

Rik Kowall, Supervisor  
Anthony L. Noble, Clerk  
Mike Roman, Treasurer



Trustees  
Scott Ruggles  
Steve Anderson  
Andrea C. Voorheis  
Liz Fessler Smith

**WHITE LAKE TOWNSHIP**  
**DEPARTMENT OF PUBLIC SERVICES**

7525 Highland Road, White Lake, Michigan 48383-2900, (248) 698-7700, www.whitelaketwp.com

December 6, 2024

Honorable Board of Trustees  
Charter Township of White Lake  
7525 Highland Rd.  
White Lake, MI 48383

**RE: Cranberry Lake MHP License Agreement to use easement**

Dear Board of Trustees,

DPS has been working over the summer with Cranberry Lake Mobile Home Park to abandon failing water supply wells and connect the park to the Township water. At the beginning of the planning phase the park had lost two (2) of the three (3) wells. They recently in the last couple weeks lost the third well and are now being supplied temporarily through a hydrant meter/backflow preventer assembly.

The plan calls for two (2), six (6) inch metered connections with backflow preventers to supply their private distribution system. They will connect to existing Township watermains that were installed through the park to supply Cranberry Meadows subdivision off of Pontiac Lake Rd. One of the connections on the north side of the park will require a meter enclosure on the end of a dead-end street. To leave sufficient space for the park to plow snow, the enclosure will need to be located partially inside an existing watermain easement.

The plan submitted has been reviewed and are currently out to EGLE for permits. EGLE has agreed to expedite their review as this is now urgent.

**DPS is requesting the Board of Trustees to approve the Township attorney to draft a License Agreement to occupy and use the easement for the meter enclosure, any other easements necessary to complete the connections. I request that the Township Supervisor be authorized to execute the agreement without the need to come back to the Board to expedite the emergency connection.**

Sincerely,

Aaron D. Potter  
Director, Dept. of Public Services  
Charter Township of White Lake

LIBER 20811 PAGE 100  
\$11.00 MISC RECORDING  
\$2.00 REMUNERATION  
11/18/1999 02:36:41 P.M. RECEIPT# 102735  
PAID RECORDED - OAKLAND COUNTY  
G. WILLIAM CANNELL, CLERK/REGISTER OF DEEDS

**EASEMENT FOR WATER MAIN**

KNOW ALL MEN BY THESE PRESENTS, that CP Limited Partnership, A Maryland limited partnership whose address is 19500 Hall Road, Clinton Township, Michigan 48038, hereinafter called the GRANTOR, for and in consideration of the sum of one dollar to us in hand paid by the Charter Township of White Lake in the County of Oakland, State of Michigan hereinafter called the TOWNSHIP, whose address is 7525 Highland Road, White Lake, Michigan 48383, do hereby release and convey to the TOWNSHIP, an easement for water main purposes and for the construction, installation, repair, maintenance and replacement of a public water main over, under and across the following described parcel of land:

Part of the northeast quarter of the northwest quarter of Section 23, and part of the southwest quarter of Section 14, Town 3 North, Range 8 East, White Lake Township, Oakland County, Michigan being described as:

Beginning at the south quarter corner of Section 14, also being the north quarter corner of Section 23; thence due West 300.00 feet along the line common to Sections 14 and 23; thence S.00°05'53"W. 410.47 feet to the northerly right of way of M-59; thence westerly along a non-tangent curve concave to the south having a central angle of 03°03'44", a radius of 3332.84 feet, an arc distance of 178.13 feet and whose long chord is S.83°42'47"W. 178.11 feet along the northerly right of way of M-59 (Highland Road); thence N.00°05'53"E. 429.97 feet to the line common to sections 14 and 23; thence due West 1385.11 feet along the south line of Section 14; thence due North 822.43 feet; thence due West 9.88 feet; thence due North 250.00 feet; thence S.89°58'43"E. 1218.84 feet; thence N.03°23'03"E. 439.53 feet; thence S.87°20'17"E. 627.88 feet to the north and south quarter line of section 14; thence due South 1481.58 feet along the north and south quarter line of Section 14 to the point of beginning. Containing 53.830 acres, more or less.

Tax Parcel ID (Sidwell No.): 12-14-300-005, 006, 008, 009  
12-23-126-003

**PERMANENT EASEMENT DESCRIBED AS FOLLOWS:**

Beginning at the south quarter corner of Section 14, also being the north quarter corner of Section 23; thence due North 1469.57 feet to the point of beginning; thence N.87°20'17"W. 628.59 feet; thence N.03°23'03"E 12.00 feet; thence S.87°20'17"E. 627.88 feet; thence due South 12.01 feet to the point of beginning.  
Pt 12-14-300-008

**A TEMPORARY EASEMENT DESCRIBED AS FOLLOWS:**

A strip of land 30 feet wide being southerly of, and parallel to, the permanent easement described above.

Said temporary easement shall be for the purposes of construction equipment movement and temporary soil stockpiling. Minor permanent grade adjustments may be made in areas acceptable to the GRANTOR. The temporary easement shall terminate upon the completion date of construction.

GRANTOR agrees that no buildings or other structures will be placed over said permanent easement as to interfere with or, in the opinion of TOWNSHIP, threaten to interfere with the construction, operation or maintenance of said public utility in this easement. Temporary nonuse or limited use of this easement by TOWNSHIP shall not prevent TOWNSHIP from later making use of the easement to the full extent herein authorized.

BY SE  
OF  
REC  
N  
  
L  
O  
N  
H  
D  
E  
  
H  
H  
  
H  
C  
C  
A  
L  
L  
H  
H  
C  
T  
  
H  
D  
S  
S  
  
V  
E  
  
F  
K  
K

MTPD

White Lake Township  
Water Main Easement  
12-14-300-005, 006, 008, 009  
12-23-126-003

The premises so disturbed by reason of the exercise of any of the foregoing powers, shall be reasonably restored to its original condition by the TOWNSHIP.

It is understood by the GRANTOR that the easement(s) delineated herein may be temporarily assigned by the TOWNSHIP to other Municipal or County Agencies for construction or maintenance purposes related to water mains.

This easement shall run with the land and be binding upon the heirs, executors, administrators, successors and assigns of the undersigned, as the holders of the legal title to the lands and premises above described.

The parties whose signatures appear below, hereby represent and warrant that they have the capacity and authority to bind the respective parties thereto. Also the GRANTORS represent and warrant that they are the owner of the above described land.

A drawing of the above described parcel is attached thereto and made a part hereof.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands and

seals, this 1 day of APRIL, 1999.

Witnessed by:

GRANTOR:

CP Limited Partnership, A Maryland limited partnership

Karen E. Hamilton

Print name:  
Karen E. Hamilton

By Glenn R. Davis (L.S.)

Print name: GLENN R. DAVIS, Partner  
BY CHATEAU COMMUNITIES, INC.

Brenda S. Fuller

Print name:  
Brenda S. Fuller

ACKNOWLEDGMENT

STATE OF MICHIGAN) ss  
COUNTY OF OAKLAND)

The foregoing instrument was acknowledged before me this 1st day of April, 1999 by

Glenn R. Davis, as Partner of CP Limited Partnership, A Maryland limited partnership, for and on behalf of the partnership.

Katherine Ann Grochocki  
Notary Public

St. Clair County, Michigan

My Commission Expires 06-04-03

KATHERINE A. GROCHOCKI  
Notary Public - St. Clair County, MI  
My Commission Expires 06/04/2003

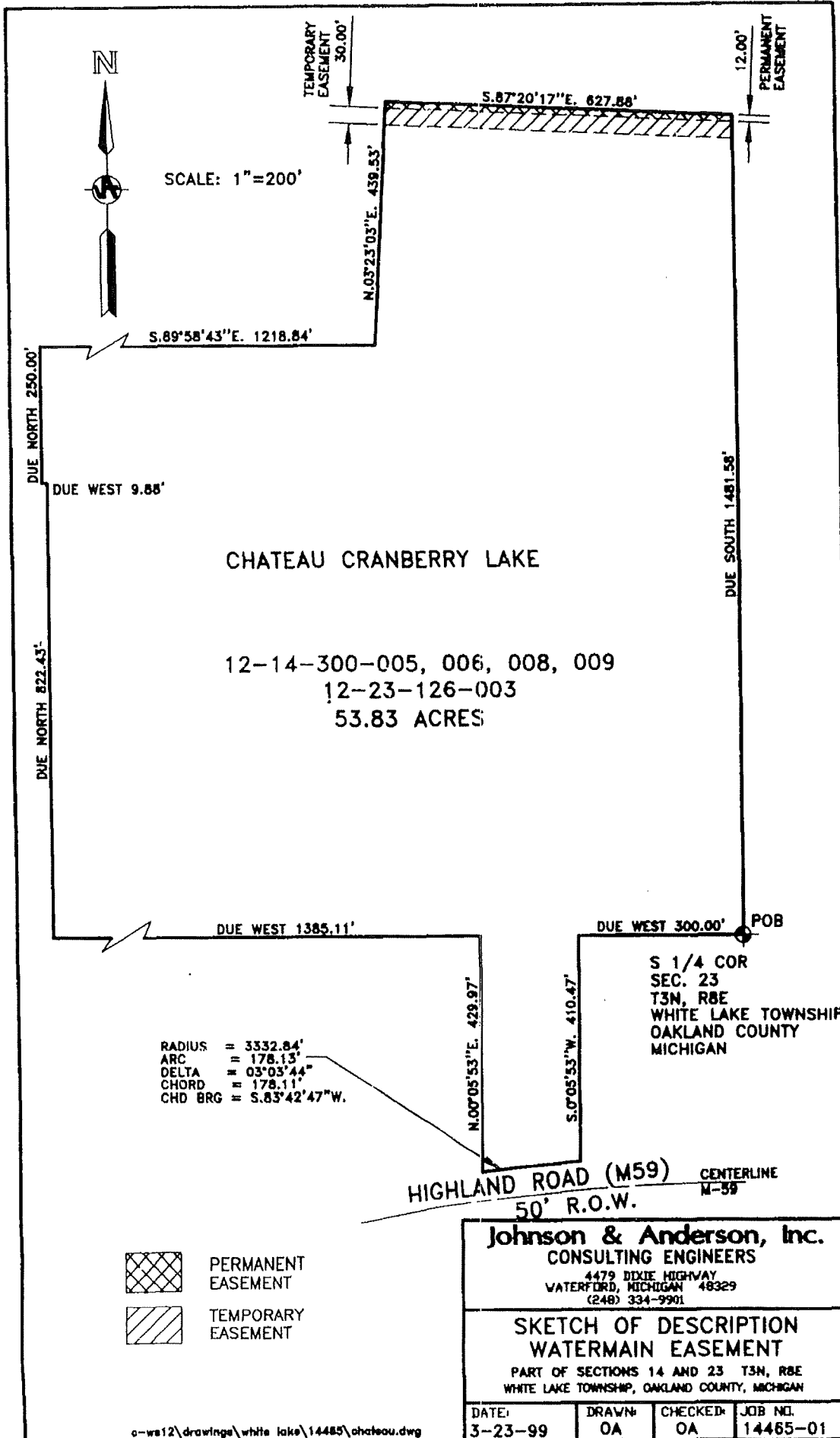
*acting in Oakland*

Prepared & Drafted By:

When recorded return to:

Ole Anderson, P.E.  
Johnson & Anderson, Inc.  
4479 Dixie Highway  
Waterford, Michigan 48329

Bonnie Elliott, Clerk  
Charter Township of White Lake  
7525 Highland Road  
White Lake, Michigan 48383-2900



SCALE: 1" = 200'



CHATEAU CRANBERRY LAKE

12-14-300-005, 006, 008, 009  
 12-23-126-003  
 53.83 ACRES

RADIUS = 3332.84'  
 ARC = 178.13'  
 DELTA = 03°03'44"  
 CHORD = 178.11'  
 CHD BRG = S.85°42'47"W.

S 1/4 COR  
 SEC. 23  
 T3N, R8E  
 WHITE LAKE TOWNSHIP  
 OAKLAND COUNTY  
 MICHIGAN

HIGHLAND ROAD (M59) CENTERLINE  
 M-59  
 50' R.O.W.

 PERMANENT EASEMENT  
 TEMPORARY EASEMENT

**Johnson & Anderson, Inc.**  
 CONSULTING ENGINEERS  
 4479 DIXIE HIGHWAY  
 WATERFORD, MICHIGAN 48329  
 (248) 334-9901

SKETCH OF DESCRIPTION  
 WATERMAIN EASEMENT

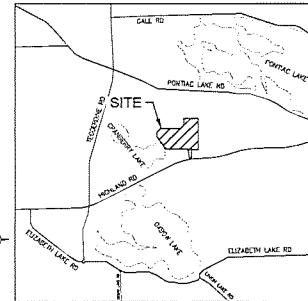
PART OF SECTIONS 14 AND 23 T3N, R8E  
 WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN

DATE: 3-23-99	DRAWN: OA	CHECKED: OA	JOB NO. 14465-01
------------------	--------------	----------------	---------------------

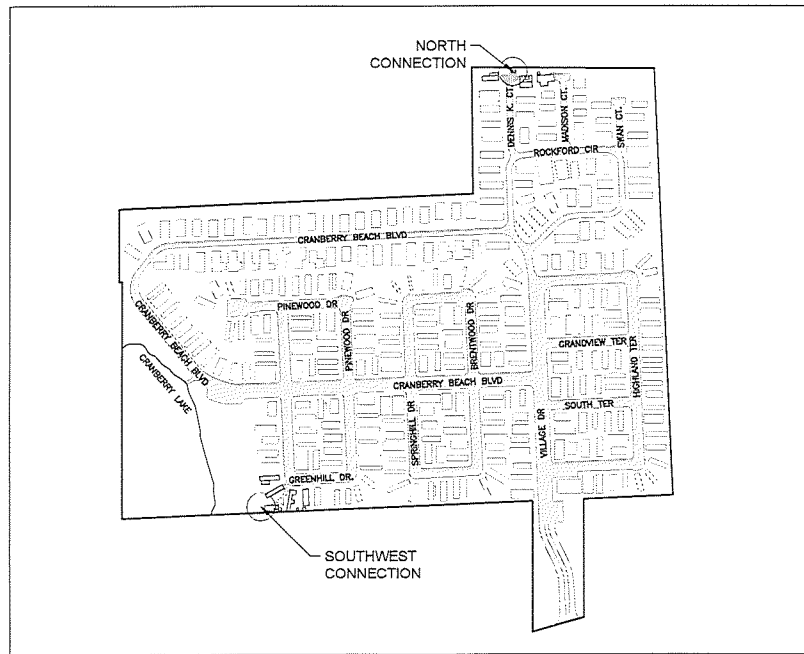
**PROPERTY DESCRIPTION:**

**SURVEY OAKLAND PROPERTY DESCRIPTION:**  
 T3N, R8E, SEC 14 & 23 PART OF NE 1/4 OF NW 1/4 OF SEC 23 & PART OF SW 1/4 OF SEC 14 REG AT S 1/4 COR OF SEC 14, TH W 300 FT, TH S 00-00-53 W 410.47 FT, TH ARC CURVE TO LEFT, RAD 3333.04 FT, CHORD BEARS S 04-04-41 W 178.11 FT, DIST OF 178.11 FT, TH N 00-05-03 E 429.97 FT, TH W 1385.11 FT, TH N 82-02-07 W 820.93 FT, TH S 250 FT, TH S 89-58-41 E 110.64 FT, TH N 02-31-01 E 429.23 FT, TH S 87-20-17 E 027.88 FT, TH S 1481.59 FT TO REG CORNER A 942500 NR 005,000,000 009 & 12033-1204003 10414-11 CORNER.

**CONSTRUCTION PLAN  
 FOR  
 CRANBERRY LAKE WATERMAIN CONNECTION  
 PART OF SW QUARTER, SECTION 14 T3N, R8E  
 WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN 48386**



**LOCATION MAP**  
 NO SCALE



**OVERALL SITE MAP**  
 NO SCALE

**SHEET INDEX**

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES & LEGEND
3	OVERALL SITE PLAN
4	WATERMAIN NORTH CONNECTION PLAN
5	WATERMAIN NORTH CONNECTION PROFILE
6	WATERMAIN SOUTHWEST CONNECTION PLAN
7	WATERMAIN SOUTHWEST CONNECTION PROFILE
8	SOIL EROSION SEDIMENTATION CONTROL PLAN
9	CONSTRUCTION DETAILS
<b>PLANS BY OTHERS</b>	
WM	WHITE LAKE TOWNSHIP DETAILS
SESC	OAKLAND COUNTY SESC DETAILS

**PREPARED FOR:**

CRANBERRY MEADOWS MHC  
 9620 HIGHLAND ROAD  
 WHITE LAKE, MI 48386  
 KEN DeWULF  
 586-275-9067  
 kdewulf@yescommunities.com

**PREPARED BY:**

**BEBOSS**  
 Engineering  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670  
 CONTACT: BRADD MAKI



**INDEMNIFICATION STATEMENT**

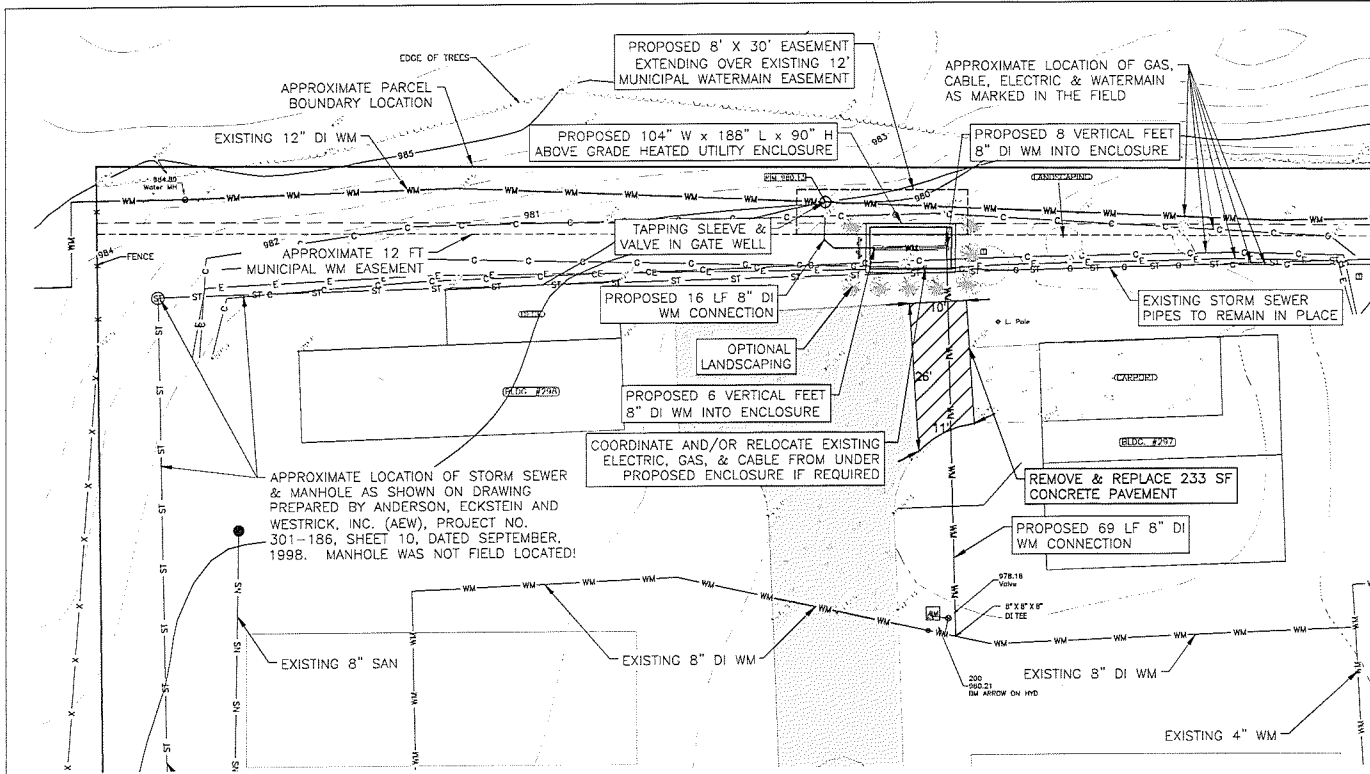
THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

					<b>1</b>
T	SP	AW	PR	TOWNSHIP	REVIEW
NO	DATE	BY	DATE	DATE	DATE

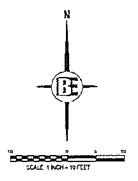








SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



UTILITIES SHOWN ARE BASED ON INFORMATION PROVIDED AND STAKED AND MAY VARY. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL UNDERGROUND UTILITY DEPTHS AND LOCATIONS PRIOR TO RELATED CONSTRUCTION.

SITE BENCHMARKS (NAVD88 DATUM):  
 494.425 = 84\"/>

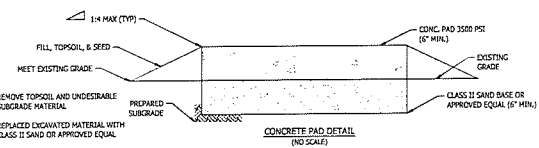
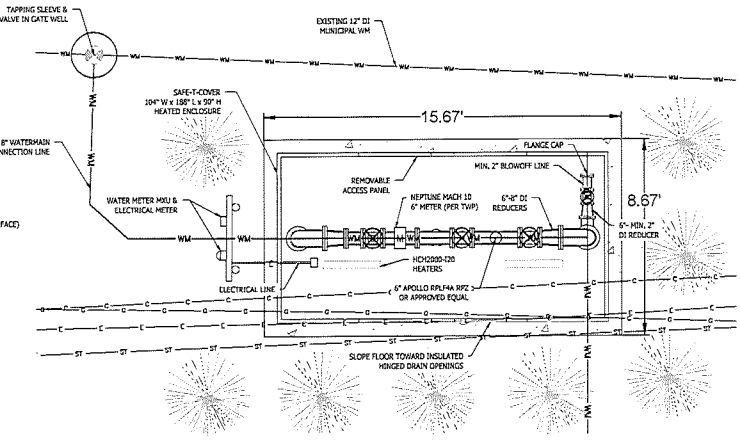
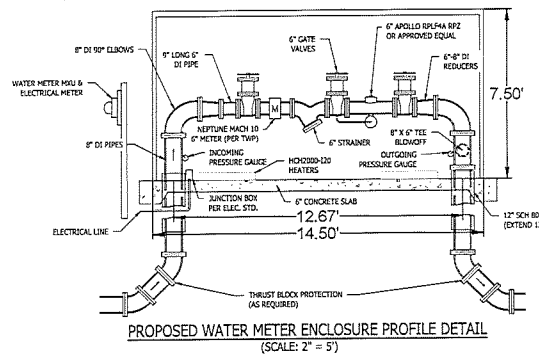
**WHITE LAKE TWP WM CONSTRUCTION NOTES (PER TWP STANDARDS):**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWNSHIP'S CURRENT STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL NOTIFY THE TOWNSHIP ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION, 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
3. CONTRACTOR SHALL CONTACT MISS DSG AT 888-402-7171, 72 HOURS IN ADVANCE OF CONSTRUCTION, FOR EXISTING UNDERGROUND UTILITY LOCATIONS.
4. IN ORDER TO VERIFY COMPLIANCE WITH APPROVED PLANS, FULL-TIME CONSTRUCTION OBSERVATION WILL GENERALLY BE REQUIRED DURING ALL PHASES OF UNDERGROUND SITE CONSTRUCTION INCLUDING INSTALLATION OF SANITARY SEWERS, STORM SEWERS, DRAINS, WATERMAINS, AND APPURTENANCES AS WELL AS PRIVATE STREET CLOSING AND PAVING CONSTRUCTION. INTERMITTENT OBSERVATIONS WILL BE MADE FOR SITE GRADING, PARKING LOT CLOSING AND PAVING, RETAINING WALL CONSTRUCTION AND OTHER SURFACE ACTIVITY.
5. WATERMAINS SHALL BE INSTALLED WITH A MINIMUM OF 6\"/>

**ADDITIONAL WATERMAIN CONSTRUCTION NOTES:**

1. WATER SYSTEM MATERIALS AND INSTALLATION SHALL BE PER APPLICABLE LOCAL, COUNTY AND/OR STATE STANDARDS, PER CONTACT DOCUMENTS, AND AS OTHERWISE INDICATED ON PLAN DRAWINGS.
2. CONTRACTOR TO FIELD VERIFY WATER PIPE MATERIAL TYPE, SIZE, & DEPTH AT LOCATION OF ALL CONNECTIONS AND CROSSINGS PRIOR TO INSTALLATION.
3. WATER SYSTEM NUTS AND BOLTS AND RESTRAINTS SHALL HAVE ADEQUATE PROTECTION FROM RUST USING APPROVED MATERIALS BEFORE AND AFTER INSTALLATION.
4. ALL PROPOSED PIPING, FLANGE JOINTS, AND FITTINGS SHALL BE PER COUNTY AND TOWNSHIP STANDARDS AND AS OTHERWISE INDICATED ON THE PLAN DRAWINGS.
5. ABOVE GROUND WATER PIPING, VALVES, ETC. SHALL BE FL. Y. FL. UNLESS APPROVED OTHERWISE. FLANGE JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C118 (A81.10).
6. WATER PIPE FITTINGS FOR DUCTILE IRON PIPE SHALL BE PER COUNTY AND TOWNSHIP STANDARDS.
7. ABOVE GROUND DUCTILE IRON PIPING AND PIPE FITTINGS SHALL BE PAINTED WITH APPROVED PAINT FOR PROTECTION FROM RUST WITH APPROVED MATERIALS.
8. LANDSCAPING AND RELATED PRIVATELY OWNED FEATURES DISTURBED, DAMAGED OR OTHERWISE REMOVED FROM PRIVATE PROPERTY TO ACCOMMODATE CONSTRUCTION OPERATIONS SHALL BE REPLACED OR JUSTLY COMPENSATED AT THE CONTRACTOR'S EXPENSE UPON COMPLETION OF THE WORK.
9. WATER PIPE TESTING AND DISINFECTION SHALL MEET ALL APPLICABLE CITY, COUNTY, FEDERAL STANDARDS AND SHALL COMPLY WITH AWWA C651-14, AND NSF 60 861.
10. TEMPORARY CONNECTIONS FOR CHROMIATING AND FLUSHING PURPOSES SHALL INCLUDE A TESTABLE DOUBLE CHECK VALVE BACKFLOW PREVENTED WITH CURRENT CERTIFICATION.
11. TEMPORARY WATER BLOW OFF'S SHALL BE PROVIDED AS NECESSARY AND SHALL BE INCIDENTAL TO THE RELATED ITEMS OF WORK.
12. ALL PIPE, ENCLOSURE, AND MATERIAL DIMENSIONS MAY VARY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE NECESSARY ADJUSTMENTS IN THE ENCLOSURE TO ACCOMMODATE THE REQUIRED STANDARDS OF ALL MATERIALS & EQUIPMENT.
13. BELOW GROUND WATERMAIN SHALL BE D1 CL 54 MECHANICAL JOINT WITH RESTRAINTS AND THRUST PROTECTION AS REQUIRED, UNLESS OTHERWISE APPROVED EQUAL.

ALL CONSTRUCTION NOTES APPLY TO BOTH PROJECT CONNECTION LOCATIONS UNLESS STATED OTHERWISE.



BOSS Engineering  
 ENGINEER  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI 48843  
 517.546.4835 FAX 517.548.1670

CRANBERRY MEADOWS WATERMAIN CONNECTION  
 CRANBERRY MEADOWS PHC  
 WATERMANS AND  
 WATERMANS

DESIGNED BY: J.P.  
 DRAWN BY: J.P.  
 CHECKED BY:  
 SCALE: 1" = 10'  
 JOB NO: 24-195  
 DATE: 11/12/24  
 SHEET NO. 4

BOSS Engineering  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI 48843  
 517.546.4835 FAX 517.548.1670



DATE	11/17/24
JOB NO.	Z4-195
SCALE	1" = 10'
CHECKED BY	JP
DRAWN BY	JP
DESIGNED BY	SM
NO.	
REV.	
DATE	
BY	
REASON	

**PROJECT**  
GRANBERY MEADOWS WATERMAIN CONNECTION

**CONTRACTOR**  
GRANBERY MEADOWS LLC  
651 GRANBERY DRIVE  
MIDDLETOWN, CT 06457

**LOCATION**  
WATERMAIN NORTH CONNECTION PROFILE

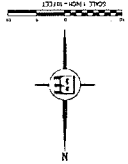
**JEBOSS**  
*Engineering*

Engineers, Surveyors, Planners, Architects  
317 E. GRAND RIVER AVE.  
HOWELL, NJ, 08893  
517-546-4895 FAX 517-546-1670

NO. 23  
STATE OF CONNECTICUT  
REGISTERED PROFESSIONAL ENGINEER  
LICENSE NO. 14195  
EXPIRES 12/31/2025

NO. 23  
STATE OF CONNECTICUT  
REGISTERED PROFESSIONAL SURVEYOR  
LICENSE NO. 14195  
EXPIRES 12/31/2025

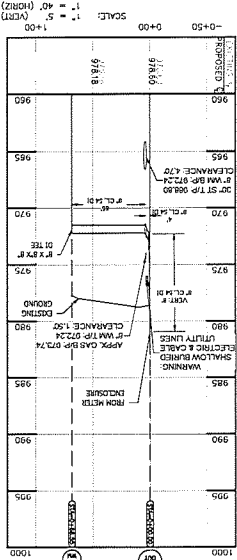
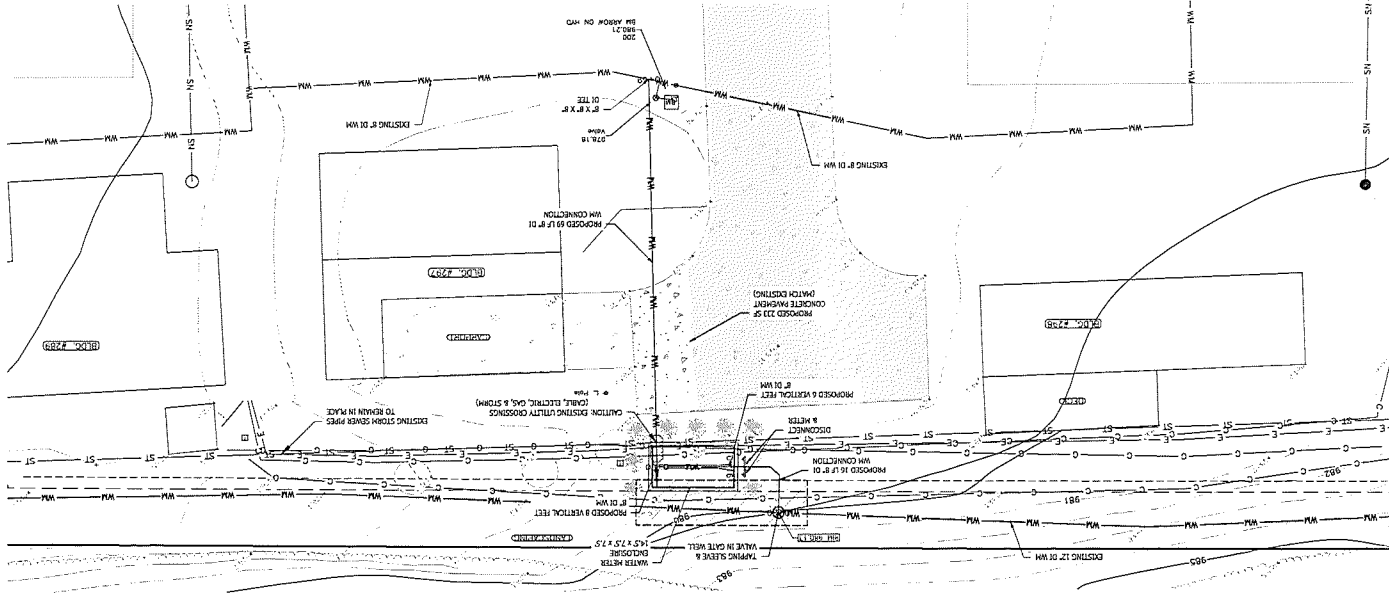
SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



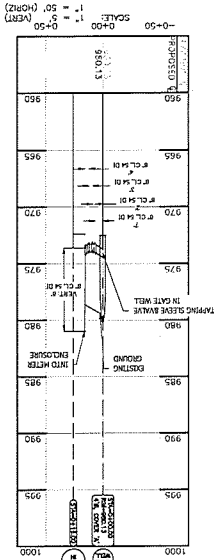
**CAUTION:**  
EXISTING UTILITY CROSSINGS  
(CABLE, ELECTRIC, GAS, & STORM)

UTILITIES SHOWN ARE BASED ON INFORMATION PROVIDED AND SHOWN AND WHEN CONSTRUCTION IS RESPONSIBLE FOR FIELD LOCATIONS PRIOR TO RELATED CONSTRUCTION.

	CONCRETE PAVEMENT CROSS SECTION (as shown)
	COMPACTED SUBBASE
	SAND BASE
	COMPACTED ROOT CLASS
	CONCRETE - 5000 PSI



ENCLOSURE TO MHC SYSTEM PROFILE

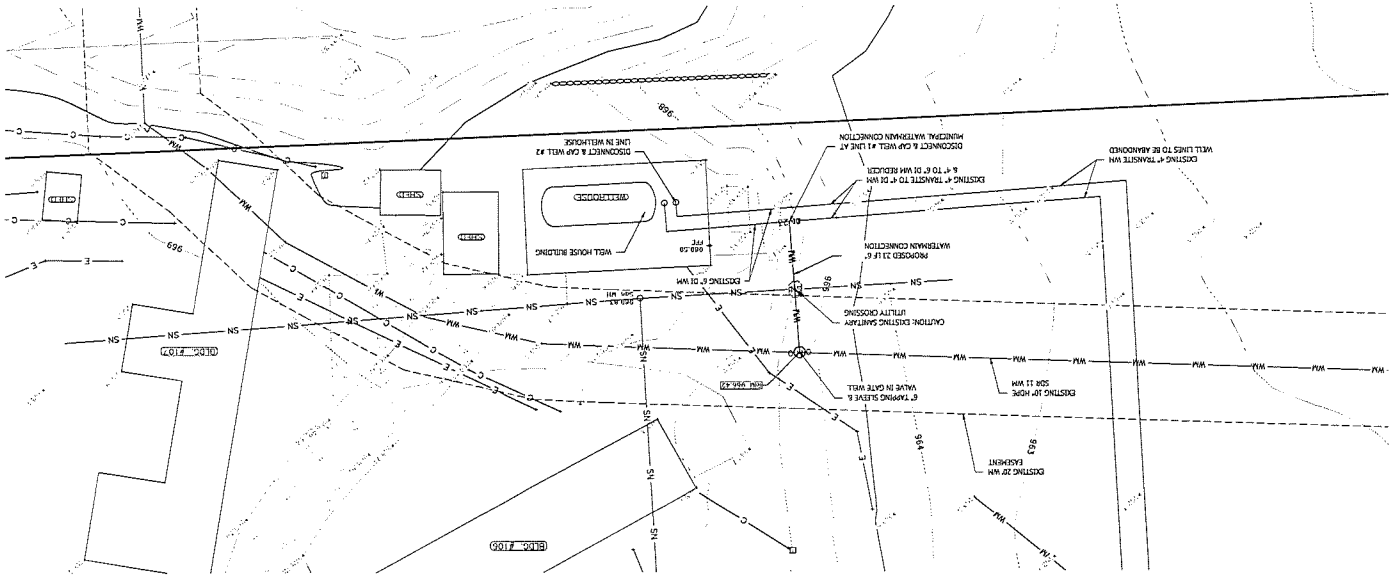
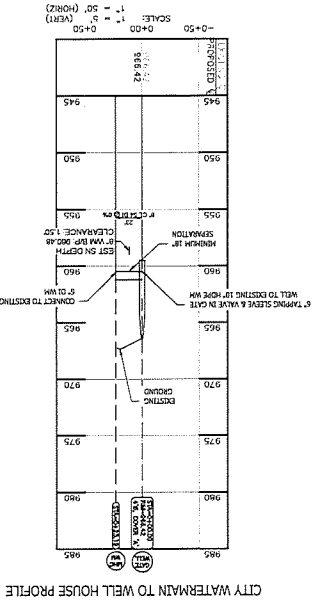


CITY WATERMAIN TO ENCLOSURE PROFILE

SCALE: 1" = 40' (HORIZ)  
1" = 5' (VERT)

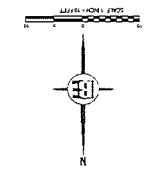
SCALE: 1" = 50' (HORIZ)  
1" = 5' (VERT)





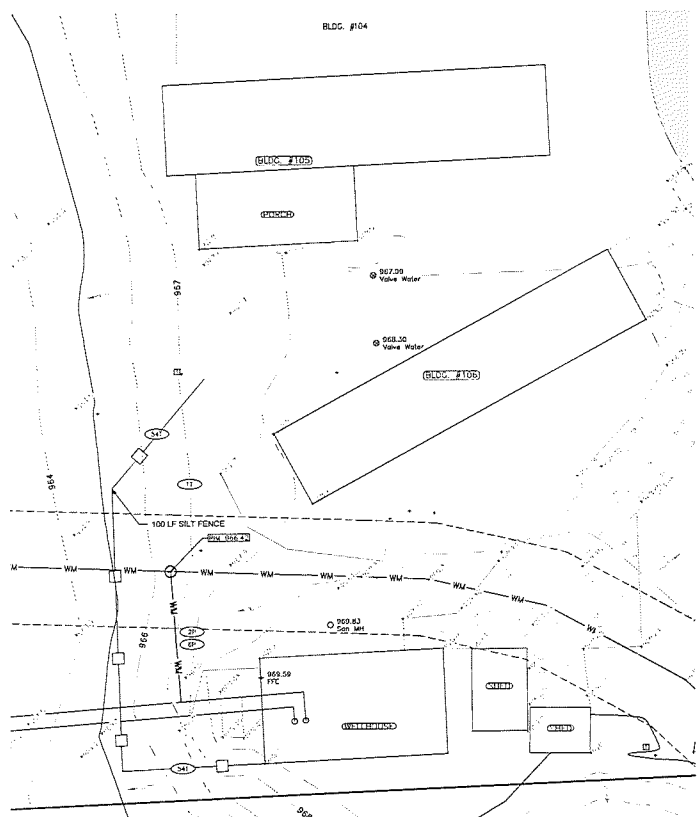
UTILITIES SHOWN ARE BASED ON INFORMATION PROVIDED AND FIELD SURVEY. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL UNDERGROUND UTILITY DEPTHS AND LOCATIONS PRIOR TO RELATED CONSTRUCTION.

CAUTION:  
EXISTING SANITARY  
UTILITY CROSSING

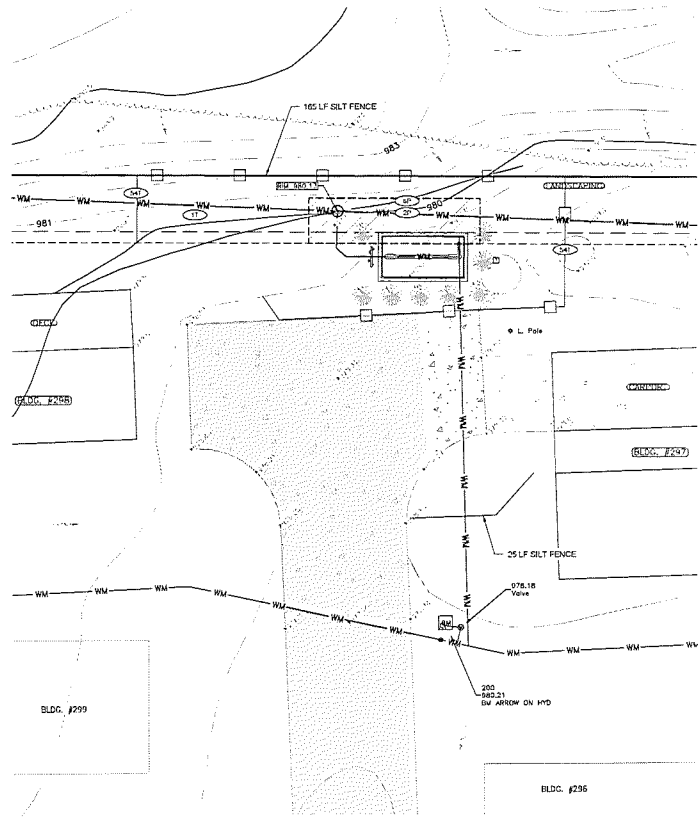


SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

	<b>IBOSS</b> Engineering 311 E. GRAND RIVER AVE. HOWELL, MI 48843 517.256.4835 FAX 517.518.1570	GRANBERY MEADOWS WATERMAIN CONNECTION GRANBERY MEADOWS HHC WATERMAIN SOUTHWEST CONNECTION PROFILE	SHEET NO. 7 DATE: 11/17/24 JOB NO. 24-195 SCALE: 1" = 10' CHECKED BY: JS DRAWN BY: JS DESIGNED BY: SM
	100% GRANBERY MEADOWS WATERMAIN CONNECTION GRANBERY MEADOWS HHC WATERMAIN SOUTHWEST CONNECTION PROFILE	100% GRANBERY MEADOWS WATERMAIN CONNECTION GRANBERY MEADOWS HHC WATERMAIN SOUTHWEST CONNECTION PROFILE	100% GRANBERY MEADOWS WATERMAIN CONNECTION GRANBERY MEADOWS HHC WATERMAIN SOUTHWEST CONNECTION PROFILE

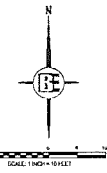


**SOUTHWEST WELL HOUSE BUILDING**  
(SCALE: 1" = 10')



**NORTH METER ENCLOSURE**  
(SCALE: 1" = 10')

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



**SOIL EROSION CONTROL MEASURES**

1		TYPE: 16" EROSION AND SEDIMENT BARRIERS AS A BARRIER AGAINST SOIL EROSION
2		TYPE: 16" EROSION AND SEDIMENT BARRIERS AS A BARRIER AGAINST SOIL EROSION
6		TYPE: 16" EROSION AND SEDIMENT BARRIERS AS A BARRIER AGAINST SOIL EROSION
54		TYPE: 16" EROSION AND SEDIMENT BARRIERS AS A BARRIER AGAINST SOIL EROSION

T= TEMPORARY, P= PERMANENT  
TOTAL DISTURBED AREA= 0.08 AC.

UTILITIES SHOWN ARE BASED ON INFORMATION PROVIDED AND STAKED AND MAY VARY. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL UNDERGROUND UTILITY DEPTHS AND LOCATIONS PRIOR TO RELATED CONSTRUCTION.

**SURFACE WATER & COUNTY DRAINS**

LAKE = APPROXIMATELY 100 FT. WEST OF CRANBERRY LAKE

**PROPOSED CONST. SCHEDULE FOR THE YEAR 2024-2025**

ACTIVITY	OCT	NOV	DEC	JAN	APR	MAY
START & CLEAN						
UNDERGROUND UTILITIES						
EROSION CONTROL						
FOUND. CONSTRUCTION						
MEAS. & MARK						
FINAL TOP SURVEY						

**CONTROLS & MEASURES POST CONSTRUCTION SEQUENCE**

ACTIVITY	WEEKLY	MONTHLY	AS RELATED
MAINTAIN LANDSCAPING	X	X	X
REPLACE MULCH	X	X	X
COLLECT LITTER	X	X	X
SWEEP PARKING LOT	X	X	X

**CONTROLS & MEASURES NARRATIVE**

ACTIVITY	DESCRIPTION
MAINTAIN LANDSCAPING	COLLECT DEBRIS, TRIM AND DISPOSE
REPLACE MULCH	CLEANSE, DISPOSE IN APPROVED CONTAINERS, SPREAD DEAD SOIL, TREES AND SHRUBS
COLLECT LITTER	DISPOSE OF WITH SHARP DEBRIS
SWEEP PARKING LOT	RUN ON WET, DRY, CHECK AND OIL WITH POLYESTER EMULSION
SOFT CONTROL	SPRINKLE WATER AS NEEDED

**CONSTRUCTION SEQUENCE**

THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING THAT DESIGN IS MAINTAINED AND THAT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES IS MAINTAINED THROUGHOUT EXISTENCE OF THIS PROJECT.

- 1 DAY: 1. INSTALL SILT FENCE AS SHOWN ON PLANS
- 50 DAYS: 2. START ENCLOSURE & WATER LINE CONSTRUCTION
- 5 DAYS: 3. FINISH METER ENCLOSURE & WATER LINE, DISTURBED AREA, SPREAD TOPSOIL, SEED OR SOIL AS APPLICABLE
- 1 DAY: 4. REMOVE ALL EROSION CONTROL MEASURES
- 1 DAY: 5. REMOVE ACCUMULATED SILT FROM ALL EXISTING DRAINAGE

THIS PLAN AND SPECIFICATIONS ARE THE PROPERTY OF BOSS ENGINEERING. NO PART OF THIS PLAN OR SPECIFICATIONS IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF BOSS ENGINEERING.

**BOSS Engineering**  
3121 E. GRAND RIVER AVE.  
HOWELL, MI 48843  
517.516.4835 FAX 517.518.1670

CRANBERRY MEADOWS WATERMAIN CONNECTION  
PREPARED FOR: CRANBERRY MEADOWS INC.  
PROJECT NO: 24-195

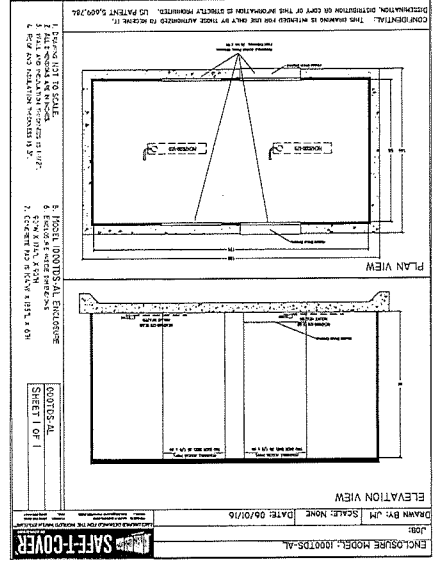
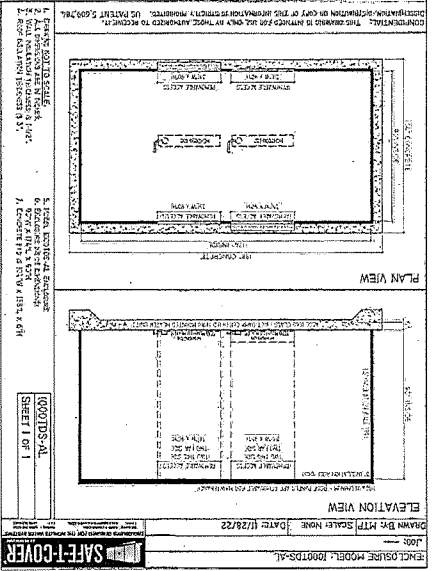
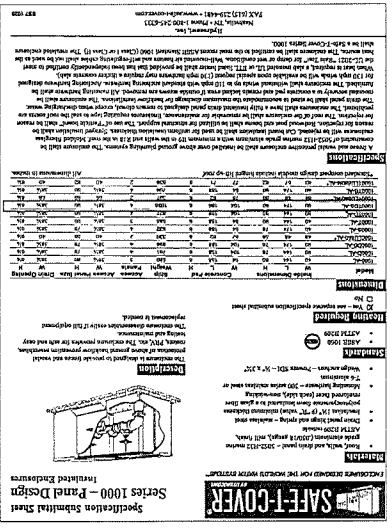
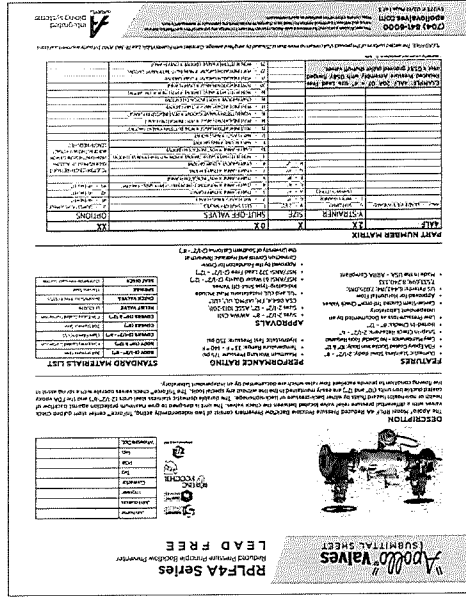
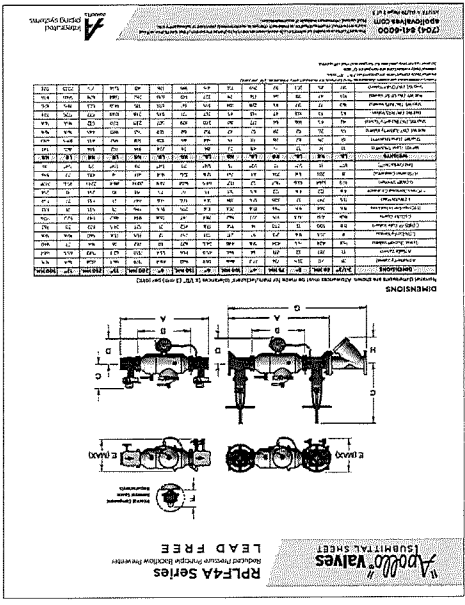
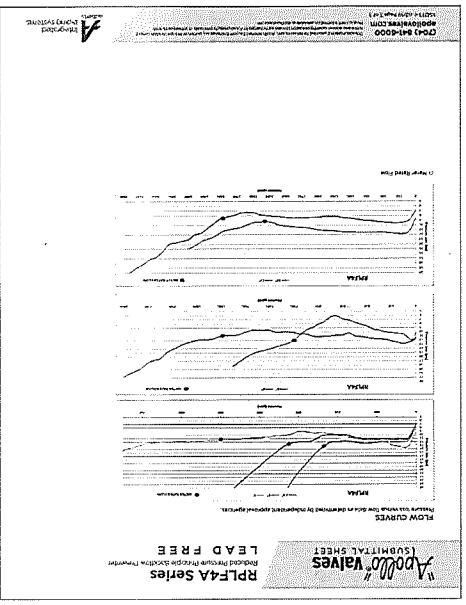
SOIL EROSION SEDIMENTATION CONTROL PLAN  
DESIGNED BY: BM  
DRAWN BY: SP  
CHECKED BY: SP  
SCALE: 1" = 10'  
JOB NO: 24-195  
DATE: 11/12/24  
SHEET NO: 8

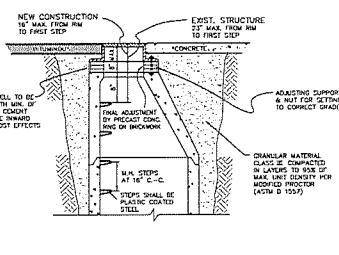
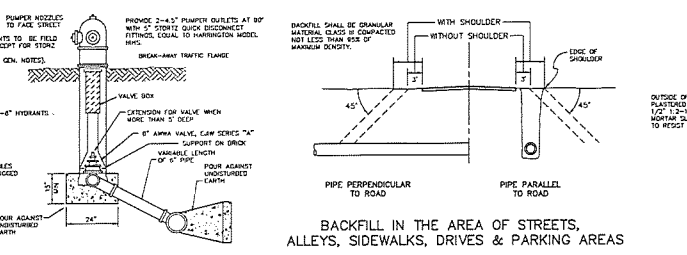
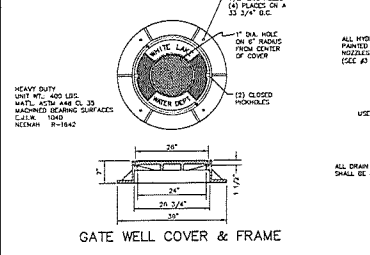
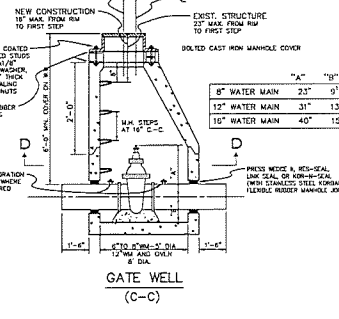
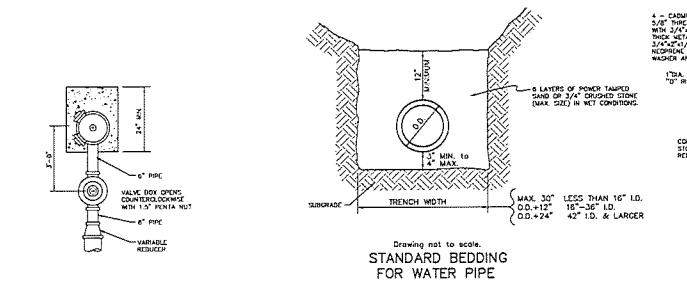
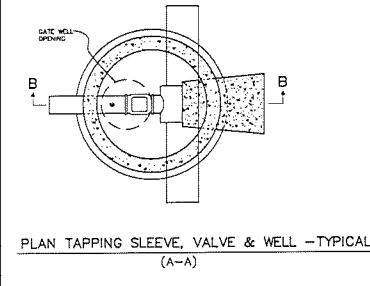
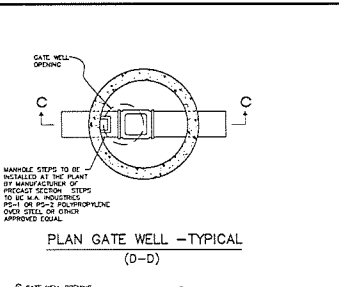
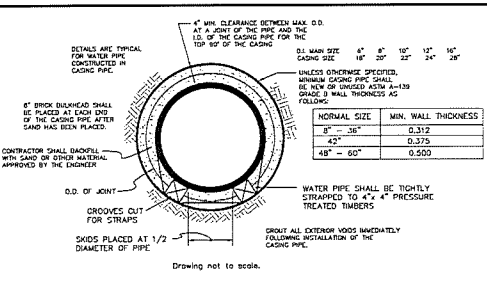
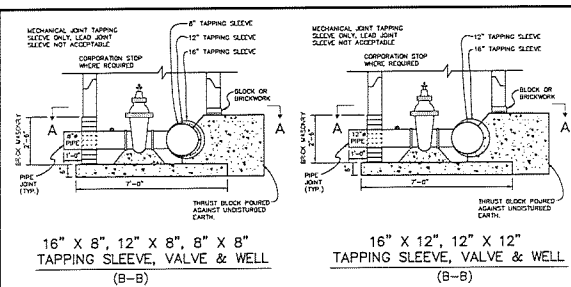
DESIGNED BY	BM
CHECKED BY	JP
SCALE	NO SCALE
JOB NO.	24-195
DATE	11/17/24
SHEET NO.	6

CRANBERRY MEADOWS WATERMAIN CONNECTION  
 GRANBERRY MEADOWS LLC  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI 48863  
 517.566.4816 FAX 517.568.1670

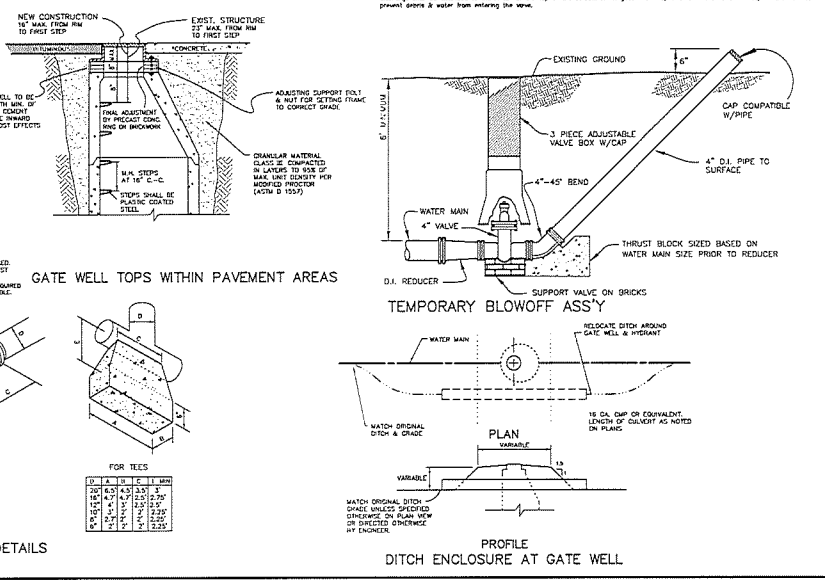
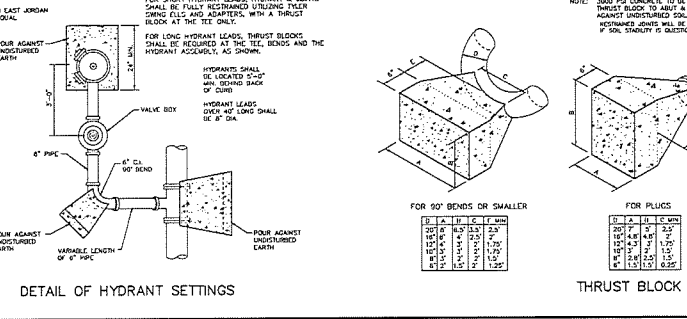
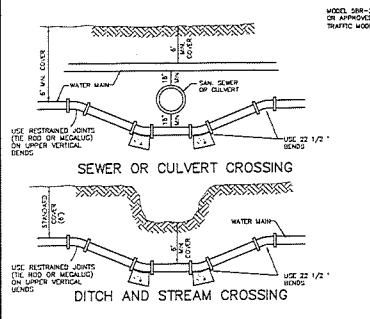
**BOSS**  
 Engineering  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI 48863  
 517.566.4816 FAX 517.568.1670

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND





- WATER MAIN NOTES**
- All construction procedures and materials used on this project shall conform to White Lake Township current standards and specifications.
  - All hydrants shall be cast Jordan Iron Works 500-200 traffic model. Self-draining hydrants shall not be used. Valve shall have 1-1/2" pressure nut and shall open counter-clockwise. Provide two 4.5" pump-out valves with 5" square neck connect nozzle (International Hydrant Society Model 1000) as manufactured by International, Inc. of Erie, PA.
  - All hydrants shall be field tested with a heavy coat of bright safety reflective paint or vinyl enamel, except for the 500-200 traffic model, which shall be left unpainted.
  - Hydrants and hydrant valves shall be installed at the final color of each structure consistent 1" wide 3/4" Scotch reflective tape, color coded per MPA 231 subchapter local earth.
  - All water mains shall be drilled from pipe Class 54, covered lead with push on joints. Mechanical joints are not for tapping, repairs, hydrants or hydrant valves. Only Corrugated metal shall be used for extending mechanical joints. At bends, tees, valves and hydrant valves shall have a ground counter-drift back to the main. Joints which have heavy blocks bearing on soil of questionable stability shall be fully reinforced with Type 3 concrete and encased in a system approved by the Township Engineer. HDPE pipe for directional boring, if approved by the Township Engineer, must meet all of the requirements of the MUCED and shall be DR9 (200 psi), and shall have two 60° tracer wires, terminated in the neutral gate well at the highest point.
  - Tapping sleeves shall be mechanical joint or approved metal. Ductile iron or stainless steel are allowed.
  - Specifications shall include direction of operation of all valves. All valves shall be counter clockwise open.
  - All necessary permits shall be provided in the name of White Lake Township before acceptance of the water distribution system.
  - The design engineer shall furnish White Lake Township with one reproducible set of "As-Built" water main plans or an AutoCAD file upon completion of the job.
  - All required cross-connection devices shall be installed as required by the local plumbing inspector and in accordance with the standards of the Michigan Department of Public Health.
  - Gate well frame and cover shall be as follows: Cast Jordan heavy manhole cover, base flange pipe #100 or Keenan Foundry heavy duty #100-100 manhole frame, and 60 cover shall be non-slipping and marked "White Lake Water Department".
  - Gate valves shall be ANNA approved and of a double disc or resilient wedge design with push on joints. 60" gate valves may be mechanical joint provided Cor-Bite balls are used. All gate valves with operating nut greater than 2" below ground surface shall be provided with an extension stem. The length of the extension shall be such that it will be within 5" of the ground surface when an extension is used. It shall be held in place by an extension stem guide suitably fastened to the wall of the gate well.
  - If corporation stops are to be placed on the main at each side of each main line gate well and at such other locations as may be required by the engineer.
  - All pipe and fittings shall be adapted to a hydrostatic pressure test of 150 PSI for a 2 hour duration. Township Engineer must be present. Maximum segment 2000 feet except that longer segments may be tested with allowable leakage based on 2000 feet.
  - Flange, flange and sampling of water main can only be performed with a "Jumper" Line, the Jumper shall be equipped with an approved #2 type of backflow preventer.
  - Adjustments on gate wells shall be limited to 2" maximum from top of rim to first step in accordance with MICHGAS Rule 341.
  - All new water service lines shall have a minimum clearance of 12" between them 12" to 24" may be type K copper tubing or plastic DR-9 (200 PSI rated) meeting ASTM F2212-02 (Standard Specification for Polyethylene (PE) plastic tubing), ASTM Description and Practices (ASTM) shall be stamped on the pipe by the manufacturer. Plastic pipe shall also meet ASTM D-1001 Specifications. All above ground water service lines shall be installed with a minimum clearance of 12" from the ground surface. Plastic pipe shall be installed with the proper slope. Plastic water service pipes shall be tested with two #12 copper tracer wires or two #12 copper coated steel or stainless steel wires installed with a minimum of 20 inches of separation. The tracer wires shall be terminated to supply the air or to be installed at the building and the curb box without digging.
  - Water service lines shall be installed with a minimum clearance of 12" from the ground surface. Plastic pipe shall be installed with the proper slope. Plastic water service pipes shall be tested with two #12 copper tracer wires or two #12 copper coated steel or stainless steel wires installed with a minimum of 20 inches of separation. The tracer wires shall be terminated to supply the air or to be installed at the building and the curb box without digging.
  - A stop box shall be installed at the property or easement line and shall be equivalent to an A.Y. McDougal Mfg. 6100 Reseal regulator pattern hot water. The curb box shall have a 1" riser pipe with an Erie 2-hole pattern cover equivalent to A.Y. McDougal Mfg. 5601L. Stop box shall be installed with a 2" x 4" jointed box extending 1 foot above ground.
  - Standard pipe cover shall be 4'-0".
  - Air release valves shall consist of a standard 5" diameter gate well style structure with a polyethylene 25C or release valve mounted on a 1" corporation stop. Air release shall be equipped with the vacuum check option. A 1/2" diameter galvanized pipe of equivalent shall be extended to within 12" of the top of the structure. A pressure trap shall be installed at the top of the riser to prevent debris from entering the valve.



NO.	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE
1	GENERAL	REVISION TO CAD	12/29/20	1	GW & NUT SIZE	07/22/21	2	CLARIFY HYD. SPEC	07/22/21
2	ADD NOTE 17		11/24/21	3	PIPE COVER & FLANGE TAP	05/12/22	4	5-BR HYD. WS STAKE	02/27/22
3	REVISE HYD. & THRUSTING		05/16/22		ADD BLOWOFF	07/26/22		ADD NOTE 19	07/22/23

**Johnson & Anderson**  
 4484 Elizabeth Lake Road  
 Whitefish, Michigan 49891  
 Tel: (918) 841-7888 Fax: (918) 841-3388

1660 W. Horton Avenue, Suite 7  
 Whitefish, Michigan 49891  
 Tel: (918) 841-7888 Fax: (918) 841-3388

2281 Water Street, Suite 3  
 Port Huron, Michigan 48130  
 Tel: (810) 947-7400 Fax: (810) 947-7893

**White Lake Township**  
 7525 Highland Road (M-59)  
 White Lake, Michigan 48383  
 248-698-3300

**WATER MAIN STANDARD DETAILS**

SCALE: VERT. - HORIZ. AS NOTED

JOB NO. DATE ISSUED SHEET NO.

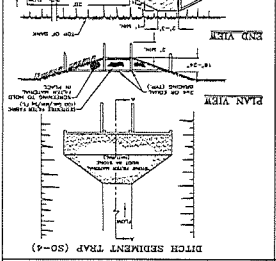
DATE	PROJECT	SCALE
DESIGNED BY	CHECKED BY	DATE
DRAWN BY	APPROVED BY	DATE
WATER RESOURCES CORPORATION 1000 WEST 10TH AVENUE, SUITE 100 DENVER, COLORADO 80202 (303) 733-8800		

**SOIL EROSION**

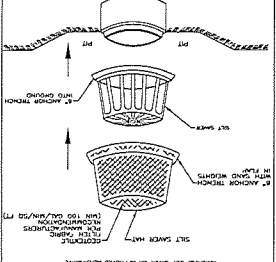
TO PREVENT WATER QUALITY AND STRUCTURE DAMAGE TO THE CONSTRUCTION TO THE MAXIMUM EXTENT POSSIBLE, EROSION CONTROL MEASURES SHOULD BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHOULD BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHOULD BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

**NOTE**

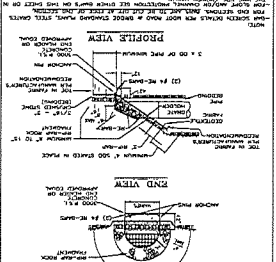
WHILE PERFORMING WORK, MAINTAIN SLOPES AND EXPOSED SOIL SURFACES AS MUCH AS POSSIBLE TO PREVENT EROSION. THE USE OF EROSION CONTROL MEASURES IS REQUIRED ON ALL EXPOSED SOIL SURFACES.



**DITCH SEDIMENT TRAP (SO-4)**

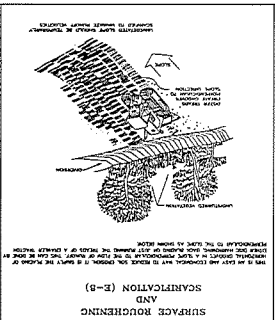


**ROCK INLET FILTER ALTERNATIVE "A" (SI-2B)**

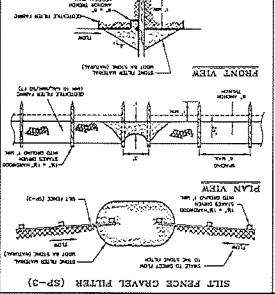


**CHECK DAMS ALTERNATIVE "A" (E-2)**

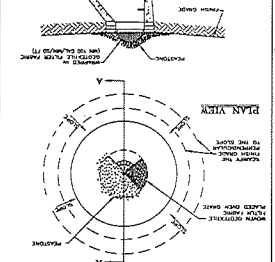
**END SECTION AND BAR SCREEN DETAIL (E-7)**



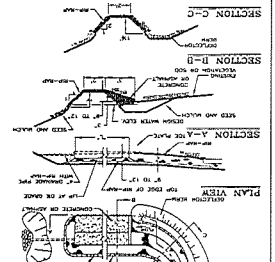
**SURFACE ROUGHENING AND SCARIFICATION (E-3)**



**LOW POINT INLET FILTER ALTERNATIVE "A" (SI-2A)**

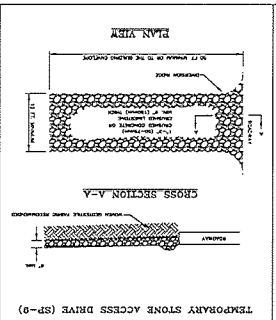


**RIPPRAP INLET FILTER ALTERNATIVE "A" (SI-2C)**

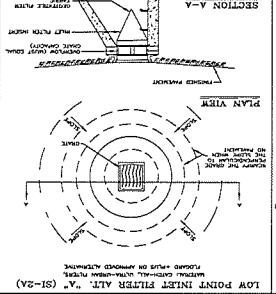


**CHECK DAMS ALTERNATIVE "B" (E-2B)**

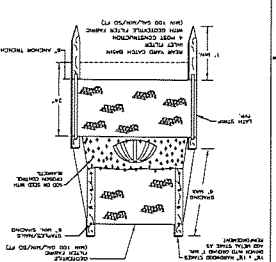
**LEVEL SPREADER (E-4)**



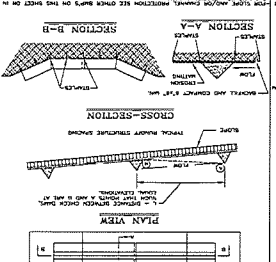
**TEMPORARY STONE ACCESS DRIVE (SP-3)**



**GRAVEL INTERCEPTOR DIKE (SP-5)**

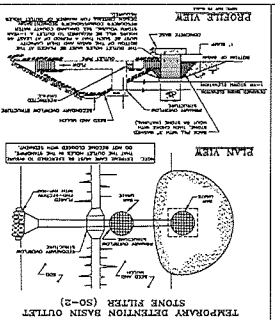


**SILT FENCE ALTERNATIVE "A" (SI-2D)**

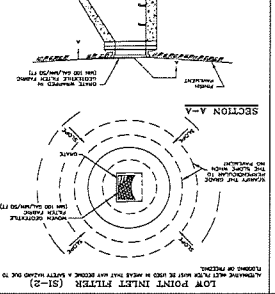


**SILT FENCE ALTERNATIVE "B" (SI-2E)**

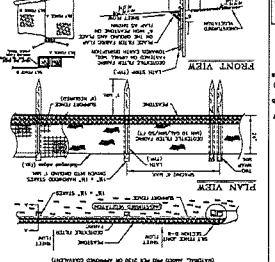
**WINTER/PROZEN GROUND SILT FENCE (SP-2A)**



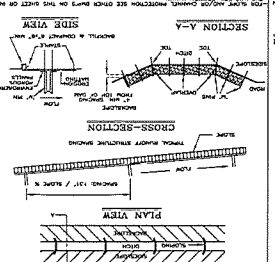
**TEMPORARY DIVERSION BASIN OUTLET (SP-2)**



**SILT FENCE ALTERNATIVE "C" (SI-2F)**

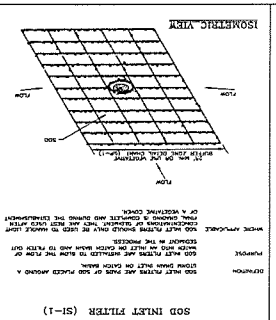


**SILT FENCE ALTERNATIVE "D" (SI-2G)**

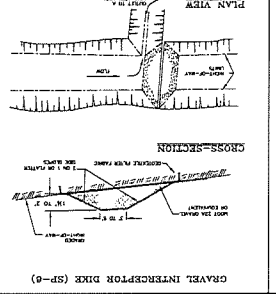


**SILT FENCE ALTERNATIVE "E" (SI-2H)**

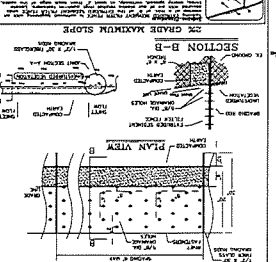
**VEGETATIVE BUFFER ZONE (SP-1)**



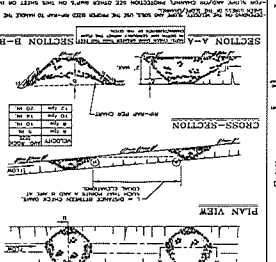
**SOD INLET FILTER (SI-1)**



**GRAVEL INTERCEPTOR DIKE (SP-5)**

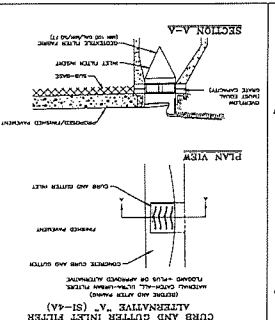


**SILT FENCE ALTERNATIVE "F" (SI-2I)**

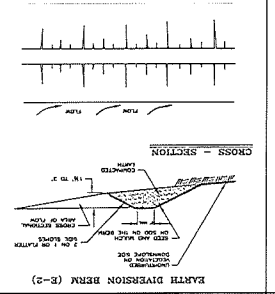


**SILT FENCE ALTERNATIVE "G" (SI-2J)**

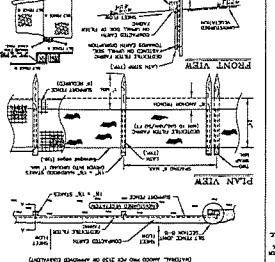
**VEGETATIVE BUFFER ZONE (SP-1)**



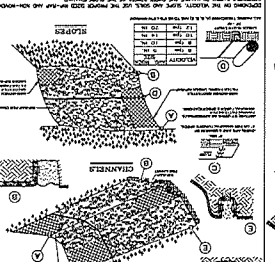
**CURB AND GUTTER INLET FILTER (SI-4A)**



**SILT FENCE ALTERNATIVE "H" (SI-2K)**

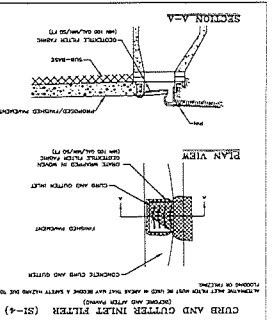


**SILT FENCE ALTERNATIVE "I" (SI-2L)**

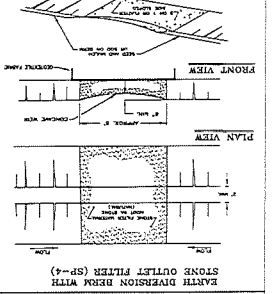


**SILT FENCE ALTERNATIVE "J" (SI-2M)**

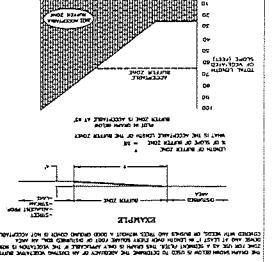
**VEGETATIVE BUFFER ZONE (SP-1)**



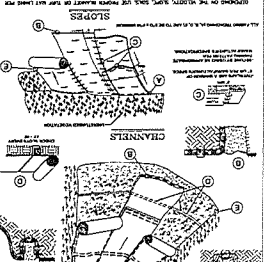
**CURB AND GUTTER INLET FILTER (SI-4B)**



**SILT FENCE ALTERNATIVE "K" (SI-2N)**



**SILT FENCE ALTERNATIVE "L" (SI-2O)**



**SILT FENCE ALTERNATIVE "M" (SI-2P)**

**VEGETATIVE BUFFER ZONE (SP-1)**

**EROSION CONTROL BLANKETS AND TURF MAT LINING (E-5)**

**HIP-RAP CHANNELS AND SLOPES (E-10)**

**SLOPES**

**CHANNELS**

**EROSION CONTROL BLANKETS AND TURF MAT LINING (E-5)**