Zoning Administrator
Building Commissioner
Tom Zimmerman

CITY OF NAPOLEON
Building & Zoning Division
255 W. Riverview Avenue, PO Box 151, Napoleon, OH 43545
Phone: 419-592-4010 - Fax: 419-599-8393

COMMERCIAL ZONING PERMIT APPLICATION

P-16-0332

ADDRESS OF PROPOSED BUSINESS: 1895 Oakwood AVE.

BUSINESS OWNER: A Renewed Mind

OWNER ADDRESS: 1776 Tremainsville Road, Toledo, Ohio 43613

OWNER PHONE: 419-214-0606 CELL: _____

PROPERTY OWNER: A Renewed Mind

PROPERTY OWNER ADDRESS: 1776 Tremainsville Road, Toledo, Ohio 43613

PROPERTY OWNER PHONE: 419-214-0606 CELL: _____

PREVIOUS BUSINESS USE: Open Space

ESTIMATED CONSTRUCTION COST $ $1,500,000.00

ZONE: C-4 # OF PARKING SPACES: 72 SQ FT OF BUILDING: 10,807

NEW BUSINESS USE/PROJECT DESCRIPTION: Clinic for drug and alcohol treatment / mental health — residential and outpatient treatment.

A Renewed Mind, 1776 Tremainsville Road, Toledo, Ohio 43613

ADDRESS PERMIT SHOULD BE SENT TO:

Stevebest0@yahoo.com
5938

APPLICANT: A Renewed Mind PHONE#: 419-309-3065
344 7355

FEE: $50.00 (Fee may be waived if usage or size of building does not change. MZON 100.3100.46690)

Matthew D. B
SIGNATURE OF APPLICANT

10/19/16
DATE

Tom Zimmerman
TOM ZIMMERMAN
ZONING ADMINISTRATOR

11-14-16
DATE

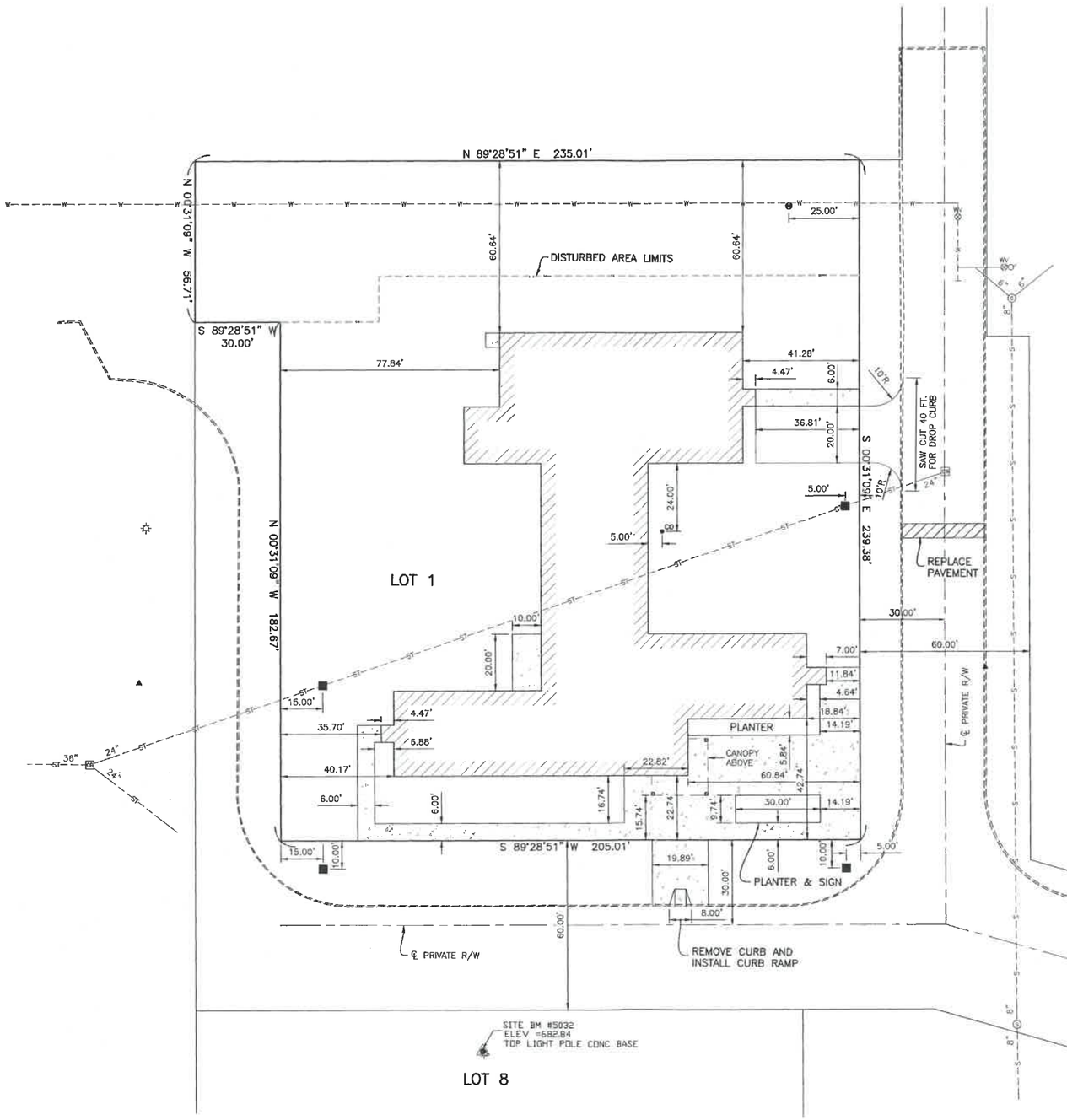
Zoning Permit $50.00

Building/Zoning Use Only

Permit # _____ Batch # 35470 Check # 2541 Date 01-11-16

35470 2541 01-11-16

Engineering plan Review
$ 200.00



LOCATION MAP
N.T.S.

LEGAL DESCRIPTION

LOT 1 OF THE OAKWOOD PLAZA SUBDIVISION, PLAT III

ZONING

LOT 1: C-4

ADJACENT SITE ZONING: C-4

BUILDING AREA

10,807 SQ. FT.

PARKING

EXISTING PARKING: A RENEWED MIND IS PURCHASING LOT 8 OF THE OAKWOOD PLAZA SUBDIVISION, PLAT III WHICH HAS 67 EXISTING PARKING SPACES.

REQUIRED PARKING: USE 7.1
10,807 SQ. FT./150 SQ. FT. = 72 SPACES

INDEX OF SHEETS

OHIO UTILITIES PROTECTION SERVICE
CALL 1-800-362-2764
TWO WORKING DAYS BEFORE YOU DIG
NON-MEMBERS MUST BE CALLED DIRECTLY

Feller Finch & ASSOCIATES, INC.
Engineers • Surveyors
1983 Woodlands Drive, Maumee, Ohio 43537
Phone: (419) 893-3680
Fax: (419) 893-2982
www.fellerfinch.com

NORTH

REVISION	DATE

TITLE: GEOMETRICS PLAN

PROJECT: A RENEWED MIND SITE PLAN
CITY OF NAPOLEON, HENRY COUNTY, OHIO

STATE OF OHIO
DAVID R. KUHN
E-48634
REGISTERED
PROFESSIONAL ENGINEER

SIGNED
DATE
SCALE: 1" = 20'
DATE: 9-8-16
DRAWN BY: DEM
DESIGN: DRK CHECK: DRK
PROJECT: 10E08286
DRAWING: 10-08286GS00A2
SHEET 1 OF 7

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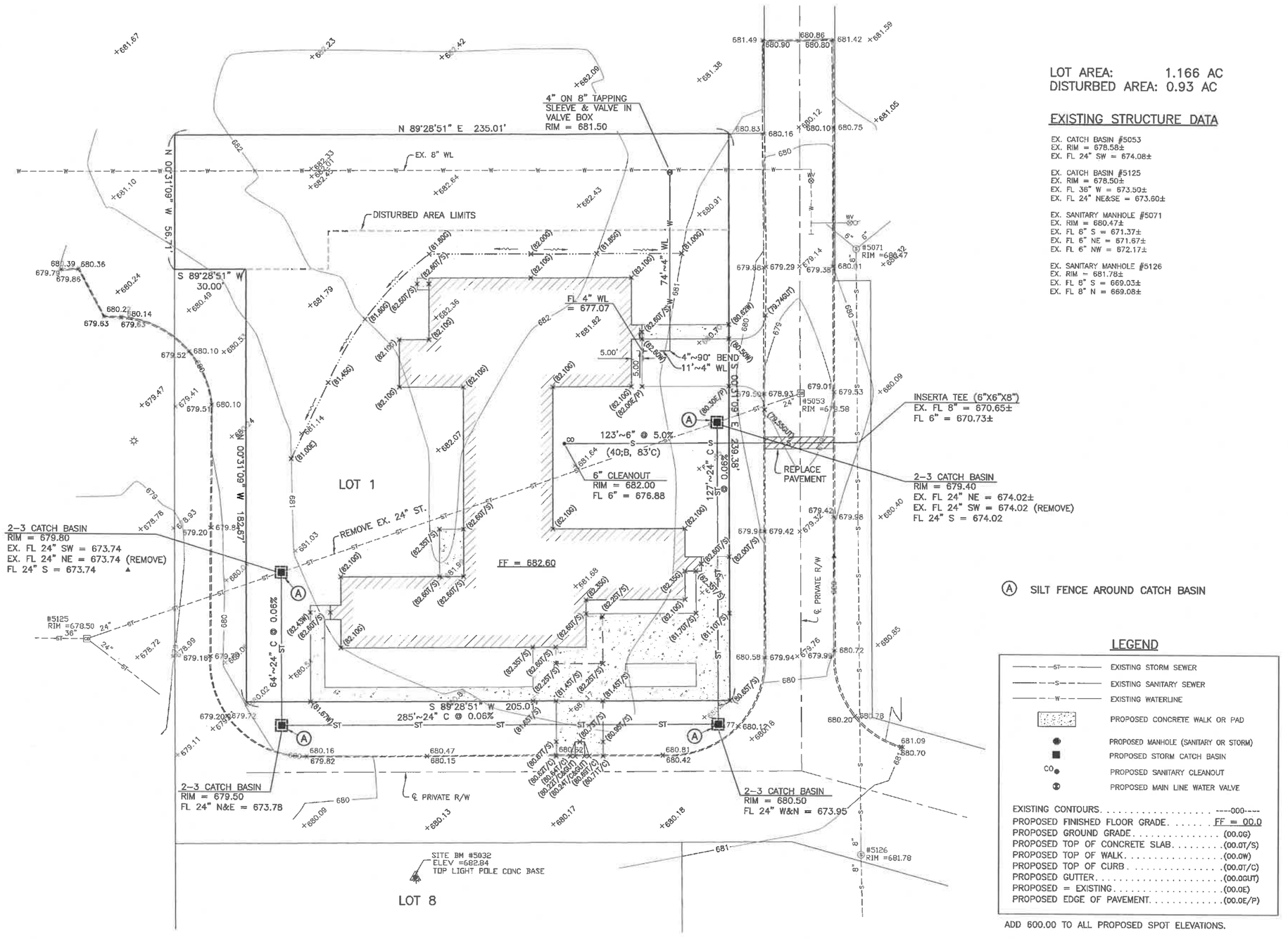
Simmons.



LOT AREA: 1.166 AC
DISTURBED AREA: 0.93 AC

EXISTING STRUCTURE DATA

EX. CATCH BASIN #5053
EX. RIM = 678.58±
EX. FL 24" SW = 674.08±

EX. CATCH BASIN #5125
EX. RIM = 678.50±
EX. FL 36" W = 673.50±
EX. FL 24" NE&SE = 673.60±

EX. SANITARY MANHOLE #5071
EX. RIM = 680.47±
EX. FL 8" S = 671.37±
EX. FL 8" NE = 671.67±
EX. FL 8" NW = 672.17±

EX. SANITARY MANHOLE #5126
EX. RIM = 681.78±
EX. FL 8" S = 669.03±
EX. FL 8" N = 669.08±

Ⓐ SILT FENCE AROUND CATCH BASIN

LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERLINE
- PROPOSED CONCRETE WALK OR PAD
- PROPOSED MANHOLE (SANITARY OR STORM)
- PROPOSED STORM CATCH BASIN
- PROPOSED SANITARY CLEANOUT
- PROPOSED MAIN LINE WATER VALVE

EXISTING CONTOURS. . . . . ----000----
PROPOSED FINISHED FLOOR GRADE. . . . . FF = 00.0
PROPOSED GROUND GRADE. . . . . (00.0G)
PROPOSED TOP OF CONCRETE SLAB. . . . . (00.0T/S)
PROPOSED TOP OF WALK. . . . . (00.0W)
PROPOSED TOP OF CURB . . . . . (00.0T/C)
PROPOSED GUTTER. . . . . (00.0GUT)
PROPOSED = EXISTING. . . . . (00.0E)
PROPOSED EDGE OF PAVEMENT. . . . . (00.0E/P)

ADD 600.00 TO ALL PROPOSED SPOT ELEVATIONS.

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Fax: (419) 893-2982
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NORTH

REVISION	DATE

TITLE: GRADING & UTILITY PLAN

PROJECT: A RENEWED MIND SITE PLAN
CITY OF NAPOLEON, HENRY COUNTY, OHIO

SIGNED
DATE
SCALE: 1" = 20'
DATE: 9-8-16
DRAWN BY: DEM
DESIGN: DRK CHECK: DRK
PROJECT: 10E08286
DRAWING: 10-08286GS00A2
SHEET 2 OF 7

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RECORD DRAWINGS

1. The CONTRACTOR shall keep one (1) record copy of all Specifications, Drawings, Addenda, Change Orders and Shop Drawings at the project site in an approved location. These record documents shall be annotated by the CONTRACTOR to show all changes made during the construction process and to note and accurately locate all existing underground utilities encountered during construction, whether shown on the drawings or not. The record documents shall be kept current, and shall be available to the AUTHORIZED REPRESENTATIVE for inspection at all times.
2. The record documents shall be properly labeled, kept in a clean, dry and legible condition, with the CONTRACTOR to provide files and racks for storage, and shall not be used for construction purposes.
3. Prior to Final Payment, the CONTRACTOR shall deliver the record documents to the AUTHORIZED REPRESENTATIVE with certification that each document as submitted.

TESTING LABORATORIES

1. The laboratories utilized by the OWNER and CONTRACTOR shall be recognized and independent commercial laboratories with experience in conducting the required tests.
2. Certified test results shall be binding on both the CONTRACTOR and the OWNER and shall be considered irrefutable evidence of compliance or non-compliance with the specification requirements, unless supplementary testing shall prove the initial samples were not representative of actual conditions.
3. The OWNER shall employ the laboratory and bear the expense of the laboratory for the tests within the limits as subsequently defined. The CONTRACTOR shall bear the expense for repetitious testing required outside of the limits set forth in the schedule below, and for any excavating or backfilling required to perform the tests and retests.
4. The Contractor is responsible for having the asphalt and concrete mix designs performed. Recent mix designs by either a certified testing laboratory or the Ohio Department of Transportation will be acceptable.
5. The laboratory shall take a compaction test at the rate specified for each item and will perform retests up to a maximum of twenty-five (25) percent of the total number of tests required for the project. Additional retests shall be at the expense of the CONTRACTOR.
6. A nuclear density meter shall be used for all compaction tests.

SOIL BORINGS

1. Soil borings were taken for this project.
2. The OWNER shall make one (1) set of soil boring logs and the report available for review purposes only. The CONTRACTOR may, at his own expense, obtain a copy of the report from the firm utilized.

CONSTRUCTION LAYOUT STAKES AND BENCHMARKS

1. The OWNER has established site bench marks. Said bench marks are shown on the drawings.
2. The OWNER has established initial general reference points (P.K. nails, property pins, etc.) along the line of construction, as shown on the drawings.
3. The CONTRACTOR shall protect and preserve all established bench marks and reference points. Whenever any bench mark or reference point is lost or destroyed or requires relocation, the CONTRACTOR shall, at his own expense, replace and accurately relocate all bench marks and reference points so lost, destroyed, and moved.
4. The CONTRACTOR shall provide field forces necessary to lay out the location, alignment, elevation, and grade of the Work shown on the drawings or as altered or modified by the AUTHORIZED REPRESENTATIVE.
5. The CONTRACTOR shall employ a professional engineer or surveyor registered in the State of Ohio to supervise the layout Work.
6. Any inspection or checking of the CONTRACTOR'S layout by the AUTHORIZED REPRESENTATIVE and the acceptance of all or any part of it shall not relieve the CONTRACTOR of his responsibility to secure the proper dimensions, grades, and elevations of the Work in accordance with these contract documents.

TRAFFIC MAINTENANCE

1. The CONTRACTOR shall maintain traffic in accordance with ODOT items 104.04, 107.07 and 614, for local traffic, as subsequently modified.
2. Temporary traffic control devices including, but not limited to, temporary pavement markings, detour markings and flaggers, where required, shall be placed as directed by the AUTHORIZED REPRESENTATIVE and shall be included in the lump sum cost of Traffic Maintenance. Such devices are not shown on the plans.
3. Unless otherwise approved by the AUTHORIZED REPRESENTATIVE, no closures will be permitted without a minimum of forty-eight (48) hour notice.

CLEARING AND GRUBBING

1. Clearing and grubbing shall be performed in accordance with ODOT item 201, except tree removal shall be the only pay item and, in locations to be seeded, stumps shall be removed to a minimum of twelve (12) inches below the finished grade.
2. State and local code requirements shall control the disposal of debris resulting from the clearing and grubbing operation.
3. Materials shall not be hauled to the City of Napoleon Yard Waste Facility without the written consent of the AUTHORIZED REPRESENTATIVE.
4. The OWNER reserves the right to remove, sell, or retain possession of any trees or shrubs designated for removal.
5. The CONTRACTOR shall scalp and stockpile all topsoil prior to commencing with any excavation for improvements, as directed by the AUTHORIZED REPRESENTATIVE.

PROTECTION

1. Streets, roads, adjacent property, and other works to remain shall be protected against damage throughout the Work.
2. At all times, the CONTRACTOR shall remain within the Work limits, property lines, and/or easement areas.

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

1. The removal of structures and obstructions shall be in accordance with ODOT item 202, accepted and modified as subsequently specified.

PAVEMENTS, WALKS, CURBS AND DRIVES

1. Unless otherwise included as a pay item, removal of existing pavements, walks, curb and drives, as required to complete the proposed improvements, shall be included in the unit price for excavation or installation of the proposed improvements. All asphalt grindings shall remain the property of the OWNER, unless otherwise agreed upon in writing, and shall be transported to a site designated by the AUTHORIZED REPRESENTATIVE.
2. Replacement of such items, where required, shall be paid at the unit prices included within the Agreement.

PIPELINES AND SEWERS

1. Pipes designated on the plans as "To Be Removed" or marked with an "X" shall be completely removed. All exposed ends of pipes left in place shall be sealed and made watertight. Removal of existing piping located in the same trench as proposed piping shall be considered incidental to the installation of the proposed piping. Only piping that requires separate excavation shall be paid as "Pipe Removal". All select or granular backfill material shall be included in the cost of "Pipe Removal".
2. When pipes are encountered in excavation and are determined by the AUTHORIZED REPRESENTATIVE to be inactive, they shall be sealed and made watertight at the ends where broken.
3. Approved precast stoppers or masonry bulkheads shall be used to seal and make watertight the ends of the pipes specified above.
4. When a pipe is designated as "Remove and Replace", the Work shall include removing, cleaning, repairing existing damaged ends, and relaying the pipe to the same grade or to the grades specified on the drawings or as directed by the AUTHORIZED REPRESENTATIVE. All pipe shall be carefully removed and every precaution taken to avoid breaking or damaging the pipe. The CONTRACTOR will be required to replace, at no cost to the OWNER, sections lost or damaged by negligence or by the use of improper methods.
5. All trenches, holes, and pits resulting from the removal and abandonment of any structure or obstruction shall be backfilled and compacted in accordance with the requirements of Article 7 of these Project Specifications.

FIELD TESTING (MINIMUM)

1. Embankment – One (1) test for every 700 cubic yards of embankment material.
2. Trench Backfill – One (1) test for every 200 cubic yards of backfill material.
3. Structural Backfill – One (1) test for every 100 cubic yards of backfill material.
4. Subgrade Compaction – One (1) test for every 300 square yards of subgrade.
5. If directed by the AUTHORIZED REPRESENTATIVE, additional tests shall be performed for any of the above.
6. If any of the previous tests indicate insufficient values, additional tests shall be performed in a manner directed by the AUTHORIZED REPRESENTATIVE. Testing shall continue until the specified values have been attained. Retests shall be referenced to the corresponding failing test.
7. When excess excavated material is disposed of at locations off the project, the CONTRACTOR shall obtain and submit to the AUTHORIZED REPRESENTATIVE written permission from the owner of the property upon which the debris is to be placed.

TEST PITS

1. The CONTRACTOR shall dig such exploratory test pits as may be necessary in advance of excavation to determine the exact location and elevation of sub-surface structures, pipelines, cables, and conduits which are likely to be encountered and shall make acceptable provision for their protection, support, and maintenance in operation.
2. Underground utilities, including, but not limited to, storm sewers, sanitary sewers, water mains, gas mains, electric, telephone and cable are shown in their approximate alignment and depth on the contract drawings. It is the responsibility of the CONTRACTOR to verify the exact location and depth prior to commencing the WORK.
3. The CONTRACTOR shall contact the Ohio Utilities Protection Service (OUPS) at least forty-eight (48) hours prior to commencing with any excavation.

GENERAL EXCAVATION

1. All necessary excavation shall be performed to accommodate the completion of all related contract Work.
2. The drawings show the horizontal and the lower bounding planes of structures. Excavation shall not be carried below the neat bottom limits established on the drawings as being the bottom plane or planes of structures. The methods and equipment used by the CONTRACTOR when approaching the bottom limits of excavation and when trimming up the bottom of the excavation to a smooth surface shall be selected to prevent disturbing the soil below the bottom limits of excavation.
3. Excavation which is carried below the bottom limits of structures shall be classified as unauthorized excavation, unless said excavation below bottom limits of structures has been authorized by the AUTHORIZED REPRESENTATIVE prior to each occurrence.
4. Unauthorized excavation shall be filled with ODOT Item 499 Class F concrete up to the bottom limits of structures. Under circumstances where structural integrity is not a factor, the AUTHORIZED REPRESENTATIVE may authorize the filling of unauthorized excavation with special backfill or selected excavated material. When special backfill or selected excavated material is permitted, the CONTRACTOR shall compact said materials to 100% density, as specified under compaction requirements.

EXCAVATION, INCLUDING EMBANKMENT CONSTRUCTION

1. The Price for excavation, including embankment construction, shall constitute full compensation for furnishing all labor, materials, tools, equipment and services necessary for roadway excavation, including embankment construction. Trench and structural excavation and backfill are not included for payment under this Item but are considered incidental to the pertinent Contract Items. Embankment construction is not a separate pay item but is considered incidental to this item.

   For the proposed layout, the quantities to be paid for under this item shall be Quantity for this project. No additional measurement or calculations will be made for this item. If the proposed layout is revised to either decrease or increase the quantity then, as applicable, the difference in volume shall be either added or subtracted from the above volumes to get the final quantity for this Item. For unsuitable material, an additional quantity of Add'l Qty has been added for this project. The above quantities may differ substantially from these amounts and no claim for additional compensation will be accepted from the Contractor for not using these quantities or for increasing and decreasing them.

   For revisions and unsuitable materials, the quantity to be paid for under this Item will be the number of cubic yards of material in the original position, acceptably excavated, measured by the method of average end areas. When it is impractical to measure material by the cross-section method, acceptable methods involving three-dimensional measurements shall be used. Excavation outside of plan lines shall not be included in measurement for payment. The removal of the existing material for the placement of topsoil is not included in the measurement for payment under this Item but is considered incidental to.

TRENCHING

1. Excavation for trenches in which pipelines and sewers are to be installed is to be such as to provide adequate space for workmen to place and joint the pipe properly, but in every case the trench shall be kept to a minimum width. The width of trench at the top of the pipe twenty-four (24) inches or less in diameter shall not exceed maximum allowable trench widths as outlined in the table in Granular Backfill of these specifications, measured to the face of the trench or to the back of the sheeting. For pipe larger than twenty-four (24) inches, the width of trenches at the top of the pipe shall not exceed the nominal diameter of the pipe plus eighteen (18) inches on each side of the pipe.
2. Whenever the maximum allowable trench width (below the level of the top of the pipe) is exceeded for any reason, the OWNER or the AUTHORIZED REPRESENTATIVE reserves the right to direct the CONTRACTOR to utilize pipe of greater strength, to modify the type of backfill, to embed the pipe in concrete, or to utilize a combination of these procedures, all at the expense of the CONTRACTOR.
3. Excavation shall be carried to a depth of not less than one-eighth (1/8) of the outside diameter of the pipe being installed or six (6) inches below the bottom of the pipe bell when laid on its final grade, whichever is greater. All bedding stone shall be included in the unit cost for the pipe. If excavation proceeds beyond the required depth, the trench bottom shall be brought back to grade with compacted granular bedding material at the expense of the CONTRACTOR.
4. In case the depth of the pipe or sewer is changed, not to exceed one (1) foot, or it becomes necessary to remove unsuitable material at the direction of the AUTHORIZED REPRESENTATIVE in an amount not to exceed one (1) foot, the same shall be done at the contract bid price. When the depth of the pipe or sewer is raised or lowered more than one (1) foot, or if it becomes necessary to remove more than one (1) foot of unsuitable material below the bottom of the trench, compensation will be made to the CONTRACTOR at the contract unit price for additional excavation.
5. The amount of trench open at any one time in advance of completed Work shall be limited to the minimum necessary for conducting pipe laying operations.
6. In general, backfilling shall begin as soon as the conduit is in an approved condition to receive it and shall be carried to completion as rapidly as possible. New trenching shall not be started when earlier trenches need backfilling or the surfaces of streets or other areas need to be restored to a safe and proper condition.

REMOVAL OF WATER

1. The CONTRACTOR shall at all times during construction provide and maintain ample means and devices with which to remove promptly and dispose of properly all water entering the excavations or other parts of the Work and shall keep said excavations dry until the structures to be built therein are completed. No water shall be allowed to rise over or come in contact with concrete or masonry until the concrete and the masonry mortar has attained design strength. In water bearing sand, well points and/or sheeting shall be supplied together with pumps and other appurtenances of ample capacity to keep the excavation dry.
2. The CONTRACTOR shall dispose of water from the Work in a suitable manner without damage to adjacent property or structures. No water shall be drained into Work built or under construction.

BACKFILL

1. Unless otherwise noted on the plans or in the specifications backfill material shall consist of materials excavated on the site which is free of stones exceeding three (3) inches in maximum dimension, organic material, marl, masonry, roots, and other debris.
2. Service connections shall not be backfilled until the pipe ends are referenced as shown on the plans and the AUTHORIZED REPRESENTATIVE has measured the pipe for payment.
3. Unless other protections of the pipe are directed by the AUTHORIZED REPRESENTATIVE, all trench and manhole excavations shall be backfilled immediately after the pipe is laid therein. No backfill shall be placed against any structural elements until they have been approved by the AUTHORIZED REPRESENTATIVE.
4. The backfill material shall be deposited in horizontal layers of no greater than six (6) inches in depth and each layer shall be thoroughly compacted to the proper density by approved compaction equipment before a succeeding layer is placed. In no case will backfill material from a bucket be allowed to fall directly on a pipe or structure, and in all cases the bucket shall be lowered so that the shock of the falling will not cause damage to the pipe.
5. All pipe shall be bedded in compacted granular bedding material meeting ODOT No. 8 or 67 as defined in Table 703.01-1 Sizes of Coarse Aggregates. The bedding shall be placed completely under the pipe haunches in uniform layers. Each layer shall be placed carefully and uniformly tamped so as to eliminate the possibility of lateral and vertical displacement of pipe. Pipe embedment shall extend from a minimum six (6) inches below the pipe to a minimum of six (6) inches above the top of pipe.
6. Unless otherwise specified, all backfill material shall be compacted to a minimum of ninety (90) percent of the maximum density as determined by the Standard Proctor Test.

GRANULAR BACKFILL

1. Granular backfill material shall conform to the requirements of ODOT Item 304, as subsequently modified, and shall be mechanically processed material of uniform gradation. The direct use of material from a pit and/or material mixed with construction equipment is prohibited.
2. The use of foundry sand, granulated slag, or material from any industrial process is prohibited.
3. Granular backfill material shall be placed to the full depth of excavation, minus pipe embedment and aggregate base, in all instances where the excavation is located under the limits of existing or proposed pavements, sidewalks, driveways and structures.
4. Excavation located within the area of influence of pavements, sidewalks, driveways and structures, as determined by extending a line from the edge of the pavement, sidewalk, driveway or structure downward at an angle of forty-five (45) degrees, shall be backfilled with granular material to within one (1) foot of the finished grade.
5. Granular backfill material, including pipe embedment, shall be compacted to a minimum of ninety-eight (98) percent of the maximum density as determined by the Standard Proctor Test.
6. For the purpose of establishing limits for the payment of items based upon trench width, the maximum allowable trench width at the top of the pipe shall be as listed below:

Maximum Allowable Trench Width for Pay Quantities	
Pipe Diameter	Trench Width
6" or smaller	2'-6"
8"	3'-0"
10"	3'-0"
12"	3'-0"
15"	3'-3"
18"	3'-6"
21"	3'-9"
24"	4'-0"

BACKFILL AROUND STRUCTURES

1. In backfilling around structures, all lumber, rubbish, braces, and refuse shall be removed from behind the walls before backfilling is started.
2. No large pieces of rock or masonry shall be deposited closer than twenty-four (24) inches from the completed outside surface of any structure.
   a) Excavations for structures such as manholes, chambers, catch basins, curb inlets, etc., shall be backfilled with granular material meeting the gradation and compaction requirements.
   b) The limits for the payment of granular backfill around structures shall be based upon an average distance of eighteen (18) inches from the outside of the structure.

EMBANKMENT MATERIAL

1. Ground areas which will receive embankments shall be cleared, grubbed, scalped, and the topsoil shall be stripped and stockpiled in accordance with Article 5 of these Project Specifications.
2. After stripping and prior to placing the first layer of embankment, embankment areas accessible to approved compaction equipment shall be compacted to the same degree as the material which is placed thereon. If compaction cannot be obtained on native material, it shall be removed as directed by the AUTHORIZED REPRESENTATIVE and replaced with suitable embankment material.
3. Material for embankments shall consist of suitable material excavated on the site that can be readily incorporated into an eight (8) inch layer. Muck, frozen material, roots, sod, or other deleterious materials shall not be placed in embankments nor shall embankments be placed on frozen material. The top two (2) feet of highway or street embankment shall be constructed of material which does not contain stones, rocks, or masonry. Suitable material for this upper two (2) feet shall be reserved by the CONTRACTOR.
4. Embankment material shall consist of soil, granular material, shale, rock, or random material. Soil is suitable for use in embankment provided that it has the following characteristics:
   a) Maximum laboratory dry weight shall not be less than ninety (90) pounds per cubic foot, except that soils having maximum dry weights of less than one hundred (100) pounds per cubic foot shall not be used in the top twelve (12) inches of embankment subgrade.
   b) Frost heave textured materials shall not be placed in the top three (3) feet of embankment below subgrade. Frost heave textured material is defined as material containing more than fifty percent (50%) silt with a plasticity index less than ten (10). Silt is defined as material having a particle size of 0.074 to 0.005 mm.
5. Embankments shall be constructed in eight (8) inch horizontal layers and each layer shall be thoroughly compacted to meet the requirements of ODOT Item 203.12 before a succeeding layer is placed.

STRIPPING, STOCKPILING & SPREADING TOPSOIL

1. Areas which are to be excavated, to receive new construction, or to be recontoured for finish grade shall be stripped of topsoil to a depth per the soil tests, as directed by the AUTHORIZED REPRESENTATIVE. Prior to stripping operations, the CONTRACTOR shall clear the area.
2. Stripped topsoil shall be stored in piles in a location, as determined by the AUTHORIZED REPRESENTATIVE.
3. Leaving sufficient depth for the placement of topsoil, the CONTRACTOR shall grade the areas to be covered with topsoil parallel to the existing finished grade as shown on the drawings or as directed by the AUTHORIZED REPRESENTATIVE. The entire Work area shall then be plowed to a depth of twelve (12) inches and disked to eliminate surface lumps. These areas shall be free of rock or other material of three (3) inches or greater in any dimension.
4. Immediately prior to being covered with the topsoil, the graded area shall be raked or otherwise loosened to a depth of one (1) inch.
5. After the AUTHORIZED REPRESENTATIVE has approved the condition and contours of the grade, the CONTRACTOR shall transport and spread topsoil to a minimum of three (3) inches in thickness. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the Work.
6. After all of the available topsoil has been stockpiled, the CONTRACTOR shall determine the volume and the area which can be covered with the stockpiled material. If insufficient volumes are obtained, the CONTRACTOR shall furnish the remaining volume of topsoil at his expense.

FINE GRADING

1. The final surfaces shall be graded to the satisfaction of the AUTHORIZED REPRESENTATIVE and shall have a final smooth surface which drains properly and is free of high spots, depressions, clods, stones, and rubbish.

DISPOSAL OF EXCESS EXCAVATED MATERIAL

1. All surplus or unsuitable excavated material not required on the project shall be disposed of by the CONTRACTOR at his own expense outside the limits of the project.

PROPERTY PINS AND MONUMENTS

1. All property pins and monuments, noted on the plans or located in the field, disturbed, lost, or destroyed shall be replaced by a registered surveyor at the CONTRACTOR'S expense.

PROTECTION OF EXISTING UTILITIES

1. All utilities, when encountered, shall be adequately supported, shored up or otherwise protected whenever exposed in the excavation. Timber supports shall be a minimum of six (6) inches square. Supports shall extend into undisturbed earth a minimum of twelve (12) inches each side of the trench and the pipe, conduit, etc., banded or tied to the bridging for its full length.
2. Where bridging cannot be supported by a firm foundation, the CONTRACTOR shall provide vertical support for the bridging, including any lateral bracing necessary to provide a firm and substantial support.
3. Supports, bracing, etc. shall be of native hardwood and shall be provided at the expense of the CONTRACTOR.

SAW CUTTING OF PAVEMENTS

1. All saw cutting of pavements shall be included in the unit price bid for the appurtenant item.

SANITARY PVC PIPE

1. Polyvinyl chloride (PVC) sanitary sewers, fifteen (15) inch and smaller, shall conform to ASTM Specification D3034 and have a standard dimension ratio (SDR) not greater than thirty-five (35).
2. PVC sanitary sewers eighteen (18) inch and larger shall meet ASTM F679.
3. All PVC sanitary sewer pipe shall have a minimum pipe stiffness of forty-six (46) psi at five (5) percent deflection.
4. PVC sewer pipe shall have an integral bell and joints shall be "premium" gasketed joints meeting the requirements of ASTM D3212 to provide a watertight seal and shall be made in accordance with the manufacturer's recommendations.
5. PVC sewer pipe utilized for sanitary sewers shall be colored green for in-ground identification as sanitary sewer.
6. PVC sewer pipe fittings shall be heavy-duty fittings from GPK Products, Inc. or Vassalio Industries (no substitutes).
7. At the end of all fittings, premanufactured tees, etc. of all installations with ribbed pipe, the final fitting at the plug shall be SDR 35 compatible. The cost of all extra fittings for ribbed pipe shall be the responsibility of the CONTRACTOR and will not be an extra pay item. All adapters necessary for the proper installation of ribbed pipe to a manhole shall be paid for on the same per lineal foot basis as the diameter of the pipe and will not be an extra pay item.

INSPECTION AND REJECTION

1. The OWNER reserves the right to, at any time, have sections of the pipe furnished on the project subjected to testing by an independent testing laboratory selected by the OWNER for certification that the pipe meets the requirements of the specifications. Pipe of the size tested and not meeting the requirements of the specifications shall be rejected, removed from the project and replaced with suitable pipe materials at the expense of the CONTRACTOR.

SANITARY SEWER PIPE LAYING

1. The pipe shall be laid after the trench bottom is properly prepared including the placement and compaction of bedding materials. The laying of pipe in finished trenches shall be commenced at the lowest point, with the bell end or groove end laid upgrade. All pipe shall be laid with ends abutting and true to line and grade. They shall be carefully centered so that when laid they will form a sewer with a uniform invert and laid accurately to the line and grade shown on the drawings.
2. Preparatory to making pipe joints, all surfaces of the portions of pipe to be jointed or of factor made jointing material shall be clean and dry. Lubricants, primers, adhesives, etc., shall be used as recommended by the pipe or joint manufacturer's specifications. The jointing material or factory fabricated joints shall then be placed, fitted, jointed, and adjusted in such a manner as to obtain a watertight joint.
3. Trenches shall be kept water free and as dry as possible during bedding, laying, and jointing. As soon as possible after the joint is made, sufficient backfill material shall be placed along each side of the pipe to prevent movement of the pipe from any cause.
4. All pipe shall be laid to lines and grades by means of laser beams unless otherwise approved by the AUTHORIZED REPRESENTATIVE.
5. Special care shall be exercised to prevent the entrance of earth or debris into the pipeline connecting with a manhole. All such earth or debris resulting from construction operations shall be removed from the pipeline.
6. All bedding stone shall be included in the unit cost for the pipe.

SANITARY SERVICE CONNECTIONS

1. Sanitary connections shall be six (6) inch PVC meeting the requirements stated in SANITARY PVC PIPE of these Project Specifications, unless otherwise shown, and shall be installed for the businesses. Locations and depths of service connections, where shown on the drawings, are approximate only. Final locations will be established at the time of construction.
2. Where service connections are to be installed to the property line, the pipe shall be installed true to line and on at least a two percent (2%) grade. Except where otherwise specifically required or permitted by the AUTHORIZED REPRESENTATIVE, service connections shall be installed in open cut. The requirements for construction shall, in all respects, comply with those specified in this Item for main sewers.
3. In general, riser sections will be required between the main line sewer connection and that portion of the service connection installed at a one percent (1%) grade. Where depths to the main sewer invert exceed twelve (12) feet, the riser shall be fixed in place for its full height by providing thoroughly tamped pipe embedment and controlled density fill (CDF) material as shown in detail on the drawings.
4. The cost of furnishing and installing service connections shall be paid for on a price per lineal foot basis, installed complete, and shall be for risers and for that portion on a two percent (2%) grade. Lengths shall include the lengths of fittings laid in the service connection, and shall be the length from the connection to the main sewer to the end of the newly installed service connection.

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NO.	REVISION	DATE

TITLE: NOTES

PROJECT: A RENEWED MIND SITE PLAN
CITY OF NAPOLEON, HENRY COUNTY, OHIO

SIGNED
DATE
SCALE: 1" = 20'
DATE: 9-8-16
DRAWN BY: DEM
DESIGN: DRK CHECK: DRK
PROJECT: 10E08286
DRAWING: 10-08286GS00A2

SHEET 3 OF 7

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5. The ends of service connections and the fittings in the main sewer shall not be backfilled until the location is referenced in accordance with the service connection location reference detail on the drawings or as approved by the AUTHORIZED REPRESENTATIVE.

CONNECTIONS TO SANITARY STRUCTURES AND PIPES

1. When required, the new sewers shall be connected to structures through stubs, wall castings, wall sleeves, etc. provided for same or an opening shall be made at the proper elevation in the wall of the structure.
2. Where possible, a full length of pipe shall be inserted into the structure.
3. All connections shall be made watertight by means of a Kor-N-Seal Boot Assembly, or approved equal.
4. Where necessary, the bottoms of existing structures shall be reshaped to give a smooth flow in all directions.
5. Connections to unlike types and sizes of pipe shall be accomplished using the proper adapter and/or connector as manufactured by Fernco, Inc.; Joints, Inc.; or approved equal.

SANITARY SEWER DEFLECTION TESTING

1. All PVC sanitary sewers, eight (8) inch and larger, shall be tested for deflection.
2. The horizontal and vertical deflection shall not exceed five (5) percent of the base inside pipe diameter due to the imposed loads.
3. If available, electronic equipment shall be used to measure the deflection. If such equipment is not available, deflection tests may be run by the use of rigid balls or mandrels, having diameters equal to ninety-five (95) percent of the base inside diameter of the pipe, pulled through the sewer line. If rigid balls or mandrels are used, tests shall be performed without mechanical pulling devices.
4. All sewer pipe exceeding the maximum allowable deflection shall be replaced at the CONTRACTOR'S expense.
5. All deflection tests shall be performed in the presence of the AUTHORIZED REPRESENTATIVE and at the expense of the CONTRACTOR.
6. The deflection tests shall be run not less than thirty (30) days after backfill has been placed and shall be completed before the sewer is put into service, unless otherwise directed by the AUTHORIZED REPRESENTATIVE.

SANITARY SEWER LEAKAGE TESTING (INCLUDING MANHOLES)

1. All sewers shall be constructed with tight joints and shall be tested for leakage as subsequently described.
2. Where sewers are constructed below the ground water table they shall be inspected for leakage at all joints. In small diameter sewers, this may be done by lamping between manholes or by the use of a camera. In sewers large enough for entry of workmen, the joints shall be inspected from the inside of the pipe. Any joints that are leaking, or where water is jetting through shall be repaired. Sewers shall be uncovered, if ordered by the AUTHORIZED REPRESENTATIVE, and the faulty joints repaired from the outside.
3. At a time selected by the AUTHORIZED REPRESENTATIVE, after the sewers have been visually inspected and all observed leakage stopped, air tests shall be conducted between two (2) consecutive manholes.
4. Prior to conducting air tests on air permeable pipe, the walls of the pipe shall be dampened. Dampening of the pipe walls and obstruction testing may be accomplished at the same time by propelling a snug fitting inflated ball or other approved device through the pipe with water.
5. Each end of the section to be tested and all pipe outlets in the section shall be plugged with suitable test plugs. One (1) plug used at a manhole shall have an inlet tap or other provision for connecting an air hose from the air supply equipment. The equipment shall include valves to control the rate at which air flows into the test section and pressure gauges with minimum graduations of 0.1 psi and an accuracy of ±0.04 psi to monitor the air pressure within the test section.
6. Air pressure shall be applied slowly to the test section until the pressure reaches four (4) psi, plus an adjustment of 0.433 psi for each foot of ground water above the crown of the pipe being tested. Internal air pressure, including adjustment for ground water, should never exceed 5.0 psi.
7. When the pressure reaches 4.0 psi, plus the adjustment for ground water, the air supply shall be throttled so that the internal pressure is maintained between 4.0 and 3.5 psi for at least two (2) minutes to permit temperature stabilization. When the pressure has stabilized and is at or above 3.5 psi, the air supply shall be disconnected and a stop watch started and allowed to run until the pressure has dropped 1.0 psi.
8. The permissible time allocated for the 1.0 psi pressure drop shall be calculated on the basis of the diameter and length of main sewer tested and no adjustment shall be made for service connections included in the test section. The air test for a section shall be considered acceptable if the time elapsed for the 1.0 psi pressure drop is equal to or greater than the time indicated, and shall be considered unacceptable if the elapsed time is less than that indicated in the following table:

MINIMUM HOLDING TIME REQUIRED FOR 1.0 PSI PRESSURE DROP *

Pipe Diameter	Minimum Time	Specification Time for Length Shown (min:s)							
(in.)	(min:s)	100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
8	7:34	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	14:10	14:10	17:48	**22:15**	26:42	31:09	35:36	40:04
18	17:00	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	19:50	26:10	34:54	43:47	52:21	61:00	69:48	78:31
24	22:40	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	28:51	43:16	**57:41**	72:07	86:32	100:57	115:22	129:48
30	28:20	35:37	53:25	**71:13**	89:02	106:50	124:38	142:26	160:15
33	31:10	43:05	64:38	**86:10**	107:43	129:16	150:43	172:21	193:53
36	34:00	51:17	76:55	102:34	**128:12**	**153:50**	179:29	205:07	230:46

9. The CONTRACTOR may air test sections before backfilling the trench as a check for defects and workmanship. Such tests are at the option of the CONTRACTOR and are not a substitute for tests required after backfilling has been completed.
10. The air test may be dangerous if, because of ignorance or carelessness, a line is improperly prepared. It is extremely important that the various plugs be installed and braced in such a way as to prevent blowouts. Inasmuch as a force of 250 pounds is exerted on an eight (8) inch plug by an internal pipe pressure of five (5) psi, it should be realized that sudden expulsion of a poorly installed plug or of a plug that is partially deflated before the pipe pressure is released can be dangerous. No one shall be allowed in the manholes during testing.
11. As a safety precaution, pressurizing equipment should include a regulator set at ten (10) psi to avoid over-pressurizing and damaging an otherwise acceptable line.
12. For sewers greater than thirty-six (36) inches in diameter, the pipe supplier and manufacturer shall be consulted for proper testing procedures.
13. Manholes will be subject to visual inspection with all visual leaks being repaired.
14. Each manhole shall be tested after assembly and after all lift holes have been plugged with an approved non-shrink grout, and, at the option of the Contractor, before or after backfilling is completed. Testing shall be in accordance with ASTM C-1244 by drawing a vacuum on the manhole using equipment specifically designed for such testing. All pipes entering the manhole shall be plugged and braced to prevent being drawn into the manhole. A test head with necessary gauges and connections shall be placed at the inside of the top of the cone section and sealed in accordance with the manufacturer's instruction. A vacuum of ten (10) inches of mercury shall then be drawn and the vacuum pump shut off. With valves closed, the time shall be measured for the vacuum to drop to nine (9) inches. The test shall be successful if the time measured meets or exceeds the values indicated in the following table:

MINIMUM TEST TIMES IN SECONDS

MANHOLE DEPTH	MANHOLE DIAMETER		
	48"	60"	72"
8'	20	26	33
10'	25	33	41
12'	30	39	49
14'	35	46	57
16'	40	52	65
18'	45	59	73
20'	50	65	81
22'	55	72	89
24'	59	78	97
26'	64	85	105
28'	69	91	113
30'	74	98	121

FIELD DRAIN, SEWER AND WATERLINE CROSSINGS

1. When a proposed sanitary sewer crosses under an existing storm sewer, sanitary sewer or field drain, the entire trench area under the existing sewer or field drain shall be backfilled with granular bedding material to the top of the existing sewer or field drain.
2. When a proposed sanitary sewer crosses an existing water main, the water main shall be relocated as shown in detail on the plans or the sanitary sewer shall be encased in concrete for a distance not less than ten (10) feet either side of the water main, per the detail on the plans. Concrete encasement shall be Class C, as defined in Article 13.
3. Whenever sewers cross within four (4) inches or less of each other, two (2) inches of Dow blue styrofoam shall be placed between them as directed by the AUTHORIZED REPRESENTATIVE.

CORRUGATED POLYETHYLENE STORM PIPE

1. Corrugated polyethylene pipe shall be N-12 pipe conforming to either ASTM Specification F405 or F667 as manufactured by Advanced Drainage Systems, or approved equal.
2. The corrugated polyethylene pipe shall have a full circular cross section with annular corrugations.
3. All corrugated polyethylene fittings shall be molded and bell and spigot style.
4. Corrugated polyethylene pipe shall have an integral bell and joints shall be "premium" gasketed joints to provide a watertight seal. Joints shall be made in accordance with the manufacturer's recommendations.

REINFORCED CONCRETE STORM PIPE

1. Reinforced concrete pipe shall meet the requirements of ODOT Item 706.02 and 706.04, as applicable, except that the pipe shall be C76, Class III, unless otherwise noted on the plans.
2. Reinforced concrete pipe shall have "premium" gasketed joints to provide a watertight seal and shall be installed in accordance with the manufacturer's recommendations.

PVC STORM PIPE

1. Polyvinyl chloride (PVC) storm sewers, fifteen (15) inch and smaller, shall conform either to ASTM Specification D3034 with a standard dimension ratio (SDR) not greater than thirty-five (35).
2. PVC storm sewers eighteen (18) inch and larger shall meet ASTM F679.
3. PVC sewer pipe shall have an integral bell and joints shall be "premium" gasketed joints to provide a watertight seal and shall be made in accordance with the manufacturer's recommendations.
4. At the end of all fittings, premanufactured tees, etc. of all installations with ribbed pipe, the final fitting at the plug shall be SDR 35 compatible. The cost of all extra fittings for ribbed pipe shall be the responsibility of the CONTRACTOR and will not be an extra pay item. All adapters necessary for the proper installation of ribbed pipe to a manhole shall be paid for on the same per lineal foot basis as the diameter of the pipe and will not be an extra pay item.

STORM SERVICE CONNECTIONS

5. Storm service connections shall be six (6) inch PVC pipe meeting the requirements stated in Article 9.7 of these Project Specifications, unless otherwise shown, and shall be installed for existing houses and businesses. Locations and depths of service connections, where shown on the drawings, are approximate only. Final locations will be established at the time of construction.
6. Service connections are to be installed to the property line, the pipe shall be installed true to line and at a five tenths (0.5) percent grade. Except where otherwise specifically required or permitted by the AUTHORIZED REPRESENTATIVE, service connections shall be installed in open cut. The requirements for construction shall, in all respects, comply with those specified in this Item for main sewers.
7. The cost of furnishing and installing storm service connections shall be paid for on a price per lineal foot basis, installed complete and for that portion on a five tenths (0.5) percent grade.
8. The ends of storm service connections and the fittings in the main sewer shall not be backfilled until the location is referenced in accordance with the service connection location reference detail on the drawings or as approved by the AUTHORIZED REPRESENTATIVE.

CONNECTIONS TO STORM STRUCTURES AND STORM PIPES

1. When required, the new sewers shall be connected to structures through stubs, wall castings, wall sleeves, etc. provided for same or an opening shall be made at the proper elevation in the wall of the structure.
2. The pipe shall be inserted and the opening around the pipe neatly and permanently closed and made watertight with a non-shrinking and non-corrosive grout. Grout shall be composed of one (1) part ASTM C150 Type 1A Portland Cement to two (2) parts Sand by volume. The use of masonry cement is prohibited.
3. Where possible, a full length of pipe shall be inserted into the structure.
4. Where necessary, the bottoms of existing structures shall be reshaped to give a smooth flow in all directions.
5. Connections to unlike types and sizes of pipe shall be accomplished using the proper adapter and/or connector as manufactured by Fernco, Inc., or equal.

CATCH BASINS AND CURB INLETS

1. The construction of catch basins and curb inlets shall be done in strict conformance with the details shown on the drawings. The height of any unit may be changed. If the height is changed more than one (1) foot, compensation or deductions for the Work involved, whether increased or decreased, will be provided for in a supplemental agreement.
2. Six (6) inch minimum precast construction with poured inverts is the only method permitted, unless the structure height is too short for precast sections. In which case, brick and concrete block walls may be used as directed by the AUTHORIZED REPRESENTATIVE.
3. Brick and concrete block walls, if utilized, shall be eight (8) inches thick. The brick or concrete blocks shall be thoroughly wetted before laying in mortar and shall be laid up with full mortar joints by experienced brick layers. Exterior surfaces shall be plastered with Portland cement mortar to a minimum thickness of one-half (1/2) inch and all exposed surfaces shall be cured with wet burlap for a period of forty-eight (48) hours or by applying curing membrane.
4. Iron frames and grates for catch basins shall be as shown on the plan details.
5. Payment for catch basins and curb inlets shall include the required casting.
6. All mortar shall be composed of one (1) part ASTM C150 Type 1A Portland Cement to two (2) parts Sand by volume. The use of masonry cement is prohibited.
7. All bedding stone shall be included in the unit cost for the structure.

PROTECTION

1. Adequate precautions shall be taken to prevent concrete and/or mortar from freezing. Brick, concrete block, etc., having a temperature of 40°F or less shall not be set with mortar until heated for a period sufficient to ensure a temperature of 50°F to 80°F throughout the entire mass of material.

BRICK AND SOLID CONCRETE BLOCK

1. Brick used for catch basins and curb inlet construction shall conform to ODOT Item 704.02.
2. Where precast solid concrete block is to be used, such block shall conform to ODOT Item 704.03.
3. Bricks and block shall not be used in place of precast concrete adjusting rings.

MORTAR

1. Mortar shall be composed of one (1) part ASTM C150 Type 1A Portland cement and two (2) parts sand by volume.

STORM SEWER PIPE LAYING

1. All pipe, fittings, and specials shall be laid in accordance with the manufacturer's recommendations and with AWWA C600.
2. The profiles indicate that the pipe must be laid level or on a grade to prevent humps that will cause air pockets. Care shall be taken to lay the pipe to prevent such humps.
3. Pipe interiors shall be thoroughly cleaned of dirt and foreign matter before laying, by brushing, swabbing, pressure washing or other method approved by the AUTHORIZED REPRESENTATIVE, and means shall be provided to prevent entry of dirt or foreign material during the progress of installation.

DUCTILE IRON PIPE AND FITTINGS

1. Ductile iron pipe (DIP) shall be designed in accordance with AWWA C150 and manufactured in accordance with AWWA C151. The pipe, except where flanged joints are required, shall be of the mechanical joint or push-on joint type, with restrained joints to be provided at all fittings, as subsequently specified.
2. Mechanical joint and push-on joint DIP shall be Pressure Class 350. Flanged DIP shall be Thickness Class 53.
3. Mechanical joints and push-on joints shall be in accordance with AWWA C111, incorporating rubber gaskets. With mechanical joints, the surfaces to be in contact with the rubber gasket shall be brushed with soapy water to remove all sand and grit just prior to making the joint. For push-on joints, the surfaces to be in contact with the rubber gasket shall be wiped clean and dry just prior to making the joint and, when making the joint, a lubricant shall be used in accordance with the manufacturer's recommendations.
4. All DIP shall be coated with a bituminous material on the outside and shall be cement mortar lined in accordance with AWWA C104.
5. All fittings shall be of ductile iron in conformance with AWWA C110 or AWWA C153. All fittings shall be rated for 350 psi working pressure, have mechanical joints and be coated and cement-mortar lined in accordance with the DIP specifications. All bolts and nuts shall be Cor-Blu.
6. Where possible, full lengths of pipe shall be provided either side of all fittings.
7. All buried ductile iron pipe and fittings shall be provided with polyethylene encasement.
8. Polyethylene encasement shall be field installed and shall be a minimum eight (8) mil thick polyethylene tube meeting the requirements of AWWA C105, with installation in accordance with Method A and the manufacturer's instructions.
9. All overlaps and seams shall be completely taped. All rips, punctures and other damage to the polyethylene shall be acceptably repaired.
10. Tape shall be two (2) inch wide plastic backed adhesive tape which will bond securely to both metal surfaces and the polyethylene film.
11. All costs for providing the polyethylene encasement shall be included in the price bid per lineal foot for the pipe.
12. When it is necessary to cut the pipe to length to accommodate fittings, or elsewhere, the remaining portions may be used where possible to minimize the number of scrap pieces when the project is complete. However, scrap pieces less than five (5) feet in length shall not be used.

PVC PIPE

1. PVC pipe may be used in lieu of ductile iron for water mains. However, all fittings shall be of ductile iron, as specified previously.
2. PVC pipe shall conform to AWWA Specifications C900, Class 150, and DR 18. Joints shall comply with ASTM D3139.
3. PVC pipe laying shall be as previously specified for ductile iron pipe, except that only fittings shall be encased with polyethylene wrap.
4. A detectable tracing wire shall be installed with all PVC water mains. The wire shall be insulated No. 12 stranded copper electrical wire (THHN) and shall be included in the unit price of the pipe. Splices in tracing wire shall be made with shrink type, butt-end electrical connectors.
5. The tracing wire shall be connected to each fire hydrant and shall be placed under the pipe as shown on the plans.
6. At each valve box and hydrant watch valve, the tracing wire shall be placed outside of the valve box and then enter the valve box through a hole drilled by the CONTRACTOR approximately eight (8) inches below the top of the valve box.

RESTRAINED JOINTS

1. Restrained joints shall be provided at all fittings and to the lengths, in feet, as shown on the drawings, and shall be included in the unit price for the pipe.
2. Restrained joints for fittings shall be Mega-Lug Series 1100 for DIP and Series 2000 for PVC, as manufactured by EBAA Iron, Inc., or approved equal.
3. Bell clamp restraint for DIP with push-on joints, where required, shall be Series 800 "Coverall", as manufactured by EBAA Iron, Inc., or approved equal.
4. Bell clamp restraint for PVC pipe, where required, shall be Series 1600 Restraint Harness, as manufactured by EBAA Iron, Inc., or approved equal.
5. All bolts and nuts shall be Cor-Blue. All other hardware shall be ductile iron.
6. Restrained joints shall be installed as per manufacturer's recommendations.
7. Thrust blocking as a means of joint restraint will not be permitted.

GATE VALVES

1. Gate valves shall be resilient seated valves with a ductile iron body, non-rising stem and mechanical joint ends meeting AWWA C515.
2. Gate valves shall be designed for 350 psi working pressure.
3. Mechanical joint glands and followers shall be one (1) piece ductile iron. Gland bolts and nuts shall be Cor-Blue.
4. All gate valves shall be provided with restrained joints on both sides and as previously specified.
5. All gate valves shall be designed to open in counterclockwise direction with an arrow indicating the direction for opening. Wrench nuts shall be two (2) inches square.
6. All exterior surfaces shall be epoxy coated prior to leaving the factory.
7. All gate valves shall be installed plumb and set on concrete blocks.
8. Gate valves shall be Mueller A-2361 Series.
9. Bonnet, stuffing box or any other bolts coming in contact with the subsurface material shall be a minimum of 304 stainless steel bolts and nuts.

TAPPING TEE AND VALVE

1. Tapping tees and valves with valve boxes shall be provided at the locations and of the size as shown in the drawings and shall be bid as a complete assembly including the tapping tee, tapping valve and valve box. All bolts shall be stainless steel (304SS minimum).
2. Tapping tees shall be of 304 stainless steel and provided with stainless steel gasketed flanges and shall be SST Tapping Sleeves as manufactured by Romac Industries, Inc., or equal.
3. Tapping tees shall be mechanically attached to the existing water main to be tapped. Bolts shall be 304 stainless steel with teflon coated threads and a plastic lubricating washer.
4. Tapping valves shall be resilient seated valves meeting the requirements set forth in 11.9, except that they shall be Mueller T-2361-16.

VALVE BOXES

1. Valve boxes shall be cast iron three (3) piece screw type with No. 8 round base as manufactured by Tyler/Union, or approved equal. The depth required shall be taken off the plans.
2. Valve boxes shall be provided with each gate valve, butterfly valve, hydrant watch valve and curb stop required.
3. The cost of the valve box shall be included in the cost of the respective valve or hydrant assembly, as applicable.

INSPECTION AND REJECTION

1. All pipes, fittings and appurtenances shall be appropriately marked for purposes of identification.
2. The pipe, fittings and appurtenances shall be subject to inspection and rejection at all times by the OWNER and/or the AUTHORIZED REPRESENTATIVE.

WATERLINE LEAKAGE TESTING

1. The CONTRACTOR shall make pressure and leakage tests of all pipelines in accordance with AWWA C600 (AWWA C605-05 for PVC Pipe).
2. Pressure tests shall be made in all pipelines or valved sections thereof as directed by the AUTHORIZED REPRESENTATIVE. The CONTRACTOR shall furnish the pump, pipe connections, taps, gauges, and all other apparatus for making the test. The line, or section thereof to be tested, shall be slowly filled with water and all air expelled before making the test.
3. Hydrostatic pressure shall be applied by means of a pump, taking water from an auxiliary supply. The test pressure shall be 150 psi, or two (2) times the normal operating pressure of the section under test, whichever is the greater. The pressure shall be maintained for a minimum of two (2) hours, or for sufficient time for thorough inspection of piping, fittings, valves, hydrants, etc. by means of a continuous run pump. Leaking joints shall be tightened, and cracked or otherwise defective material shall be removed and replaced and the test shall be repeated until satisfactory results are obtained.
4. Leakage tests shall be made simultaneously with or following completion of pressure tests of all pipelines or valved sections thereof. The CONTRACTOR shall furnish the pumps, gauges, and other apparatus as defined above, including a measurable auxiliary water container.
5. Leakage is defined as the quantity of water to be supplied necessary to maintain in the piping being tested the leakage test pressure in such piping filled with water and free from air. The leakage test pressure shall be not less than 150 psi or two (2) times the normal operating pressure of the section under the test. The duration of the leakage test shall be not less than two (2) hours. Allowable leakage for ductile iron pipe shall not exceed the rate in Table 6A of AWWA C600-93. Allowable leakage for PVC pipe shall not exceed the rate in Table 3 of AWWA C605-94.

WATERLINE DISINFECTION

1. All water mains, fittings and appurtenances shall be disinfected in accordance with AWWA C651.
2. Sample taps shall be located at no greater than one thousand (1,000) foot intervals, or at each end of an installation that is less than one thousand (1,000) feet in length at no additional expense to the OWNER.
3. The line, or section thereof to be tested, shall be slowly filled with water and all air expelled. The pipe shall remain filled for a minimum of forty-eight (48) hours before making the test.

PAVEMENT REPAIRS

1. Asphalt pavement repairs shall be done in accordance with ODOT Items 251, 253 and 254, as applicable, except that the asphalt concrete utilized shall be modified 448, as subsequently specified.
2. Crack sealing material shall be AC-20 in accordance with ODOT Item 702.01.

AGGREGATE BASE

1. The aggregate base for all pavement shall meet the requirements of ODOT Item 304 and placed to meet the thickness as shown on the plans.

TACK COAT, PRIME COAT AND SEAL COAT

1. Tack coat shall be in accordance with ODOT Item 407, except the material shall be RC-70, RC-250 or SS-1 and applied at a rate of 0.15 GAL/SY.
2. Prime coat shall be in accordance with ODOT Item 408, except the material shall be MC-30 or MC-70 and applied at a rate of 0.35 GAL/SY.
3. Seal coat shall be in accordance with ODOT Item 409, except the material shall be RC-250, RC-800 or MC3000.
4. Tack coat, prime coat and seal coat shall be considered incidental to the asphalt unit prices.

ASPHALT CONCRETE PAVEMENTS

Notwithstanding any other provision found in the General Conditions, Special Conditions, Supplemental Conditions or Specifications, and regardless of any mention of an asphalt binder adjustment as found in ODOT Item 401.20, an Asphalt Binder Price Adjustment expressly does not apply to this contract.

1. The base course of asphalt shall be manufactured and placed in accordance with ODOT Item 301, PG64-22.
2. The leveling course of asphalt shall be manufactured and placed in accordance with ODOT Item 448 Type 2, Medium Traffic, PG64-22.
3. The surface course of asphalt shall be manufactured and placed in accordance with ODOT Item 448 Type 1, Medium Traffic, PG64-22.
4. No surface course of asphalt may be placed after October 15th or before April 15th, unless otherwise approved by the AUTHORIZED REPRESENTATIVE.
5. Additional care in the placement and compaction of all asphalt in shaded areas shall be taken by the CONTRACTOR.
6. Regardless of any mention of an asphalt binder adjustment as found in ODOT Item 401.20, an Asphalt Binder Price Adjustment expressly does not apply to this contract.

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NORTH

DATE	REVISION

TITLE: NOTES

PROJECT: A RENEWED MIND SITE PLAN
CITY OF NAPOLEON, HENRY COUNTY, OHIO

SIGNED
DATE
SCALE: 1" = 20'
DATE: 9-8-16
DRAWN BY: DEM
DESIGN: DRK CHECK: DRK
PROJECT: 10E08286
DRAWING: 10-08286GS00A2
SHEET 4 OF 7

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CAST–IN–PLACE CONCRETE (CURBS, SIDEWALKS AND DRIVE APPROACHES)

1. Unless otherwise noted on the plans or in the specifications, all cast–in–place concrete shall be Class C as defined in ODOT Item 499 and modified in Article 13 of these Project Specifications. Reinforcing, if required, shall be in accordance with Article 13 of these Project Specifications.
2. Concrete curb and gutter shall be of the type as shown on the plans and constructed meeting the requirements of ODOT Item 609.04.
3. All curb and combination curb and gutter not constructed integral with the base or pavement shall have ¼ inch contraction joints constructed at ten (10) foot intervals. The joint may be constructed with the use of metal separator plates, by the use of a grooving tool, or sawed. The depth of joint shall average two (2) inches or more for combination curb and gutter, and for curb shall average one–fourth or more of the curb height. The joint shall be filled with hot or cold applied joint sealer. Where expansion joints occur in the abutting pavement, they shall be provided for by separation of the section being placed with one (1) inch preformed joint filler.
4. One (1) inch expansion joint filler shall be installed between the back of curb and all concrete drive approaches and sidewalks.
5. At curb inlets, a one (1) inch expansion joint shall be installed one (1) foot from the outside wall on each side of the curb inlet. The expansion joint shall have two (2)–1" x 18" dowels with expansion caps installed nine (9) inches from the edge of the curb and gutter or concrete pavement section. Bond breaking oil shall be applied to the dowel bars.
6. Concrete sidewalks shall be four (4) inches in thickness, except that within five (5) feet of and across drive approaches and within the intersection of rights–of–way sidewalks shall be six (6) inches in thickness. Concrete sidewalks shall be placed on a minimum of four (4) inches of ODOT Item 304 or 411, except that within five (5) feet of and across drive approaches, which shall be placed on a minimum of six (6) inches of ODOT Item 304 or 411, the payment for which shall be included in the unit price of the sidewalk.
7. Unless otherwise directed by the AUTHORIZED REPRESENTATIVE, sidewalks shall have a transverse slope of one–quarter (1/4) inch per foot, with the low side toward the roadway.
8. Concrete drive approaches shall be six (6) inches in thickness and shall be placed on a minimum of six (6) inches of ODOT Item 304 or 411, the payment for which shall be a separate item.
9. Concrete sidewalks and drive approaches shall have a broomed finish to slightly roughen the surface.

PAVEMENT AND CURB REPLACEMENT

1. Unless otherwise noted on the plans or specifications, all pavement and curb replacement and patches shall, at a minimum, match the existing, unless otherwise directed by the AUTHORIZED REPRESENTATIVE.
2. Payment for pavement and curb replacement over pipe sewers and water mains shall be calculated based upon the nominal pipe diameter plus four (4) feet in width. Payment for pavement replacement around manholes and structures shall be calculated based upon the measurement of one (1) foot around the perimeter of the structure.

FERTILIZER

1. The fertilizer shall be a commercial fertilizer obtained from a dealer or manufacturer whose brands and grade are registered or licensed by the State of Ohio Department of Agriculture.
2. Fertilizer shall be applied at a rate which will provide twenty (20) pounds per 1,000 square feet of chemical fertilizer nutrients in equal proportions of Nitrogen, Phosphoric Acid, and Potash (16–16–16).
3. Either dry or liquid fertilizer may be used and shall be distributed in an even pattern over the specified area, then thoroughly disked, harrowed, or raked into the soil to a depth of not less than one (1) inch.

SEEDING

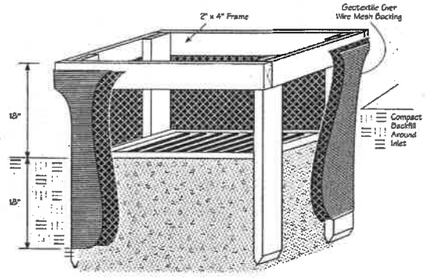
1. As soon as the area to be seeded is satisfactorily fertilized, the seed mixture shall be thoroughly mixed and sown evenly over the area at a rate of four (4) pounds per 1,000 square feet. The seed mixture may be sown dry or hydraulically.
2. The seed mixture shall be applied when the soil is in a workable condition and shall be raked into a depth of approximately one–quarter (1/4) inch.
3. Seed mixtures shall be as per ODOT Item 659 and Table 659–09.1. All seed shall be high quality.
4. All seeds shall be approved by the State of Ohio Department of Agriculture, Division of Plant Industry and tickets for the seed shall be provided to the AUTHORIZED REPRESENTATIVE.

MULCHING

1. Material used for mulching shall be straw or hay and shall be reasonably free of weed seed and other foreign material.
2. Within twenty–four (24) hours after an area has been seeded, mulching material shall be evenly placed at the rate of two (2) tons per acre for straw, or three (3) tons per acre for hay.
3. Around residences, mulching materials shall be kept in place by a white latex material, such as Curasol, or equal. At other locations, asphalt emulsion applied at a rate of sixty (60) gallons per ton of mulch may be used.
4. Following the mulching operation, all pavement surfaces, curb, curb and gutter, walks, drives, catch basins, etc., shall be cleaned of all materials to the satisfaction of the AUTHORIZED REPRESENTATIVE.
5. Hydraulically placed mulch shall not be accepted.

EROSION AND SEDIMENT CONTROLS

1. All catch basins shall have a silt fence with wooden frame installed around it. Once the curb and gutter is installed, straw bales or silt fabric shall be installed at each catch basin.
2. Straw bales and/or silt fencing shall be installed at all locations to prevent any runoff from going off site.
3. At each construction entrance, the CONTRACTOR shall install a gravel construction entrance (twenty–five (25) feet long).
4. The tracking of sediments by vehicles shall be minimized. Scheduled sweeping of the roadway shall be provided along with hand cleaning of wheels.
5. There shall be no turbid discharges to surface waters of the state resulting from dewatering activities. If trench or ground water contains sediment, it must pass through a sediment settling pond or other equally effective sediment control devise, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Ground water dewatering that does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant–laden by traversing over disturbed soils or other pollutant sources.
6. If specific site conditions prohibit the implementation of any of the erosion and sediment control practices then the CONTRACTOR shall provide justification for rejecting each practice based on site conditions. Exceptions from implementing the erosion and sediment control standards will be approved or denied on a case–by–case basis.



1. Inlet protection shall be 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 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 1 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 traffic.
4. Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame.
5. Geotextile shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It 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. layers 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 if runoff bypassing the inlet will not flow to a settling pond. The top of earth dikes shall be at least 6 in. higher than the top of the frame.

Ⓐ INLET PROTECTION FILTER (OR APPROVED EQUAL)
IN SWALES, DITCH LINES OR YARD INLETS
N.T.S.

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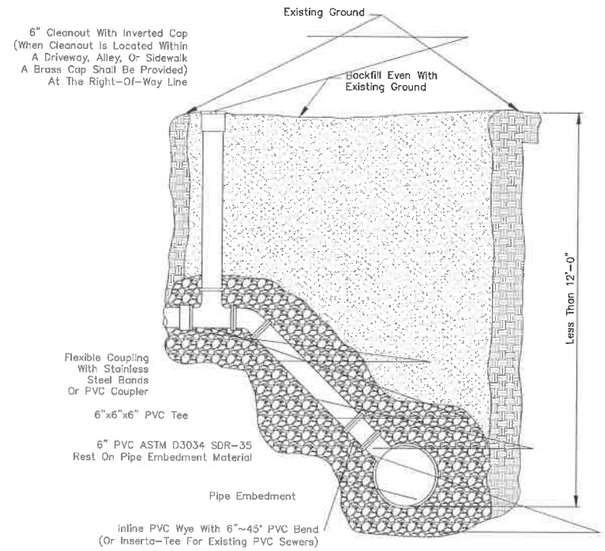
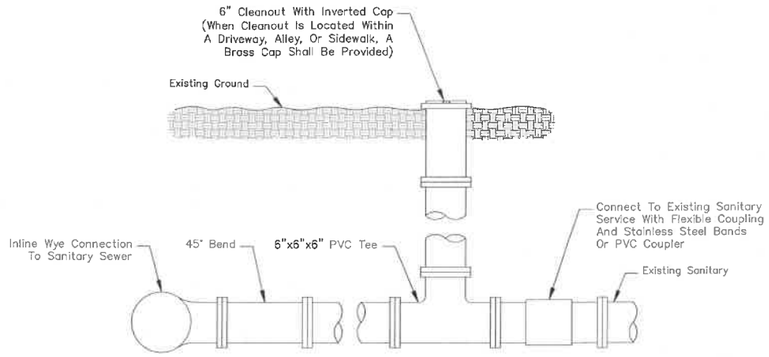
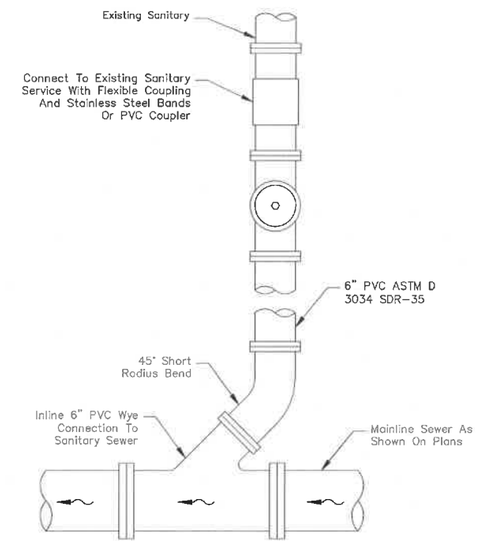


SANITARY SERVICE CONNECTION TO
SEWER MAIN LESS THAN 12'-0" DEEP

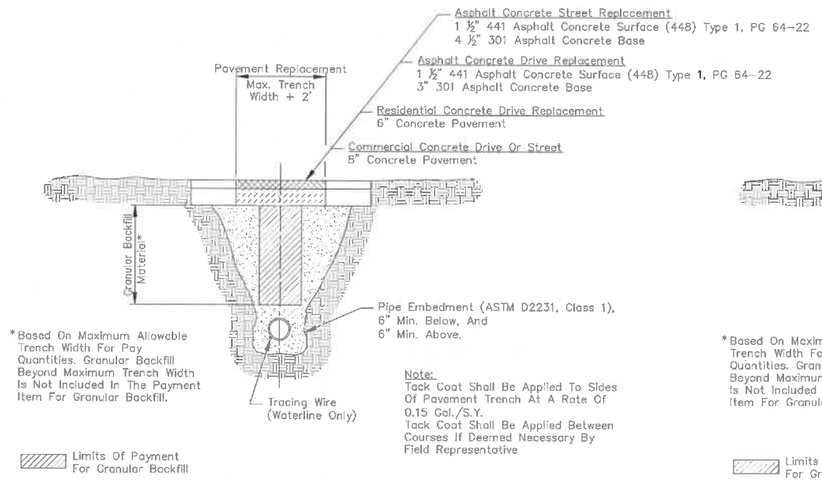


PROFILE VIEW

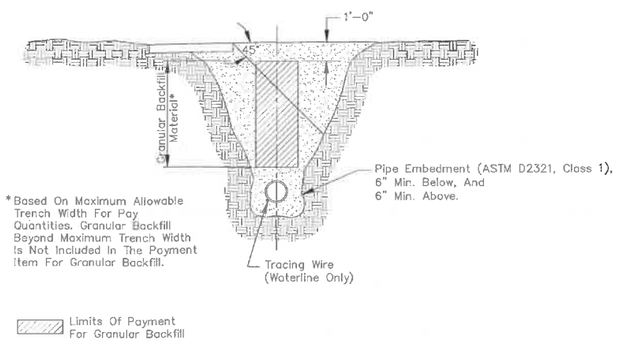


PLAN VIEW

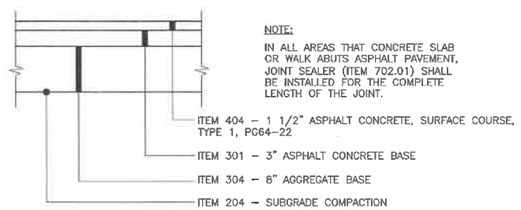
SANITARY SERVICE DETAIL



GRANULAR BACKFILL
INSIDE PAVEMENT



GRANULAR BACKFILL
OUTSIDE PAVEMENT



TYPICAL SECTION DRIVEWAY DEATIL
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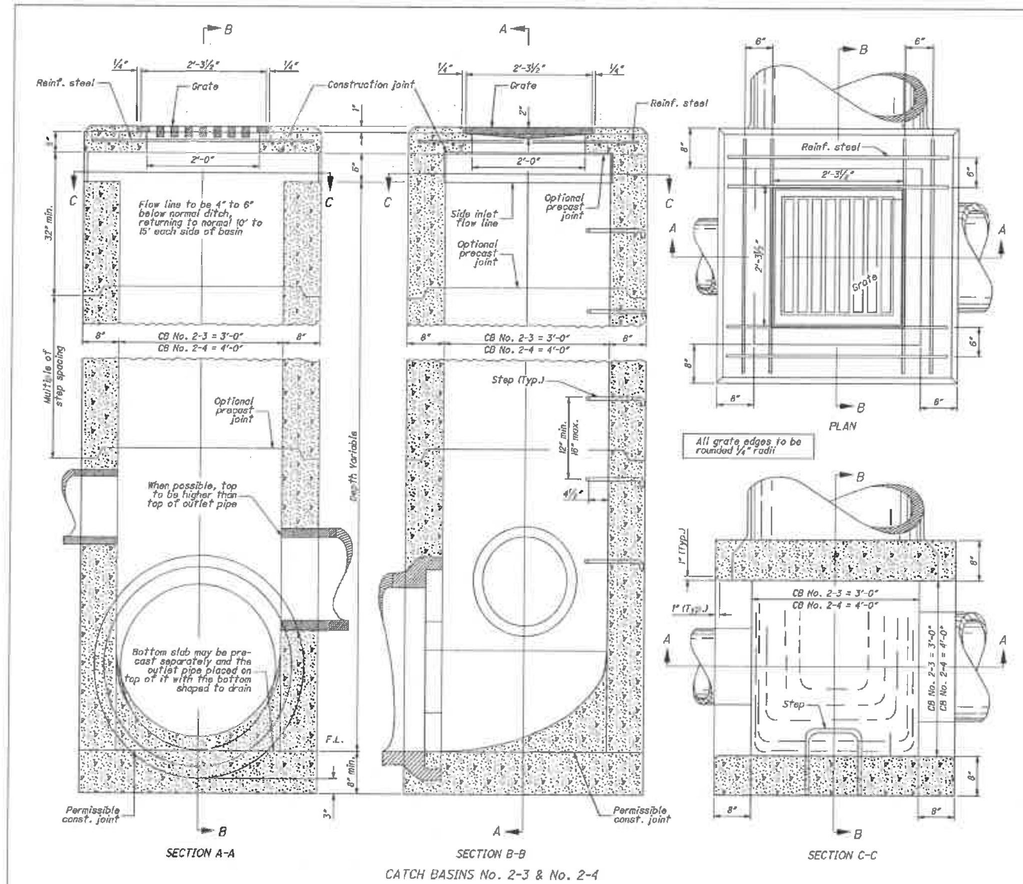


NOTES

GENERAL: Catch Basins 2-3 and 2-4 are not intended for traffic bearing applications.

GRATE: See details on SCD CB-1.1.

If necessary, bicycle safe grates will be specified in the plans. Furnish Neenah No. R-4859-C or East Jordan No. 5110 Type M3 bicycle safe grates or approved equals.

Cast the following text into the top of the grate:

"DUMP NO WASTE" and "DRAINS TO WATERWAY"

Print text in bold, capital letters at least 1/2" high. "WATERWAY" may be substituted with "STREAM", "RIVER", "LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Construct brick or cast-in-place walls with a nominal 8" thickness. Provide precast walls at least 6" thick with sufficient reinforcing to permit shipping and handling without damage.

STEPS: Provide steps where the depth exceeds 6'. Meet the requirements of SCD MH-1.1.

CONCRETE: Use 4000 psi compressive strength for cast-in-place concrete. Meet the requirements of CMS 706.13 for all precast concrete and mark with the catch basin number.

REINFORCEMENT: Provide #4 bars spaced at 6" center to center for top reinforcing. For Catch Basin No. 2-3 use eight bars, and for Catch Basin No. 2-4 use twelve bars.

INLETS OVER 12 FEET DEEP: Use precast or cast-in-place concrete; reinforce with #4 bars on 12" centers both vertically and horizontally with 2" clearance from inside wall face.

PRECAST BASE: If a precast base is used, set it deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Do not use brick layers to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, the location and the elevation are at the top center of the grate. When side openings are provided, the elevation is at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth of CB No. 2-3 and CB No. 2-4 is the outside diameter (O.D.) of the outlet pipe plus 7".

OPENINGS: Ensure pipe openings are the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per C&MS 611.

SIDE INLETS: Provide inlets on both sides of the No. 2-3 and 2-4 catch basin in sags and on upstream side only where the ditch has a continuous down grade past the catch basin. Do not use catch basins with side inlets within the Clear Zone.

PAYMENT: All materials and labor, including excavation and backfill, are paid for under Item 611 - Catch Basin, No. 2-3 or Item 611 - Catch Basin No. 2-4.

CATCH BASIN	OUTLET PIPE SIZE
2-3	12" to 33"
2-4	36" to 42"

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
STATE HYDRAULIC ENGINEER

REVISIONS: 7-20-01, 7-19-02, 7-15-05, 7-20-12, 1-18-13, 1-15-16

ROADWAY HYDRAULIC ENGINEER Matt Cozzoli

OFFICE OF HYDRAULIC ENGINEERING

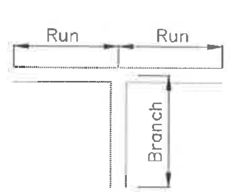
STANDARD HYDRAULIC CONSTRUCTION DRAWING

CATCH BASINS No's 2-3 & 2-4

SCD NUMBER CB-1.2

1/1

Deflection Angle	Type of Bend	A.W.W.A. C-900 PVC Pipe Size									
		2"&3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
11 1/4°	Horiz.	4'	4'	4'	4'	4'	4'	4'	4'	4'	4'
	Vertical	4'	4'	5'	6'	8'	9'	10'	12'	13'	15'
22 1/2°	Horiz.	4'	4'	4'	4'	4'	5'	5'	6'	7'	7'
	Vertical	6'	7'	10'	13'	15'	18'	21'	24'	27'	29'
45°	Horiz.	4'	4'	5'	7'	8'	9'	11'	12'	14'	15'
	Vertical	12'	14'	20'	27'	32'	38'	44'	50'	55'	61'
90°	Horiz.	7'	9'	12'	16'	19'	23'	26'	30'	33'	36'
	Vertical	20'	25'	35'	47'	56'	67'	76'	86'	96'	105'
Tees	Run	4'	4'	5'	7'	8'	8'	8'	8'	8'	8'
	Branch	4'	4'	4'	4'	4'	14'	23'	34'	43'	53'
Dead Ends		20'	24'	35'	46'	56'	66'	76'	87'	97'	107'
		Minimum Distance Restrained In Each Direction From Fitting.									

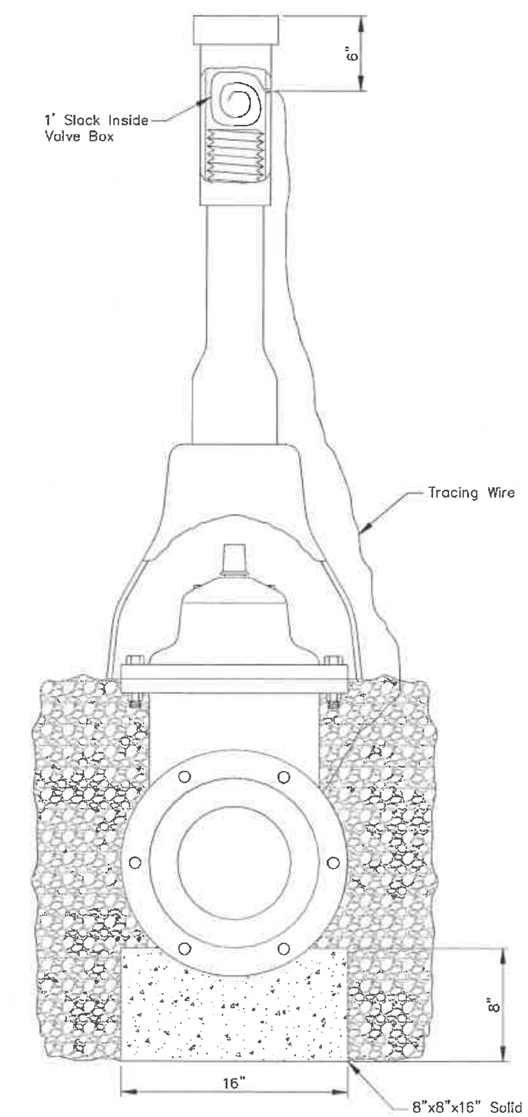


Tee Legend

Restrained Joint Table – 150 psi

(Backhoe Excavation)

Note:
Restrained Joints For fittings Shall Be EBAA Iron, Inc. Mega-Lug Series 1100 For DIP And Series 2000 For PVC Or Approved Equal. Bell Clamp Restraints For DIP With Push-on Joints Shall Be EBAA Iron, Inc. Series 800 "Coverall", Or Approved Equal. Bell Clamp Restraints For PVC Pipe Shall Be EBAA Iron, Inc. Series 1600 Restraint Harness. All Bolts And Nuts Shall Be Cor-Ten.



WATER MAIN TRACING WIRE

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