# VICINITY MAP N.T.S.

# GENERAL NOTES

ALL WORK SHALL BE DONE UNDER THE SUPERVISION OF THE BUTLER COUNTY ENGINEER AND THE AUTHORITY HAVING RESPONSIBILITY FOR UTILITIES IN THE AREA AND IN ACCORDANCE WITH THE RULES AND REGULATIONS FOR

STORM SEWERS SHALL BE A MATERIAL WITH A MANUFACTURER'S MANNINGS "N" OF 0.011 OR LOWER AND A MATERIAL AS NOTED IN APPENDIX D, TABLE D-6 IN THE BUTLER COUNTY SUBDIVISION REGULATIONS ADOPTED NOVEMBER 24, 1997. (NOTE - CORRUGATED METAL PIPE NOT INCLUDED) STEPS SHALL BE INSTALLED IN CATCH BASINS AND MANHOLES IN EXCESS OF FOUR FEET.

CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIAL SPECIFICATIONS" ODOT 1997 STANDARDS OR BUTLER COUNTY REQUIREMENTS AND STANDARDS FOR SUBDIVISIONS. WHEN IN CONFLICT, THE COUNTY REQUIREMENTS SHALL PREVAIL.

SUMP COLLECTOR LINES SHALL BE CONSTRUCTED SDR 35 PVC, ARMCO 2000 OR APPROVED EQUAL.

A PRE-CONSTRUCTION MEETING IS REQUIRED WITH THE BUTLER COUNTY ENGINEER'S OFFICE PRIOR TO THE START OF CONSTRUCTION.

SANITARY SEWER MATERIALS AND INSTALLATION AS PER BUTLER COUNTY WATER & SEWER SPECIFICATIONS USING SECTION 3110 FOR PVC, SDR-35 & 26 PIPE; SECTION 3140 FOR ABS PVC COMPOSITE PIPE. SECTION

SANITARY LATERALS SHALL BE EXTENDED TO AT LEAST TEN (10) FEET BEYOND THE PROPERTY/ RIGHT-OF-WAY LINE OR TO THE EDGE OF THE EASEMENT,

THE UPSTREAM TERMINUS OF THE SANITARY SEWER LATERALS SHOWN HERE ON ARE TO BE 12 FEET BELOW OF THE ELEVATION OF THE BACK OF CURB.

WATER MAIN SHALL HAVE 4' MINIMUM DEPTH TO TOP OF PIPE. ALL WATER MAINS TO BE DUCTILE IRON PIPE, CL. 53 AWWA C-151. WATER MAIN MATERIALS, VALVES, FIRE HYDRANTS, FITTINGS, APPURTENANCES, AND INSTALLATION TO BE AS BUTLER COUNTY SPECIFICATIONS, AND SHALL HAVE RESTRAINED JOINTS. ALL WATER MAIN VALVES TO HAVE A MINIMUM DEPTH OF 2.5 AND A MAXIMUM OF 4.0' FROM PROPOSED GRADE TO THE TOP OF THE VALVE OPERATING NUT.

WATER MAIN SHALL HAVE 10' HORIZONTAL, & 18" VERTICAL SEPARATION (OUTSIDE EDGE TO EDGE) WITH ALL OTHER PIPE.

ALL DOWNSPOUT LINES SHALL BE ON SPLASHBLOCKS AND MAY NOT BE CONNECTED TO THE CURB.

ALL TRENCHES WITHIN THE RIGHT—OF—WAY AND UTILITY EASEMENTS SHALL BE COMPACTED AND BACKFILLED IN ACCORDANCE WITH ITEM 203 AND 603 IN THE CURRENT OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS MANUAL.

THE DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF CONDUITS OF THE FULL WIDTH OF THE PUBLIC RIGHT-OF-WAY AS CALLED FOR ON THE TYPICAL SECTION FOR USE BY NOTES THE ELECTRIC, TELEPHONE, AND CABLE TELEVISION SERVICES. THE DEVELOPER SHALL COORDINATE THE LOCATION OF THE LINES WITH EACH UTILITY COMPANY.

ALL ELECTRICAL TRANSFORMERS SHALL BE LOCATED SO THAT THEY DO NOT INTERFERE WITH EXISTING MANHOLES OR WATER MAIN APPURTENANCES.

STORM SEWER PIPE SHALL BE TYPE "B" & "C" CONDUIT, 707.42 PVC, ALL DIA. (CONTECH A200 OR EQUAL), 707.33 PVC, UP TO & INCLUDING 24" DIA (HANCOR, ADS, OR EQUAL), 707.01 CMP, ALL DIA., 706.02, REINFORCED

BUTLER COUNTY WATER & SEWER DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE RELOCATION, REPAIR OR REPLACEMENT OF ANY OTHER UTILITY INSTALLED WITHIN FIVE (5) FEET OF THE CENTERLINE OF ANY SANITARY MAIN SEWER OR WATER MAIN.

PRIVATE DRIVEWAYS, PARKING LOTS AND OTHER PAVED AREAS, EARTHEN BERMS OR STRUCTURES SHOULD NOT BE CONSTRUCTED OVER PRIVATE WATER OR SEWER SERVICE LINES WITHIN THE PUBLIC ROAD RIGHT OF WAY OR WITHIN EASEMENT AREAS FOR THE PUBLIC UTILITIES. SHOULD THIS OCCUR, THE PROPERTY OWNER WILL BE HELD RESPONSIBLE FOR THE PROTECTION AND REPAIR OF AND FOR PROVIDING ACCESS TO ANY CURB STOPS, METER PITS, MANHOLES, CLEANOUTS, ETC. INSTALLED IN CONJUNCTION WITH THESE PRIVATE SERVICE LINES AND FOR ANY DAMAGE OR RESTORATION OF THE PAVED SURFACES OR STRUCTURES THAT MAY RESULT FROM THE FUTURE OPERATION, MAINTENANCE, REPAIR OR REPLACEMENT OF SAID SERVICE

LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY GROUND CONDITIONS AND EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION.

THE EXISTING UTILITIES SHOWN ARE FOR CONTRACTOR'S CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE OWNER ASSUMES NO RESPONSIBILITY FOR THE LOCATION OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

BUTLER COUNTY ASSUMES NO MAINTENANCE RESPONSIBILITY FOR PRIVATE DRIVES.

- 1"SURFACE COURSE OF ITEM 448 ASPHALTIC CONCRETE, SEE NOTE #4
- ② 1 1/2" LEVELING COURSE OF ITEM 448 ASPHALTIC CONCRETE
- 3 6" BASE COURSE OF ITEM 301 BITUMINOUS AGGREGATE BASE
- 4 COMPACTED SUBGRADE, ITEM 203.13
- ⑤ ROLL TYPE CURB & GUTTER, ITEM 609 (BUTLER CO. STANDARD C-1)
- 6 4" THICK CLASS "C" CONCRETE WALK, 6' WIDE, ITEM 608 WALK TO BE 1/2"HIGHER THAN SOD
- (7) SEEDING & MULCHING, ITEM 659
- 8 TACK COAT, ITEM 407 TO BE APPLIED AT A RATE OF 0.05 GAL. PER SQ. YARD, SEE NOTE #4
- TACK COAT SHALL BE APPLIED TO FRONT FACE OF CURB PRIOR TO THE INSTALLATION OF THE 301 BITUMINOUS AGGREGATE BASE. ALSO TO BE APPLIED TO THE CURB JOINT AFTER THE INSTALLATION OF 448 LEVELING COURSE
- (0) 6" BASE COURSE OF ITEM 304 AGGREGATE BASE
- 1 4" BASE COURSE OF ITEM 301 BITUMINOUS AGGREGATE BASE
- 12 ITEM 605, 4" UNDERDRAIN CONNECT UNDERDRAIN TO FRONT FACE OF NEAREST CATCH BASIN

SECTION 22 PROJECT AREA\_ \_\_ 11.013 ACRES AREA IN BUILDING LOTS \_\_\_\_\_\_ 5.118 ACRES AREA IN OPEN SPACE LOTS \_\_\_\_\_\_ 4.768 ACRES AREA IN R/W \_\_\_\_\_ \_\_\_\_\_\_ 1.127 ACRES

**SETBACKS** TYPICAL FRONT SIDE 8,000 S.F.

THE TOTAL NUMBER OF LOTS IN SECTION 22 INCLUDING OPEN SPACE IS 24.

		S	ECTI	ON	122	
CURRENT Z	ONE:	F	R-PUE	)		

BUTLER COUNTY WILL NOT BE RESPONSIBLE FOR ANY PAVEMENT OR STORM SEWER REPAIRS RESULTING FROM WATER MAIN REPAIRS. BUTLER COUNTY ALSO WILL NOT BE RESPONSIBLE FOR ADJUSTING VALVES, FIRE HYDRANTS, METER PITS, ETC. AS A RESULT OF GRADE CHANGES. THE GRANTOR SHALL BE RESPONSIBLE FOR THE PROPER ADJUSTMENT OF VALVES, FIRE HYDRANTS, METER PITS. ETC.. TO THE SATISFACTION OF BUTLER COUNTY, DUE TO GRADE CHANGES, PAVING, REPAVING, ETC., INITIATED BY THE GRANTOR.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

ALL BUILDINGS TO BE SERVED BY THE PUBLIC SEWER SYSTEM SHALL BE CONSTRUCTED SO AS TO PROVIDE A MINIMUM OF FOUR FEET (4') OF VERTICAL SEPARATION BETWEEN THE PUBLIC SANITARY SEWER, AT THE POINT OF CONNECTION, AND THE LOWEST BUILDING LEVEL SERVED BY A GRAVITY SEWER CONNECTION. IN ADDITION, SAID BUILDING LEVEL SHALL BE AT LEAST ONE FOOT (1') ABOVE THE LOWEST POINT OF FREE-OVERFLOW (NON-SEALED MANHOLE COVER) UPSTREAM OF ANY TREATMENT FACILITY OR WASTEWATER PUMPING FACILITY THAT RECEIVES THE DISCHARGE FROM SAID BUILDING. SAID MINIMUM SERVICE LEVELS SHALL BE RECORDED ON THE "AS BUILT" PLANS FOR THE DEVELOPMENT WHICH WILL BE KEPT ON FILE IN THE OFFICE OF THE

THE BUILDING TO THE PUBLIC SEWER MAIN, AND CONNECTION TO THE PUBLIC SEWER MAIN SHALL BE CONSIDERED PRIVATE AND THE RESPONSIBILITY OF THE PROPERTY OWNER TO MAINTAIN. THE CONNECTION TO THE SEWER WOULD BE ANY PIPING THAT EXTENDS OUT FROM THE MAIN BARREL OF THE SEWER MAIN.

ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH STATE OF OHIO SPECIFICATIONS, ITEM 659.

THE CONTRACTOR SHALL SEED AND MULCH DISTURBED GRASS AREAS WITH: 3 LBS. WHEAT OR RYE PER 1000 SQ. FT. 10 LBS. 12-12-12 FERTILIZER PER 1000 SQ. FT.

2 OR 3 BALES OF STRAW PER 1000 SQ. FT. THE CONTRACTOR SHALL ALSO PROVIDE OTHER EROSION CONTROL MEASURES AS MAY BE REQUIRED BY BUTLER COUNTY ENGINEER DURING THE

CONSTRUCTION PHASE. SEEDING- SPECIFICATIONS AT DETENTION BASIN:

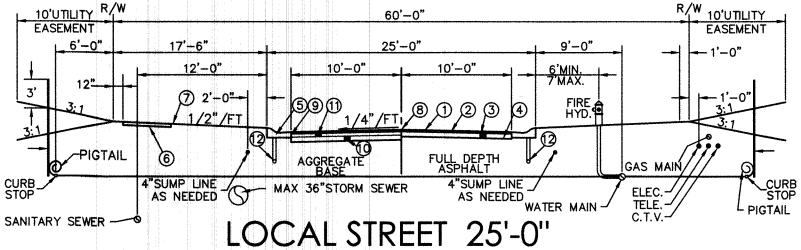
RED FESCUE 1 LB. PER 1000 SQ. FT KENTUCKY BLUFGRASS 1/2 LB. PER 1000 SQ. FT. 1/2 LB. PER 1000 SQ. FT. PERENNIAL RYEGRASS FERTILIZER: 12 - 12 - 12 MULCH - 3 BALES OF STRAW PER 1000 SQ. FT.

MULCH TIE DOWN: LIQUID ASPHALT (R.C. 70, 25 OR 800) 40 GALS. PER 1000 SQ. YDS. OR PLASTIC MULCH NETTING, STAPLED IN PLACE. SOD: TO BE STAKED IN PLACE.

ITEM NUMBERS REFER TO THE OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS OR BUTLER COUNTY REQUIREMENTS AND STANDARDS FOR SUBDIVISIONS. WHEN IN CONFLICT, THE COUNTY

- 2. ITEMS THAT PERTAIN TO UNDERGROUND UTILITIES SUCH AS WATERMAIN PIPE, SANITARY SEWER PIPE, WATER VALVES AND MANHOLE FRAMES AND COVERS, ETC, WILL REMAIN UNDER SPECIFICATIONS OF THE UTILITY SERVING THE AREA. STORM SEWERS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUTLER COUNTY ENGINEER.
- ALL TRENCHES WITHIN THE RIGHT OF WAY AND 10'UTILITY EASEMENTS SHALL BE COMPACTED AND BACKFILLED IN ACCORDANCE WITH ITEMS 203 AND 603 IN THE
- 4. SURFACE COURSE (ITEM 448) AND TACK COAT (ITEM 407 ARE TO BE APPLIED NO SOONER THAN NINE (12) MONTHS AFTER THE LEVELING COURSE (ITEM 448), AND FIFTY (50) PERCENT OF THE HOMES ARE COMPLETED. IF AFTER TWO (2) YEARS, FIFTY (50) PERCENT OF THE HOMES HAVE NOT BEEN COMPLETED, THEN THE TOP COURSE MAY BE APPLIED.
- 5. A MINIMUM 10' UTILITY EASEMENT SHALL BE SHOWN ON THE RECORD PLAT PARALLEL AND IMMEDIATELY ADJACENT TO THE RIGHT OF WAY LINE ALLOWING FOR INSTALLATION, OPERATION AND MAINTENANCE OF SEWERS, WATER, ELECTRIC AND TELEPHONE CONDUIT AND ANY OTHER PUBLIC OR QUASI PUBLIC UTILITY.
- 6. DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF CONDUITS FOR THE FULL WIDTH OF THE PUBLIC RIGHT OF WAY AT A DEPTH OF 38"FOR USE BY THE ELECTRIC, TELEPHONE AND CABLE TV SERVICES. THE LOCATION OF THESE LINES SHALL BE COORDINATED WITH UTILITY COMPANIES BY THE
- 7. SANITARY LATERALS SHALL BE EXTENDED BEYOND THE LIMITS OF THE UTILITY EASEMENTS, BUT NOT TO EXCEED 12' FROM THE RIGHT OF WAY LINE.
- 8. ALL ELECTRICAL TRANSFORMERS SHALL BE LOCATED SO THAT THEY DO NOT INTERFERE WITH THE EXISTING MANHOLES.
- 9. SUMP LINE CONDUITS ARE TO BE SDR 35.
- 10. THE SANITARY SEWER SHALL BE PLACED IN SUCH A MANNER THAT THE SANITARY MANHOLE COVER DOES NOT CONFLICT WITH THE SIDEWALK.

# NOTE: 6' CONCRETE WALK TO BE ON ONE SIDE OF LOCAL STREET.



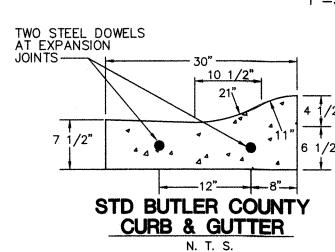
## SERVICES Jnderdrain Sumplines 24" - 30" 48" - 54" Water 36" - 40" Electric 36" - 40" Telephone

# WINDING CREEK SECTION 22 AKA CARRIAGE HILL SECTION 22

**SECTION 2, TOWN 2, RANGE 3** LIBERTY TOWNSHIP BUTLER COUNTY, OHIO



OVERALL PROJECT MAP 1"=500'



GENERAL: THIS DRAWING SHOWS THE STANDARD TYPE OF CURB THAT SHOULD BE USED ON MOST TYPES OF PAVEMENT. TYPICAL SECTION OF PROJECT SHOWS THE TYPE TO BE USED. ALSO THE THICKNESS OF THE EDGE OF THE PAVEMENT OR THE EDGE OF THE CURB AND GUTTER SECTION. JOINTS: ONE INCH EXPANSION JOINTS SHALL EXTEND UP TO TOP OF THE CURB AND SHALL BE CONSTRUCTED IN THE CURB AND GUTTER SECTION IN SUCH A MANNER THAT THE JOINT SEAL WILL EXTEND THE FULL WIDTH OF THE GUTTER AND INTO THE CURB FACE A SUFFICIENT DISTANCE TO SEAL THE JOINT TO AN ELEVATION OF AT LEAST TWO (2) INCHES ABOVE THE FLOW LINE OF THE GUTTER SECTION AT EXPANSION JOINTS. ALL JOINTS SHALL BE CONSTRUCTED PERPENDICULAR TO THE EDGE OF THE CURB AND TO THE SURFACE OF THE PAVEMENT. TRANSVERSE EXPANSION JOINT MATERIAL SHALL MEET THE REQUIREMENTS OF 705.03. EXPANSION MATERIAL AND JOINT SEALER IS NOT REQUIRED WHEN CURB IS ADJACENT TO FLEXIBLE TYPE PAVEMENT.

# DESCRIPTION

- **COVER SHEET**
- **IMPROVEMENT PLAN**
- **GRADING & SWP3 PROFILE & DETAILS**
- **BUTLER COUNTY WATER** & SEWER STANDARD DETAILS
- **EROSION CONTROL NOTES & DETAILS**

ALL LOTS SHALL BE SERVED BY SANITARY SEWER AND PUBLIC WATER SYSTEMS.

PROJECT BENCHMARK = CENTERLINE NAIL LOCATED AT THE INTERSECTION OF CARRIAGE HOUSE BOULEVARD AND STAGECOACH WAY. ELEVATION = 790.52





**DEVELOPER** 

LIBERTY LAND COMPANY, LLC.

5342 CARRIAGE HOUSE BOULEVARD

LIBERTY TOWNSHIP, OHIO 45011

OWNER

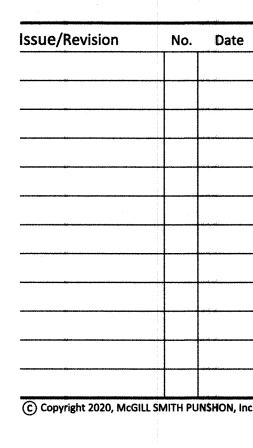
TERRY LAND INVESTMENT, LLC

**5342 CARRIAGE HOUSE BOULEVARD** 

LIBERTY TOWNSHIP, OHIO 45011

Architecture 3700 Park 42 Drive = Engineering Cincinnati OH 45241 Phone 513.759.0004

**Project Manager** Drawn By 04476063-TOP-2014 MAY 14



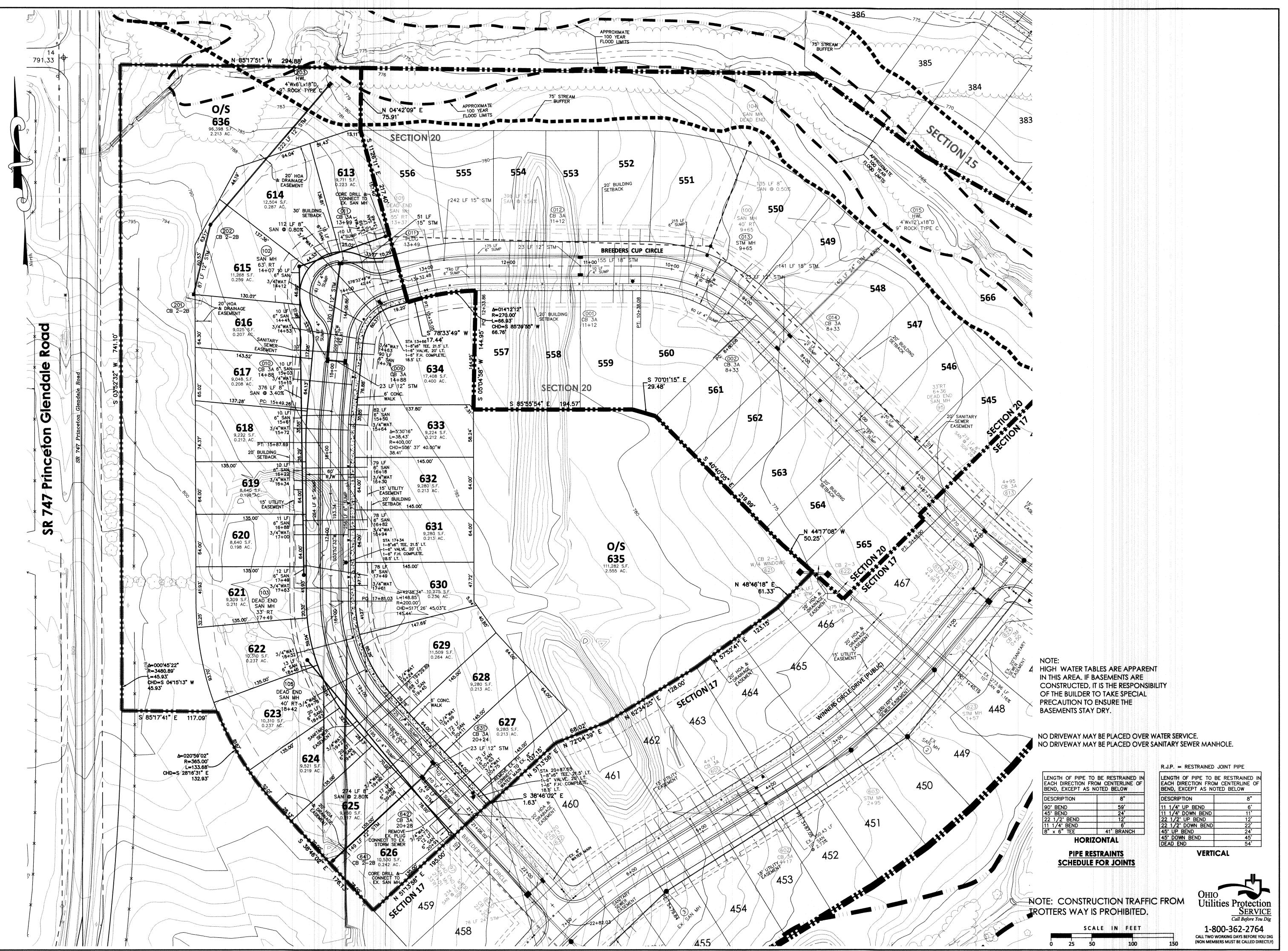
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File Number

**COVER SHEET** 

04476.06 **Project Number AS NOTED Drawing Scale Sheet Number** 

1/7





Architecture 3700 Park 42 Dri
Engineering Suite 19
Landscape Architecture Planning Phone 513.759.00
Surveying www.mspdesign.cc

Project Manager RA
Drawn By NAK
DWG 04476064-IMP-SECTION 22
X-Ref(s) 04476063-TOP-2014 MAY 14

Sue/Revision No. Date

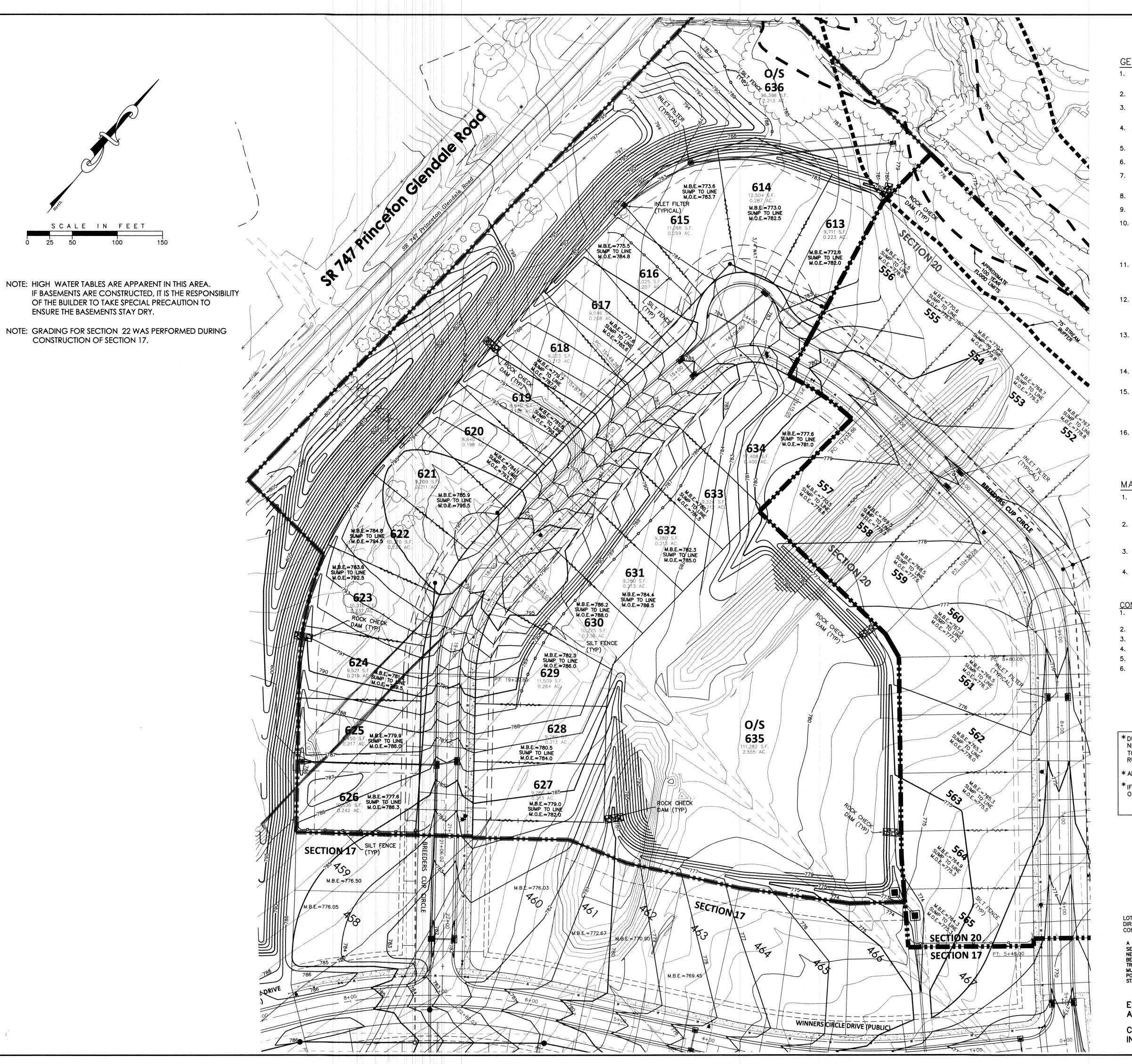
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WINDING CRI SECTION 22 AKA CARRIAGE

Sheet Title

IMPROVEMENT PLAN

Project Number 04476.06
Drawing Scale 1"=50'
Sheet Number 2/7
File Number 04476



# GENERAL NPDES NOTES

- . PROJECT INVOLVES THE CONSTRUCTION AND ASSOCIATED INFRASTRUCTURE FOR A LOW DENSITY SINGLE FAMILY SUBDIVISION.
- 2. AREA TO BE DISTURBED IS APPROXIMATELY 1.8 ACRES.
- 3. APPROXIMATELY 0.7 OF IMPERVIOUS SURFACE IS PROPOSED RESULTING IN 37 PERCENT OF IMPERVIOUSNESS.
- 4. PRE-CONSTRUCTION RUNOFF COEFFICIENT IS 0.30. POST-CONSTRUCTION RUNOFF COEFFICIENT IS 0.55.
- 5. THE PRIMARY SOIL TYPE IS RUSSELL MIAMIAN & XENIA SILT LOAM.
- 6. THE PRIOR LAND USE IS FARM CROPS.
- 7. STONY RUN IS THE FIRST NAMED STREAM RECEIVING RUNOFF FROM THIS SITE. RUNOFF IS ULTIMATELY RECEIVED BY GREGORY CREEK.
- 8. NPDES STORM WATER GENERAL PERMIT NUMBER: 1GC05766\*BG.
- 9. PROJECT DURATION: THRU 2021
- 10. SITE OPERATOR: LIBERTY LAND COMPANY, LLC. 5342 CARRIAGE HOUSE BOULEVARD
  - LIBERTY TOWNSHIP, OH 45011 (513) 894-4455
- 11. SWPPP CONTACT: LIBERTY LAND COMPANY, LLC.
  - 5342 CARRIAGE HOUSE BOULEVARD LIBERTY TOWNSHIP, OH 45011 (513) 894-4455
- 12. UNLESS OTHERWISE NOTED, STANDARDS AND SPECIFICATIONS ESTABLISHED IN THE LATEST EDITION OF THE OHIO DEPARTMENT OF NATURAL RESOURCES "RAINWATER AND LAND DEVELOPMENT" MANUAL, CURRENT EDITION, SHALL GOVERN THE EROSION AND SEDIMENT CONTROL INSTALLATIONS SPECIFIED ON THIS PLAN.
- 13. THE DEVELOPER AND CONTRACTOR SHALL ABIDE BY THE RULES AND REGULATIONS SET FOURTH IN THE OHIO EPA PERMIT NO. OHCOOOOO5 "AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY" UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES).
- 14. PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS, ALL SEDIMENTATION AND EROSION CONTROL FEATURES SHALL BE IN PLACE.
- 15. SEDIMENT CONTROL STRUCTURES SHALL BE FUNCTIONAL THROUGHOUT THE COURSE OF EARTH DISTURBING ACTIVITY. AND SHALL CONTINUE TO FUNCTION UNTIL THE UP SLOPE DEVELOPMENT AREA IS RESTABLISHED. AS CONSTRUCTION PROGRESSES AND THE TOPOGRAPHY IS ALTERED, APPROPRIATE CONTROLS MUST BE CONSTRUCTED OR EXISTING CONTROLS ALTERED TO ADDRESS THE CHANGING DRAINAGE PATTERNS.
- 16. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF DEMOLITION AND ARE TO FINAL GRADE AND TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH STATE OF OHIO SPECIFICATION ITEM 659, AND IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES STORM WATER GENERAL PERMIT.

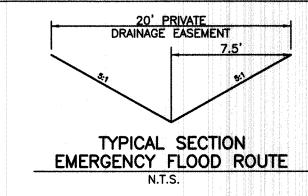
# MAINTENANCE OF CONTROLS:

- 1. SILT FENCE AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING A PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 2. SHOULD THE FABRIC ON A FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- 3. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE—HALF THE HEIGHT OF THE BARRIER.
- 4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE AND PREPARED FOR SEEDING.

- . INSTALL EROSION AND SEDIMENT CONTROL MEASURES BEFORE UPSLOPE CLEARING AND GRADING.
- 2. TEMPORARY VEGETATIVE STABILIZATION OF EROSION AND SEDIMENT CONTROL
- 3. INSTALLATION OF ALL UTILITIES.
- 4. SITE CONSTRUCTION.
- 5. FINAL GRADING, STABILIZATION, AND LANDSCAPING.
- 6. REMOVAL OF EROSION AND SEDIMENT CONTROLS MEASURES.

\*DUE TO THE DYNAMICS AND STAGING OF EARTH MOVEMENT. CONTRACTOR MAY NEED TO ALTER THE EROSION CONTROL MEASURES AS SHOWN HEREON. CONTRACTOR TO APPLY (B.M.P.) BEST MANAGEMENT PRACTICES IN ORDER TO CONTROL THE RUNOFF OF SILT AND SEDIMENT.

- \* ADDITIONAL SILT FENCE MAY BE REQUIRED AS SITE CONDITIONS DETERMINE.
- \*IF A TEMPORARY STOCKPILE IS CREATED, SILT FENCE SHALL BE PLACED AT THE TOE OF SLOPE



LOT DRAINAGE ARROWS SHOWN HEREON ARE BASED ON DIRECTION OF DRAINAGE AFTER COMPLETION OF RESIDENTIAL

A DETAILED MAINTENANCE PLAN THAT DESCRIBES PROCEDURES (E.G. INSPECTIONS A DETAILED MAINTENANCE PLAN THAT DESCRIBES PROCEDURES (E.G. INSPECTIONS)
SEE SECTION 2.18 INSPECTION OF STORM WATER CONTROLS/INTERNAL INSPECTIONS)
NEEDED TO ENSURE THE CONTINUED PERFORMANCE OF CONTROL PRACTICES SHALL
BE LOCATED AT THE ENTRANCE OF THE DEVELOPMENT AREA OR AT THE JOB
TRAILER IN A WELL-MARKED CONTAINER ACCESSIBLE AT ALL TIMES. SUCH PLANS
MUST ENSURE THAT POLLUTANTS COLLECTED WITHIN STRUCTURAL
POST—CONSTRUCTION PRACTICES, BE DISPOSED OF IN ACCORDANCE WITH LOCAL,
STATE, AND FEDERAL REGULATIONS.

ESTABLISH VEGETATION ON ALL BARE AREAS AS PER O.E.P.A. N.P.D.E.S. REGULATIONS.

CONTRACTOR IS RESPONSIBLE FOR N.P.D.E.S. INSPECTIONS DURING CONSTRUCTION PERIOD.



1-800-362-2764 **CALL TWO WORKING DAYS BEFORE YOU DIG** (NON MEMBERS MUST BE CALLED DIRECTLY) McGill Smith Punshon 3700 Park 42 Drive

Planning

Cincinnati OH 45241 Phone 513.759.0004 **Project Manager** 

04476064-IMP-SECTION 22 04476063-TOP-2014 MAY 14 Issue/Revision No. Date

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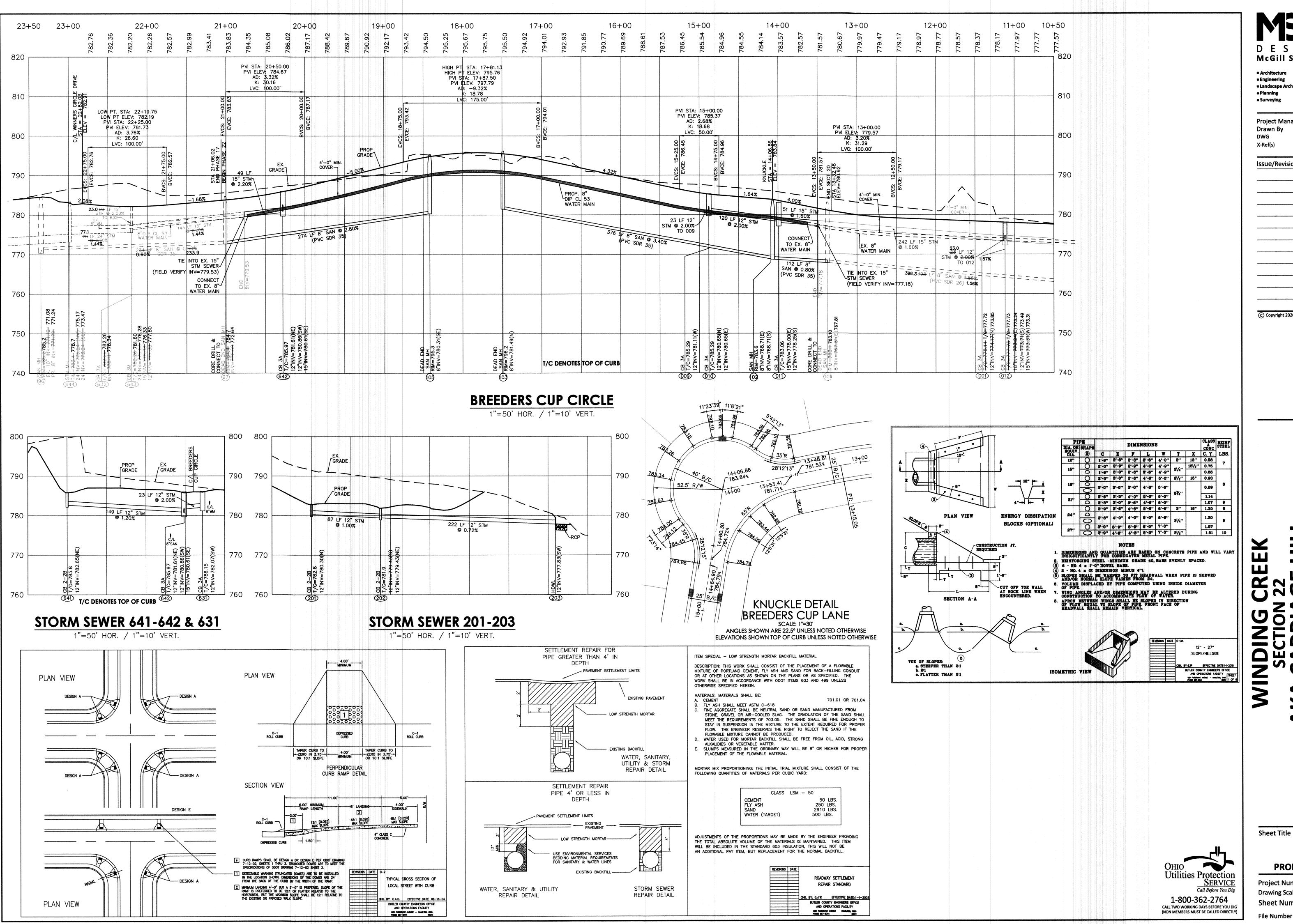
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**GRADING & SWP3** 

**Sheet Title** 

04476.06 Project Number 1"=50' **Drawing Scale** 3/7 Sheet Number

04476 File Number



McGill Smith Punshon

3700 Park 42 Drive Suite 190B = Planning Phone 513.759.0004 Surveying

**Project Manager** Drawn By 04476064-IMP-SECTION 22 X-Ref(s)

> Issue/Revision No. Date

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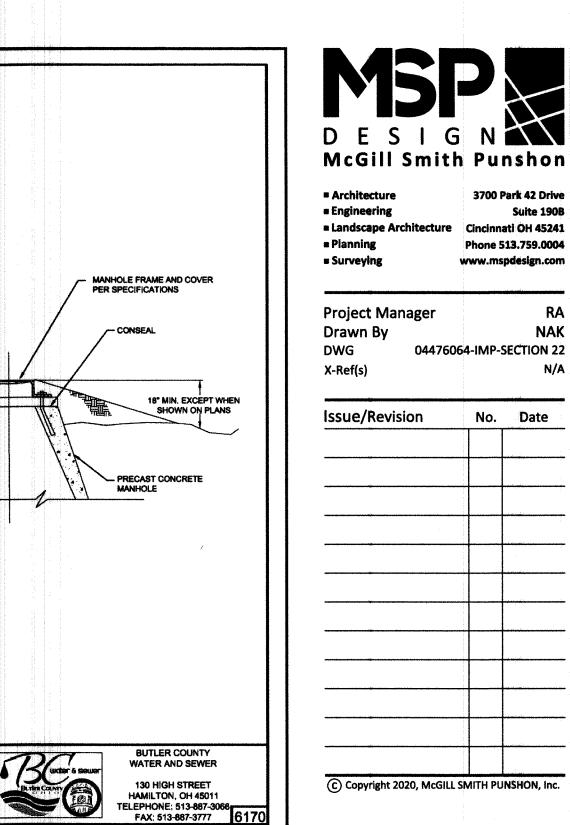
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**Sheet Title** 

**PROFILES & DETAILS** 

04476.06 **Project Number** Drawing Scale 1"=50' H. 1"=10' V. 4/7 **Sheet Number** 

04476



SECTION A - A

ELEVATED

MANHOLE DETAIL

BENCH AND FLOW CHANNEL TO BE POURED WHEN MAIN IS EXTENDED.

CONNECTION FOR FUTURE MAIN EXTENSION WILL BE CORE DRILLED AND A GASKET INSTALLED,

CONTRACTOR SHALL POUR A GROUT BOTTOM UP TO THE INVERT OF THE OUTLET PIPE WHEN THE MH IS INSTALLED TO PREVENT STANDING WATER.

BUTLER COUNTY WATER AND SEWER

130 HIGH STREET HAMILTON, OH 45011 TELEPHONE; 513-887-3066 FAX: 513-887-3777 619

PRECAST CONC BARREL

DEAD END

MANHOLE DETAIL

PLAN OF CATCH BASIN

AND PAVEMENT JOINTS

. DONEL LOCATION FOR CURB AND CUTTER

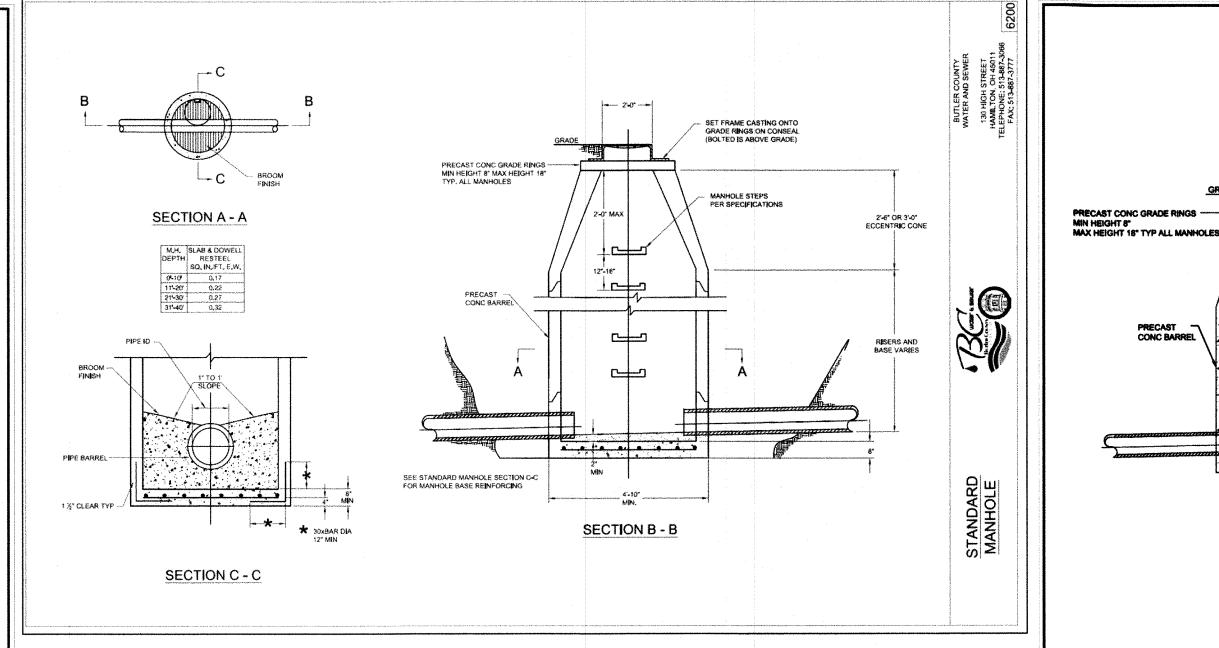
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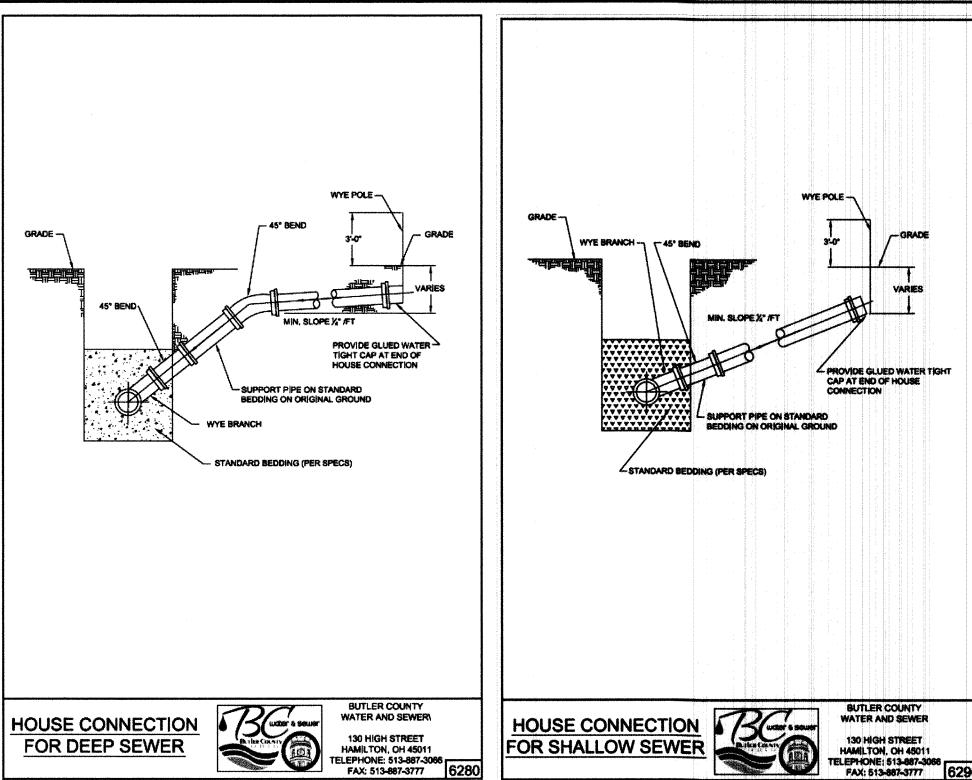
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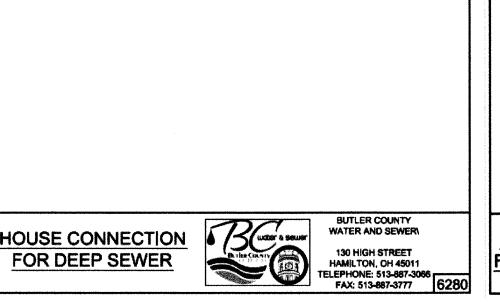
Phone 513.759.0004

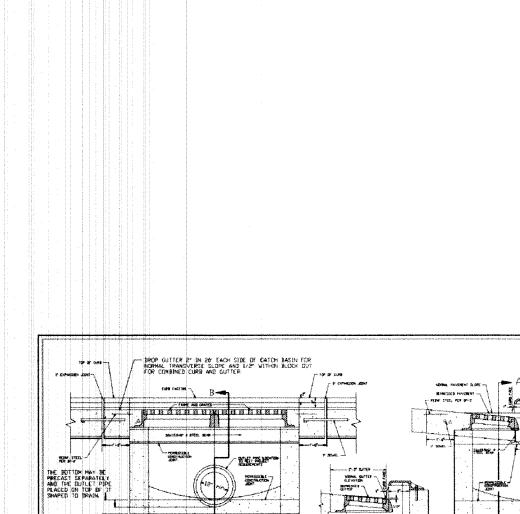
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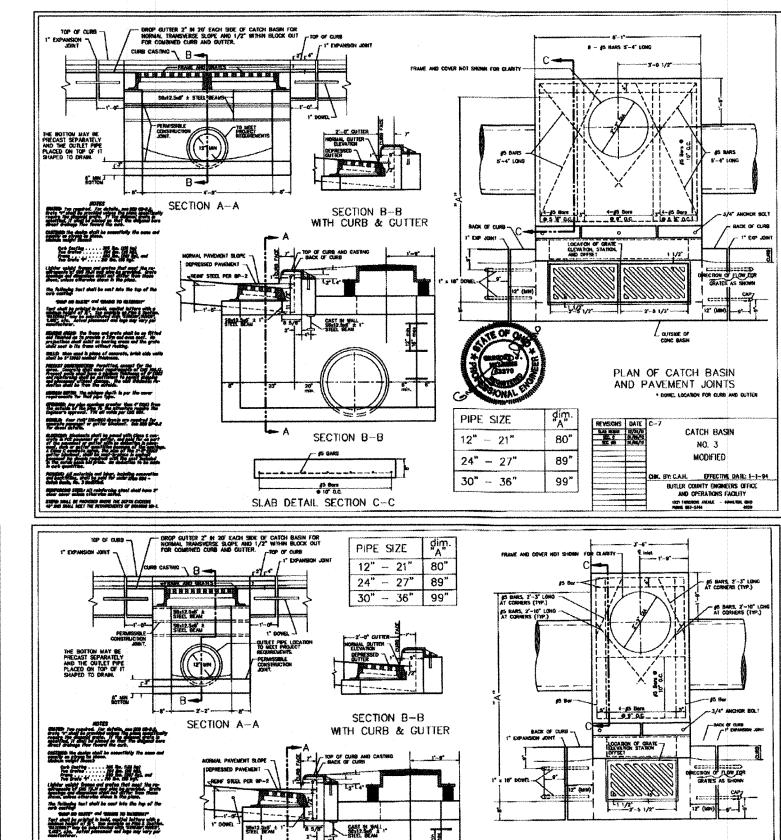
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SECTION B-B

SLAB DETAIL SECTION C-C

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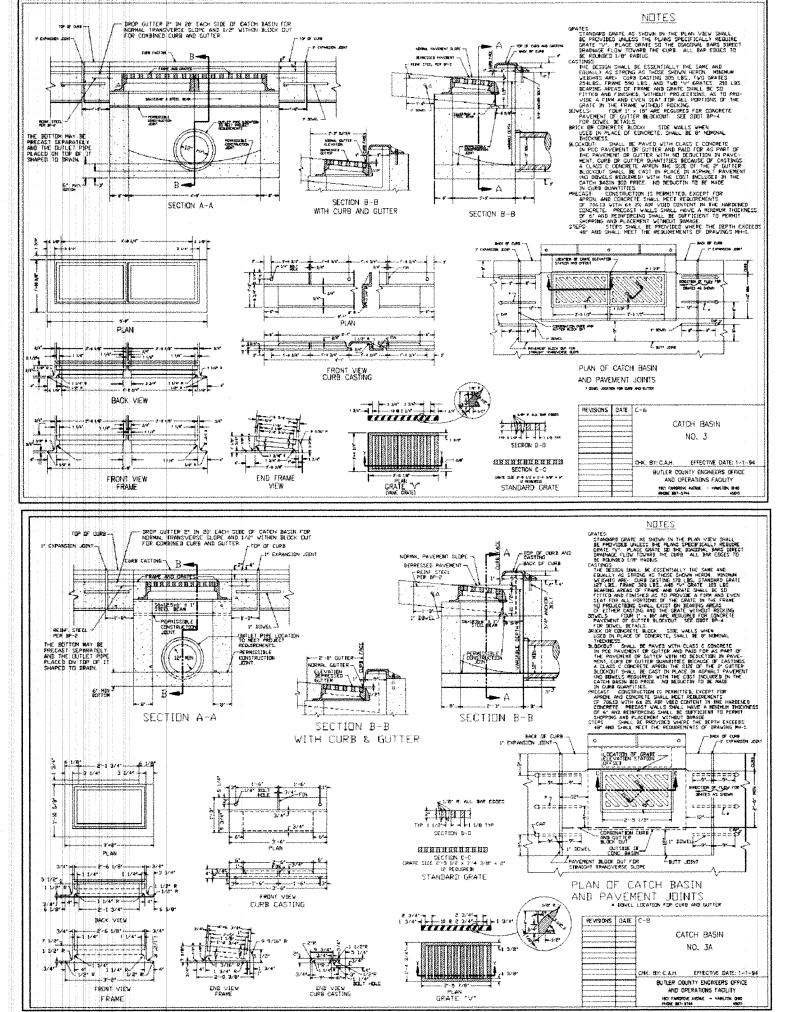
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**Utilities Protection** SERVICE Call Before You Dig 1-800-362-2764 **CALL TWO WORKING DAYS BEFORE YOU DIG** 

(NON MEMBERS MUST BE CALLED DIRECTLY)

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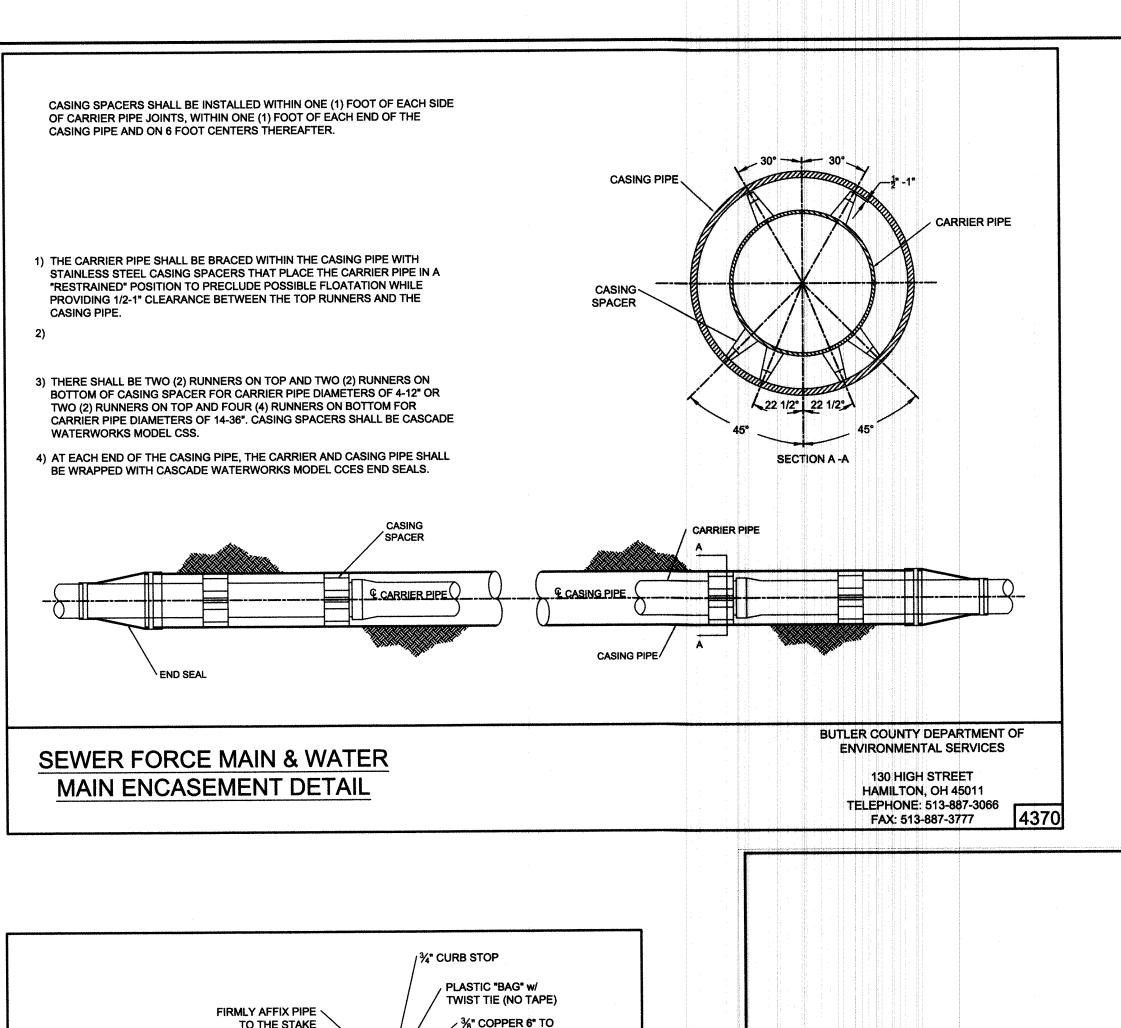
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**SEWER STANDARD Project Number Drawing Scale Sheet Number** 

4

**DETAILS** 04476.06 **AS NOTED** 5/7 04476 File Number

**BUTLER COUNTY** 



8" IN LENGTH, BENT DOWN

STURDY STAKE

STAKE MUST BE LOCATED

IN SUCH A POSITION THAT THE SAMPLER CAN STAND

**BUTLER COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES** 

> HAMILTON, OH 45011 TELEPHONE: 513-887-3066

FAX: 513-887-3777

-COARSE GRAVEL (UNCRUSHED) APPROX. 1/4 CU. YD. PER HYDRANT

- UNDISTURBED EARTH

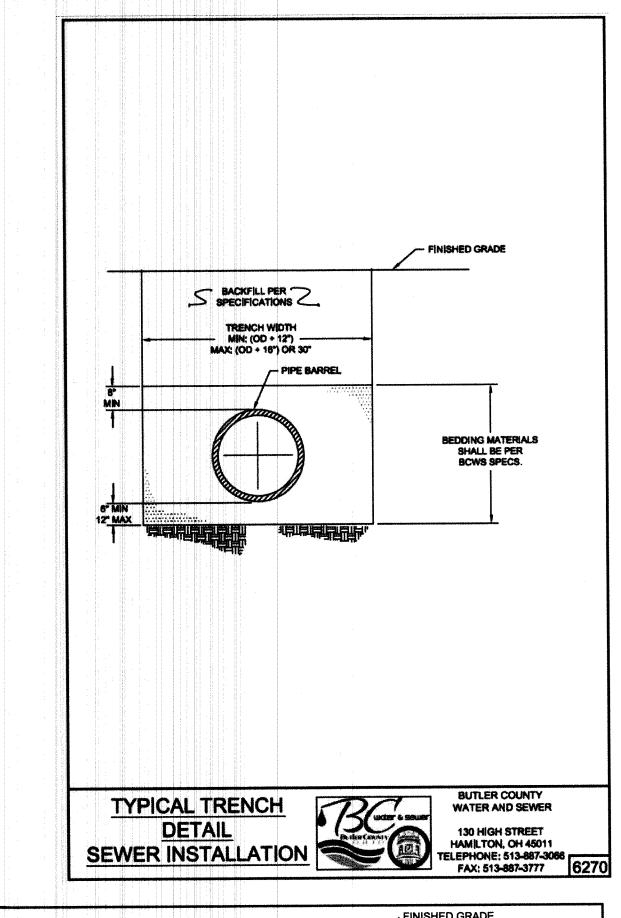
IN A DRY LOCATION TO

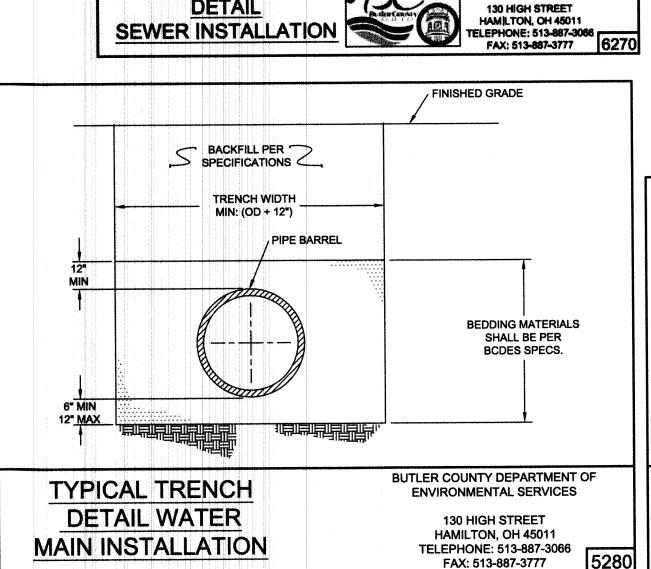
OBTAIN A SAMPLE

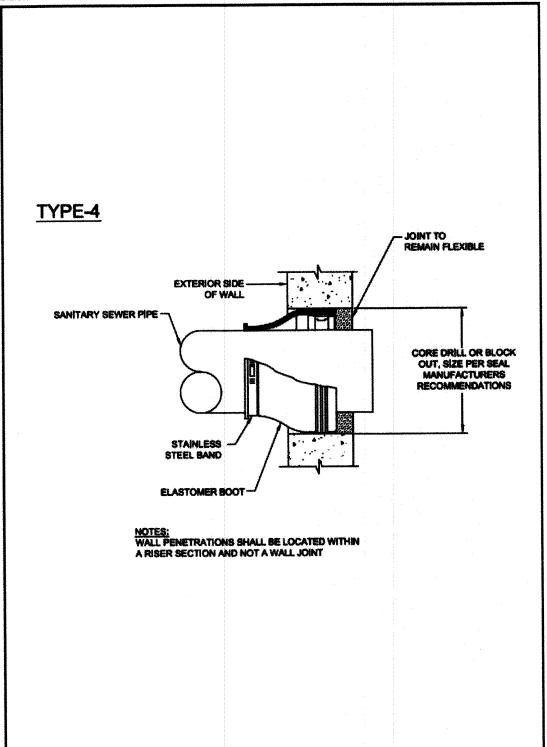
DURING FREEZING CONDITIONS THE LINE WILL BE DRAINED AT THE CORP. STOP THEN

AT THE TIME OF THE TEST

REACTIVATED BY THE CONTRACTORS PERSONNEL









BASE MAY BE PRECAST OR CAST-IN-PLACE.

BASE MAY BE ROUND OR SQUARE.

ORE DRILLED

BUTLER COUNTY WATER AND SEWER

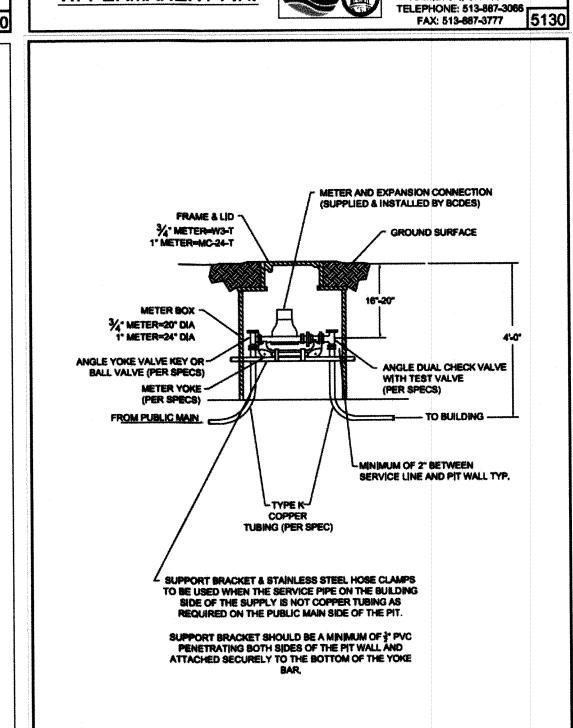
130 HIGH STREET HAMETON, OH 45011 TELEPHONE: 513-687-3066 FAX; 513-687-3777

PLAN VIEW

SECTION A - A

STANDARD CAST

IN-PLACE MANHOLE



RESTRAINED JOINTS

3 LENGTHS OF PIPE

NO SERVICES OR TAPS IN THIS AREA

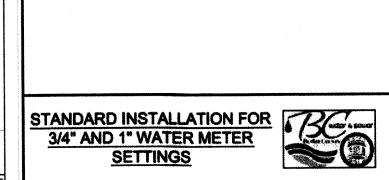
WATER MAIN

( SEE TYP. F.H. DETAIL)

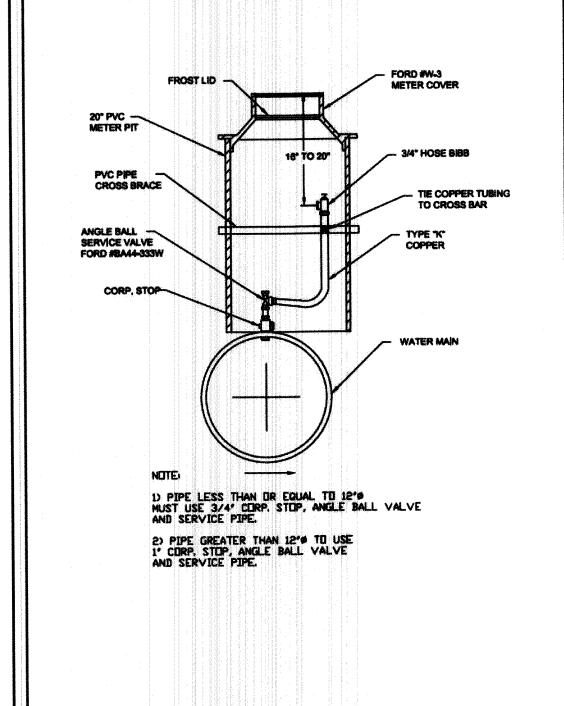
WATER AND SEWER

130 HIGH STREET

HAMILTON, OH 45011







DEAD END DETAIL

W/TEMP F.H.

MANUAL AIR RELEASE

VALVE DETAIL



3700 Park 42 Drive Cincinnati OH 45241 Phone 513.759.0004 Surveying www.mspdesign.com

**Project Manager** Drawn By 04476064-IMP-SECTION 22

Issue/Revision No. Date

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BUTLER COUNTY

WATER AND SEWER

130 HIGH STREET

HAMILTON, OH 45011 TELEPHONE: 513-887-3066 FAX: 513-887-3777 5140

4

SERVICE 1-800-362-2764

CALL TWO WORKING DAYS BEFORE YOU DIG

(NON MEMBERS MUST BE CALLED DIRECTLY)

HAMILTON, OH 45011 TELEPHONE: 513-887-3066

FAX: 513-887-3777 5290

**WATER STANDARD** 

**Sheet Title** 

**DETAILS** 04476.06 **Project Number AS NOTED Drawing Scale** 6/7 **Sheet Number** 04476 File Number

**BUTLER COUNTY** 

TYPICAL FIRE HYDRANT INSTALLATION

ANCHORING TEE

& 6" VALVE

1.) VERIFY LOCATION OF F.H. RELATIVE

2.) CHECK STREET DETAILS FOR RELATIONSHIP BETWEEN MAIN, STREET AND F.H.

TO WATER MAIN ON PLANS.

SUPPORT (TO SUIT)

6"x1'-0" ANCHORING COUPLING

TO THE STAKE

3/4" SERVICE \

PIPE (COPPER)

1/4" CORPORATION

SAND OR GRANULAR

BACKFILL MATERIAL

AROUND PIPE AT CORP. STOP

TEMP. PURITY TEST

VALVE BOX

CONCRETE COLLAR -

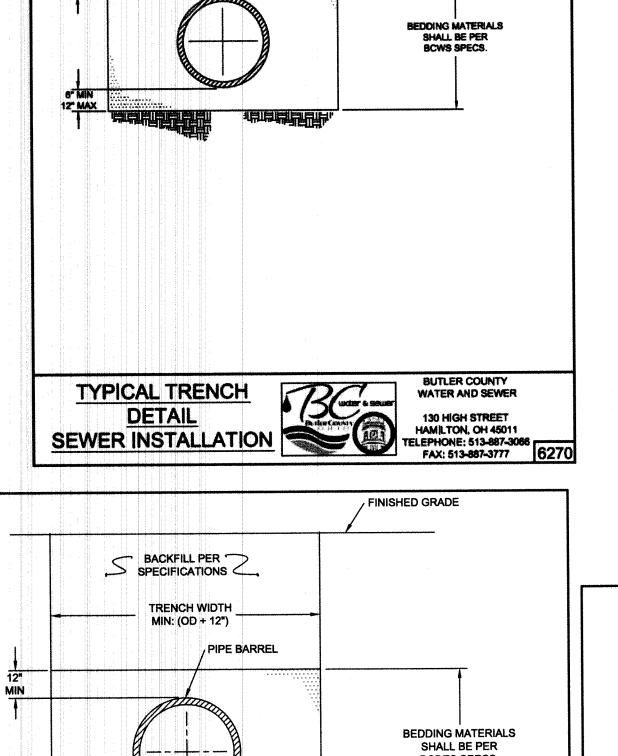
4'-0" MIN. COVER

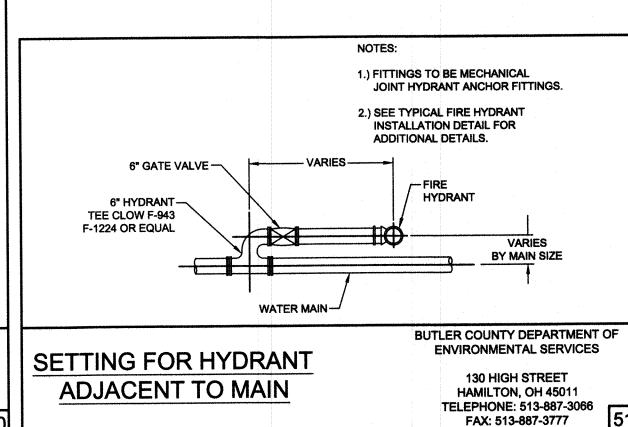
(ROADWAY TYPE)-

WATER MAIN -

STOP

**BUTLER COUNTY DEPARTMENT OF** ENVIRONMENTAL SERVICES 130 HIGH STREET HAMILTON, OH 45011 TELEPHONE: 513-887-3066 FAX: 513-887-3777





# SITE PREPARATION

vegetation.

1. A subsoiler, plow or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) Subsoiling should be done when the soil moisture is low enough to allow the soil to crack or fracture. Subsoiling shall not be done on slip-prone areas where soi preparation should be limited to what is necessary for establishing

2. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation and seeding.

3. Resoil shall be applied where needed to establish vegetation.

# SEEDBED PREPARATION

1. Lime-Agricultural ground limestone shall be applied to acid soil as recommended by a soil test. In lieu of a soil test, lime shall be applied at the rate of 100 lbs./1,000 sq. ft. or 2 tons/ac.

2. Fertilizer-Fertilizer shall be applied as recommended by a soil test. In lieu of a soil test, fertilizer shall be applied at a rate of 12 lb./1.000 sa ft. or 500 lb./ac/ of 10-10-10 or 12-12-12 analysis.

3. The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tooth harrow, or other suitable field implement to a depth of 3 in. On sloping land the soil shall be worked on the contour.

# SEEDING DATES AND SOIL CONDITIONS

Seeding should be done March 1 to May 31 or Aug. 1 to September 30 These seeding dates are ideal but, with the use of additional mulch and irrigation, seedings may be made any time throughout the growing season. Tillage / seedbed preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

# DORMANT SEEDINGS Seedings shall not be planted from

October 1 through November 20 During this period the seeds are likely to germinate, but probably will not be able to survive the winter.

2. The following methods may be used for "Dormant Seeding":

\* From October 1 through November 20, prepare the seedbed, and the required amounts of lime and fertilizer then mulch and anchor After November 20, and before March 15. broadcast the selected seed mixture, mulch and anchor. Increase the seeding rates by 50% for this

type of seeding. \* From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and

fertilize, apply the selected seed

the seeding rates by 50% for this \* Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro-seeder (slurry may include seed and fertilizer) on a firm, moist

mixture, mulch and anchor. Increase

\* Where feasible, except when a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacke roller or light drag. On sloping land, seeding operations should be on the contour where feasible.

1. Mulch material shall be applied immediately after seeding. Seedings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization. Dormant seeding shall be mulched.

Note: Other approved seed species may be substituted.

2. Materials \* Straw-If straw is used it shall be unrotted small-grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales) The mulch shall be spread uniformly by hand or mechanically so the soi surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000-sq.-ft. sections and spread two 45-lb. bales of straw in each

\* Hydroseeders-If wood cellulose fiber is used, it shall be used at 2,000 lb./ac/ or 46 lb./1,000 sq. ft.

\* Other-Other acceptable mulches include mulch mattings applied according to manufacturer's ecommendations or wood chips applied at 6 tons/ac.

3. Straw Mulch Anchoring Methods Straw mulch shall be anchored immediately to minimize loss by wind

\* Mechanical-A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but, generally, be left

\* Mulch Nettings—Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.

\* Asphalt Emulsion-Asphalt shall be applied as recommended by the manufacturer or at the rate of 160 gal. /ac.

\* Synthetic Binders-Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Tack or equivalent may be used at rates recommended by manufacturer.

\* Wood Cellulose Fiber-Wood cellulose fiber binder shall be applied at a ne dry weight of 750 lb./ac. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lbs./100 gal.

1. Permanent seeding shall include

irrigation to establish vegetation during dry or hot weather or on adverse site conditions as needed for adequate moisture for seed germination and plant growth 2. Excessive irrigation rates shall be

avoided and irrigation monitored to prevent erosion and damage from

## Seedina Rate Notes: lb./ac. lb./1.000 ft General Use Creeping Red Fescue 1/2-120-40 Domestic Ryegrass 10-20 Kentucky Bluegrass 1/4-1/2 40 Dwarf Fescue 40 Steep Banks or Cut Slopes Tall Fescue 40 Crown Vetch 1/4 1/2 not seed later than August 20 Tall Fescue not seed later than August Tall Fescue Road Ditches and Swales Tall Fescue 2 1/4 Dwarf Fescue Kentucky Bluegrass Lawns Kentucky Bluegrass Perennial Ryegrass 1 1/2 1 1/2 1 1/2 Kentucky Bluearass For shaded areas Creeping Red Fescue

Permanent Seeding

# Permanent Seeding

**Specifications** 

1. Permanent seeding shall not be . Maintenance fertilization rates shall considered established for at least 1 be established by soil test full year from the time of planting. recommendations or by using the Seeded areas shall be inspected for rates shown in the following table. failure and reestablished as needed. Depending on site conditions, it may be necessary to irrigate, fertilize, overseed, or reestablish plantings in

order to provide permanent vegetation

for adequate erosion control.

Mixture	Formula	lb./ac.	lb./1.000 ft. <sup>2</sup>	Time	Mowing
Creeping Red Fescue Ryegrass Kentucky Bluegrass	10-10-10	500	12		Not closer than 3"
Tall Fescue	10-10-10	500	12	Fall, yearly or as needed.	Not closer than 4"
Dwarf Fescue	10-10-10	500	12		Not closer than 2'
Crown Verch Fescue	0-20-20	400	10	Spring, yearly following establish—	Do not mow
Flat Pea Fescue	0-20-20	400	10	ment and every 4-7 yr. thereafter.	Do not mow

# Temporary Seeding

Specifications

Species	lb./1.000 ft. <sup>2</sup>	Per Ac.
Oats	3	4 bushel
Tall Fescus	1	40 lb.
Annual Ryegrass	1	40 lb.
Perennial Ryegrass Tall Fescus Annual Ryegrass	1 · 1 · 1	40 lb. 40 lb. 40 lb.
Rye	3	2 bushel
Tall Fescus	1	40 lb.
Annual Ryegrass	1	40 lb.
Wheat	3	2 bushel
Tall Fescus	1	40 lb.
Annual Ryegrass	1	40 lb.
Perennial Ryegrass	1 .	40 lb.
Tall Fescus	1 .	40 lb.
Annual Ryegrass	.1	40 lb.
	Oats Tall Fescus Annual Ryegrass  Perennial Ryegrass Tall Fescus Annual Ryegrass  Rye Tall Fescus Annual Ryegrass  Wheat Tall Fescus Annual Ryegrass  Perennial Ryegrass  Tall Fescus Tall Fescus	Oats         3           Tall Fescus         1           Annual Ryegrass         1           Perennial Ryegrass         1           Tall Fescus         1           Annual Ryegrass         1           Rye         3           Tall Fescus         1           Annual Ryegrass         1           Wheat         3           Tall Fescus         1           Annual Ryegrass         1           Perennial Ryegrass         1           Tall Fescus         1           Tall Fescus         1

1. Structural erosion and sediment control practices such as diversions and sediment traps shall be installed and stabilized with temporary seeding prior to grading the rest of the construction site.

2. Temporary seed shall be applied between construction operations on soil that will not be graded or reworked for 21 days or more. These idle areas should be seeded as soon as possible after grading or shall be seeded within 7 days. Several applications of temporary seeding are necessary on typica construction projects.

3. The seedbed should be pulverized and loose to ensure the success of establishing vegetation. However, temporary seeding shall not be postponed if ideal seedbed preparation is not possible.

4. Soil Amendments-Applications of temporary vegetation shall establish adequate stands of vegetation that may require the use of soil amendments. Soil tests should be taken on the site to predict the need for lime and fertilizer.

5. Seeding Method-Seed shall be applied uniformly with a cyclone seeder, drill, cultipacker seeder, or hydroseeder. When feasible, seed that has been broadcast shall be covered by raking and dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used, the seed and fertilizer will be mixed on site and the seeding shall be done immediately and without interruption

MULCHING TEMPORARY SEEDING

 Applications of temporary seeding shall include mulch that shall be applied during or immediately after seeding. Seedings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization.

\* Straw-If straw is used, it shall be unrotted small—grain straw applied at uniform distribution of hand-spread mulch, divide area into approximately

is used, it shall be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.

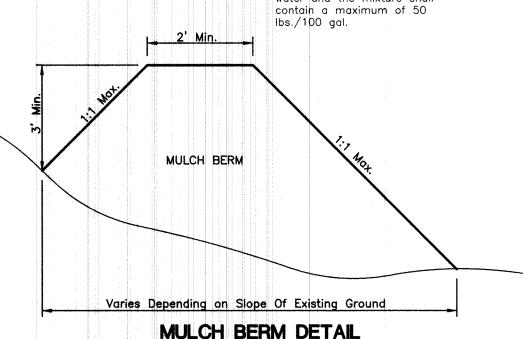
include mulch matting applied

3. Straw mulch shall be anchored

\* Mulch Nettings—Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.

applied as recommended by the gal. /ac.

such as Acrylic DLR (Agri-Tac),



N.T.S.

2. Materials: the rate of 2 tons/ac or 90 lbs./1.000 sa. ft. (two to three bales). The mulch shall be spread the sail surface is covered. For

1.000 sa. ft. sections and spread two 45 lb. bales of straw in each section \* Hydroseeders-If wood cellulose fiber

\* Other-Other acceptable mulches

according to manufacturer's recommendations or wood chips applied at 6 tons/ac.

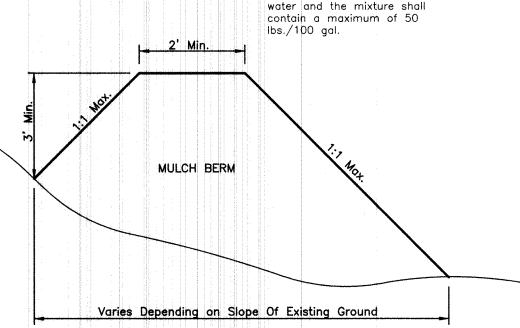
immediately to minimize loss by wind

4. Anchoring Methods:

\* Mechanical—A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but generally, be left longer than 6 in.

\* Asphalt Emulsion-Asphalt shall be manufacturer or at the rate of 160 \* Synthetic Binders-Synthetic binders

DCA-70, Petroset, Terra Tack or equivalent may be used at rates recommended by manufacturer. \* Wood Cellulose Fiber-Wood cellulose fiber binder shall be applied at a net dry weight of 750 lb./ac. The wood cellulose fiber shall be mixed with



# Specifications Mulching

1. Mulch and/or other appropriate vegetative practices shall be applied to disturbed areas within 7 days of grading if the area is to remain formant (undisturbed) for more than 45 days or on areas and portions of the site which can be

2. Mulch shall consist of one of the

rate of 2 tons/ac. or 90 lbs./1,000

\* Straw-Straw shall be unrotted

small-grain straw applied at the

sq. ft. (two to three bales). The

hand or mechanically so the soil

surface is covered. For uniform

mulch shall be spread uniformly by

distribution of hand-spread mulch,

sq. ft. sections and spread two 45

lb. bales of straw in each section.

\* Hydroseeders-Wood cellulose fiber

\* Other-Other acceptable mulches

include mulch matting applied

recommendations or wood chips

3. Mulch Anchoring-Mulch shall be

anchored immediately to minimize

following are accepted methods for

according to manufacturer's

loss by wind or runoff. The

anchoring mulch:

applied at 10-20 tons/ac.

46 lbs./1,000 sq. ft.

should be used at 2,000 lb./ac. or

divide area into approximately 1,000

brought to final grade.

following:

\* Mechanical-Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but generally be left longer

\* Mulch Nettings—Use according to the manufacturer's recommendations, following all placement and anchoring suggestions. Use in areas of water concentration and steep slopes to hold mulch in place.

\* Asphalt Emulsion—For straw mulch, apply at the rate of 160 aal /ac. (0.1 gal. /sy) into the mulch as it is being applied or as recommended by the manufacturer. \* Synthetic Binders-For straw

mulch, synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Tack or equivalent may be used at rates recommended by manufacturer. \* Wood Cellulose Fiber-Wood

cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 lb./acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lbs./100 gal.

# Specifications Sodding

# MATERIALS

1. Sod shall be harvested, delivered and installed within a period of 48 hrs. Sod not transplanted within this period shall be inspected and approved prior to installation.

2. The sod shall be kept moist and covered during hauling and preparation for placement on the sod bed. 3. Sod shall be machine cut at a

uniform soil thickness of 0.75 in., plus or minus 0.25 in., at the time of cutting. Measurements for thickness shall exclude top growth

# SITE PREPARATION

1. A subsoiler, plow or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) Subsoiling shall not be done on slip-prone areas where soil preparation should be limited to what is necessary for establishing vegetation.

2. The area shall be graded and resoiling shall be done where

## 3. Soil Amendments: \* Lime-Agricultural ground limestone shall be applied to acid soil as recommended by a soil test. In lieu of a soil test. lime shall be applied at the rate of 100 lbs./1,000 sq. ft.

\* Fertilizer-Fertilizer shall be applied as recommended by a soil test. In lieu of a soil test, fertilizer shall be applied at a rate of 12 lb./1,000 sq. ft. or 500 lb./ac. of 10-10-10 or 12-12-12 analysis.

\* The lime and fertilizer shall be worked into the soil with a disk harrow, spring—tooth harrow, or other suitable field implement to a depth

4. Before laying sod, the surface shall be uniformly graded and cleared

of all debris, stones and clods larger

than 3 in, in diameter.

SOD MAINTENANCE or 2 tons/ac.

# SOD INSTALLATION 1. During periods of excessively high

temperatures, the soil shall be lightly irrigated immediately prior to laying

2. Sod shall not be placed on frozen 3. The first row of sod shall be laid

in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered in a brick-like pattern. Ensure that sad is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would dry the roots.

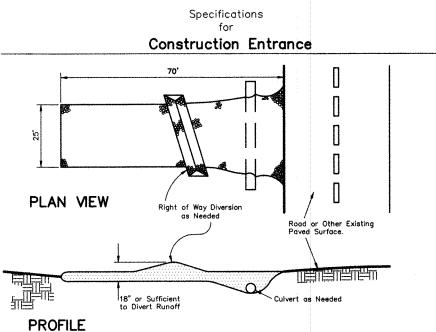
4. On sloping areas where erosion may be a problem, sod shall be laid with the long edge parallel to the contour and with staggered joints. The sod shall be secured with pegs or staples.

5. As sodding is completed in any one section, the entire area shall be rolled or tamped to ensure solid contact of roots with the soil surface. Sod shall be watered immediately after rolling or tamping until the sod and soil surface below the sod is thoroughly wet. The operations of laying, tamping and irrigating for any place of sod shall be completed within 8 hrs.

1. In the absence of adequate rainfall, watering shall be performed the first week and in sufficient quantities to maintain moist soil to a depth of 4 in.

2. After the first week, sod shall be watered as necessary to maintain adequate moisture and to ensure establishment.

3. The first mowing shall not be attempted until sod is firmly rooted.



1. Stone Size-Two-inch stone shall be used, or recycled concrete

2. Length—The construction entrance shall be 70' long. 3. Thickness—The stone layer shall be

at least 6 in. thick. 4. Width—The entrance shall be 25'wide. 5. Bedding—A geotextile shall be placed over the entire area prior to placing stone. It shall have a Grab ensile Strength of at least 200 lb. and a Mullen Burst Strength of at

6. Culvert—A pipe or culvert shall be constructed under the entrance if needed to prevent surface water flowing across the entrance from being directed out onto paved

7. Water Bar-A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and out onto paved surfaces.

8. Maintenance—Top dressing of additional stone shall be applied as conditions demand. Mud spilled, dropped, washed or tracked onto public roads, or any surface where runoff is not checked by sediment controls, shall be removed immediately. Removal shall be accomplished by scraping or sweeping.

9. Construction entrances shall not

be relied upon to remove mud from

vehicles and prevent off-site tracking. Vehicles that enter and leave the construction site shall be restricted compacted. from muddy areas.

# Inlet Protection in Swales, Ditch Lines or Yard Inlets 2" x 4" Frame Geotextile Over Wire Mesh Backing Compact Backfill . 4 5. Geotextile shall have an 1. Inlet protection shall be

Specifications

constructed either before upslope land disturbance begins or before the storm drain becomes operational.

2. The earth around the inlet shall be excavated completely to a depth of at least 18 in.

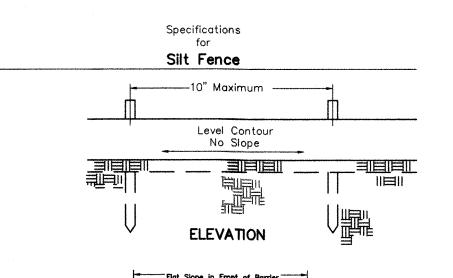
3. The wooden frame shall be constructed of 2-by-4 in. construction grade lumber. The 2-by-4 in. posts shall be driven ft. into the ground at four corners of the inlet and the top portion of 2-by-4 in. frame assembled using the overlap joint shown. The top of the frame shall be at least 6 in. below adjacent roads if ponded water would pose a safety hazard to

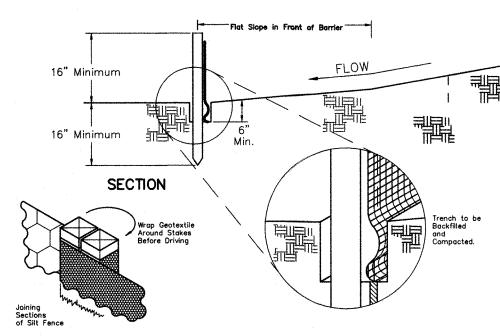
4. Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. shall be stretched tightly around the frame and fastened securely to the

equivalent opening size of 20-40 sieve and be resistant to sunlight It shall be stretched tightly around the frame and fastened securely. shall extend from the top of the frame to 18 in. below the inlet notch elevation. The geotextile shall overlap across one side of the inlet so the ends of the cloth are not fastened to the same post.

6. Backfill shall be placed around the inlet in compacted 6-in, lavers until the earth is even with notch elevation on ends and top elevation on sides.

7. A compacted earth dike or a check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression and i runoff bypassing the inlet will not flow to a settling pond. The top of the earth dikes shall be at least 6 in, higher than the top of the





Specifications for Silt Fence

10. Maintenance-Silt fence shall allow

runoff to pass only as diffuse flow

overtops the silt fence, flows under

or around ends, or in any other way

becomes a concentrated flow, on of

the following shall be performed, as

removed, or 3) Other practices shall

1. Fence Posts—The length shall be a

minimum of 32 in. long. Wood posts

sound quality. The maximum spacing

Silt Fence Fabric shall be ODO

Type C Geotextile Fabric or as

described by the chart below:

will be 2-bv-2 in, of hardwood of

appropriate: 1) The layout of the

silt fence shall be changed. 2)

Accumulated sediment shall be

Criteria for Silt Fence Materials

between posts shall be 10 ft.

be installed.

through the geotextile. If runoff

before upslope land disturbance 2. All silt fences shall be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small

1. Silt fence shall be constructed

3. To prevent water ponded by the silt fence from flowing around the ends, each end shall be constructed upslope so that the ends are at a higher elevation.

swales or depressions, which may

silt fence, are dissipated along its

carry small concentrated flows to the

4. Where possible, silt fence shall be placed on the flattest area available. 5. Where possible, vegetation shall be preserved for 5 ft. (or as much as possible) upslope from the silt fence. If vegetation is removed, it shall be reestablished within 7 days from the installation of the silt fence.

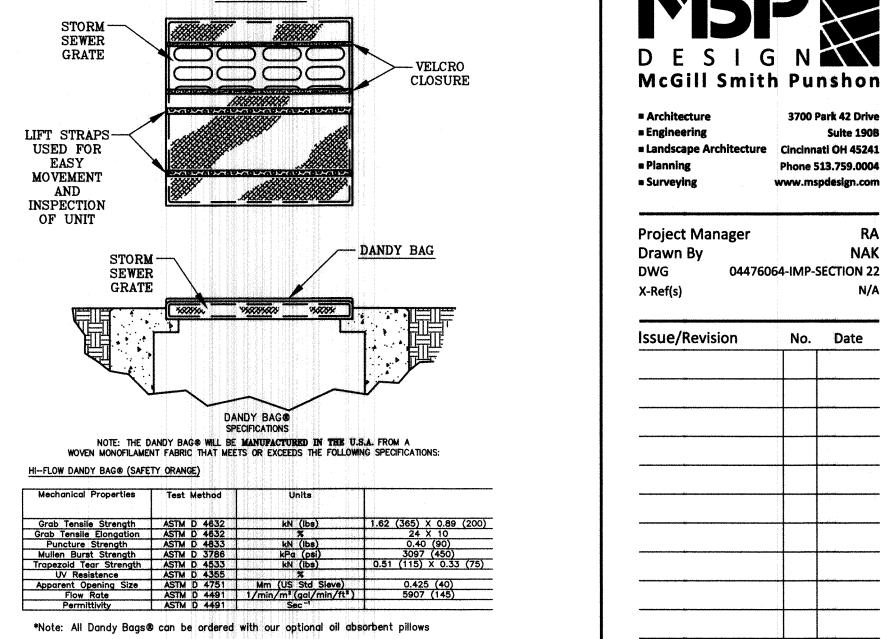
6. The height of the silt fence shall be a minimum of 16 in. above the original ground surface. 7. The silt fence shall be placed in a trench cut a minimum of 6 in. deep. The trench shall be cut with a trencher, cable laying machine, or

other suitable device that will ensure

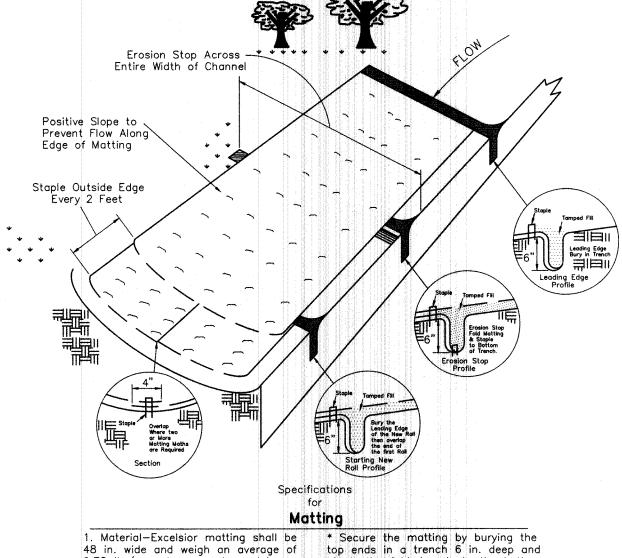
an adequately uniform trench depth. 8. The silt fence shall be placed with the stakes on the downslope side of the geotextile and so that 8-in, of cloth are below the around surface. Excess material shall lie on the bottom of the 6-in, deep trench. The trench shall be backfilled and

9. Seams between section of silt fence shall be overlapped with the

Fabric Properties Mimimum Tensile Strength Maximum Elongation at 60 lbs Minimum Puncture Strength Mimimum Burst Strength Apparent Opening Size ... Mimimum Permittivity ...



DANDY BAG®



Specifications

for

Matting

0.75 lb./sq. yd. or greater. Jute matting shall be 48 in. wide and weigh and average of 1.2 lb./yd. or greater. Matting made of other \* Staple matting every 12-in, across material and providing equal or greater stabilization than the above the width beginning at the edges and may be substituted.

2. Site Preparation—After the site has been shaped and graded, a seedbed shall be prepared that is relatively free of foreign material, clods or rocks that are greater than 1.5 in. in diameter. The site shall be prepared to ensure that the matting has good soil contact and the previous roll 18-in. over the new roll. matting will not "bridge" or "tent" Continue to staple as described over obstructions.

3. Matting shall be held in place as recommended by the manufacturer as adequate for the site conditions or with sod staples. Sod staples are U-shaped wire staples used for astening sod, jute or excelsion matting and other erosion—control materials to the soil surface. Sod staples shall be No. 11 gauge or heavier and be 6-10 in. in length. In loose or sandy soils, longer staples shall be used.

4. Planting-Lime and fertilizer shall be used according to the recommendation of a soil test or the seeding plan. Seed according to the manufacturer's recommendations: or. for excelsior matting, seed area to be protected before installation; or, when using jute matting, apply half the seed before and half the seed after installation.

5. Matting shall be installed as specified by the manufacturer as appropriate for the site conditions or the following procedure may be used: \* After the site is prepared and erosion stops are installed, start laving the mat from the top of the slope or channel and unroll the matting allowing 4 in. overlaps at the edges.

staple the folded ends to the bottom of the trench. Backfill and tamp firmly to the established grade.

every 2 ft. in rows the entire length of the matting. Every other row of staples running the length of the matting should be staggered. \* To join two rolls together, cut a trench to anchor the end of the new roll and secure it the same as the top roll. Overlap the end of the

\* When using excelsior matting, the plastic netting shall be on top of the wood fiber

recommended by the matting

where high-erosion potential may cause undermining and gullies to form beneath the matting. \* Erosion stops shall be made of strips of matting placed in narrow trenches 6-12 in, deep that cover the full cross section of the channel They shall be spaced according to the manufacturer's recommendations or by the following: \* 3 ft. down the channel from each

point of entry of concentrated flow,

\* at points where change in gradien

or direction of channel occurs, and

6. Erosion stops shall be used where

manufacturer and on areas specified

\* on long slopes at spacing from 20-100 ft. depending on the erodibility of the soil, velocity and \* Erosion stops shall extend beyond the channel liner to the full design width of the channel. This will check any rills that might form outside or along the edge of the channel lining.

and tamped firmly to conform to the cross section of the channel. \* If seeding has been done prior to installation of erosion stops, reseed

channel liner.

\* Erosion stops shall be constructed

with a 6 in, deep trench, backfilled

disturbed areas prior to placement of **Utilities Protection** 

1-800-362-2764

CALL TWO WORKING DAYS BEFORE YOU DIG (NON MEMBERS MUST BE CALLED DIRECTLY

SERVIC

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Suite 190B

NAK

**1** 

**Sheet Title** 

**EROSION CONTROL NOTES & DETAILS** 

**Project Number Drawing Scale** Sheet Number

File Number

04476.06 **AS NOTED** 7/7 04476