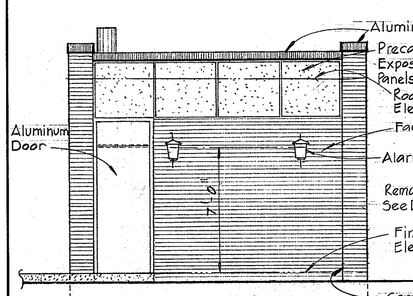
Scale: 3/8" = 1'-0"

NOTES: 1. Coat all exposed exterior masonry & precast exposed aggregate panel surfaces w/ water repellant coating.
2. Install membrane waterproofing to all exterior concrete wall surfaces below grade-starting @ bottom of lowest brick course.



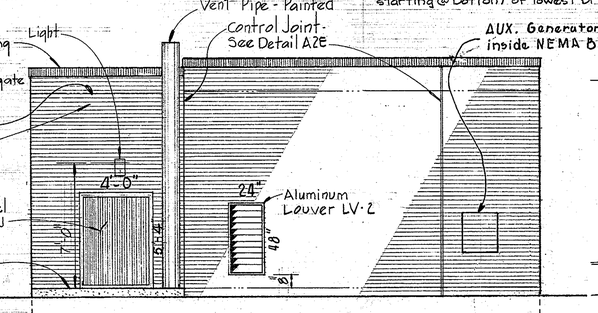
ROOF PLAN

Scale: 3/8" = 1'-0"



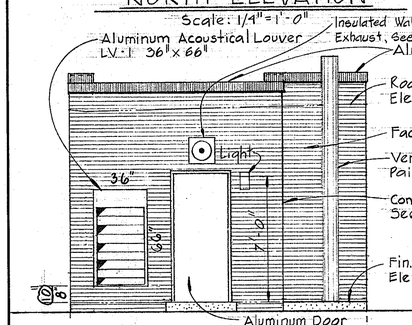
NORTH ELEVATION

Scale: 1/4" = 1'-0"



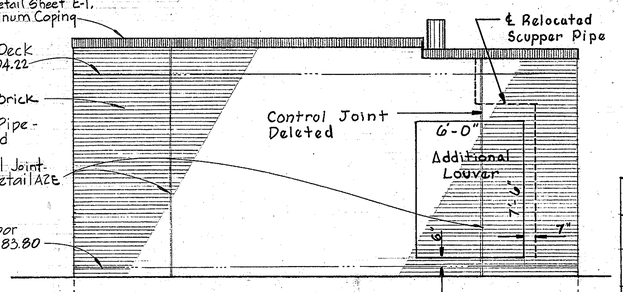
EAST ELEVATION

Scale: 1/4" = 1'-0"



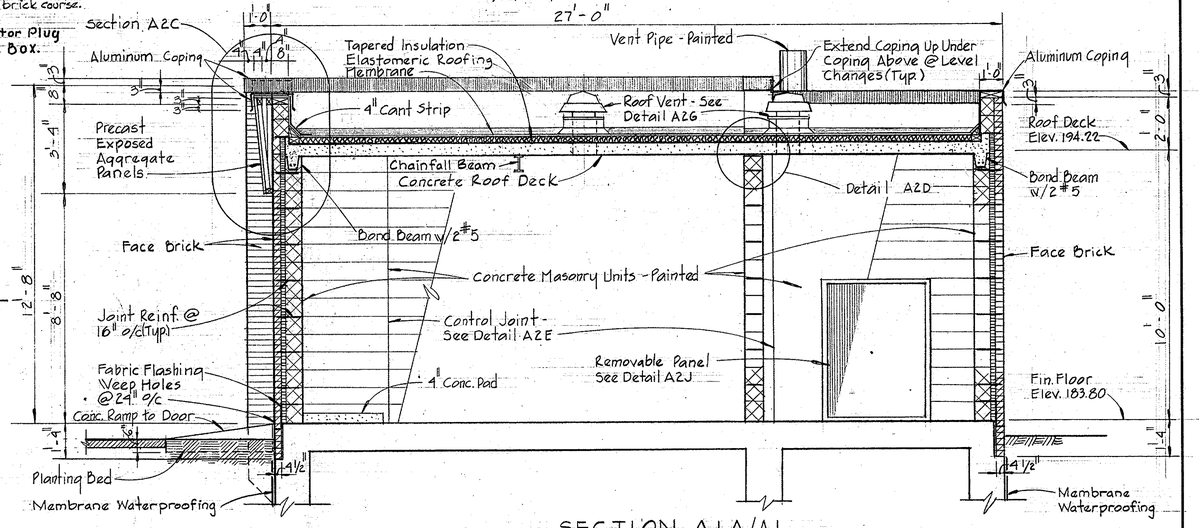
SOUTH ELEVATION

Scale: 1/4" = 1'-0"



WEST ELEVATION

Scale: 1/4" = 1'-0"



SECTION A1A/A1

Scale: 3/8" = 1'-0"

FINISH SCHEDULE

ROOM	FLOOR MAT'L	FLOOR COLOR	BASE MAT'L	BASE COLOR	WALLS MAT'L	WALLS COLOR	CEILING MAT'L	CEILING COLOR	REMARKS
DRY WELL	CFH	—	CONC-P		CONC-P		CONC-P		
WET WELL	CONC-P	BLACK	CONC-P	BLACK	CONC-P	BLACK	CONC-P		Paint Conc. Below Water Black - Paint Conc. Above Water Color
MOTOR ROOM	CFH	—	CMU-P		CMU-P		CONC-P		
GENERATOR RM	CFH	—	CMU-P		CMU-P		CONC-P		

DOOR SCHEDULE

NO.	SIZE	MAT'L	HEAD	JAMB	SILL	HDW.	REMARKS
D-1	3'-0"x7'-2"x1 3/4"	ALUM	H-1	J-1	S-1	HW-1	1'-4"x3'-0" Removable Transom Panel
D-2	3'-0"x7'-2"x1 3/4"	ALUM	H-2	J-1	S-1	HW-1	

STATE OF MARYLAND KENNETH A. WIZNITZER 12912 PROFESSIONAL REGISTERED ENGINEER & LAND SURVEYOR

No.	Date	Revision
1	12-2-81	Added Roof Detail and Splash Pad.

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS - DATE 11-28-81
CHIEF - BUREAU OF ENGINEERING - DATE 4/1/81
CHIEF - BUREAU OF UTILITIES - DATE 4/29/81
CHIEF - UTILITIES DIVISION - DATE 4/15/81

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

ARCHITECTURAL
PLANS, ELEVATIONS, SECTIONS

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING NO. 9 OF 18

SCALE AS SHOWN

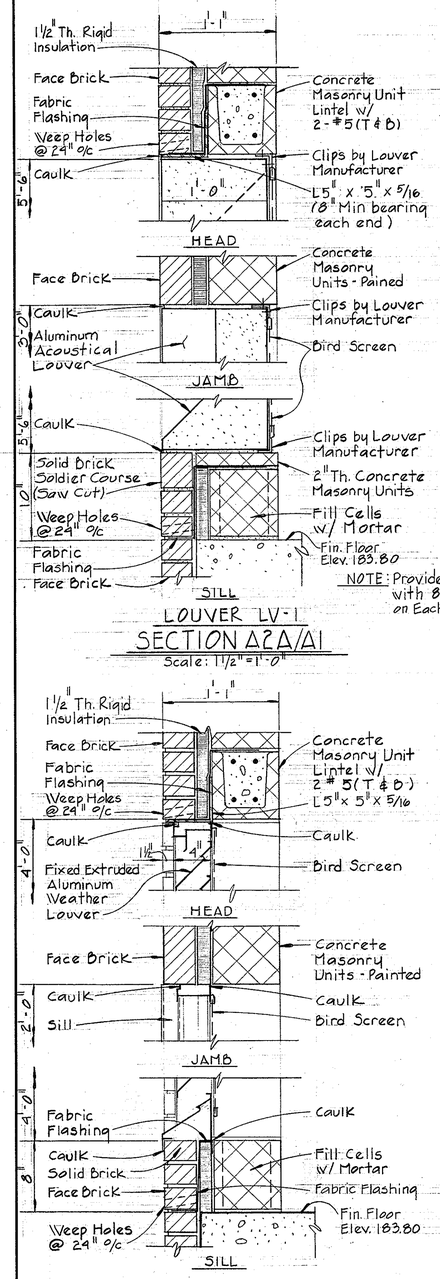
AS-BUILT October 30, 1984 December 2, 1981

A-1

W.O. 7555-2

WS 705-S/9

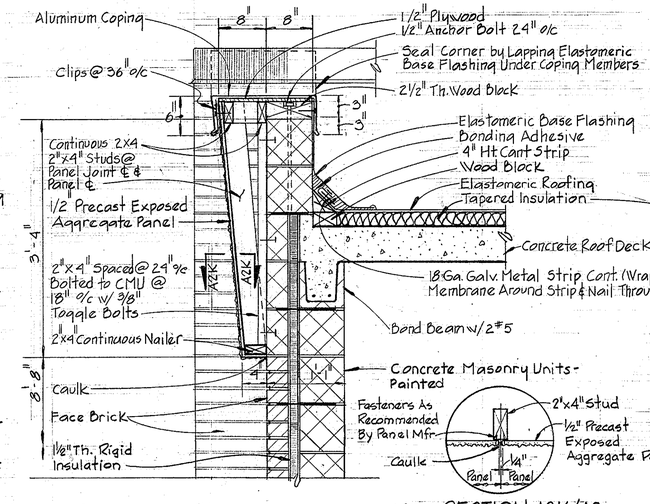
K&E BALTIMORE 170453 PHOENIX MC9132



LOUVER LV-1
SECTION A2A/A1
Scale: 1½" = 1'-0"

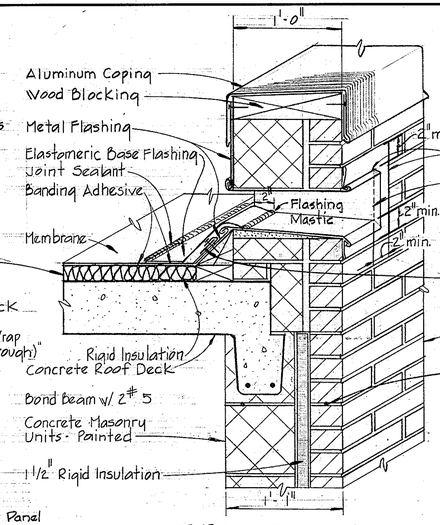
NOTE: Provide All Lintels with 8" Min. Bearing on Each Side

LOUVER LV-2
SECTION A2B/A1
Scale: 1½" = 1'-0"

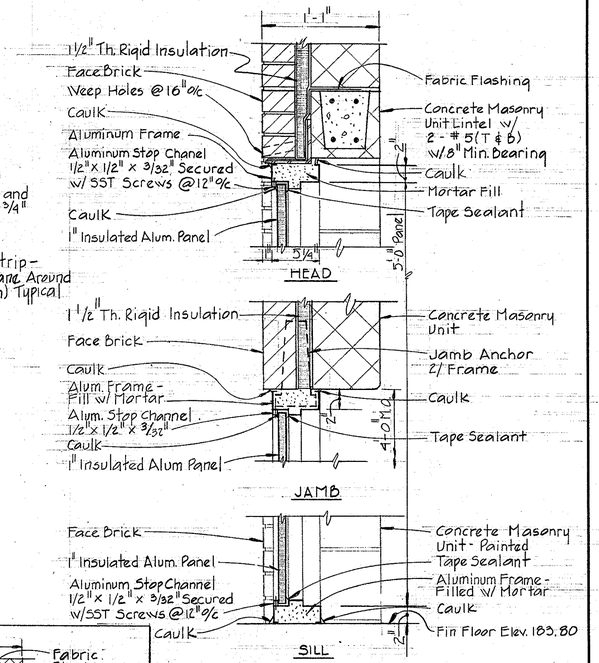


SECTION A2C/A1
Scale: 1" = 1'-0"

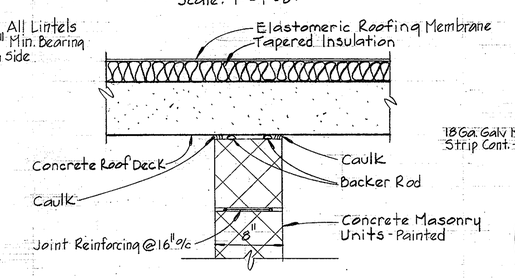
SECTION A2K/A2
Scale: 1½" = 1'-0"



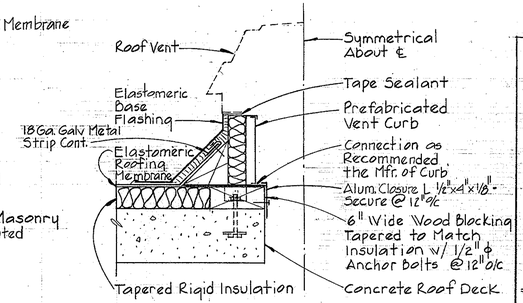
TYPICAL SCUPPER
DETAIL A2F/A1
Scale: 1½" = 1'-0"



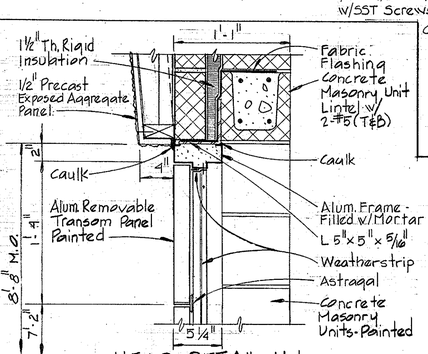
REMOVABLE PANEL
DETAIL A2J/A1
Scale: 1½" = 1'-0"



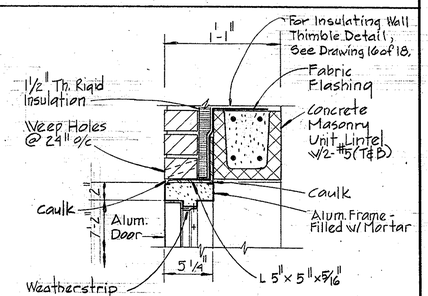
DETAIL A2D/A1
Scale: 1½" = 1'-0"



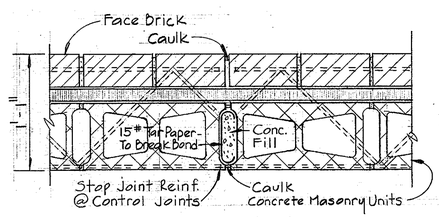
ROOF VENT CURB
DETAIL A2G/A1
Scale: 1½" = 1'-0"



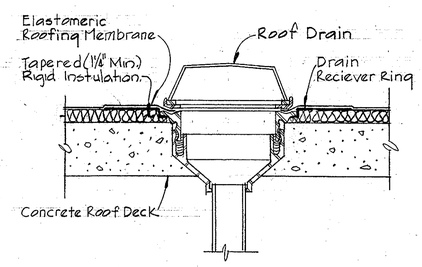
HEAD DETAIL H-1
Scale 1½" = 1'-0"



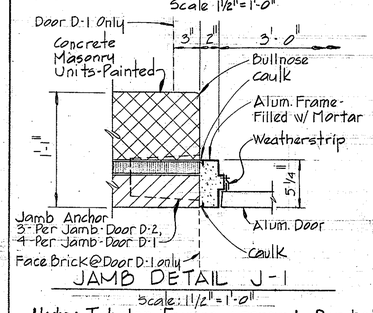
HEAD DETAIL H-2
Scale 1½" = 1'-0"



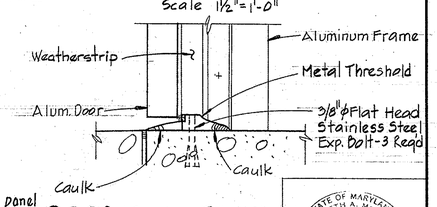
TYPICAL CONTROL JOINT
DETAIL A2E/A1
Scale: 1½" = 1'-0"



TYPICAL ROOF DRAIN
DETAIL A2H/A1
Scale: 1½" = 1'-0"



JAMB DETAIL J-1
Scale: 1½" = 1'-0"



DOOR SILL S-1
Scale: 3" = 1'-0"

Note: Tubular frames approved, for both remove panel and doors, frames not filled with motar

DOOR HEAD & JAMB DETAILS
Scale As Shown

ABBREVIATIONS:

Alum.	Aluminum
CFH	Concrete Floor Hardener
CMU-P	Concrete Masonry Units - Painted
Conc.	Concrete
FE	Fire Extinguisher
Ht.	High
Th	Thick
SST	Stainless Steel

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS - DATE	CHIEF - BUREAU OF ENGINEERING - DATE
CHIEF - BUREAU OF UTILITIES - DATE	CHIEF - UTILITIES DIVISION - DATE

STATE OF MARYLAND KENNETH A. McCORD 1574 PROFESSIONAL REGISTERED ENGINEER & LAND SURVEYOR

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

ARCHITECTURAL SECTIONS & DETAILS

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING NO. 10 OF 18

SCALE AS SHOWN

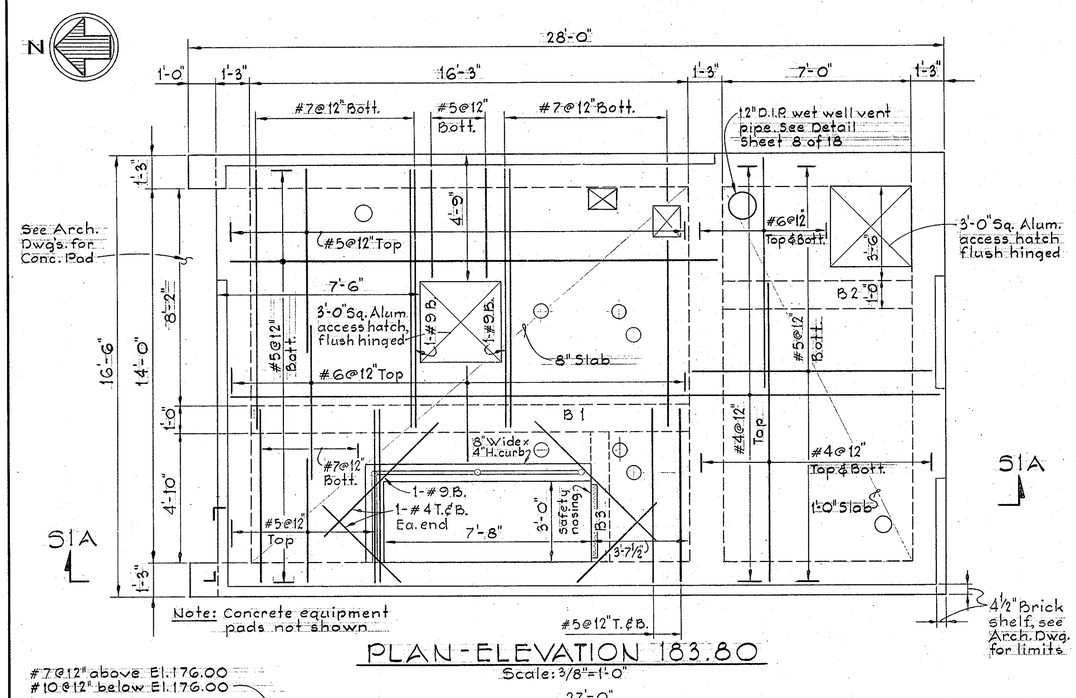
W.O. 7555-2

AS-BUILT October 30, 1984 August 17, 1981

A-2

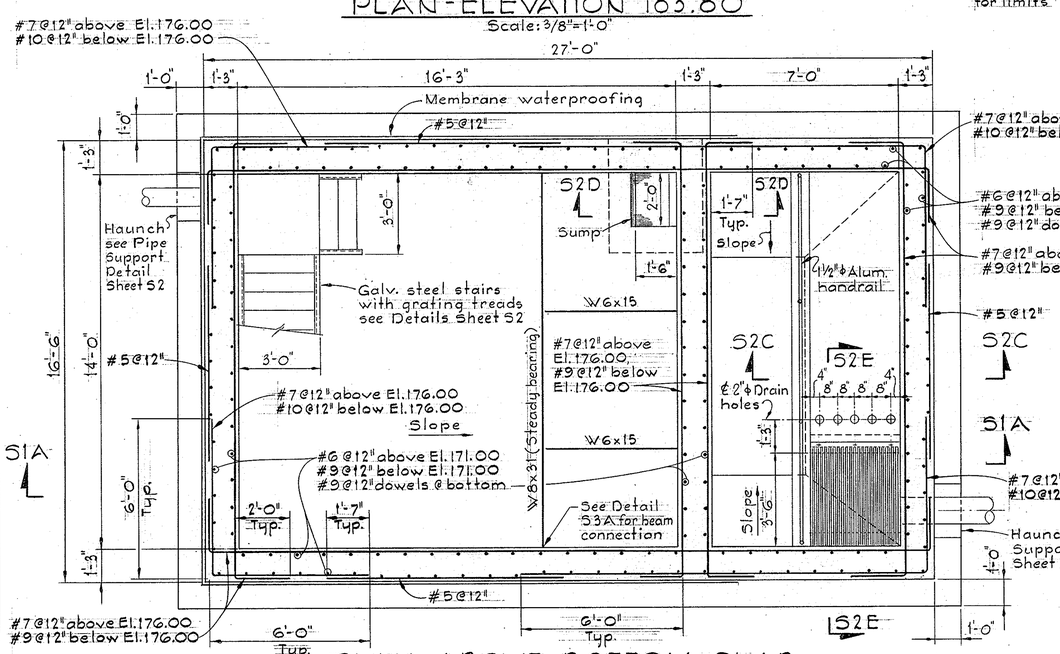
WS 705 - S/10

K&E BALTIMORE 170453 PHOENIX MC91324



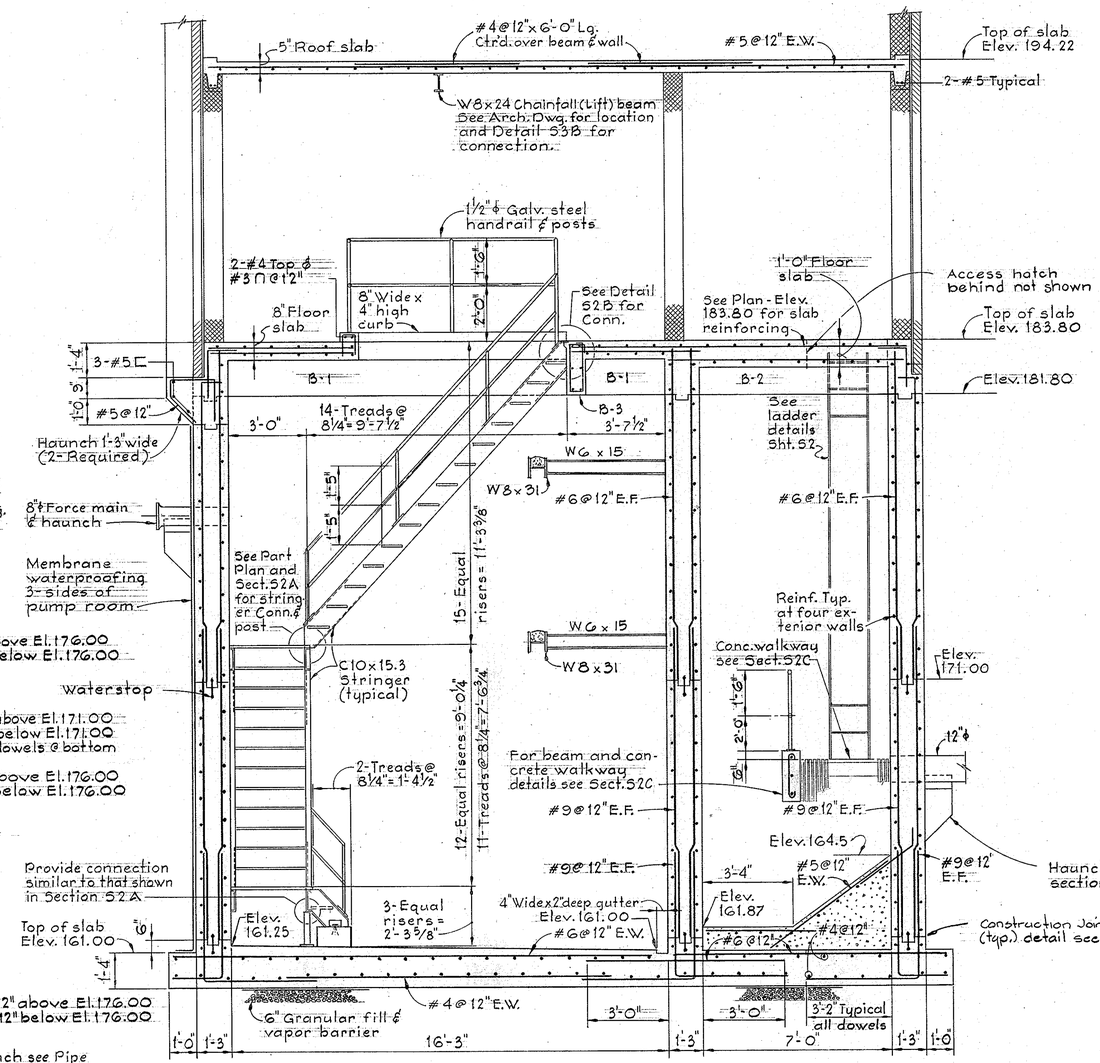
PLAN - ELEVATION 183.80

Scale: 3/8" = 1'-0"



PLAN - ABOVE BOTTOM SLAB

Scale: 3/8" = 1'-0"



SECTION S1A/S1

Scale: 3/8" = 1'-0"

STATE OF MARYLAND KENNETH A. WILCORD 1974 REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR

SHEET S-1

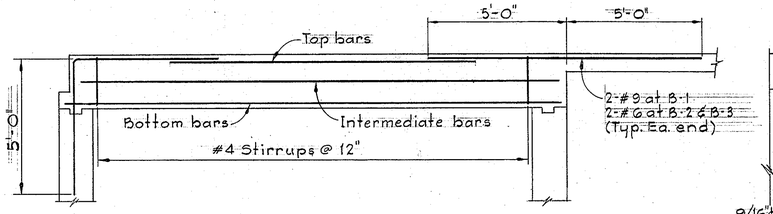
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND — DIRECTOR OF PUBLIC WORKS - DATE 4-28-81; CHIEF - BUREAU OF ENGINEERING - DATE 4/16/81; CHIEF - BUREAU OF UTILITIES - DATE 4/29/81; CHIEF - UTILITIES DIVISION - DATE 4/15/81	CONTRACT NO. 705-S PROJECT NO. S-4-6048	STRUCTURAL SECTION & PLANS	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 11 OF 18	SCALE AS SHOWN

W.O. 7555-2

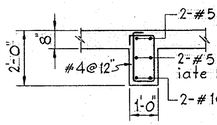
AS-BUILT October 30, 1984 December 2, 1981

WS 705 - S/11

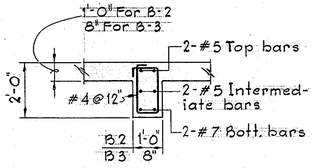
K&E BALTIMORE 170453 PHOENIX MC9132



ELEVATION



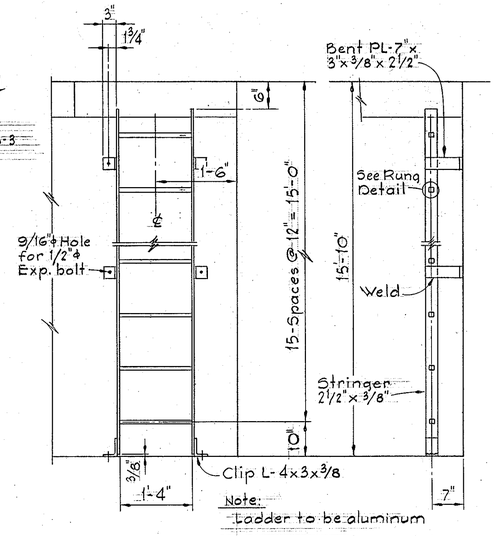
SECTION B1



SECTION B2 & B3

BEAM DETAILS

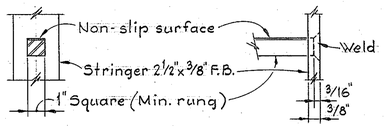
Scale: 3/8"=1'-0"



Note: Ladder to be aluminum

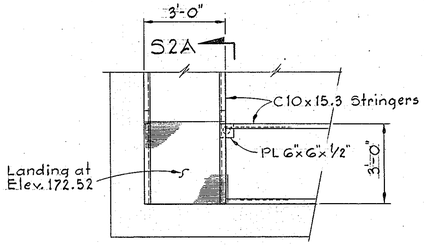
ELEVATION
Scale: 3/4"=1'-0"

SECTION
Scale: 3/4"=1'-0"

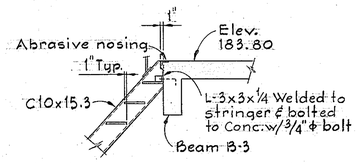


RUNG DETAILS

LADDER DETAILS

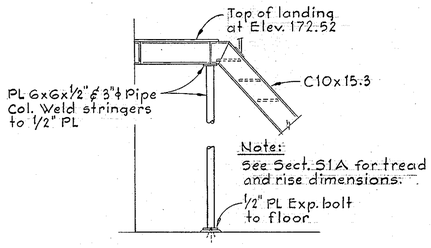


PART PLAN
Scale: 3/8"=1'-0"



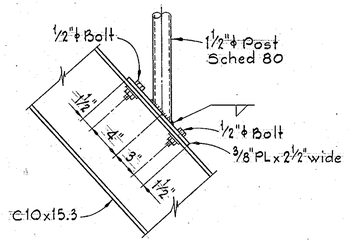
Notes:
1. All treads to be 1"x 3/16 steel grating w/ abrasive nosing.
2. Railing to be 1 1/2"ϕ Sched. 40 galvanized steel.
3. All stair channels, supports & materials shall be galvanized.

DETAIL S2B/S1
Scale: 3/8"=1'-0"



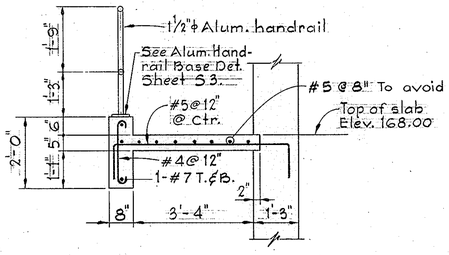
Note: See Sect. S1A for tread and rise dimensions.

SECTION S2A/S2
Scale: 3/8"=1'-0"

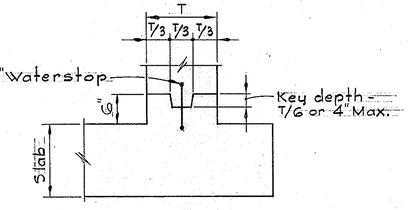


TYPICAL POST CONNECTION
Scale: 1 1/2"=1'-0"

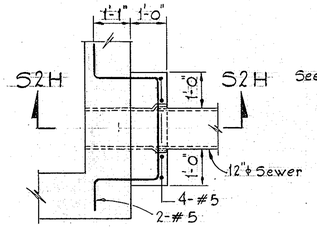
STAIR DETAILS



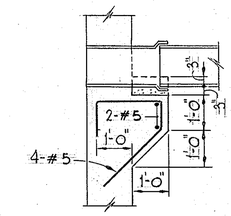
SECTION S2C/S1
Scale: 1/2"=1'-0"



CONSTRUCTION JOINT IN WALL
No Scale



PLAN

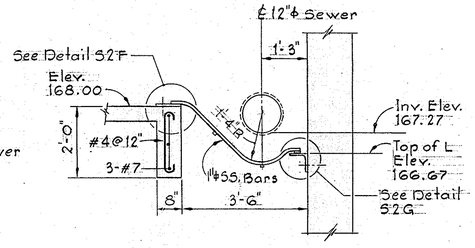


Note: Haunch details shown occur at 12"ϕ sewer, details at 8"ϕ force main will be similar.

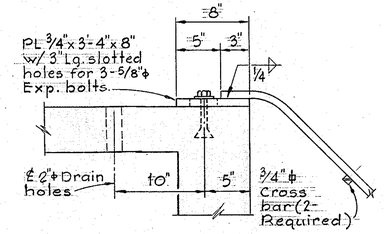
SECTION S2H/S2

PIPE SUPPORT DETAILS

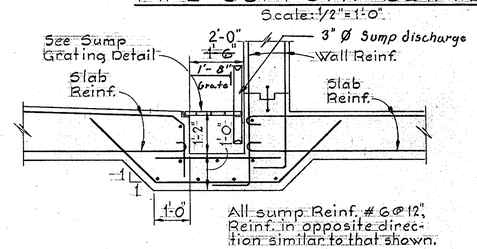
Scale: 1/2"=1'-0"



SECTION S2E/S1
Scale: 1/2"=1'-0"

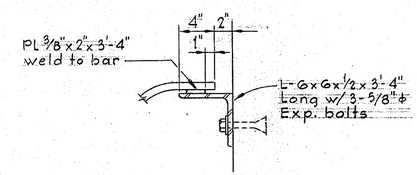


DETAIL S2F/S2
Scale: 1 1/2"=1'-0"

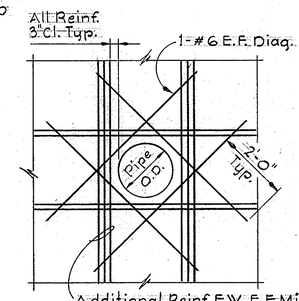


All sump Reinf. #6@12", Reinf. in opposite direction similar to that shown.

SECTION S2D/S1
Scale: 1/2"=1'-0"

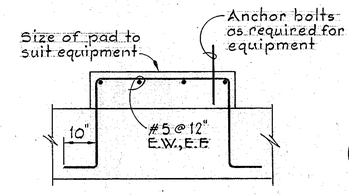


DETAIL S2G/S2
Scale: 1 1/2"=1'-0"



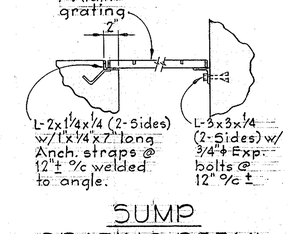
Additional Reinf. E.W., E.F. Min. of one-half the number of principal Reinf. bars interrupted by the opening shall be provided on Ea. side and Ea. face of opening. Bars to be full height and length of wall.

ADD'L. REINF. AROUND PIPE OPENINGS IN WALLS
No Scale



See Architectural and Mechanical drawings for size and location of pads.

SECTION THRU EQUIPMENT PAD
No Scale



SUMP GRATING DETAIL
Scale: 1"=1'-0"

SHEET S-2

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS - DATE 4-28-81
CHIEF - BUREAU OF ENGINEERING - DATE 4/16/81
CHIEF - BUREAU OF UTILITIES - DATE 4/24/81
CHIEF - UTILITIES DIVISION - DATE 4/15/81

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

STRUCTURAL SECTION & DETAILS

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING NO. 12 OF 18

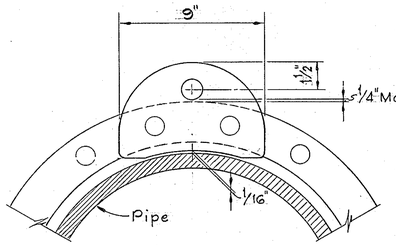
SCALE AS SHOWN

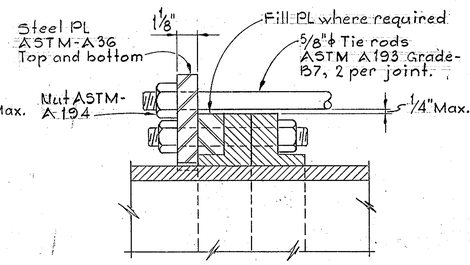
W.O. 7555-2

AS-BUILT October 30, 1984 December 2, 1981

WS 705 - S/12

K&E BALTIMORE 170453 PHOENIX MC9132*





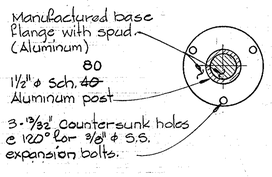
Note:
Tie rod details for 6"ϕ pipes.

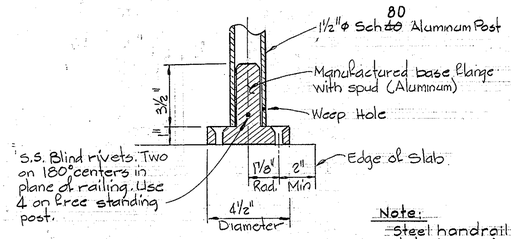
ELEVATION

SECTION

TIE ROD DETAILS

Scale: None





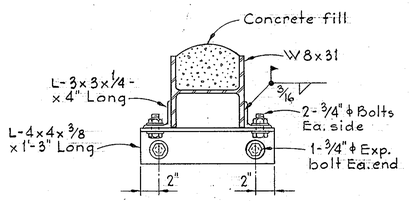
Note:
Steel handrail base details similar

PLAN

SECTION

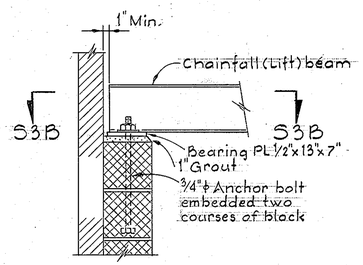
ALUMINUM HANDRAIL BASE DETAILS

Scale: 3" = 1'-0"



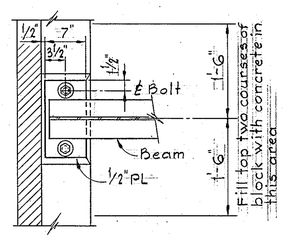
DETAIL S3A/S1

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



DETAIL S3B/S1

Scale: 1" = 1'-0"



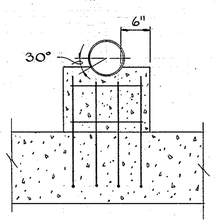
SECTION S3B/S3

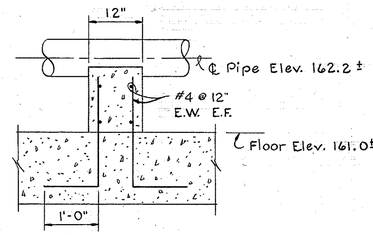
Scale: 1" = 1'-0"

DESIGN LOAD

Dead loads:	Actual weight of structural components and equipment
Weight of soil:	110 PCF to resist uplift 120 PCF dead load
Live loads:	a. Motor room - 4ᵏ over 2 FT.² concentrated load or 300 PSF, whichever is greater b. Access hatches - 300 #/FT.² c. Catwalk, stairs and walkway - 125 PSF d. Roof load - 30 PSF
Wind load:	20 PSF

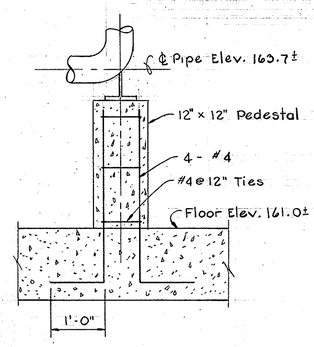
Factor of safety against flotation with floor water level at elevation 176.00 = 1.29.





PIPE SUPPORT DETAILS

Scale: None



CONCRETE PEDESTAL SUPPORT

Scale: None

GENERAL STRUCTURAL NOTES

1. All exterior walls shall have waterproofing where shown. See specifications for details

FOUNDATION NOTES

1. All excavations shall be inspected and approved by the Engineer before placing any gravel, crushed stone and/or concrete
2. For Mechanical and Electrical work to be incorporated with foundation construction, see Mechanical and Electrical drawings.
3. Bottom of all excavations shall receive a minimum of 6" of well compacted crushed stone or gravel. For other requirements, see specifications.
4. Any excess excavation below the elevations of crushed stone or gravel, shall be filled with compacted stone or gravel. All excavations shall be kept dry. Water shall not be allowed to stand in excavations.

CONCRETE NOTES

1. All concrete shall have a minimum compressive strength of 4000 PSI at 28 days.
2. Reinforced concrete shall be detailed and constructed in accordance with ACI Building Code 318-77 and all supplements. The structure has been designed by the alternate design method.
3. All reinforcing steel shall conform to ASTM A615 grade 60
4. Concrete cover for reinforcing shall be as follows unless otherwise noted on the drawings.
   a. Unformed concrete, bottom bars in footings and slabs on earth, gravel or crushed stone - 3"
   b. Beams, slabs and columns exposed to ground, weather or process liquid after the removal of forms - 2"
   c. Beams and columns not exposed to weather - 1 1/2"
   d. Structural slabs not exposed to earth or weather - 3/4"
   e. Walls - 2"
5. All exposed concrete edges shall be chamfered 3/4" unless otherwise noted.
6. Reinforcing steel shall be detailed in accordance with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" except where shown otherwise.
7. Splices in reinforcement shall be Class "C" splices as per ACI 318 unless otherwise shown on the drawings.
8. Embedment length shall be equal to the development length for open top or bottom in accordance with ACI 318 unless otherwise shown on the drawings.
9. Horizontal bars in walls shall be considered as top bars.
10. Slabs and walls shall be poured between indicated joints, allowing a minimum period of 3 days to elapse between adjacent pours.
11. Construction joints shall be as shown on the drawings. No additional joints shall be used nor any omitted except by the written authorization by the Engineer.
12. All waterstops shall be 3/8" thick, 9" wide, 2 bulb type. See specifications for other requirements
13. Anchor bolts, pipe supports and equipment pedestals shall be sized and located to suit equipment furnished.
14. See Civil, Mechanical and Electrical drawings for all embedded items such as sleeves, anchors, electrical conduits, openings, chases, etc., which are embedded in the concrete.
15. The Contractor shall submit shop details of reinforcing steel before proceeding with fabrication.

STRUCTURAL STEEL NOTES

1. All structural steel shall conform to ASTM A-36.
2. All shop connections shall be welded. All field connections shall bolted using 3/4" diameter A-325 bolts except where noted otherwise.
3. Except where otherwise noted on the drawings, connections of framing members shall be capable of transferring the full strength of the member.
4. All structural steel is designed by elastic analysis and shall be fabricated with the current AISC specifications for buildings.

STRUCTURAL ALUMINUM NOTES

1. All aluminum in contact with concrete shall be coated as specified
2. All structural aluminum shall be alloy 6061-T6.
3. All grating sections shall be capable of supporting a live load of 125 PSF with a maximum deflection of 1/4" at 100 PSF.
4. Each section of grating shall be mechanically fastened to supports with 2 fasteners at each end.

MISCELLANEOUS STRUCTURAL NOTES

1. All stainless steel shall be ASTM A276 type 304.
2. All shop connections may be welded or bolted and field connections shall be bolted, unless otherwise noted.

STATE OF MARYLAND KENNETH A. McCORD 1974 REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR

SHEET S-3 Kenneth A. McCord

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Frank E. Nemeyer 4-27-81 DIRECTOR OF PUBLIC WORKS — DATE	Wilson S. Ray 4/16/81 CHIEF — BUREAU OF ENGINEERING — DATE
Robert W. Bunting 4/28/81 CHIEF — BUREAU OF UTILITIES — DATE	Allen L. Brown 4/15/81 CHIEF — UTILITIES DIVISION — DATE

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

STRUCTURAL SECTIONS, DETAILS & NOTES

ELECTION DISTRICT NO. 1
ELKRIDGE

DRAWING NO. 13 OF 18

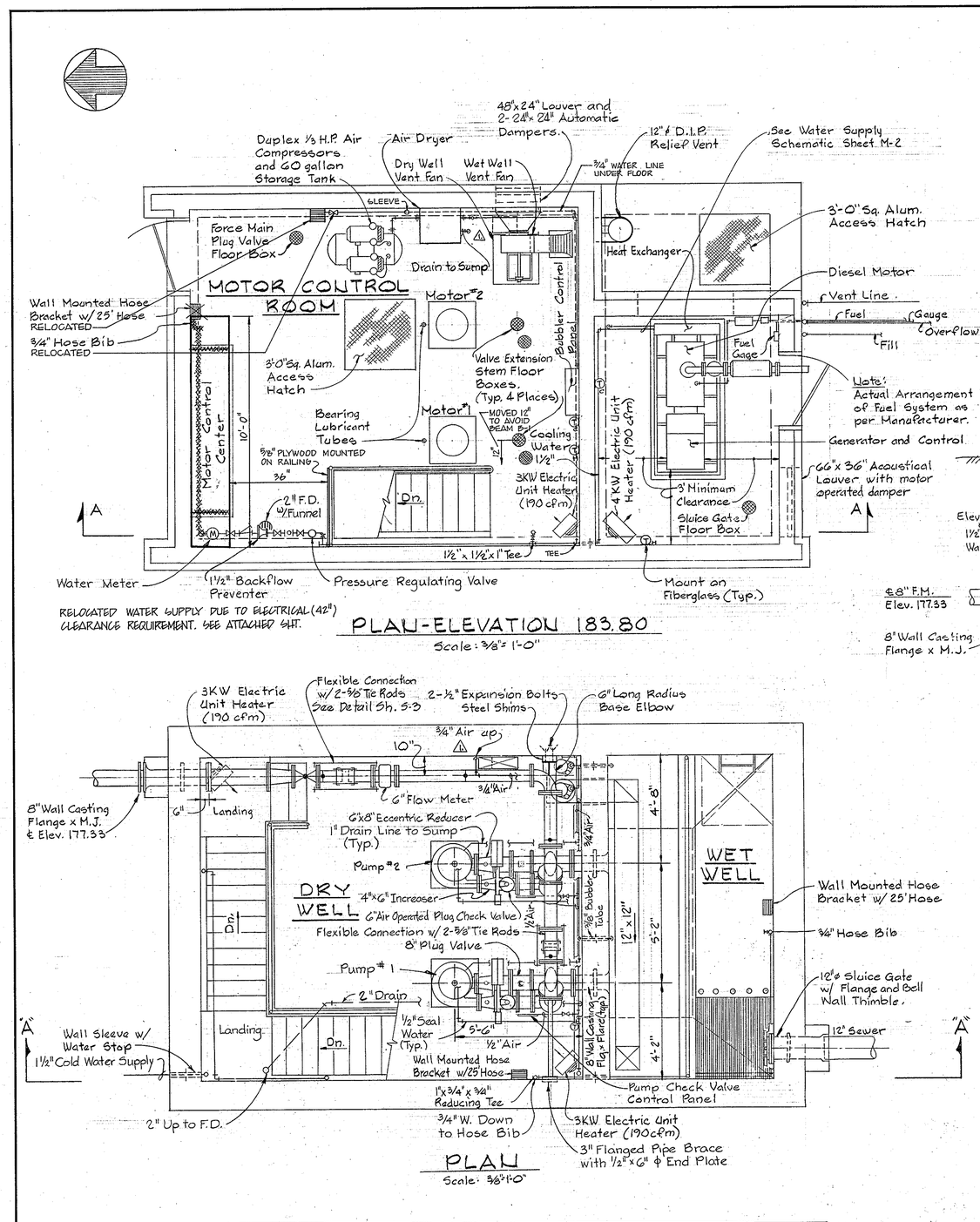
SCALE AS SHOWN

W.O. 7555-2

AS-BUILT October 30, 1984 August 17, 1981

WS 705 - S/13

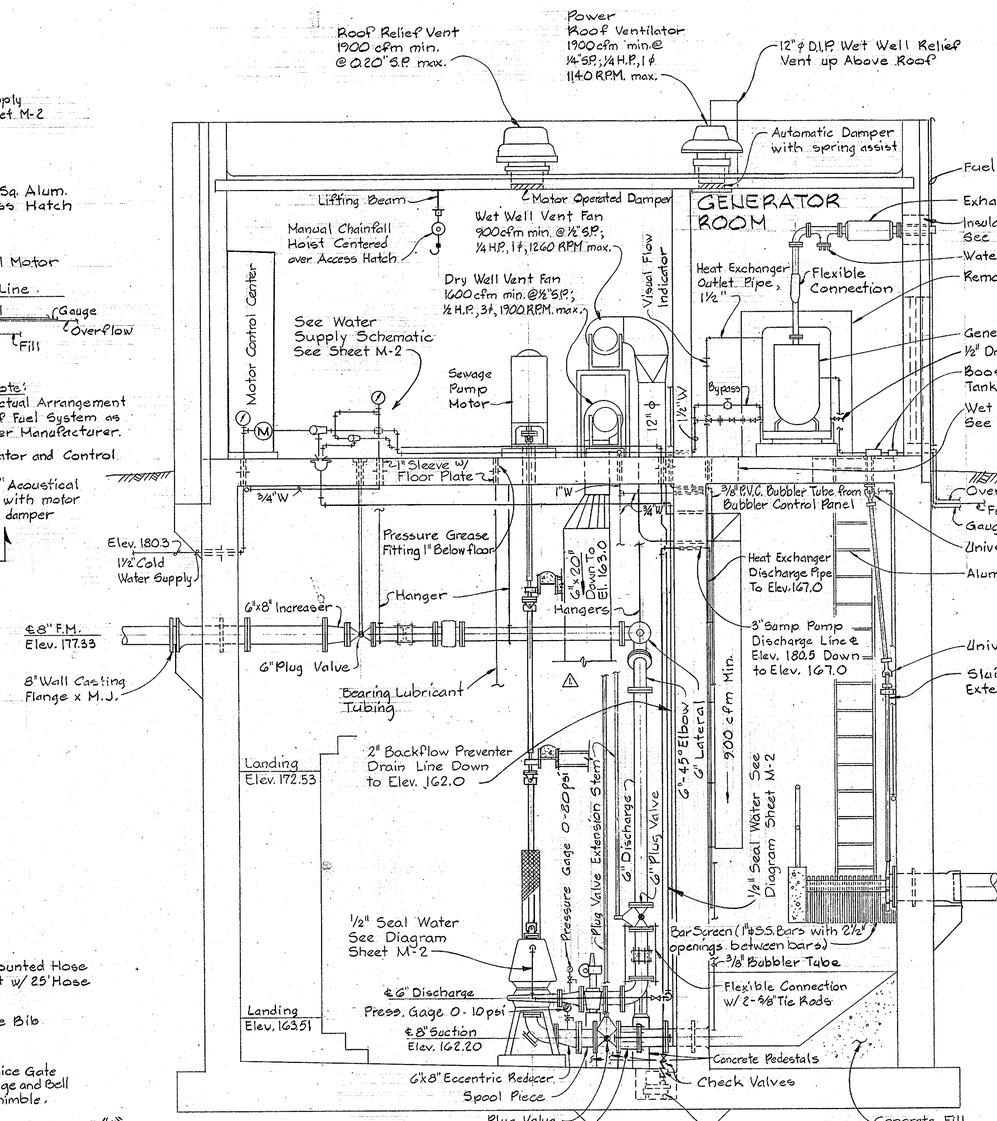
K&E BALTIMORE 170453 PHOENIX MC 9132*



RELOCATED WATER SUPPLY DUE TO ELECTRICAL (42") CLEARANCE REQUIREMENT. SEE ATTACHED SHT.

PLAN-ELEVATION 183.80

Scale: 3/8" = 1'-0"



SECTION "A-A"

Scale: 3/8" = 1'-0"

PLAN

Scale: 3/8" = 1'-0"

STATE OF MARYLAND KENNETH A. McCORD 1974 REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR

Kenneth A. McCord

Meadowridge Sewer & P.S.
Project No. S-4-6048
Contract No. 705-S

Sheet No. M-1

No.	Date	Revision
1	12-2-81	Revised Dry Well Ventilation.

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4-28-81
CHIEF-BUREAU OF ENGINEERING — DATE 4/16/81
CHIEF-BUREAU OF UTILITIES — DATE 4/24/81
CHIEF UTILITIES DIVISION — DATE 4/15/81

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

MECHANICAL PLANS & SECTION

ELECTION DISTRICT NO. 1
ELKRIDGE

DRAWING NO. 14 OF 18

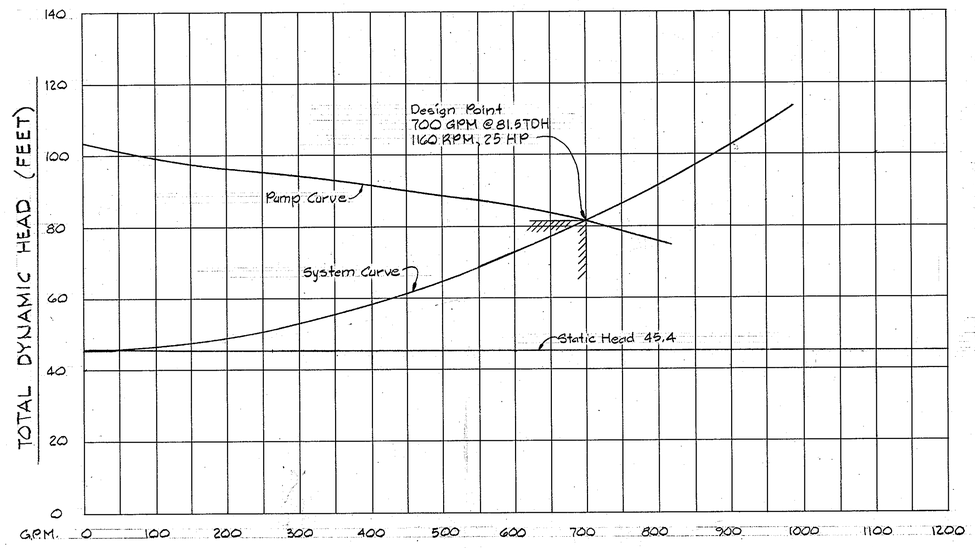
SCALE AS SHOWN

W.O. 7555-2

AS-BUILT December 2, 1981

WS 705 - S/14

K&E BALTIMORE 170453 PHOENIX MC 9132



FLOW

SYSTEM CURVE

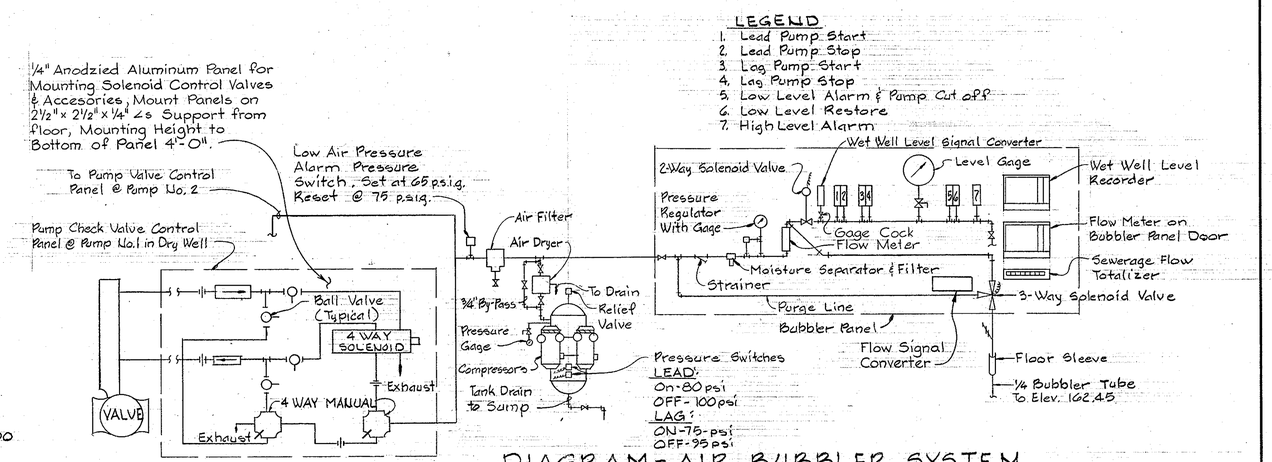
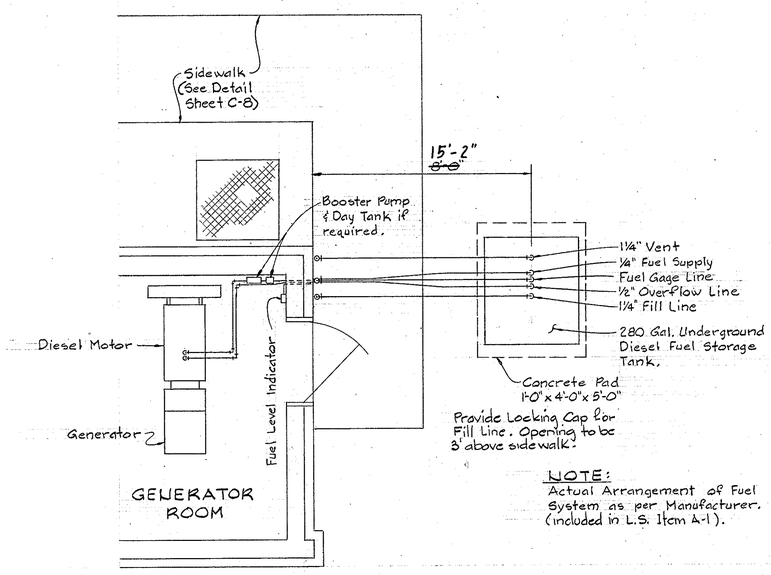


DIAGRAM - AIR BUBBLER SYSTEM

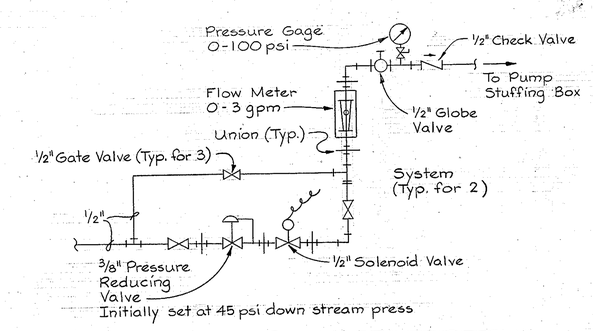
Not to Scale



NOTE:
Actual Arrangement of Fuel System as per Manufacturer. (included in L.S. Item A-1).

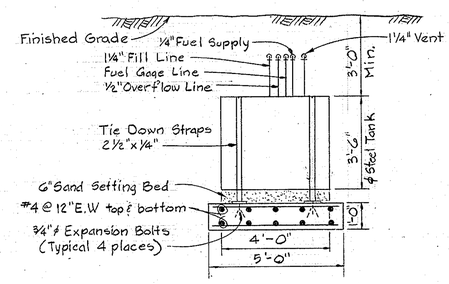
PLAN FUEL PIPING ARRANGEMENT

Scale: 3/8" = 1'-0"



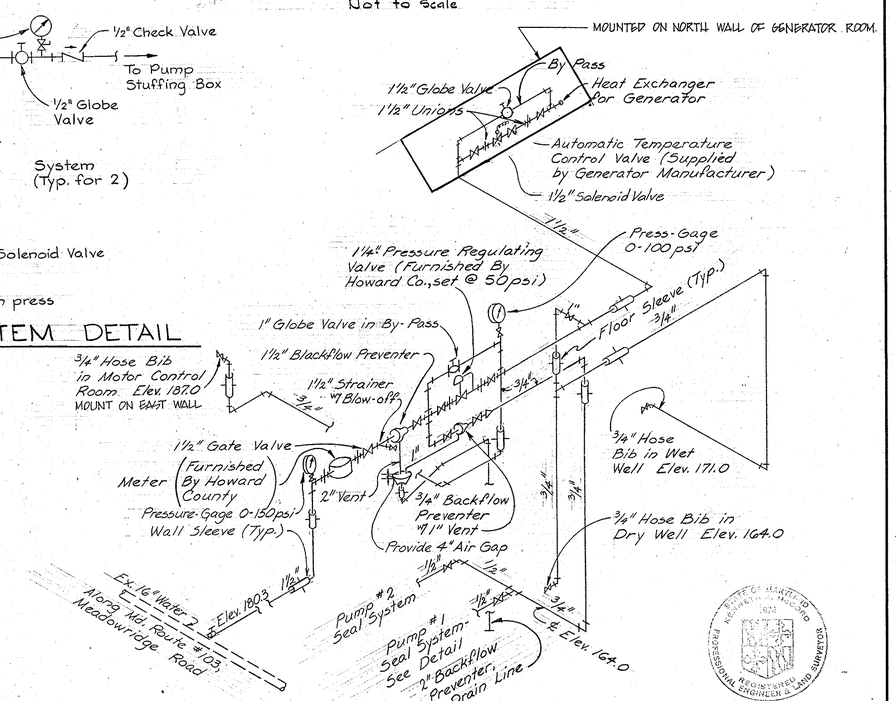
SEALING WATER SYSTEM DETAIL

Not to Scale



UNDERGROUND FUEL TANK INSTALLATION DETAIL

Scale: 3/8" = 1'-0"



WATER SUPPLY SCHEMATIC

Not to Scale

Meadowridge
Sewer & P.S.
Project No. S-4-6048
Contract No. 705-S

Sheet No. M-2

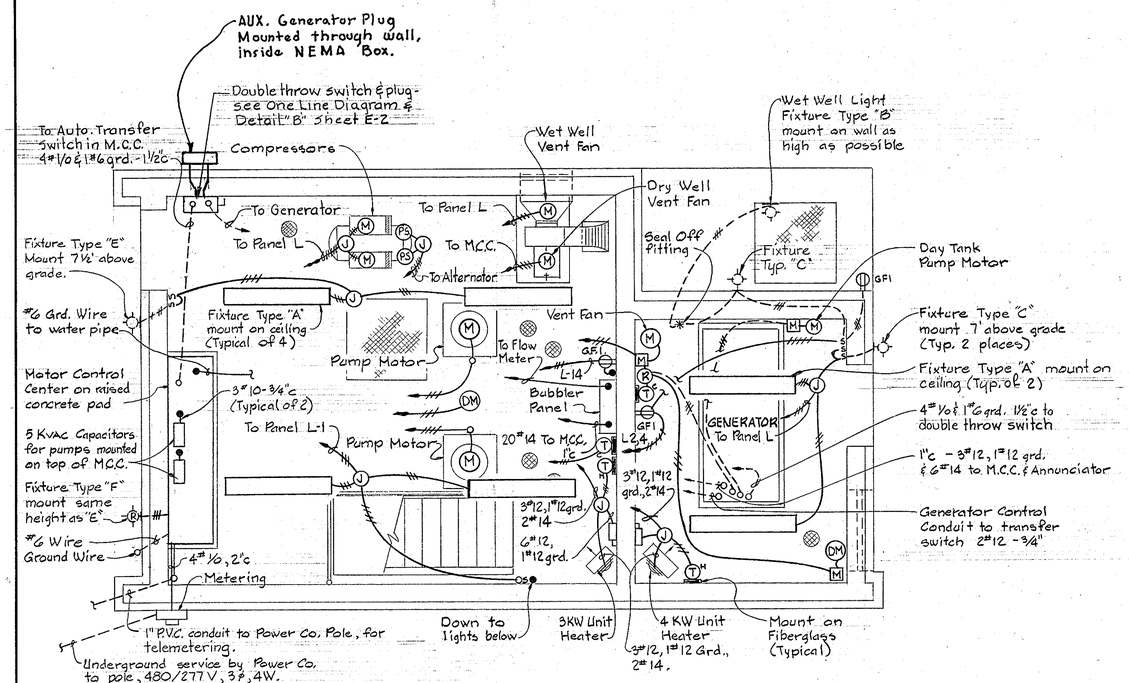
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND CHIEF-BUREAU OF UTILITIES — DATE 4/24/81 CHIEF UTILITIES DIVISION — DATE 4/15/81	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS — DATE 4-28-81 CHIEF-BUREAU OF ENGINEERING — DATE 4/14/81	CONTRACT NO. 705-S PROJECT NO. S-4-6048	SYSTEM CURVE & DETAILS	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 15 OF 18 / SCALE AS SHOWN
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND					

W.O. 7555-2

August 17, 1981

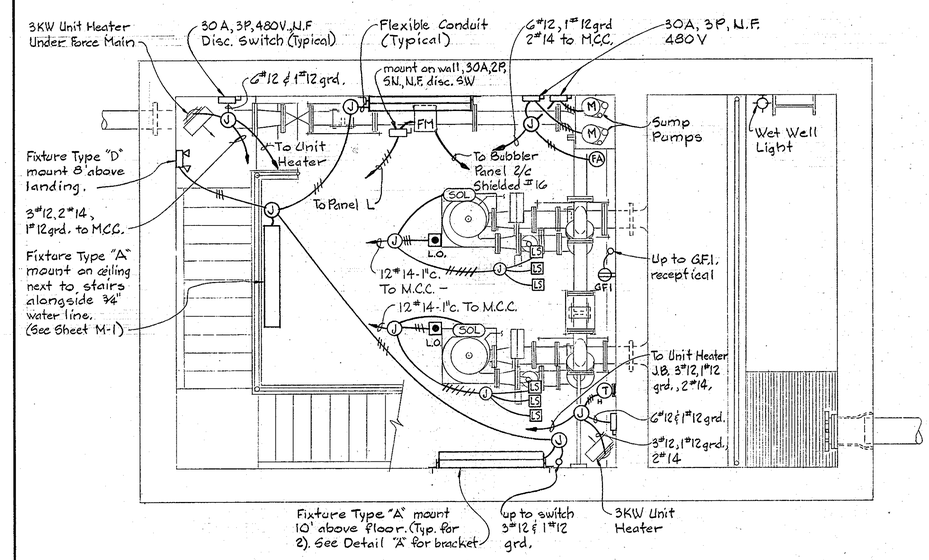
WS 705 - S/15

K&E BALTIMORE 170453 PHOENIX MC9132



PLAN - ELEV. 183.80

Scale: 3/8" = 1'-0"



PLAN - ELEV. 161.00

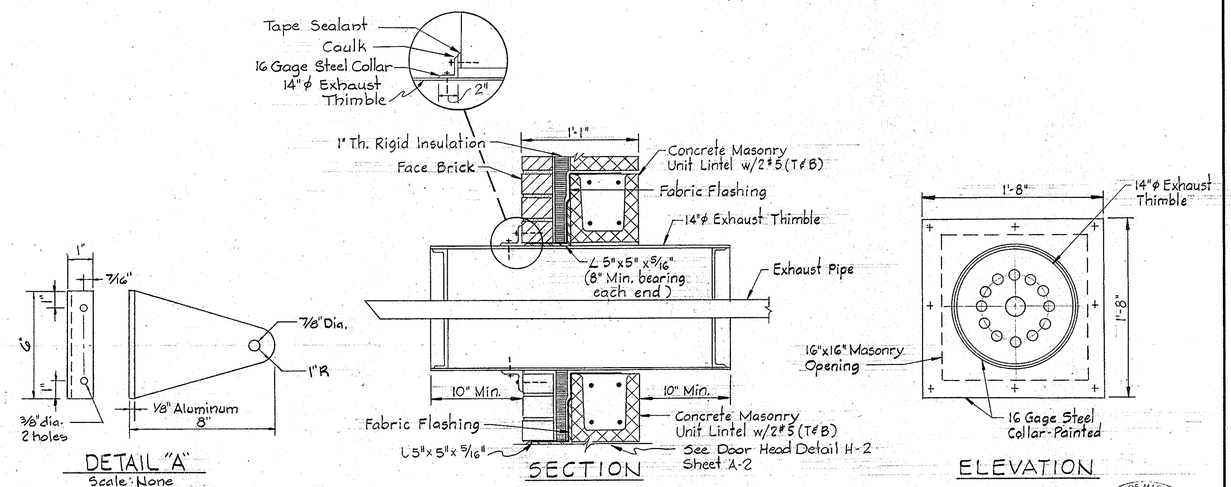
Scale: 3/8" = 1'-0"

MOTOR CONTROL CENTER 480/277 V, 3φ, 4W

NAMEPLATE DATA	DEVICE DESCRIPTION	HP/KW	AUX. DESCR.	BREAKER OR MCP	FRAME	POLES	CALIB.	S.I.C.	WIRE-POLE	WIRE-CONTROL	GRD WIRE	COND. SIZE
INCOMING SERVICE SPACE												
MAIN BREAKER NO. 1	Circuit Breaker	—	a	Breaker	225	3	150	22				
TRANSFER CONTROL PANEL	Transfer Control Panel	—	See Spec.	See Spec.				—		2#12		3/4"
TRANSFER SWITCH	Auto. Transfer Switch	—	See Spec.	See Spec.	150	3		22	4#1/0		#6	1½"
MAIN BREAKER NO. 2	Circuit Breaker	—	a.	Breaker	225	3	150	22				
SEWAGE PUMP	Combination Starter, Size 2	25	b,c,d,e,i, k,l,m,n	M.C.P.	100	3	50	—	3#8		#10	3/4"
ANNUNCIATOR	See Spec.	—										
SEWAGE PUMP	Comb. Starter, Size 2	25	b,c,d,e,i, k,l,m,n	MCP	100	3	50	—	3#8	—	#10	3/4"
SPARE	Comb. Starter, Size 1		b,c,e,i	MCP	100	3	3	—				—
DRY WELL CONTROL RM. FAN	Comb. Starter, Size 1	½	b,c,e,i	MCP	100	3	3	—	3#12		#12	3/4"
SUMP PUMP	Comb. Starter, Size 1	½	b,c,i,j	MCP	100	3	3	—	3#12	2#14	#12	1"c
ALTERNATOR	2 Circuit Alternator	—						—				
SUMP PUMP	Comb. Starter, Size 1	½	b,c,i,j	MCP	100	3	3	—	3#12	—	#12	—
AIR COMPRESSORS		⅓-⅓	c,e,g,j,j		—	—	—	—				
ALTERNATOR	2 Circuit Alternator	—						—				
PANEL L	16 Circuit w/ Main Breaker	—		Breaker	100	2	30	25	—	—	—	—
TRANSFORMER	480V-120/240V-5KVA-1φ	—		Breaker	100	3	15	25	—	—	—	—
WET WELL EXH. FAN		¼	c,e,f,g,h		—	—	—	—				
UNIT HEATER-GEN. RM.	Comb. Contactor, Size 1	4	i	Breaker	100	3	15	25	3#12	2#14	#12	
UNIT HEATERS-DRY WELL	Comb. Contactor, Size 1	3-3	i	Breaker	100	3	15	25	3#12	2#14	#12	
UNIT HEATER-CONTROL RM.	Comb. Contractor, Size 1	3	i	Breaker	100	3	15	25	3#12	2#14	#12	
SPARE	Comb. Starter, Size 1		b,c,e,i	MCP	100	3		—				
SPARE	Breaker			Breaker	100	3	15	25				

AUXILIARY DESCRIPTION

a. Auxiliary Contact
b. Green Indicating Light
c. Red Indicating Light
d. Power Failure Timer
e. H-O-A Selector Switch
f. Repeat Cycle Timer
g. Manual Motor Starter
h. Auxiliary Relay
i. Control Power Transformer 480 - 120 Volt
j. Test - Off - Auto Selector Switch
k. White Indicating Light
l. Amber Indicating Light
m. Blue Indicating Light
n. Phase monitor



SECTION

ELEVATION

DETAIL "A"
Scale: None
Material: T-6 Aluminum (Anodized)

INSULATING WALL THIMBLE DETAIL

Scale: 1½" = 1'-0"

STATE OF MARYLAND — KENNETH A. McCORD — 1974 — REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR

Meadowridge Sewer and P.S.
Project No. S-4-6048
Contract No. 705-S
Sheet No. E-1

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS — DATE 4-28-81
CHIEF-BUREAU OF ENGINEERING — DATE 4/14/81
CHIEF-BUREAU OF UTILITIES — DATE 4/24/81
CHIEF UTILITIES DIVISION — DATE 4/15/81

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

ELECTRICAL PLANS & DETAILS

ELECTION DISTRICT ELKRIDGE NO. 1

DRAWING NO. 16 OF 18

SCALE AS SHOWN

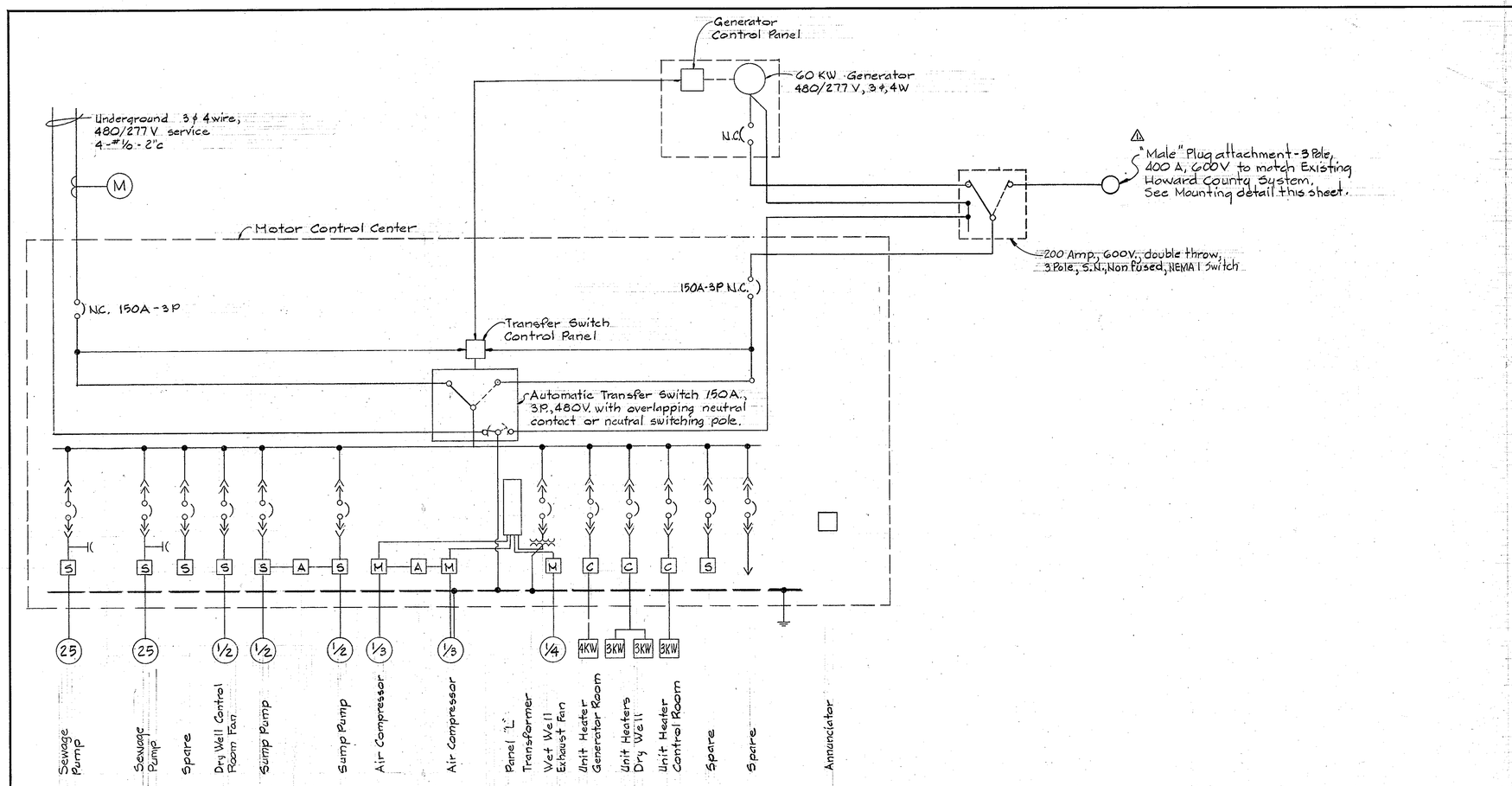
W. O. 7555-2

AS-BUILT October 31, 1984

August 17, 1981

WS 705 - S/16

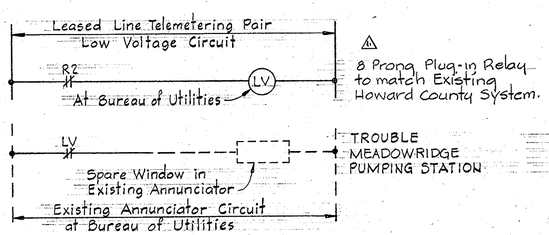
K&E BALTIMORE 170453 PHOENIX MC9132*



ONE LINE DIAGRAM

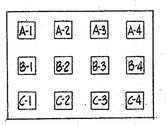
LEGEND

- Flourescent fixture
- Outlet - incandescent - wall bracket
- Outlet - duplex conveniece
- Junction Box
- EXP WP Explosion proof - weatherproof where indicated
- S S_2 Switch - single pole - two pole
- T_H T_C Thermostat - heating - cooling with 3/4" insulating board mounted on wall
- Disconnect switch - non-fused
- Homerun to panelboard - number of arrows indicates number of circuits. Number of cross lines indicate number of wires. Where no cross lines appear two conductors are implied.
- Conduit - on ceiling or wall
- Conduit - under floor
- Conduit - stup up - down
- Conduit seal
- L.O. Push button station - lock out
- M Motor
- M Starter - manual
- DM Damper motor
- G.F.I. Ground fault interrupter
- LS Limit switch
- Sol Solenoid valve
- S Motor starter - full voltage
- C Contactor
- FS Float switch
- FM Magnetic flow meter
- PS Pressure switch
- FA Flood alarm
- R Relay
- C Starter or Contactor Coil
- C Capacitor
- A Alternator
- SOL Solenoid



ALARM INDICATION AT BUREAU OF UTILITIES

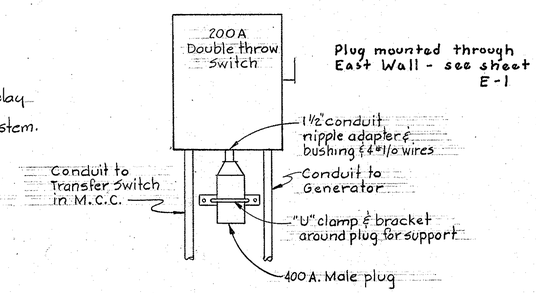
Note: Contractor shall coordinate voltage requirements with the telephone company and field verify the extent of work at the Bureau of Utilities 8250 Old Montgomery Rd, Ellicott City, Maryland 21043



ANNUNICATOR

NAMEPLATE SCHEDULE

- A-1 High level wet well
- A-2 Low wet well
- A-3 Generator trouble
- A-4 Generator running
- B-1 Main breaker no. 1 - open
- B-2 Main breaker no. 2 - open
- B-3 Dry Well - flood
- B-4 Low air - bubbler
- C-1 Valve Failure
- C-2 Spare
- C-3 Spare
- C-4 Spare



DETAIL "B"

See Sheet E-1
No Scale

STATE OF MARYLAND KENNETH A. McCORD 1974 REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR

Kenneth A. McCord

Meadowridge Sewer and P.S.
Project No. S-4-6048
Contract No. 705-S

Sheet No. E-2

No.	Date	Revision
1	12-2-81	Revised Plug and Relay.

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Floyd F. Newman 4-29-81 DIRECTOR OF PUBLIC WORKS - DATE	Robert E. Riley 4/16/81 CHIEF - BUREAU OF ENGINEERING - DATE
Robert J. Brunner 4/29/81 CHIEF - BUREAU OF UTILITIES - DATE	Allen S. Brown 4/15/81 CHIEF - UTILITIES DIVISION - DATE

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

ELEMENTARY DIAGRAMS AND DETAILS

ELECTION DISTRICT ELKIDGE NO. 1

DRAWING NO. 17 OF 18

SCALE AS SHOWN

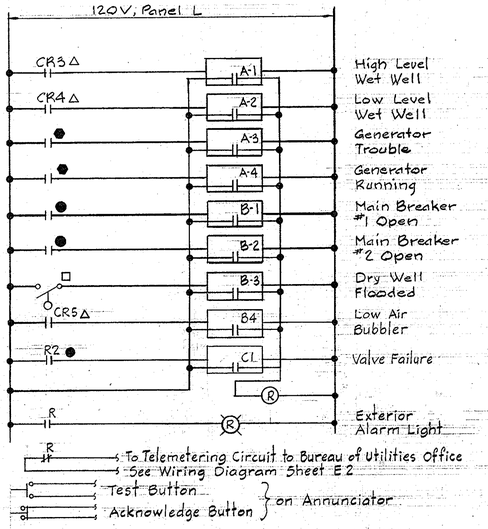
AS-BUILT October 31, 1984

December 2, 1981

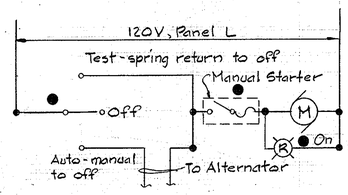
W.O. 7555-2

WS 705 - S/17

K&E BALTIMORE 170453 PHOENIX MC 9132+

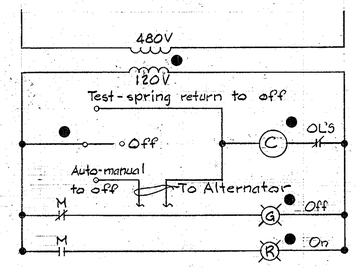


ANNUNCIATOR ALARM WIRING

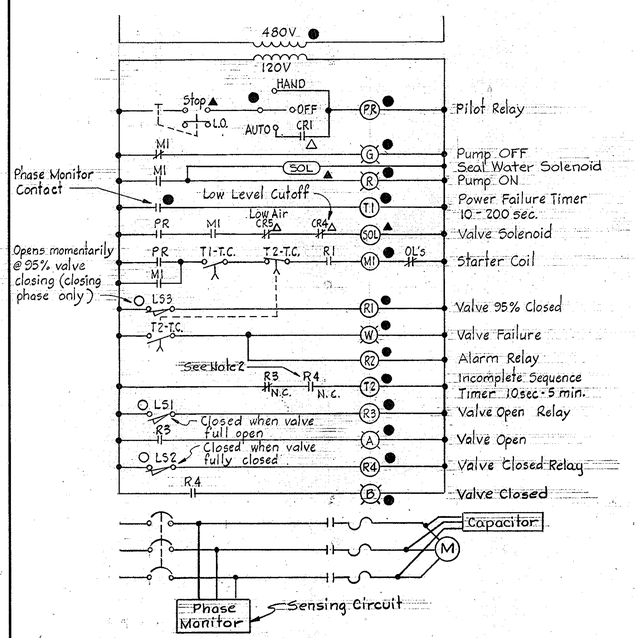


AIR COMPRESSOR CONTROL

(Typical for 2)

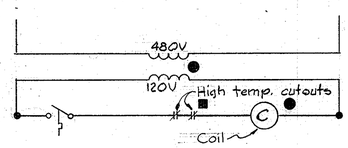


SUMP PUMP CONTROL



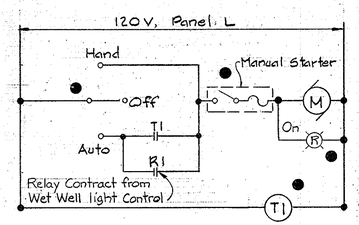
SEWAGE PUMP CONTROL

(Typical for 2)



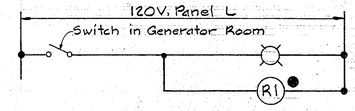
UNIT HEATERS CONTROL DRY WELL

(Similar for Control Room & Generator Room except only one heater in each room.)

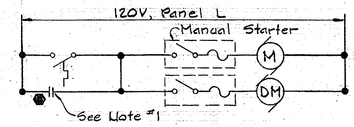


Repeat Cycle Timer 60 Min. Range, Set: Run 5 Min, Off 25 Min. Repeat.

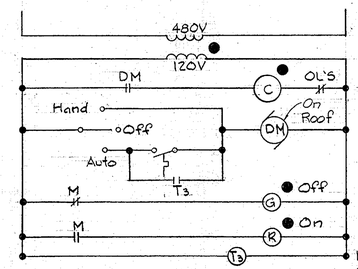
WET WELL VENT FAN



WET WELL LIGHT WITH FAN CONTROL

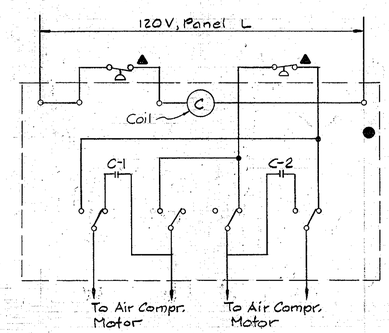


EXHAUST FAN GENERATOR ROOM



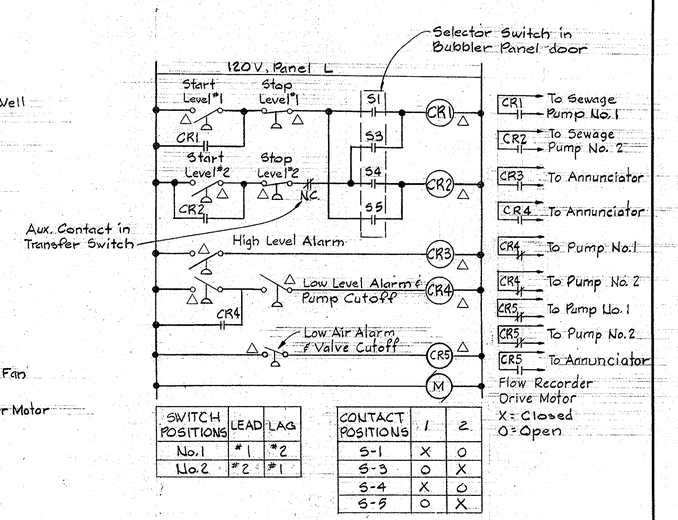
Repeat Cycle Timer 60 Min. Range, Set: Run 10 Min., Off 20 Min Repeat

DRY WELL CONTROL ROOM VENT FAN



TWO CIRCUIT ALTERNATOR FOR AIR COMPRESSORS

(Typical for Sump Pumps except with Float Switches connected in starter control circuit)



SWITCH POSITIONS	LEAD	LAG
No. 1	#1	#2
No. 2	#2	#1

CONTACT POSITIONS	1	2
S-1	X	O
S-3	O	X
S-4	X	O
S-5	O	X

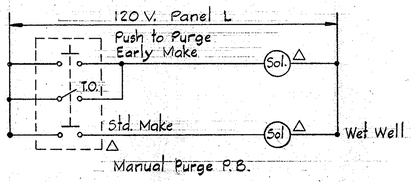
BUBBLER PANEL CONTROL

LOCATION LEGEND

- ● Located in Motor Control Center
- ▲ Located at pump location
- ■ Located on or in equipment
- △ Located in Bubbler Panel
- ○ Located on Valve
- □ Located in Dry Well - Near Sump Pump
- ● Located on Generator

NOTES

1. Contact closes when generator starts, contact to be rated 10 amp. minimum.
2. R4 Contact open only when valve fully closed.



BUBBLER PURGE CONTROL

STATE OF MARYLAND
KENNETH A. McCORD
1974
PROFESSIONAL ENGINEER & LAND SURVEYOR
REGISTERED

Kenneth A. McCord

Meadowridge
Sewer and P.S.
Project No. S-4-6048
Sheet No. E-3 Contract No. 705-S

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

4-28-81 DIRECTOR OF PUBLIC WORKS - DATE	4/16/81 CHIEF - BUREAU OF ENGINEERING - DATE
4/29/81 CHIEF - BUREAU OF UTILITIES - DATE	4/15/81 CHIEF - UTILITIES DIVISION - DATE

CONTRACT NO. 705-S
PROJECT NO. S-4-6048

ELEMENTARY DIAGRAMS AND DETAILS

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING NO. 18 OF 18

SCALE AS SHOWN

W.O. 7555-2

AS-BUILT October 31, 1984 December 2, 1981

WS 705 - S/18