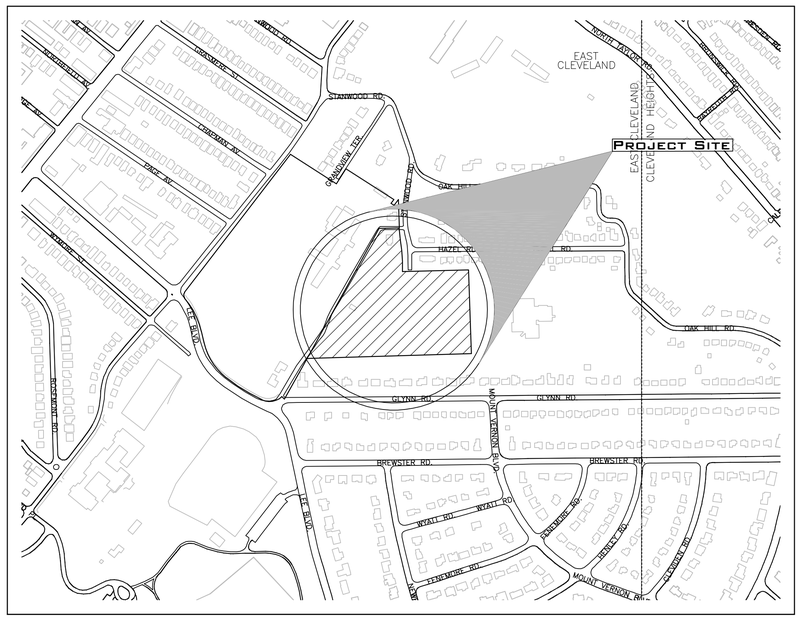
# Improvement Plans
## For
# McGregor Assisted Living

The City of East Cleveland, County
of Cuyahoga And State Of Ohio

## Index to Drawings



Vicinity Map
Scale: 1" = 400'

DAVID A. PIETRANTONE
E-61756

4/26/2018

David Pietrantone P.E. #61756 | Date

RIVERSTONE
LAND SURVEYING - ENGINEERING - DESIGN
3800 LAKESIDE AVENUE - SUITE 100
CLEVELAND - OHIO - 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONESURVEY.COM

17-094

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HDS ARCHITECTURE INC
1939 West 25th Street, Suite 300 Cleveland, Ohio 44113
P 216.696.3460 F 216.696.1152 www.hds-architecture.com

| MARK | DATE | PURPOSE |
|---|---|---|
| AD1 | 11/16/17 | ADDENDUM 01 |
| AD2 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 3/13/2018 | CSWCD COMMENTS |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| 2/CCD | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| 1 | 4/24/2018 | NEORSD / CCDPW COMMENTS |

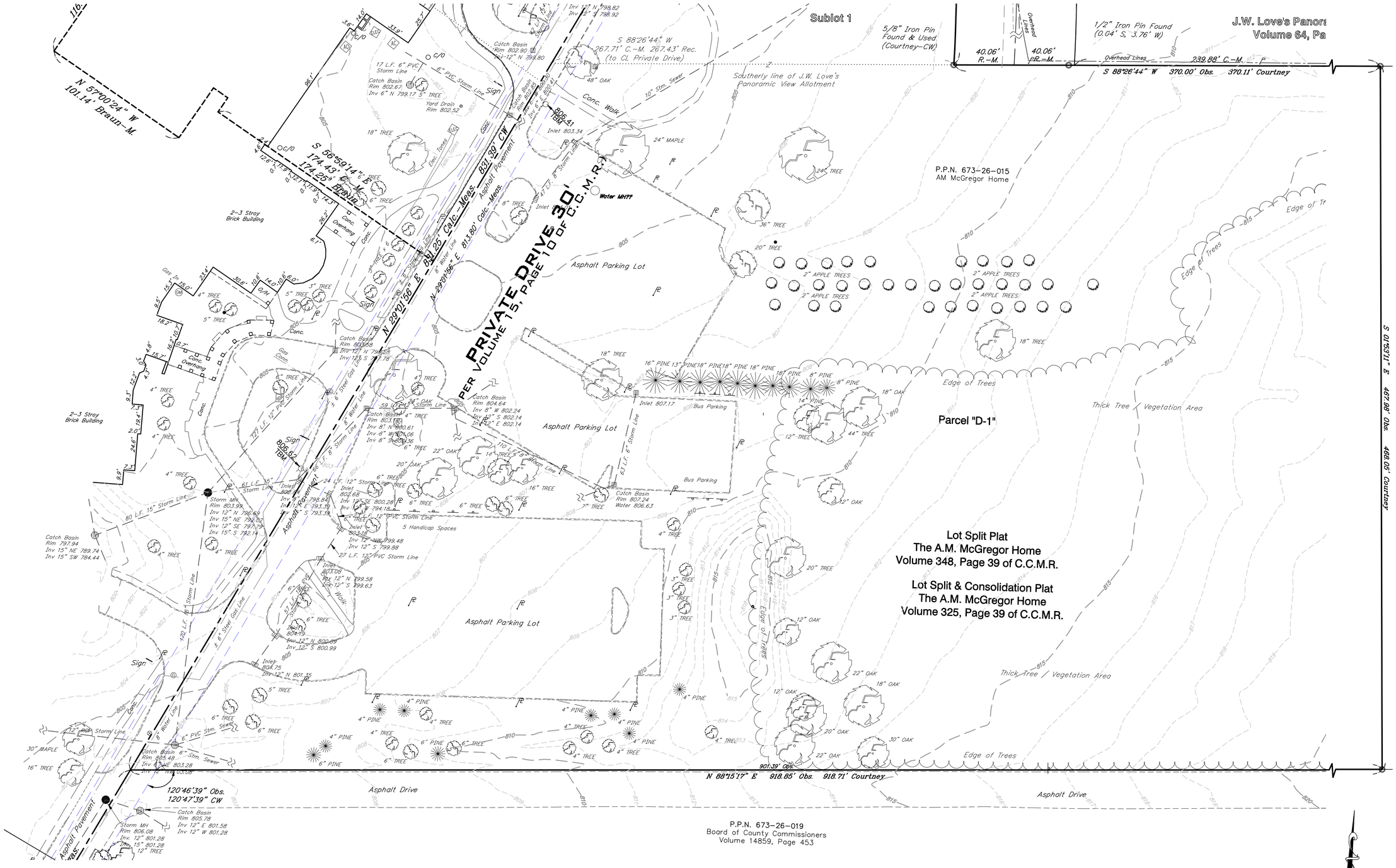
McGregor
SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

DAVID A. PIETRANTONE
E-61756

PROJECT NO.:

TITLE:
TITLE PAGE

DRAWING NUMBER: 2017.12
C1.01




## LEGEND

- M = Monument Box Found
- = Iron Pin or Pipe Found
- = 5/8" Iron Pin Set and Capped Riverstone Company Dudey PS6747
- = P.K. Nail
- = Gas Meter
- = Gas Valve
- = Utility Pole
- = Light Pole
- = Guy Anchor & Line
- = Telephone Box
- = Electric Box
- = Cable Box
- = Bollard
- = Spot Elevation Tag
- = Hydrant
- = Water Service Valve
- = Water Valve
- = Water Meter
- = Reducer
- = Storm Manhole
- = Sanitary Manhole
- = Curb Inlet
- = Catch Basin
- = Round Curb Inlet
- = Cleanout/Test Tee

Ex. Parcel line
Original Sublot Line
Original Lot Line
Centerline
Property Line
Right–of–way Line
Easement Line
Railroad Tracks
Electric Line
Gas Line
Sanitary/Combination Sewer
Storm Sewer
Waterline
Fence Line (Wooden)
Fence Line (Chain–Link)
Guardrail

| | | | |
|---|---|---|---|
| Ac. | Acres | L.C.A. | Limited Common Area |
| Adj. | Adjacent | Meas./M. | Measured |
| Asp. | Asphalt | MH | Manhole |
| B.F. | Basement Floor | Obs. | Observed |
| Calc./C. | Calculated | Pg. | Page |
| CB | Catch Basin | P.P.N. | Permanent Parcel Number |
| C.C.M.R. | Cuyahoga County Map Records | ℄ | Property Line |
| ℄ | Centerline | Rec./R. | Record |
| C.L.F. | Chain–link Fence | R/W | Right–of–way |
| Clr. | Clears | San. | Sanitary |
| Conc. | Concrete | S.F. | Square Feet |
| Conn. | Connection | S/L | Sublot |
| D.H. | Drill Hole | Stm. | Storm |
| D.I.W.M. | Ductile Iron Water Main | T.B.M. | Temporary Bench Mark |
| Elec | Electric | TBR | To Be Removed |
| Encr. | Encroaches | Tele | Telephone |
| Ex. | Existing | T.F. | Top Footer |
| F.F. | Finished Floor | Vol. | Volume |
| | | Wat | Water |

GRAPHIC SCALE
30 0 15 30 45
( IN FEET )
1 inch = 30 ft.

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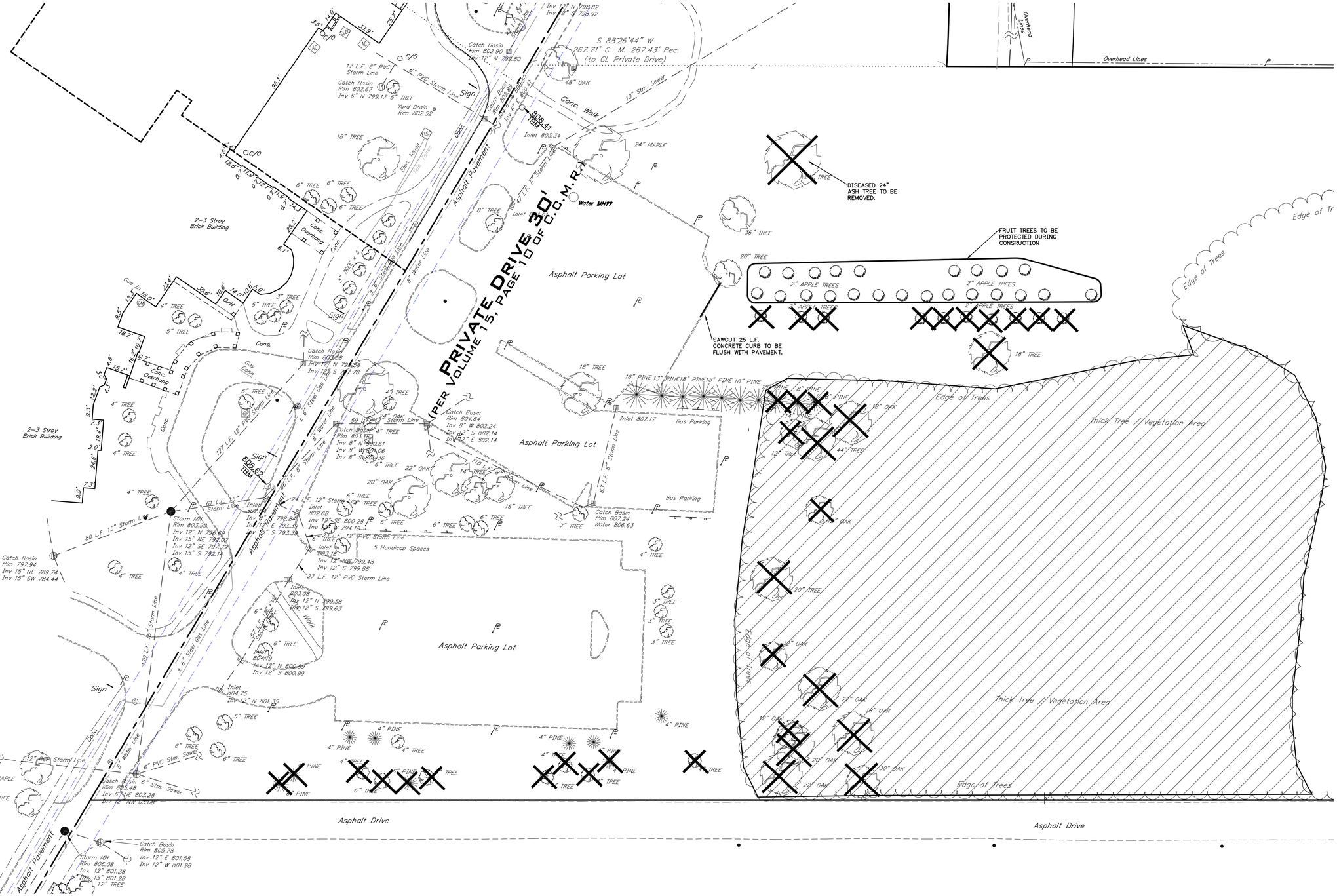
SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

STATE OF OHIO
DAVID A. PIETRANTONE
E-61756
REGISTERED
PROFESSIONAL ENGINEER

PROJECT NO.:

TITLE:
EXISTING CONDITIONS

DRAWING NUMBER: 2017.12
C2.01




## LEGEND

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- = Light Pole
- = Guy Anchor & Line
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- = Spot Elevation Tag
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- = Water Service Valve
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- = Water Meter
- = Reducer
- = Storm Manhole
- = Sanitary Manhole
- = Curb Inlet
- = Catch Basin
- = Round Curb Inlet
- = Cleanout/Test Tee

Ex. Parcel line
Original Sublot Line
Original Lot Line
Centerline
Property Line
Right-of-way Line
Easement Line
Railroad Tracks
Electric Line
Gas Line
Sanitary/Combination Sewer
Storm Sewer
Waterline
Fence Line (Wooden)
Fence Line (Chain-Link)
Guardrail

| | | | |
|---|---|---|---|
| Ac. | Acres | L.C.A. | Limited Common Area |
| Adj. | Adjacent | Meas./M. | Measured |
| Asp. | Asphalt | MH | Manhole |
| B.F. | Basement Floor | Obs. | Observed |
| Calc./C. | Calculated | Pg. | Page |
| CB | Catch Basin | P.P.N. | Permanent Parcel Number |
| C.C.M.R. | Cuyahoga County Map Records | ℄ | Property Line |
| ℄ | Centerline | Rec./R. | Record |
| C.L.F. | Chain-link Fence | R/W | Right-of-way |
| Clr. | Clears | San. | Sanitary |
| Conc. | Concrete | S.F. | Square Feet |
| Conn. | Connection | S/L | Sublot |
| D.H. | Drill Hole | Stm. | Storm |
| D.I.W.M. | Ductile Iron Water Main | T.B.M. | Temporary Bench Mark |
| Elec | Electric | TBR | To Be Removed |
| Encr. | Encroaches | Tele | Telephone |
| Ex. | Existing | T.F. | Top Footer |
| F.F. | Finished Floor | Vol. | Volume |
| | | Wat | Water |

SITE DEMOLITION LEGEND:

THICK TREE AND HEAVY VEGETATION REMOVAL AREA.

TREES TO BE REMOVED

GRAPHIC SCALE

30 0 15 30 45

( IN FEET )
1 inch = 30 ft.

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McGregor

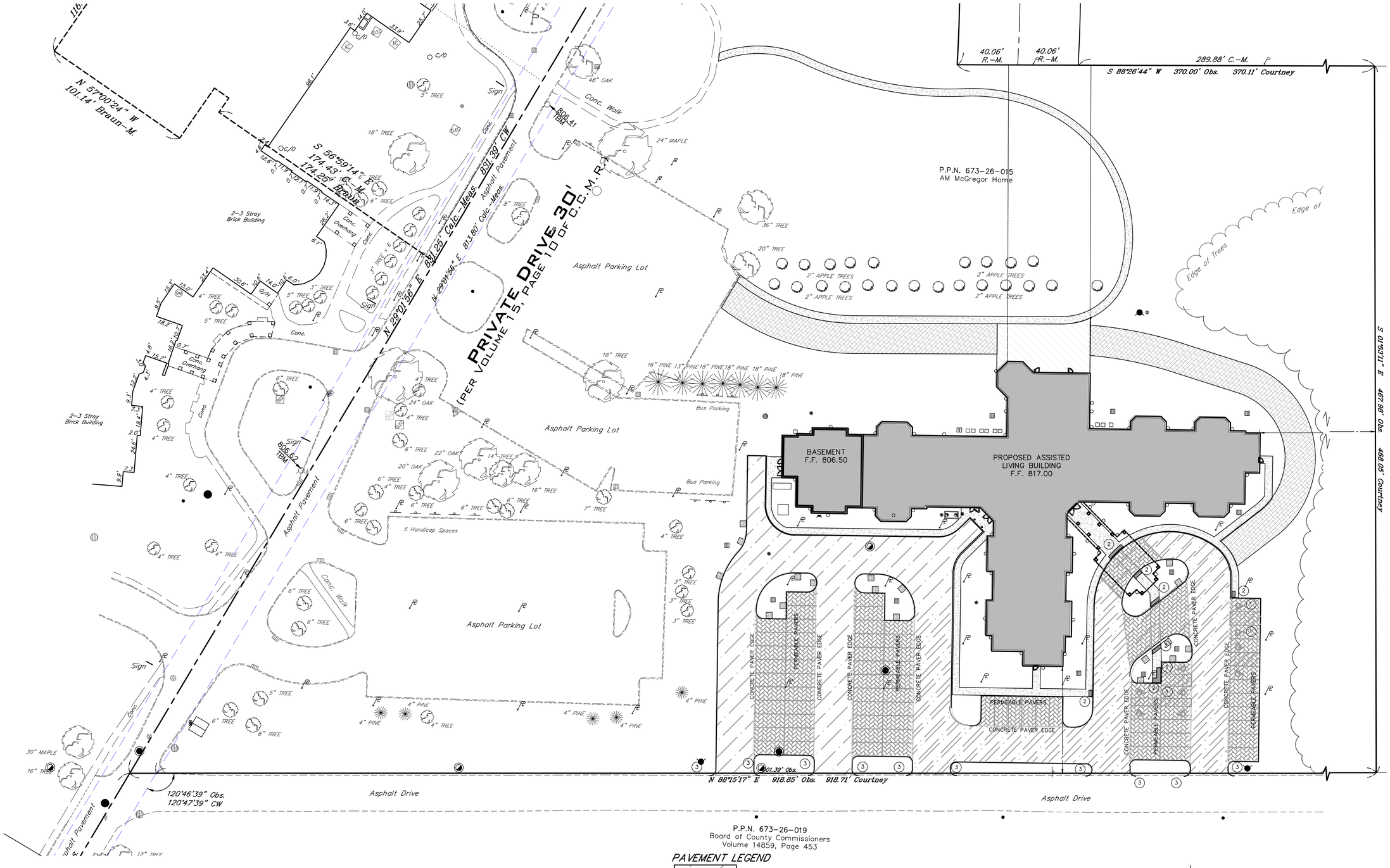
SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

STATE OF OHIO
DAVID A. PIETRANTONE
E-61756
REGISTERED
PROFESSIONAL ENGINEER

PROJECT NO.:

TITLE:
DEMOLITION PLAN

DRAWING NUMBER: 2017.12
C2.02




## LEGEND

| | | | | | |
|---|---|---|---|---|---|
| M = Monument Box Found | Existing / PROPOSED = Spot Elevation Tag | Ex. Parcel line | Ac. Acres | L.C.A. Limited Common Area |
| = Iron Pin or Pipe Found | = Hydrant | Original Sublot Line | Adj. Adjacent | Meas./M. Measured |
| = 5/8" Iron Pin Set and Capped Riverstone Company Dudey PS6747 | = Water Service Valve | Original Lot Line | Asp. Asphalt | MH Manhole |
| = P.K. Nail | = Water Valve | Centerline | B.F. Basement Floor | Obs. Observed |
| = Gas Meter | = Water Meter | Property Line | Calc./C. Calculated | Pg. Page |
| = Gas Valve | = Reducer | Right-of-way Line | CB Catch Basin | P.P.N. Permanent Parcel Number |
| = Utility Pole | = Storm Manhole | Easement Line | C.C.M.R. Cuyahoga County Map Records | ℙ Property Line |
| = Light Pole | = Sanitary Manhole | Railroad Tracks | ℄ Centerline | Rec./R. Record |
| = Guy Anchor & Line | = Curb Inlet | Electric Line | C.L.F. Chain-link Fence | R/W Right-of-way |
| = Telephone Box | = Catch Basin | Gas Line | Clr. Clears | San. Sanitary |
| = Electric Box | = Round Curb Inlet | Sanitary/Combination Sewer | Conc. Concrete | S.F. Square Feet |
| = Cable Box | = Cleanout/Test Tee | Storm Sewer | Conn. Connection | S/L Sublot |
| = Bollard | | Waterline | D.H. Drill Hole | Stm. Storm |
| | | Fence Line (Wooden) | D.I.W.M. Ductile Iron Water Main | T.B.M. Temporary Bench Mark |
| | | Fence Line (Chain-Link) | Elec Electric | TBR To Be Removed |
| | | Guardrail | Encr. Encroaches | Tele Telephone |
| | | | Ex. Existing | T.F. Top Footer |
| | | | F.F. Finished Floor | Vol. Volume |
| | | | | Wat Water |

## PAVEMENT LEGEND

- ASPHALT PAVEMENT
- PERMEABLE PAVERS UNILOCK ECO OPTILOC OR APPROVED EQUAL
- GRASS PAVER FIRE ACCESS
- CONCRETE WALK
- 8" REINFORCED CONCRETE

SITE PLAN NOTES:

1. ADA PARKING SPACE WITH PAVEMENT MARKING AND SIZE TO COMPLY WITH LATEST ADA REQUIREMENTS. SEE DETAILS.
2. DETECTABLE WARNINGS SHALL COMPLY WITH LATEST ADA REQUIREMENTS. SEE DETAILS.
3. END CURB PER END CURB DETAIL.

GRAPHIC SCALE

30 0 15 30 45

( IN FEET )
1 inch = 30 ft.

RIVERSTONE
LAND SURVEYING · ENGINEERING · DESIGN
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CLEVELAND · OHIO · 44114
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| MARK | DATE | PURPOSE |
|---|---|---|
| A01 | 11/16/17 | ADDENDUM 01 |
| A02 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 3/13/2018 | CSWCD COMMENTS |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| A03 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| A04 | 4/24/2018 | NEORSD / CCDPW COMMENTS |

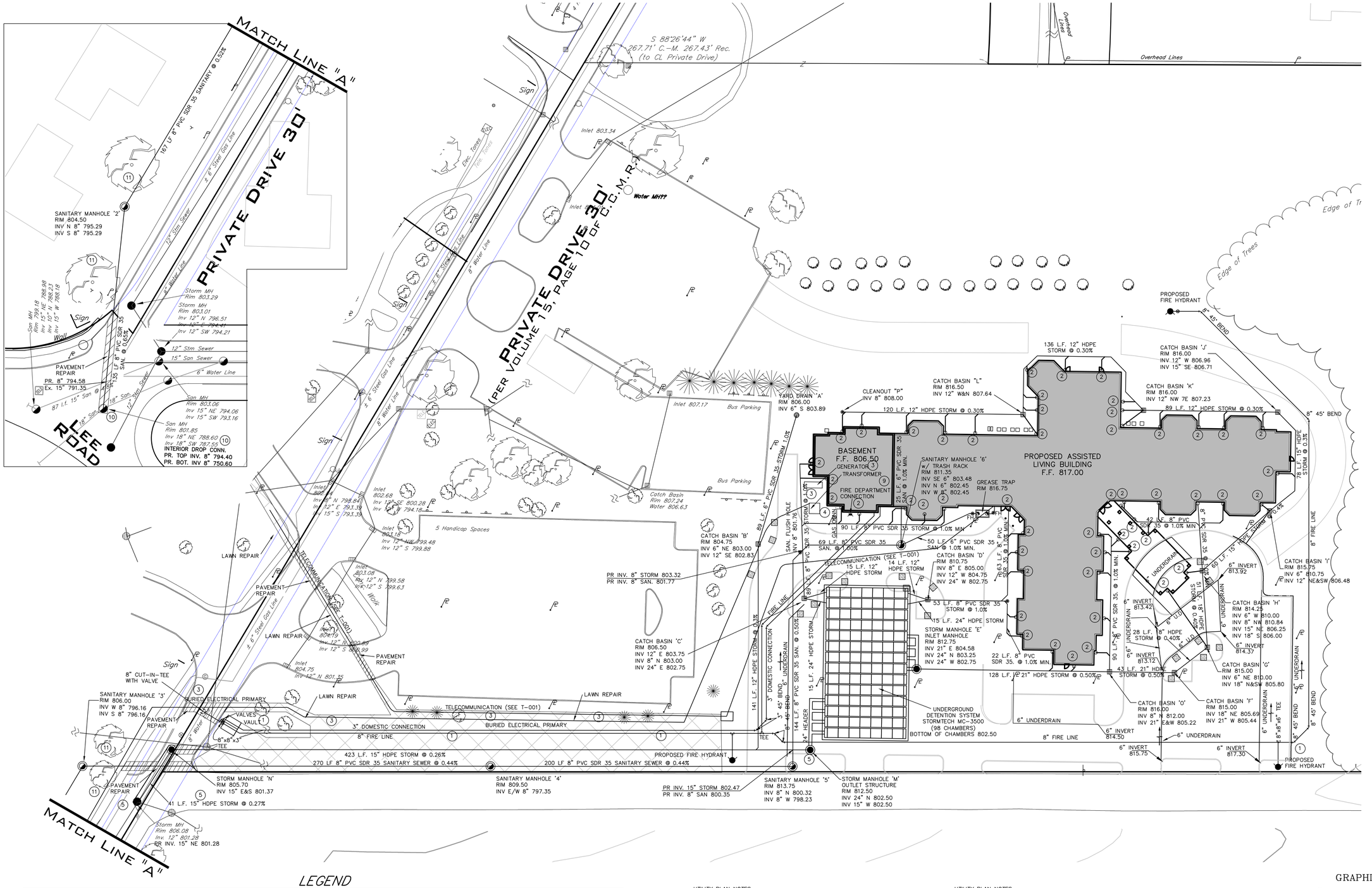
# McGregor

SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

PROJECT NO.:

TITLE:
SITE PLAN

DRAWING NUMBER: 2017.12
C3.01A




## LEGEND

| | | | | | |
|---|---|---|---|---|---|
| M = Monument Box Found | Existing / PROPOSED | Ex. Parcel line | Ac. Acres | FH Flush Hole |
| O = Iron Pin or Pipe Found | = Spot Elevation Tag | Original Sublot Line | Adj. Adjacent | Meas./M. Measured |
| ● = 5/8" Iron Pin Set and Capped Riverstone Company Dudley PS6747 | = Hydrant | Original Lot Line | Asp. Asphalt | MH Manhole |
| + = P.K. Nail | = Water Service Valve | Centerline | B.F. Basement Floor | Obs. Observed |
| = Gas Meter | = Water Valve | Property Line | Calc./C. Calculated | Pg. Page |
| = Gas Valve | = Water Meter | Right-of-way Line | CB Catch Basin | P.P.N. Permanent Parcel Number |
| = Utility Pole | = Reducer | Easement Line | C.C.M.R. Cuyahoga County Map Records | P Property Line |
| = Light Pole | = Storm Manhole | Railroad Tracks | ℄ Centerline | Rec./R. Record |
| = Guy Anchor & Line | = Sanitary Manhole | Electric Line | C.L.F. Chain-link Fence | R/W Right-of-way |
| = Telephone Box | = Curb Inlet | Gas Line | Clr. Clears | San. Sanitary |
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| = Cable Box | = Round Curb Inlet | Storm Sewer | Conn. Connection | S/L Sublot |
| = Bollard | = Cleanout/Test Tee | Waterline | D.H. Drill Hole | Stm. Storm |
| | | Fence Line (Wooden) | D.I.W.M. Ductile Iron Water Main | T.B.M. Temporary Bench Mark |
| | | Fence Line (Chain-Link) | Elec Electric | TBR To Be Removed |
| | | Guardrail | Encr. Encroaches | Tele Telephone |
| | | | Ex. Existing | T.F. Top Footer |
| | | | F.F. Finished Floor | Vol. Volume |
| | | | | Wat Water |

UTILITY PLAN NOTES:

1. DOMESTIC CONNECTION AND FIRE LINE TO BE INSTALLED AND SPLIT PER CLEVELAND WATER DEPARTMENT REQUIREMENTS. WATER METER AND BACKFLOW PREVENTOR TO BE INSTALLED IN WATER VAULT.
2. 6" DOWNSPOUT CONNECTION AT 1.0% MINIMUM TO DOWNSPOUT COLLECTOR. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL PLANS.
3. PROPOSED TRANSFORMER AND GENERATOR. CONTRACTOR TO COORDINATE WITH POWER COMPANY TO DETERMINE EXACT LOCATION AND REQUIREMENT FOR TRANSFORMER AND SERVICE PRIOR TO CONSTRUCTION.
4. PROPOSED GAS CONNECTION, CONTRACTOR TO COORDINATE WITH DOMINION ENERGY TO DETERMINE EXACT SIZE, LOCATION AND METER PLACEMENT PRIOR TO CONSTRUCTION.
5. EXISTING MANHOLE IN PRIVE DRIVE COULD NOT BE OPENED AT THE TIME OF THE SURVEY. PRIOR TO CONSTRUCTION CONTRACTOR SHALL OPEN EXISTING MANHOLE AND NOTIFY THE ENGINEER OF THE SIZE AND INVERTS OF THE EXISTING STORM SEWER. STORM SEWER ELEVATIONS ARE BASED ON ESTIMATED INVERTS. AFTER EXISTING INVERTS ARE VERIFIED, ENGINEER SHALL PROVIDE FINAL INVERTS AND PIPE SLOPES.

UTILITY PLAN NOTES:

6. MCGREGOR TECHNOLOGY / TELECOMMUNICATION CONDUIT, SEE T-100 FOR CONDUIT AND CONNECTIONS.
7. AREA DISTURBED DURING UTILITY INSTALLATION SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS.
8. PAVEMENT DISTURBED DURING UTILITY INSTALLATION SHALL BE REPAIRED.
9. FIRE DEPARTMENT CONNECTION, CONTRACTOR TO COORDINATE WITH THE MEP / FIRE PROTECTION PLAN AND THE CITY OF EAST CLEVELAND FIRE DEPARTMENT PRIOR TO CONSTRUCTION.
10. PROPOSED INTERIOR DROP CONNECTION IN EXISTING SANITARY MANHOLE.
11. CONTRACTOR SHALL TO THEIR BEST ABILITY PRESERVE THE TREE DURING SANITARY SEWER INSTALLATION.

GRAPHIC SCALE

30 0 15 30 45

( IN FEET )
1 inch = 30 ft.

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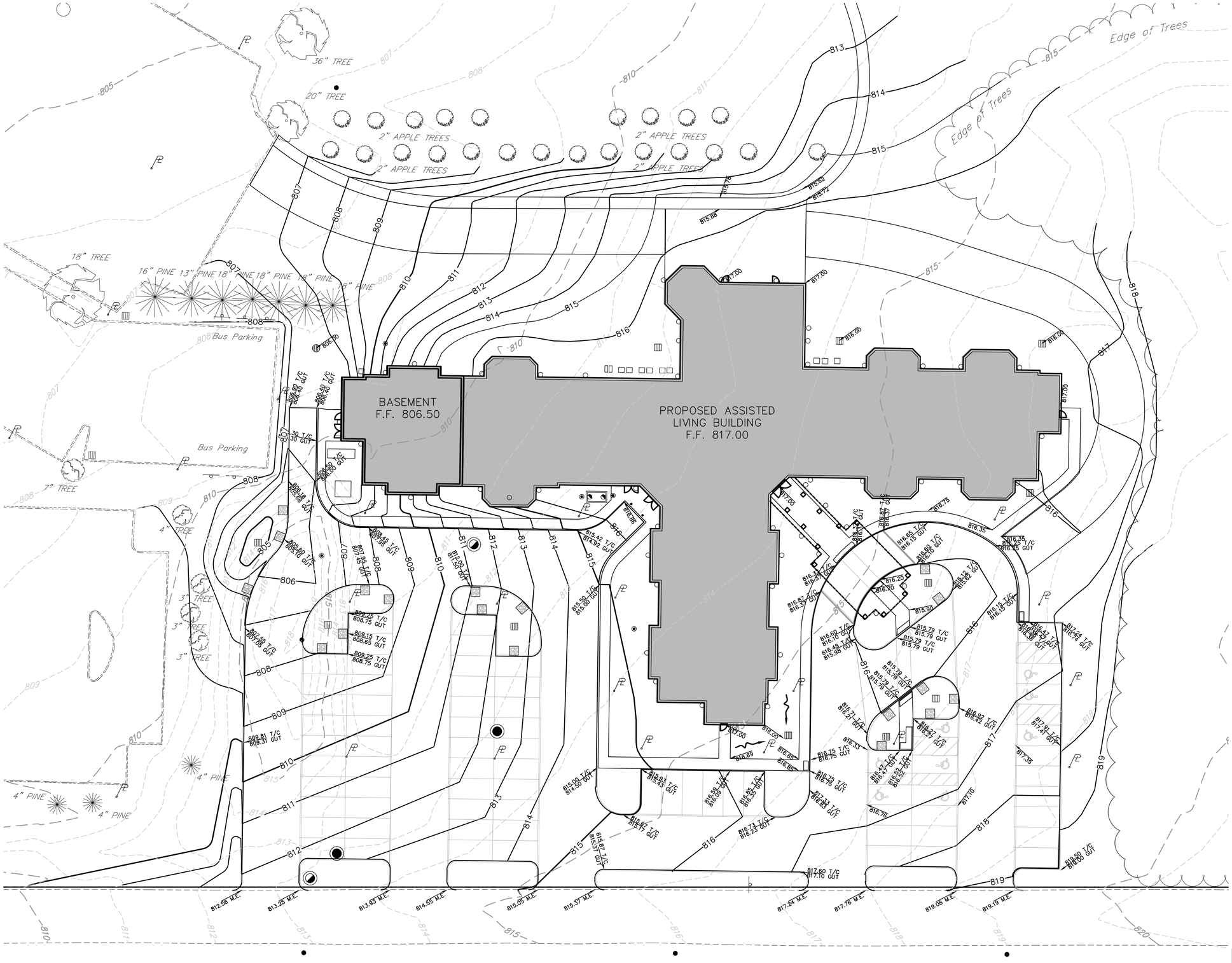
|---|---|---|
| ADD 1 | 11/16/17 | ADDENDUM 01 |
| ADD 2 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 3/13/2018 | CSWCD COMMENTS |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| ADD 3 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| ADD 4 | 4/24/2018 | NEORSD/ CCDPW COMMENTS |

McGregor
SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

PROJECT NO.:

TITLE:
UTILITY PLAN

DRAWING NUMBER: 2017.12
C4.01

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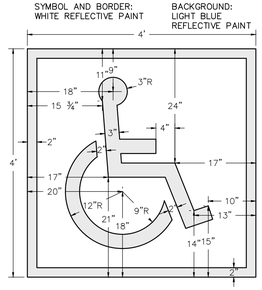
# McGregor

SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

PROJECT NO.:

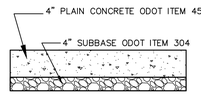
TITLE:
GRADING PLAN

DRAWING NUMBER: 2017.12
C5.01

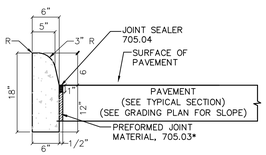



## HANDICAPPED ACCESSIBLE SYMBOL
N.T.S.

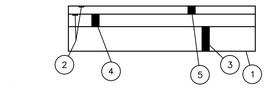
(SHALL CONFORM TO LATEST ADA GUIDELINES)




## CONCRETE SIDEWALK
N.T.S.

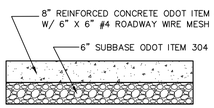



## TYPE 6 CURB DETAIL
N.T.S.

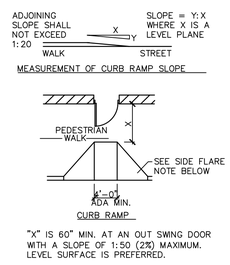


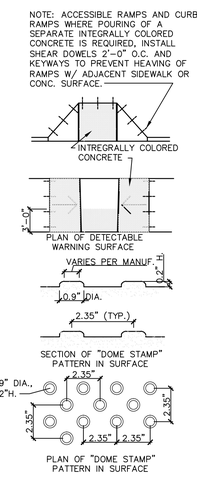

1 –ODOT ITEM – 204 SUBGRADE COMPACTION
2 –ODOT ITEM – 407 TACK COAT
3 –ODOT ITEM – 304 8" BASE COURSE
4 –ODOT ITEM – 448 3 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE
5 –ODOT ITEM – 448 1 1/2" ASPHALT CONCRETE SURFACE COURSE

## TYPICAL HEAVY DUTY ASPHALT SECTION
N.T.S.




## 8" REINFORCED CONCRETE
N.T.S.




NOTES: A CURB RAMP(S) MUST BE PROVIDED ALONG AN ACCESSIBLE PATH FROM THE PARKING LOT TO CURBED SIDEWALK.

A CURB RAMP(S) MUST ALSO BE PROVIDED IN THE PARKING LOT AT ALL INTERMEDIATE AND PERIMETER CURBS ALONG THE ACCESSIBLE ROUTE CONNECTING TO PUBLIC SIDEWALKS.

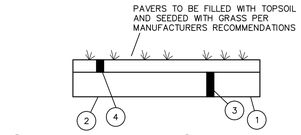
A RAMP IS ANY SLOPE GREATER THAN 1:20 (5%) AND SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.33%). THE MAXIMUM SLOPE IS 1" OF RISE PER FOOT OF DISTANCE TRAVELED. ALL SLOPED AREAS OF THE RAMP ARE TO HAVE AN INTEGRAL COLOR CONTRASTING ADJACENT CONCRETE.

THE CLEAR WIDTH OF ANY RAMP IS A MINIMUM OF 48".

CURB RAMPS DO NOT REQUIRE HANDRAILS. ANY OTHER RAMP WITH GREATER THAN A 6" RISE SHALL HAVE HANDRAILS ON BOTH SIDES AND CURBED EDGE PROTECTION ON BOTH SIDES. EDGE PROTECTION CONSISTS OF CURBS, WALLS, RAILINGS, OR PROJECTING SURFACES THAT PREVENT PEOPLE FROM SLIPPING OFF THE RAMP. HANDRAIL DETAILS SHALL FOLLOW ACCESSIBLE GUIDELINES.

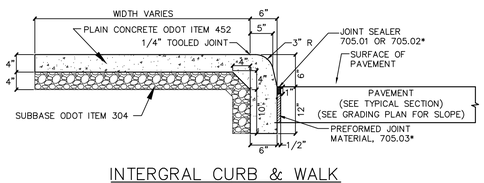
CURB RAMPS MUST HAVE A DETECTABLE WARNING FEATURE EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP. THE DETECTABLE SURFACE MUST CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES, A HEIGHT OF NOMINAL 0.2 INCHES AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT). SEE ABOVE.

## CURB RAMPS AND DETECTABLE WARNINGS
N.T.S.

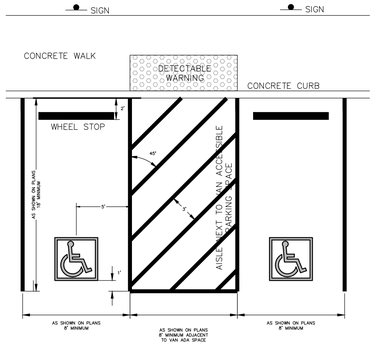



1 –ODOT ITEM – 204 SUBGRADE COMPACTION
2 –GEOTEXTILE FABRIC
3 –#57 LIMESTONE 8" BASE COURSE
4 – GEOBLOCK 5150 OR APPROVED EQUAL

## GRASS PAVER FIRE ACCESS PATH
N.T.S.

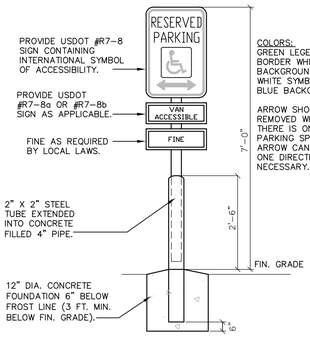



## INTERGRAL CURB & WALK
N.T.S.

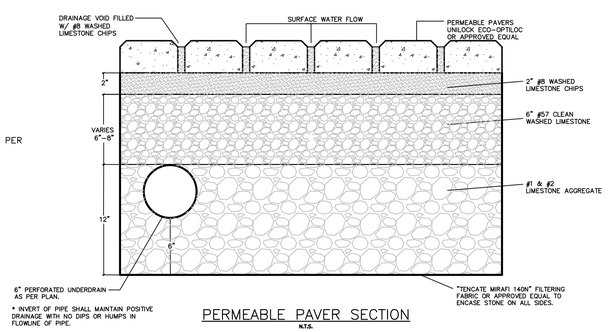



## PARKING STALL DETAIL
N.T.S.

(SHALL CONFORM TO LATEST ADA GUIDELINES)

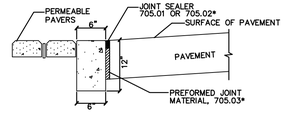



## ADA PARKING SIGN & POST
N.T.S.




• INVERT OF PIPE SHALL MAINTAIN POSITIVE DRAINAGE WITH NO DIPS OR HUMPS IN FLOWLINE OF PIPE.

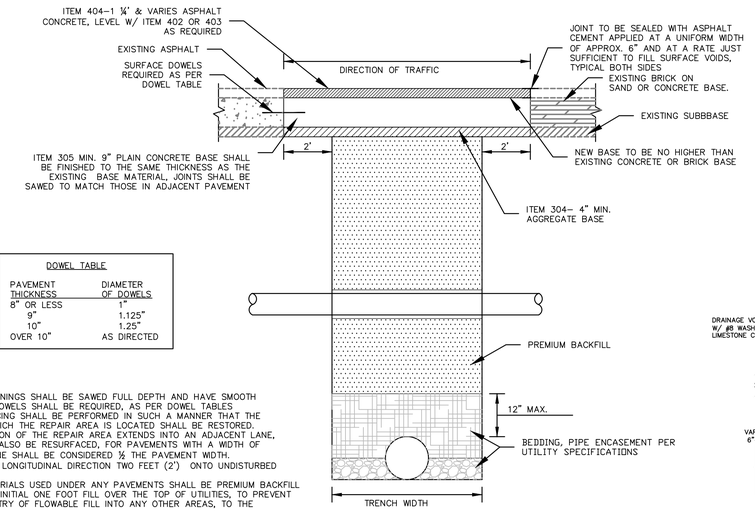
## PERMEABLE PAVER SECTION
N.T.S.




TOP OF THE PAVERS SHALL BE THE SAME ELEVATION AS THE TOP OF THE CONCRETE PAVER EDGE

## CONCRETE PAVER EDGE
N.T.S.

| DOWEL TABLE | |
|---|---|
| PAVEMENT THICKNESS | DIAMETER OF DOWELS |
| 8" OR LESS | 1" |
| 9" | 1.125" |
| 10" | 1.25" |
| OVER 10" | AS DIRECTED |




NOTES:
1. ALL PAVEMENT OPENINGS SHALL BE SAWED FULL DEPTH AND HAVE SMOOTH VERTICAL FACES, DOWELS SHALL BE REQUIRED, AS PER DOWEL TABLES
2. ASPHALT RESURFACING SHALL BE PERFORMED IN SUCH A MANNER THAT THE ENTIRE LANE IN WHICH THE REPAIR AREA IS LOCATED SHALL BE RESTORED, SHOULD ANY PORTION OF THE REPAIR AREA EXTENDS INTO AN ADJACENT LANE, THAT LANE SHALL ALSO BE RESURFACED, FOR PAVEMENTS WITH A WIDTH OF 40' OR LESS A LANE SHALL BE CONSIDERED ½ THE PAVEMENT WIDTH.
3. EXTEND OERCUT IN LONGITUDINAL DIRECTION TWO FEET (2') ONTO UNDISTURBED SUBGRADE.
4. ALL BACKFILL MATERIALS USED UNDER ANY PAVEMENTS SHALL BE PREMIUM BACKFILL PLACED FROM THE INITIAL ONE FOOT FILL OVER THE TOP OF UTILITIES, TO PREVENT FLOTATION AND ENTRY OF FLOWABLE FILL INTO ANY OTHER AREAS, TO THE SUBGRADE.
5. COVER ALL JOINTS IN CLAY PIPE IN THE TRENCH AREA WITH POLYETHYLENE MATERIAL BEFORE POURING FLOWABLE FILL. REPAIR TECHNIQUES SHALL BE IN ACCORDANCE WITH THE UTILITY COMPANY'S STANDARD REPAIR PROCEDURES.

## ASPHALT PAVEMENT REPAIR
NTS

## GENERAL NOTES

1.) A PRE-CONSTRUCTION CONFERENCE SCHEDULED BY THE CONTRACTOR SHALL BE HELD PRIOR TO START OF ANY WORK. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE CITY ENGINEER PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.
2.) ANY AND ALL CHANGES IN PLAN QUANTITIES OR MATERIALS SHALL BE APPROVED IN WRITING BY THE DEVELOPER PRIOR TO INCORPORATION IN THE WORK.
3.) EARTHWORK QUANTITIES:
   A) ALL STUMPS, TREES AND OTHER CONSTRUCTION DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE.
   B) THE CONTRACTOR SHALL PLACE AND COMPACT ALL SUITABLE FILL MATERIAL EXCAVATED DURING HIS CONSTRUCTION OPERATIONS WITHIN THE FILL AREAS DESIGNATED ON THE GRADING PLAN AND/OR AS DIRECTED BY THE DEVELOPER AND/OR HAULED OFF-SITE AT THE DEVELOPER'S DISCRETION.
   C) NO DISPOSAL SITE WITHIN THE PROJECT LIMITS SHALL BE UTILIZED.
4.) SEEDING AND MULCHING: SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY SEEDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISHED GRADING IN ACCORDANCE WITH ITEM 659 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.
5.) ALL TRENCHES IN PAVED AREAS SHALL BE BACKFILLED WITH GRANULAR MATERIALS FROM THE TOP OF THE TRENCH BEDDING. BACKFILL TO BE MECHANICALLY COMPACTED. SLAG NOT ALLOWED.
6.) ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SYSTEM PROHIBITED.
7.) PRIOR TO CONNECTION CONSTRUCTION, CONTRACTOR TO VERIFY LOCATIONS, SIZE AND DEPTH OF EXISTING SEWER & WATER TIE-INS.
8.) THE UTILITY OWNERSHIPS ARE AS FOLLOWS: OUPS CONTACTED 03/01/2017, #A706002673

OHIO UTILITIES PROTECTION SERVICE
106 WEST EYEN – ROOM 427
YOUNGSTOWN, OHIO 44051
PH: (800) 362-2764

CITY OF CLEVELAND
DIVISION OF WATER
1201 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
PH: (216) 664-2444

THE ILLUMINATING COMPANY
6896 MILLER ROAD, SUITE 101
BRECKSVILLE, OHIO 44141
PH: (216) 622-9800

TIME WARNER COMMUNICATION
1100 EAST 222ND STREET
EUCLID, OHIO 44117
PH: (800) 993-2225

DOMINION EAST OHIO GAS CO.
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OHIO 44333
PH: (877) 542-2630

AT&T
13630 LORAIN AVENUE, ROOM 200
CLEVELAND, OHIO 44111
PH: (216) 882-6291

NORTH EAST REGIONAL SEWER DISTRICT
DIVISION OF ENGINEERING
3900 EUCLID AVENUE
CLEVELAND, OH 44114-2504
PH: (216) 881-6600

UNITE PRIVATE NETWORKS
7200 NW 86th STREET, SUITE M
KANSAS CITY, MO 64153
PH: (816) 903-9400

THE LOCATION OF UNDERGROUND UTILITIES ARE PLOTTED ACCORDING TO THE INFORMATION FURNISHED BY THE UTILITIES CONCERNED AND THE ENGINEER DOES NOT GUARANTEE THE ACCURACY THEREOF.
9.) ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL COMPLY WITH U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT, THE STANDARD SPECIFICATIONS OF THE CITY OF EAST CLEVELAND AND THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS LATEST EDITION, EXCEPT WHERE SPECIFICALLY SPECIFIED IN THESE PLANS.
10.) IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL.
11.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MATERIAL TESTING AND ALL PERMITS REQUIRED FOR THIS PROJECT.
12.) THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY FACILITIES ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE FIELD SURVEY IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS AND UTILITY PROTECTION SERVICE LISTED ABOVE IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE AND AS OUTLINED IN PROJECT SPECIFICATIONS.
13.) ALL WORK CONTEMPLATED SHALL BE GOVERNED BY THE RULES, REGULATIONS AND SPECIFICATIONS OF THE CITY OF EAST CLEVELAND ENGINEER AND AT ALL TIMES BE SUBJECT TO THEIR DIRECT SUPERVISION AND INSPECTION.
14.) ALL SANITARY SEWER CONNECTIONS SHALL BE 6" DIAMETER V.C.P. C-700 E.S. w/PREMIUM JOINTS (OR THERMOPLASTIC AS SPECIFIED) @ 1.0% MIN. (INCLUDING TEST TEE LOCATED AT R/W – SEE DETAIL).
15.) ALL EXISTING CONNECTIONS SHALL BE TESTED WITH DYE AND CAMERA BEFORE TYING IN FOR USE WITH PROPOSED LOTS.
16.) COLOR DVD VIDEO OF THE SANITARY AND STORM SEWERS (8" AND GREATER) SHALL BE GIVEN TO THE CITY OF EAST CLEVELAND.
17.) COST OF REMOVAL, FILLING, ABANDONING AND DISPOSAL OF EXISTING SEWERS & CONNECTIONS TO BE INCLUDED IN PRICES BID UNDER OTHER ITEMS (OF SPECIFICATIONS) AND NO ADDITIONAL COMPENSATION WILL BE MADE.
18.) TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION BY THE CONTRACTOR.
19.) ALL SANITARY AND STORM MAIN LINE SEWERS & HOUSE CONNECTIONS SHALL HAVE PREMIUM JOINTS.
20.) FLEXIBLE GASKETS SHALL BE PROVIDED AT ALL SANITARY AND STORM MANHOLES.
21.) FOR CURB INLET MANHOLE, BRICK MAY BE USED TO FIT CASTING.

## ENVIRON. IMPACT NOTES

1.) IF, DURING THE COURSE OF CONSTRUCTION, EVIDENCE OF ANY DEPOSIT OF HISTORICAL AND/OR ARCHAEOLOGICAL INTEREST IS FOUND, CEASE OPERATIONS AFFECTING THE FIND AND NOTIFY THE OHIO HISTORIC PRESERVATION OFFICE AT (614) 297-3470. NO FURTHER DISTURBANCE OF THE DEPOSITS SHALL OCCUR UNTIL THE CONTRACTOR HAS BEEN NOTIFIED BY THE OWNER THAT HE OR SHE MAY PROCEED. THE OWNER WILL ISSUE THE NOTICE TO PROCEED ONLY AFTER THE STATE OHIO OFFICIAL HAS SURVEYED THE FIND AND MADE SUCH A DETERMINATION.
2.) ACCESS FOR EMERGENCY VEHICLES MUST BE PROVIDED AT ALL TIMES.
3.) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES, AND TO PROVIDE WHATEVER TEMPORARY MATERIALS ARE NECESSARY TO PROVIDE A SAFE, ADEQUATE DRIVE SURFACE.
4.) NO MANHOLE OR SEWER EXCAVATION WILL BE LEFT OPEN AWAITING CONNECTION OR REMOVAL AT A LATER DATE BY THE CONTRACTOR'S FORCES, OR OTHERS, BUT SHALL BE TEMPORARILY BACKFILLED AND RESURFACED, IF APPLICABLE, WITH A TEMPORARY PAVEMENT PASSABLE TO TRAFFIC.
5.) BALE FILTER DIKES SHALL BE PLACED AROUND ALL STORM SEWER CATCH BASINS LOCATED IN PROXIMITY TO CONSTRUCTION.
6.) NO MORE THAN 200 TO 300 FEET OF SEWER TRENCH SHALL REMAIN OPEN AT ONE TIME. MATERIALS EXCAVATED DURING TRENCHING SHALL BE PILED ON THE UPHILL SIDE OF THE TRENCH.
7.) STOCKPILED TOPSOIL AND FILL MATERIALS SHALL BE PROTECTED WITH EROSION CONTROL BARRIERS OR TEMPORARY SEEDING. EXCESS SOIL THAT IS STOCKPILED MUST BE EITHER REMOVED OR REGRADED WITHIN 15 DAYS OF THE COMPLETION OF CONSTRUCTION.
8.) IF TREE REMOVAL IS NECESSARY, TREES SHALL BE FELLED IN A MANNER THAT AVOIDS DAMAGE TO ADJACENT REMAINING TREES. WHERE ROOT DAMAGE CANNOT BE AVOIDED, PRUNING AND PAINTING AS APPROPRIATE TO COMPENSATE FOR DAMAGE WILL BE DONE BY AN AUTHORIZED ARBORIST.

## PROOF ROLL

A MINIMUM OF TWO (2) PROOF ROLLINGS WILL BE REQUIRED AS DIRECTED BY THE ENGINEER BEFORE PAVING. THE FIRST PROOF ROLLING SHALL BE PERFORMED AFTER THE INSTALLATION OF ALL UNDERGROUND IMPROVEMENTS AND ROUGH GRADING HAS BEEN COMPLETED. AFTER FINE GRADING, JUST PRIOR TO PAVING, THE SUBGRADE SHALL BE PROOF ROLLED AGAIN. A PROOF ROLLING SHALL CONSIST OF TRAVELING THE ENTIRE AREA OF THE PREPARED SUBGRADE WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PROVIDED BY THE CONTRACTOR. MOISTURE CONTENT ADJUSTMENT METHODS USED AT THE TIME OF PROOF ROLLING SHALL CONFORM TO SECTION 204 (1997) OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. WHERE THIS OPERATION SHOWS THE SUBGRADE TO BE UNSTABLE OR TO HAVE NON-UNIFORM STABILITY, THE CONTRACTOR SHALL CORRECT THE UNSTABLE AREAS AS DIRECTED BY THE ENGINEER. THE MINIMUM EQUIPMENT SHALL CONSIST OF A SINGLE UNIT, TANDEM AXLE DUMP TRUCK CAPABLE OF BEING LOADED TO 30,000 POUND AXLE LOAD, 60,000 POUND GVW. TIRE PRESSURE SHALL BE MAINTAINED AT 90 PSI OR AS SPECIFIED UNDER SECTION 204 (1997) OF ODOT SPECIFICATIONS. ANY AREA PERMITTING TIRES TO LEAVE A GROOVE OF ONE (1) INCH OR MORE SHALL BE UNACCEPTABLE FOR PAVING. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ZERO (0) TO ONE-HALF (1/2) INCH DEEP SHALL BE ACCEPTABLE. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ONE-HALF (1/2) INCH TO ONE (1) INCH DEEP SHALL BE AT THE ENGINEER'S DISCRETION.


hds ARCHITECTURE
HDS ARCHITECTURE INC
1939 West 25th Street, Suite 300 Cleveland, Ohio 44113
P 216.696.3460 F 216.696.1152 www.hds-architecture.com


| MARK | DATE | PURPOSE |
|---|---|---|
| ADD 1 | 11/16/17 | ADDENDUM 01 |
| ADD 2 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 3/13/2018 | CSWCD COMMENTS |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| ADD 3 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| ADD 4 | 4/24/2018 | NEORSD / CCDPW COMMENTS |

McGregor
SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

PROJECT NO.:

TITLE:
NOTES & DETAILS

DRAWING NUMBER: 2017.12
C6.01A




RIVERSTONE
LAND SURVEYING · ENGINEERING · DESIGN
3800 LAKESIDE AVENUE · SUITE 100
CLEVELAND · OHIO · 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONESURVEY.COM

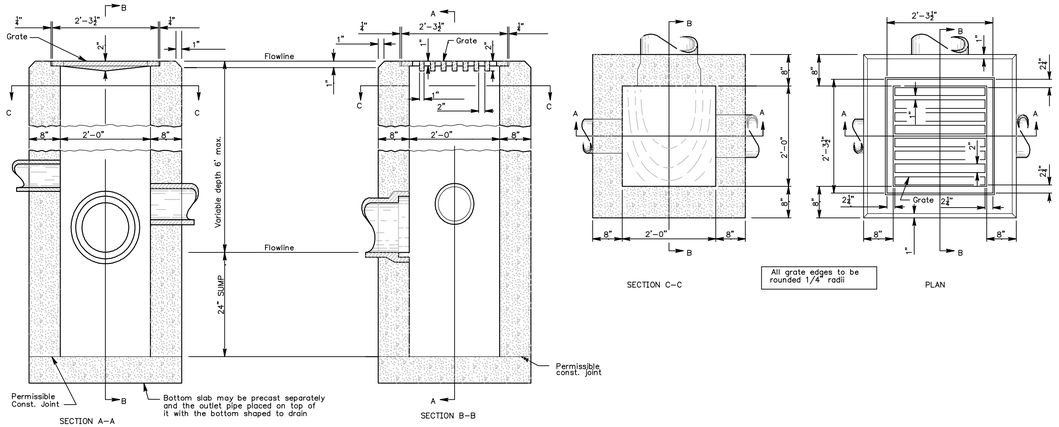

17-094

## NOTES FOR STORM SEWERS

1.) THE FOLLOWING PIPES ARE APPROVED FOR THIS PROJECT:
   A) 18" & UNDER – V.C.P. C-700 ES w/PREM. JTS.
   B) 21" & OVER – R.C.P. CL. III w/PREM. JTS.
   C) PVC SDR 35 FOR SEWER DEPTHS LESS THAN 13'
   D) PVC SDR 26 FOR SEWER DEPTHS MORE THAN 13'
   E) ALUMINIZED SPIRAL RIBBED PIPE
   F) HDPE
2.) PIPE REQUIRES #57 LIMESTONE BACKFILL 12" OVER TOP OF PIPE
3.) CONTRACTOR SHALL INCLUDE COST OF GRANULAR BACKFILL MATERIAL UNDER ALL EXISTING AND PROPOSED PAVEMENTS IN PRICE BID PER LINEAL FOOT OF PIPE.
4.) PRIOR TO THE ACCEPTANCE OF THE COMPLETED SEWER LINE, A MANDREL OF NOT LESS THAN NINETY-FIVE PERCENT (95% OF THE AVERAGE CALCULATED REFERENCE INTERNAL DIAMETER OF THE PIPE SHALL BE PULLED BY HAND FREELY THROUGH EACH SECTION OF SEWER PIPE NOT LESS THAN THIRTY (30) DAYS AFTER INSTALLATION AND FINAL BACKFILL.

## NOTES FOR SANITARY SEWERS

1.) THE FOLLOWING PIPES ARE APPROVED FOR THIS PROJECT:
   A) V.C.P., C-700 ES w/PREM. JTS. (ASTM C-425 )
   B) PVC SDR 35 FOR SEWER DEPTHS LESS THAN 13'
   C) PVC SDR 26 FOR SEWER DEPTHS MORE THAN 13'
2.) ALL 6" SAN LATERAL CONNECTIONS SHALL BE AT A MINIMUM SLOPE OF 1.0%
3.) PIPE REQUIRES #57 LIMESTONE BACKFILL 12" OVER TOP OF PIPE.
4.) CONTRACTOR SHALL INCLUDE COST OF GRANULAR BACKFILL MATERIAL UNDER ALL EXISTING AND PROPOSED PAVEMENTS IN PRICE BID PER LINEAL FOOT OF PIPE.
5.) ALL SANITARY SEWER TO BE C.P. AIR TESTED PER ASTM C-828-80
6.) ALL SANITARY SEWER SYSTEMS MUST PASS AN EXFILTRATION AND AN INFILTRATION TEST AFTER CONSTRUCTION HAS BEEN COMPLETED. THE MAXIMUM RATE OF INFILTRATION SHALL BE 100 GALLONS PER INCH DIAMETER OF SEWER PER MILE, PER DAY, FOR V.C.P. AND 50 GALLONS FOR PVC.
7.) PRIOR TO THE ACCEPTANCE OF THE COMPLETED SEWER LINE, A MANDREL OF NOT LESS THAN NINETY-FIVE PERCENT (95%) OF THE AVERAGE CALCULATED REFERENCE INTERNAL DIAMETER OF THE PIPE SHALL BE PULLED BY HAND FREELY THROUGH EACH SECTION OF SEWER PIPE NOT LESS THAN THIRTY (30) DAYS AFTER INSTALLATION AND FINAL BACKFILL.




NOTES:

CATCH BASINS 2-2B: This sheet depicts Catch Basin 2-2B

GRATE: The design shall be essentially the same and equally as strong as the one shown (see construction information table), or meet the requirements of CMS 711.14. Grate openings and dimensions shall not differ from those shown unless otherwise shown in the plans.

If necessary, bicycle safe grates shall be specifed in the plans. Bicycle safe grates shall be Neenah No. R-4859-C or East Jordan No. 5110 Type M3 or approved equal.

As of January 1, 2003, the following text shall be cast into the top of the grate: "DUMP NO WASTE" and "DRAINS TO WATERWAY" Text shall be printed in bold, capital letters with a minimum height of 1/2". "WATERWAY" may be substituted with "STREAM","RIVER","LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Brick or cast-in-place walls have a nominal thickness of 8". Precast walls shall have a minimum thickness of 6" and be reinforced sufficiently to permit shipping and handling without damage.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 and be marked with the catch basin number.

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

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

MINIMUM DEPTH: The minimum depth for CB No. 2-2B shall be the O.D. of the outlet pipe plus 4"

2-2B GRATE ELEVATION: Grate elevation is to be placed 4" to 6" Below normal ditch returning to normal 10' to 15' each side of inlet.

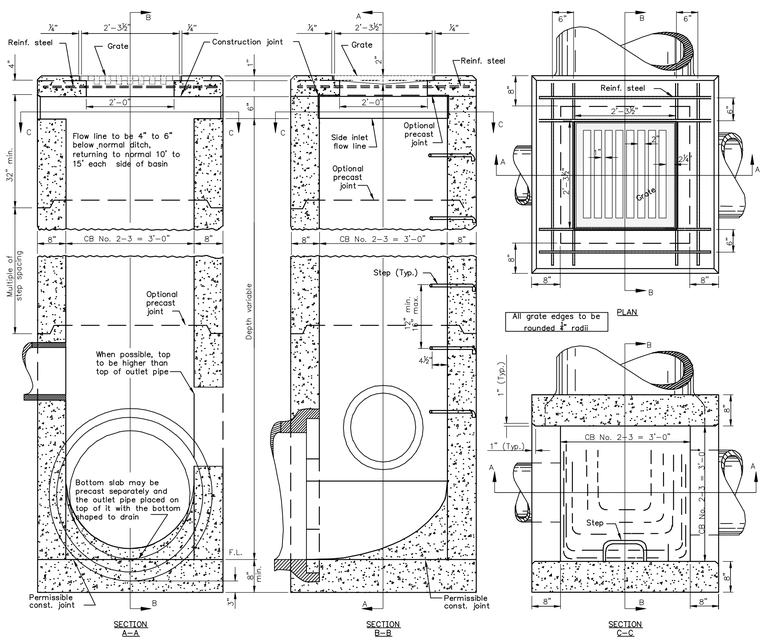
OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" When fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

PAYMENT: All materials and labor, including excavation and backfilling, shall be paid for under item 604 – Catch Basin, No. 2-2B.

| CONSTRUCTION INFORMATION |
|---|
| Minimum weight of grate, 120 lbs. |

| CATCH BASIN | OUTLET PIPE SIZE |
|---|---|
| 2-2A | 12" to 21" (300 to 525) |
| 2-2B | 12" to 21" (300 to 525) |

## CATCH BASIN No. 2-2B
N.T.S.




NOTES:

GRATE: The design shall be essentially the same and equally as strong as the one shown (see construction information table), or meet the requirements of CMS 711.14, grate openings and dimensions shall not differ from those unless otherwise shown on the plan.

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

As of January 1, 2003, the following text shall be cast into the top of the grate:

"DUMP NO WASTE" and "DRAINS TO WATERWAY"

Text shall be printed in bold, capital letters with a minimum height of ½". "WATERWAY" may be substituted with "STREAM","RIVER","LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Brick or cast-in-place walls shall have a nominal thickness of 8". Precast walls shall have a minimum thickness of 6" and be reinforced sufficiently to permit shipping and handling without damage. Precast tops shall be 8" thick.

STEPS: Steps shall be provided where the depth exceeds 6' and shall meet the requirements of SCD MH-1.1

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 and be marked with the catch basin number.

REINFORCEMENT: Reinforcing in the top is to be #4 bars spaced at 6" center to center. For Catch Basin No. 2-3 use eight bars and for Catch Basin No. 2-4 use twelve bars.

INLETS OVER 12 FEET IN DEPTH:
Shall be precast or cast-in place concrete; reinforced 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, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used 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 shall be at the flow line of the side inlet.

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

OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" when prefabricated or field cut. Fill any voids per CMS 601.

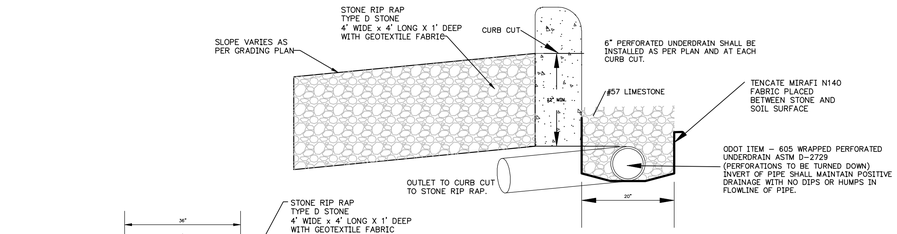
SIDE INLETS: Inlets shall be provided on both sides of the No. 2-3 and 2-4 catch basin in sags and on upstream side only where the ditch has a continuous down grade past the catch basin. Catch basins with side inlets shall not be used within the Clear Zone.

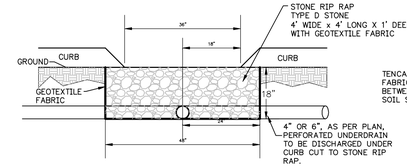
PAYMENT: All materials and labor, including excavation and backfill, shall be paid for under Item 604 – Catch Basin, No. 2-3 or Item 604 – Catch Basin No. 2-4.

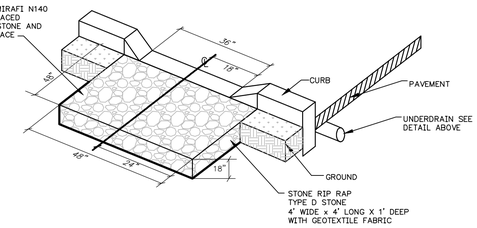
| CATCH BASIN | OUTLET PIPE SIZE |
|---|---|
| 2-3 | 12" to 33" |

| CONSTRUCTION INFORMATION |
|---|
| Minimum Weight of grate 120 lbs. |

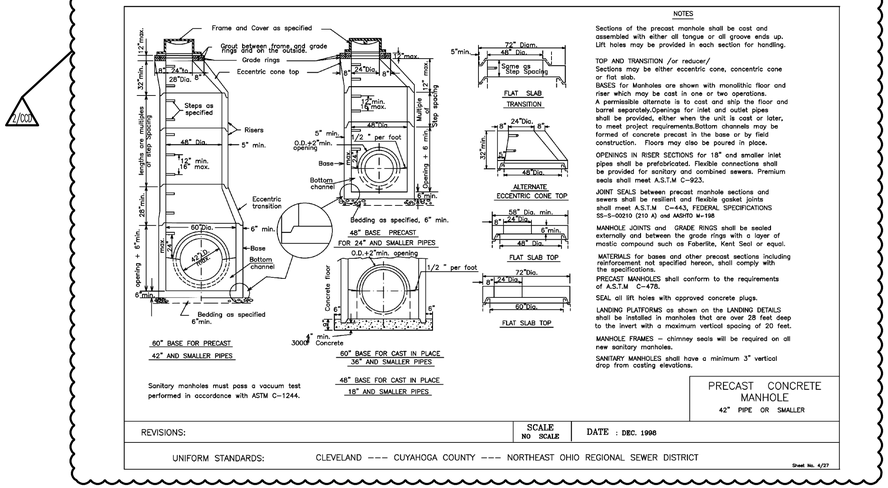
## CATCH BASIN 2-3
N.T.S.




## DRAINAGE CURB CUT WITH STONE RIP RAP
N.T.S.





hds ARCHITECTURE

HDS ARCHITECTURE INC
1939 West 25th Street, Suite 300 Cleveland, Ohio 44113
P 216.696.3460 F 216.696.1152 www.hds-architecture.com


| MARK | DATE | PURPOSE |
|---|---|---|
| 1 | 11/16/17 | ADDENDUM 01 |
| 2 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 3/13/2018 | CSWCD COMMENTS |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| 3 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| 4 | 4/24/2018 | NEORSD / CCDPW COMMENTS |

McGregor

SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

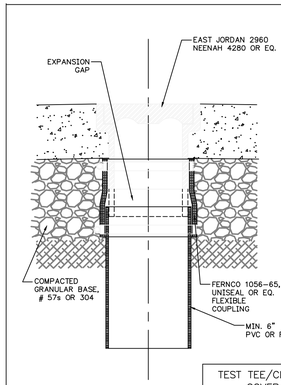

PROJECT NO.:

TITLE:
NOTES & DETAILS

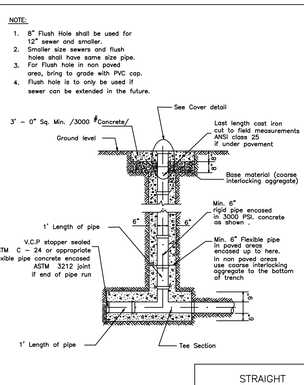
DRAWING NUMBER: 2017.12
C6.02


RIVERSTONE
LAND SURVEYING - ENGINEERING - DESIGN
3800 LAKESIDE AVENUE - SUITE 100
CLEVELAND - OHIO - 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONESURVEY.COM


17-094




TEST TEE/CLEANOUT COVER IN PAVEMENT



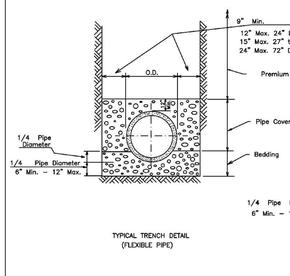

STRAIGHT FLUSH HOLE

| REVISIONS: | SCALE NO SCALE | DATE APRIL 6, 2015 | REVISIONS: | SCALE NO SCALE | DATE APRIL 6, 2015 |
|---|---|---|---|---|---|

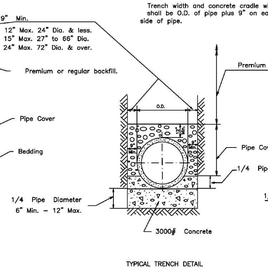
CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS SEWER DETAILS

Sheet No.178/27

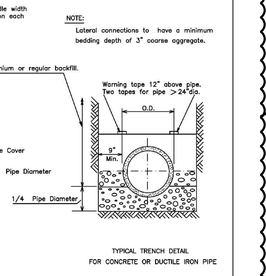
1




TYPICAL TRENCH DETAIL (FLEXIBLE PIPE)




TYPICAL TRENCH DETAIL WITH CONCRETE CRADLE




TYPICAL TRENCH DETAIL FOR CONCRETE OR DUCTILE IRON PIPE

NOTE:
Lateral connections to have a minimum bedding depth of 3" coarse aggregate.

Pipe Cover shall consist of coarse interlocking aggregate no. 57,6,67,68,7,78,or8.

Bedding shall consist of coarse interlocking aggregate no.57,6,67, 68, 7, 78, or 8 for 60" or smaller diameter pipe. For 66" or larger diameter pipe no. 4 aggregate may also be used.

Premium Backfill shall consist of coarse interlocking aggregate no. 57,6,67,68,7,78,8,304, also limestone screenings.

For concrete and ductile iron pipe, pipe cover is to the springline or greater.

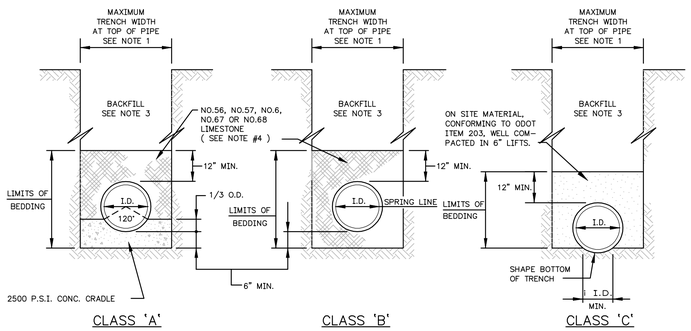
In paved areas coarse interlocking aggregate to the top of the trench on all types of pipe.

TYPICAL TRENCH DETAILS STORM AND SANITARY

| REVISIONS: | SCALE NO SCALE | DATE : DEC. 1998 |
|---|---|---|

UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT

Sheet No.11/27



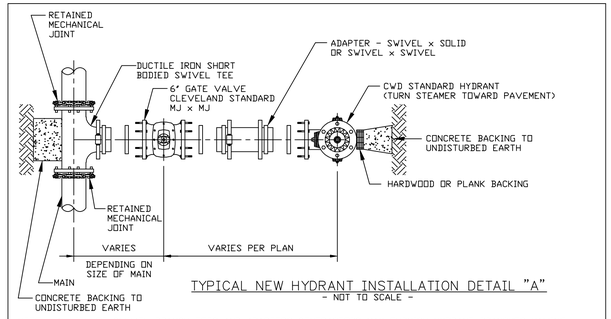

CLASS 'A' CLASS 'B' CLASS 'C'

NOTES:

1. MAXIMUM TRENCH AT TOP OF PIPE SHALL BE O.D.+24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D.; O.D.+30" FOR PIPE LARGER THAN 24" I.D. TO 54" I.D.; AND O.D.+48" FOR PIPE SIZES 60" AND OVER.
2. ALL TRENCH EXCAVATION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE OHIO STATE INDUSTRIAL COMMISSION (OSIC) AND THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).
3. ALL BACKFILL MATERIAL USED UNDER ANY PAVEMENTS SHALL BE PREMIUM BACKFILL PLACED FROM THE INITIAL ONE FOOT OVER THE TOP OF UTILITIES, TO PREVENT FLOTATION AND ENTRY OF FLOWABLE FILL INTO ANY OTHER AREAS, TO THE SUBGRADE. ALL OTHER AREAS SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND SHALL BE TAMPED WITH MACHINE MOUNTED TAMPING EQUIPMENT. NO FLOODING, JETTING OR PUDDLING OF BACKFILL WILL BE PERMITTED. BACKFILL SHALL BE COMPACTED TO 100% OF MAXIMUM LABORATORY DRY DENSITY PER ASTM D 698.
4. ALL BEDDING SHALL BE CLASS 'B' EXCEPT AS STATED IN NOTE 6 OR OTHERWISE NOTED ON THE PLANS. BEDDING LIMITS FOR R.C.P. AND D.I.P. SHALL BE TO THE PIPE SPRINGLINE.
5. SLAG BEDDING SHALL NOT BE USED.
6. BEDDING FOR DUCTILE IRON PIPE USED FOR WATERLINE OR FORCE MAIN SHALL BE CLASS 'C' EXCEPT WHEN INSTALLED IN ROCK AND UNDER PAVEMENT OR STRUCTURES, IN WHICH CASE, BEDDING SHALL BE CLASS 'B' OR AS NOTED ON THE PLANS.
7. INSTALL A MAGNETIC DETECTOR TAPE 12" ABOVE THE CENTERLINE OF NON-METALLIC WATERLINES OR SANITARY FORCE MAINS.

## TRENCH & BEDDING DETAILS

NTS



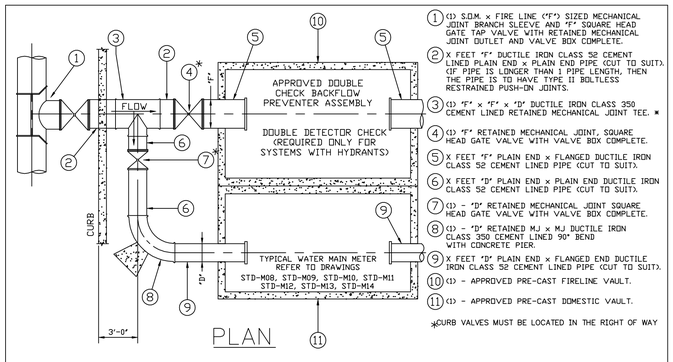

TYPICAL NEW HYDRANT INSTALLATION DETAIL "A"
- NOT TO SCALE -

NOTE: IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-1-5/A21.5-88 CLASS 'C' METHOD 'B'.

ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

STD-H09 | DATE: 3-4-2002 | BY: RSK

2.003




1. (1) S.D.M. x FIRE LINE ("F") SIZED MECHANICAL JOINT BRANCH SLEEVE AND "F" SQUARE HEAD GATE TAP VALVE WITH RETAINED MECHANICAL JOINT OUTLET AND VALVE BOX COMPLETE.
2. X FEET "F" DUCTILE IRON CLASS 52 CEMENT LINED PLAIN END x PLAIN END PIPE (CUT TO SUIT). (IF PIPE IS LONGER THAN 1 PIPE LENGTH, THEN THE PIPE IS TO HAVE TYPE II BOLTLESS RESTRAINED PUSH-ON JOINTS.
3. (1) "F" x "F" x "D" DUCTILE IRON CLASS 350 CEMENT LINED RETAINED MECHANICAL JOINT TEE. *
4. (1) "F" RETAINED MECHANICAL JOINT, SQUARE HEAD GATE VALVE WITH VALVE BOX COMPLETE.
5. X FEET "F" PLAIN END x FLANGED DUCTILE IRON CLASS 52 CEMENT LINED PIPE (CUT TO SUIT).
6. X FEET "D" PLAIN END x PLAIN END DUCTILE IRON CLASS 52 CEMENT LINED PIPE (CUT TO SUIT).
7. (1) - "D" RETAINED MECHANICAL JOINT SQUARE HEAD GATE VALVE WITH VALVE BOX COMPLETE.
8. (1) - "D" RETAINED MJ x MJ DUCTILE IRON CLASS 350 CEMENT LINED 90° BEND WITH CONCRETE PIER.
9. X FEET "D" PLAIN END x FLANGED END DUCTILE IRON CLASS 52 CEMENT LINED PIPE (CUT TO SUIT).
10. (1) - APPROVED PRE-CAST FIRELINE VAULT.
11. (1) - APPROVED PRE-CAST DOMESTIC VAULT.

*CURB VALVES MUST BE LOCATED IN THE RIGHT OF WAY

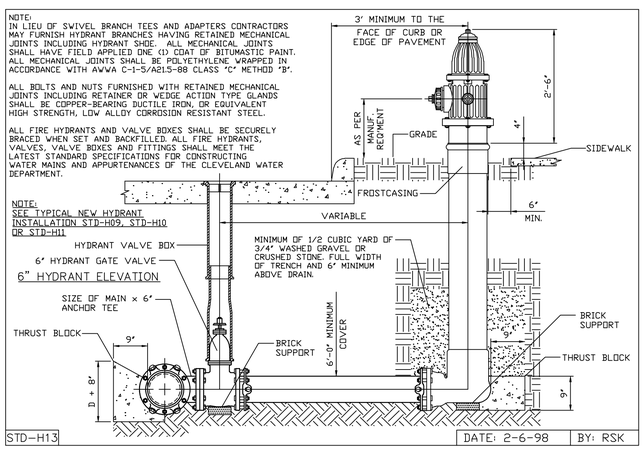
'F' - DENOTES NOMINAL PIPE DIAMETER OF FIRE LINE.

'D' - DENOTES NOMINAL PIPE DIAMETER OF DOMESTIC LINE.

* MAY SUBTITUTE "F" x "F" x "F" DUCTILE IRON CLASS 350 CEMENT LINED RETAINED MECHANICAL JOINT TEE AND "F" x "D" DUCTILE IRON CLASS 350 CEMENT LINED RETAINED MECHANICAL JOINT PLAIN END x PLAIN END REDUCER FOR ITEM (3).

STANDARD DETAILS
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER
CLEVELAND, OHIO

| SUBJECT | SINGLE FEED/SEPARATE VAULTS DOMESTIC - FIRELINE CONNECTION 4"-12" DOMESTIC/4"-12" FIRELINE | |
|---|---|---|
| DRAWN BY RSK | -SCALE- NONE | STD-V04 |
| DATE 12-8-1999 | | |
| CHECKED BY ___ DATE ___ | | |




STD-H13 | DATE: 2-6-98 | BY: RSK

## CLEVELAND DIVISION OF WATER NOTES FOR NEW WATER MAIN INSTALLATION

UPDATED 5-22-2012

CONTRACTOR IS TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND, DIVISION OF WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM.

### GENERAL:

1. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE CLEVELAND DIVISION OF WATER, SHALL BE AT THE EXPENSE OF THE PROJECT.
2. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF WORK/CHARGE LETTER AND STRIP MAPS ARE TAKEN FROM EXISTING AVAILABLE RECORDS, AND THEIR ACCURACY IS NOT GUARANTEED.
3. CALL THE INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING. THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY CONTRACTORS OR THEIR EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF THE CLEVELAND DIVISION OF WATER INSPECTOR.
4. THE MUNICIPALITY SHALL REQUIRE THAT THE PROJECT'S PROFESSIONAL ENGINEER OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CWD INSPECTOR WITH RECORD PRINTS IN A FORM ACCEPTABLE TO THE DIVISION OF WATER. THE CLEVELAND DIVISION OF WATER WILL REQUIRE THE DELIVERY AND ACCEPTANCE OF TWO COPIES OF RECORD (AS BUILT) PRINTS BEFORE THE PRESSURE TEST AND CHLORINATION OF THE MAIN.
5. FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL PROVIDE AND INSTALL, AT EACH OF THE CHLORINATION PIT LOCATIONS SHOWN AND AT OTHER LOCATIONS DETERMINED BY THE DIVISION OF WATER, FLUSHING/SAMPLING TAPS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER. CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE MEETING OSHA STANDARDS.
6. A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CHLORINATION OF THE WATER MAIN INSTALLATION, SHALL BE PROVIDED BY THE BUILDER/DEVELOPER AND/OR CONTRACTOR FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR, INCLUDING RETAPS, SHOULD ANY LEAKS OCCUR AND REPAIRS BE REQUIRED DUE TO DEFECTIVE MATERIAL OR POOR WORKMANSHIP.
7. USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND WATER SERVICE CONNECTIONS ARE EXPOSED. (SEE DIVISION OF WATER STANDARD DETAIL STD-001).
8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT DIVISION OF WATER SPECIFICATIONS, ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION OF WATER'S STANDARDS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONNECTING THE NEW WATER MAIN FOR THE HYDROSTATIC TEST. ALL REPAIRS TO DAMAGED EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE DIVISION OF WATER. (REFER TO THE THE ALTERNATE TEST DETAIL STD-002 AS NEEDED).
10. ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE DIVISION OF WATER'S INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI. THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO (2) HOURS WITH THE PRESSURE BEING MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE. SHOULD THE PRESSURE TEST FAIL THE CONTRACTOR SHALL FIND AND CORRECT THE DEFICIENCY(IES) TO THE SATISFACTION OF THE DIVISION OF WATER AND REPEAT THE TWO (2) HOUR PRESSURE TEST.
11. ALL BURIED WATER MAIN, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH POLYETHYLENE WRAPPING IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANSI/AWWA C-105/A21.5 INSTALLATION METHOD A. ALTERNATE INSTALLATION METHOD A FOR WET TRENCH CONDITIONS SHALL BE USED WHEN WATER MAIN ARE INSTALLED IN UNPAVED LOCATIONS SUCH AS TREE LAWNS AND EASEMENTS TRAVERSING PRIVATE PROPERTY.

### WATER MAINS:

12A. ALL PIPE, UNLESS OTHERWISE CALLED FOR, SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET AND INSTALLED PER THE MOST CURRENT REVISION OF AWWA C600.

12B. ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED OR FUSION BONDED EPOXY COATED, ALL FITTINGS AND PIPE CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C-110/A21.10 AND ANSI/AWWA C-111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C-153/A21.53. EXCEPT FOR ANCHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES WHEN DIRECTED BY CLEVELAND DIVISION OF WATER, ALL FITTINGS ARE TO HAVE BELL ENDS.

12C. ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING.

12D. WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE AN APPROVED "TYPE 1" OR "TYPE 11" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.

12E. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT PLUGS AS PER THE "PREVENTATIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED. THE STATIONING SHALL BE SHOWN BY THE USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE ENDS.

PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CWD INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. PHOTOS ARE TO INCLUDE STATIONING MARKERS. AS-BUILTS SHALL BE DEEMED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

### HYDRANTS:

13. IN ALL HYDRANT INSTALLATIONS THE CONTRACTOR SHALL FACE ALL HYDRANT'S 4" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT MODEL AND NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS.
14. ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515.

### CONNECTIONS:

15. WATER CONNECTIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. ADDITIONAL PERMITS FOR SERVICE CONNECTIONS MUST BE OBTAINED FROM THE DIVISION OF WATER PRIOR TO INSTALLATION OF ANY PORTION OF THE SERVICE CONNECTION(S). IT IS THE CONTRACTORS RESPONSIBILITY TO ARRANGE FOR PERMITS FOR ALL SIZE WATER SERVICE CONNECTIONS BEFORE PERFORMING ANY WORK. THE AMOUNT OF THE CHARGES CAN BE OBTAINED FROM THE DIVISION OF WATER PERMITS AND SALES SECTION AT 216-664-2444 EXT. 5203.
16. ONE INCH SERVICE CONNECTIONS SHALL BE PERMITTED TO SERVICE HOMES BASED ON THE FOLLOWING CRITERIA:
    - PEAK FLOW DEMANDS DO NOT EXCEED 25 GPM FOR AN INDIVIDUAL HOME/UNIT. INCLUSIVE OF ALL USAGE (FIRE, DOMESTIC AND/OR IRRIGATION) AND
    - LENGTH OF ONE INCH CONNECTION DOES NOT EXCEED 75 FEET AS MEASURED FROM THE MAIN TO THE POINT OF ENTRY INTO THE PROPOSED HOME/UNIT.

    ANY SERVICE REQUESTS DIFFERING FROM THE STATED CRITERIA SHALL REQUIRE THE SUBMITTAL OF A COMPLETE WATER SERVICE APPLICATION. PEAK DEMANDS ARE TO BE ASSESSED ON APPLICATION AND SETBACKS ARE TO BE SHOWN ON AN ACCOMPANYING SITE PLAN. SITE PLANS SHALL SHOW WATER METER VAULTS IN THE RIGHT OF WAY OR IN AN EASEMENT CONTIGUOUS TO THE RIGHT OF WAY FOR ANY HOMES/UNITS WITH SETBACKS GREATER THEN 150 FEET. EASEMENTS ARE TO BE PROVIDED WITH THE SERVICE CONNECTION APPLICATION SUBMITTAL.
17. ALL WATER MAIN CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE.

### EMERGENCIES:

18. IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, PLEASE NOTIFY THE DIVISION OF WATER AT 216-664-3060.

RIVERSTONE
LAND SURVEYING - ENGINEERING - DESIGN
3800 LAKESIDE AVENUE - SUITE 100
CLEVELAND - OHIO - 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONESURVEY.COM

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hds ARCHITECTURE
HDS ARCHITECTURE INC
1939 West 25th Street, Suite 300 Cleveland, Ohio 44113
P 216.696.3460 F 216.696.1152 www.hds-architecture.com

| MARK | DATE | PURPOSE |
|---|---|---|
| 001 | 11/16/17 | ADDENDUM 01 |
| 002 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 3/13/2018 | CSWCD COMMENTS |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| 003 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| | 4/24/2018 | NEORSD /CCDPW COMMENTS |

McGregor
SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

STATE OF OHIO DAVID A. PIETRANTONE E-61756 REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.:

TITLE:
NOTES & DETAILS

DRAWING NUMBER: 2017.12
C6.03

## SERIES B1A TRASH BASKET

HALLIDAY PRODUCTS

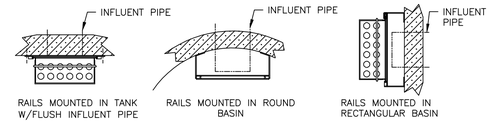
www.HallidayProducts.com
Phone 800-298-1027
Fax 407-298-4534
Sales@HallidayProducts.com

**STANDARD FEATURES:**

- ALL ALUMINUM CONSTRUCTION
- PERFORATED SCREENING STYLE
- EXTRUDED ALUMINUM GUIDERAIL SYSTEM
- OTHER SIZES AVAILABLE
- MODEL B4A STAINLESS STEEL BASKET AVAILABLE
- STAINLESS STEEL PIPE RAIL SYSTEM AVAILABLE
- 3 YEAR GUARANTEE

REQUIRED INFORMATION:

- BASIN DIAMETER
- RAIL LENGTH
- LENGTH OF STANDOFF (IF REQUIRED)



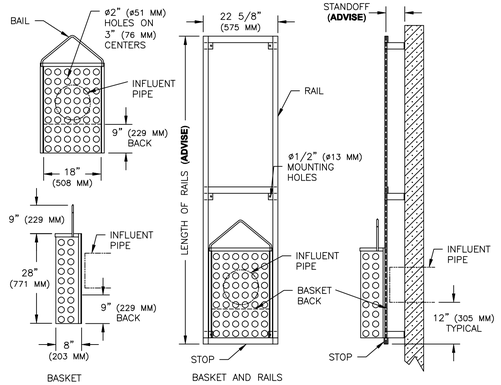

RAILS MOUNTED IN TANK W/FLUSH INFLUENT PIPE

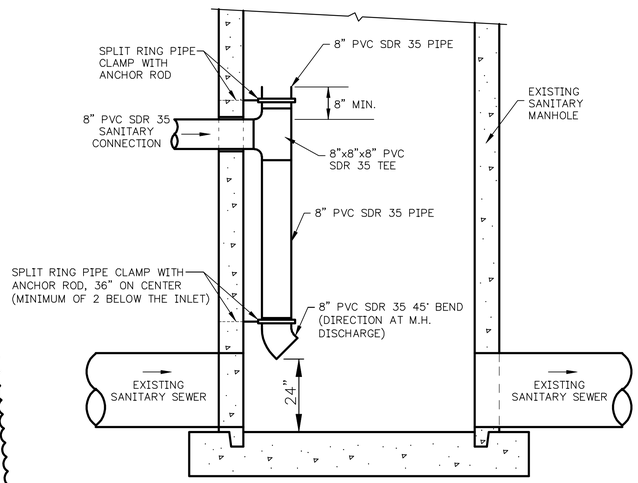



RAILS MOUNTED IN ROUND BASIN



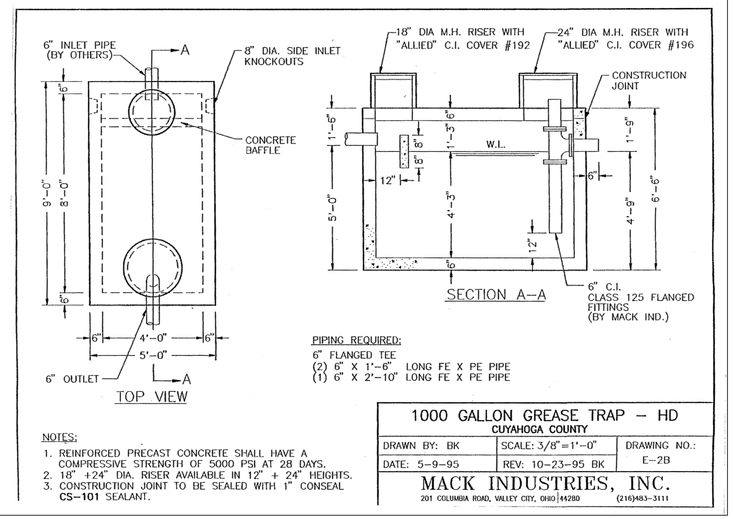

RAILS MOUNTED IN RECTANGULAR BASIN




DROP CONNECTION INSIDE MANHOLE
NTS

GREASE TRAP STRUCTURE, MH RISERS AND COVERS SHALL BE TRAFFIC BEARING FOR UNDER PAVEMENT INSTALLATION




PIPING REQUIRED:
6" FLANGED TEE
(2) 6" X 1'-6" LONG FE X PE PIPE
(1) 6" X 2'-10" LONG FE X PE PIPE

NOTES:
1. REINFORCED PRECAST CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
2. 18" +24" DIA. RISER AVAILABLE IN 12" + 24" HEIGHTS.
3. CONSTRUCTION JOINT TO BE SEALED WITH 1" CONSEAL CS-101 SEALANT.

| 1000 GALLON GREASE TRAP - HD<br>CUYAHOGA COUNTY | | |
|---|---|---|
| DRAWN BY: BK | SCALE: 3/8"=1'-0" | DRAWING NO.: E-2B |
| DATE: 5-9-95 | REV: 10-23-95 BK | |
| MACK INDUSTRIES, INC.<br>201 COLUMBIA ROAD, VALLEY CITY, OHIO 44280 (216)483-3111 | | |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| DIR2 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| 1 | 4/24/2018 | NEORSD / CCDPW COMMENTS |

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DAVID A. PIETRANTONE
E-61756
REGISTERED
PROFESSIONAL ENGINEER

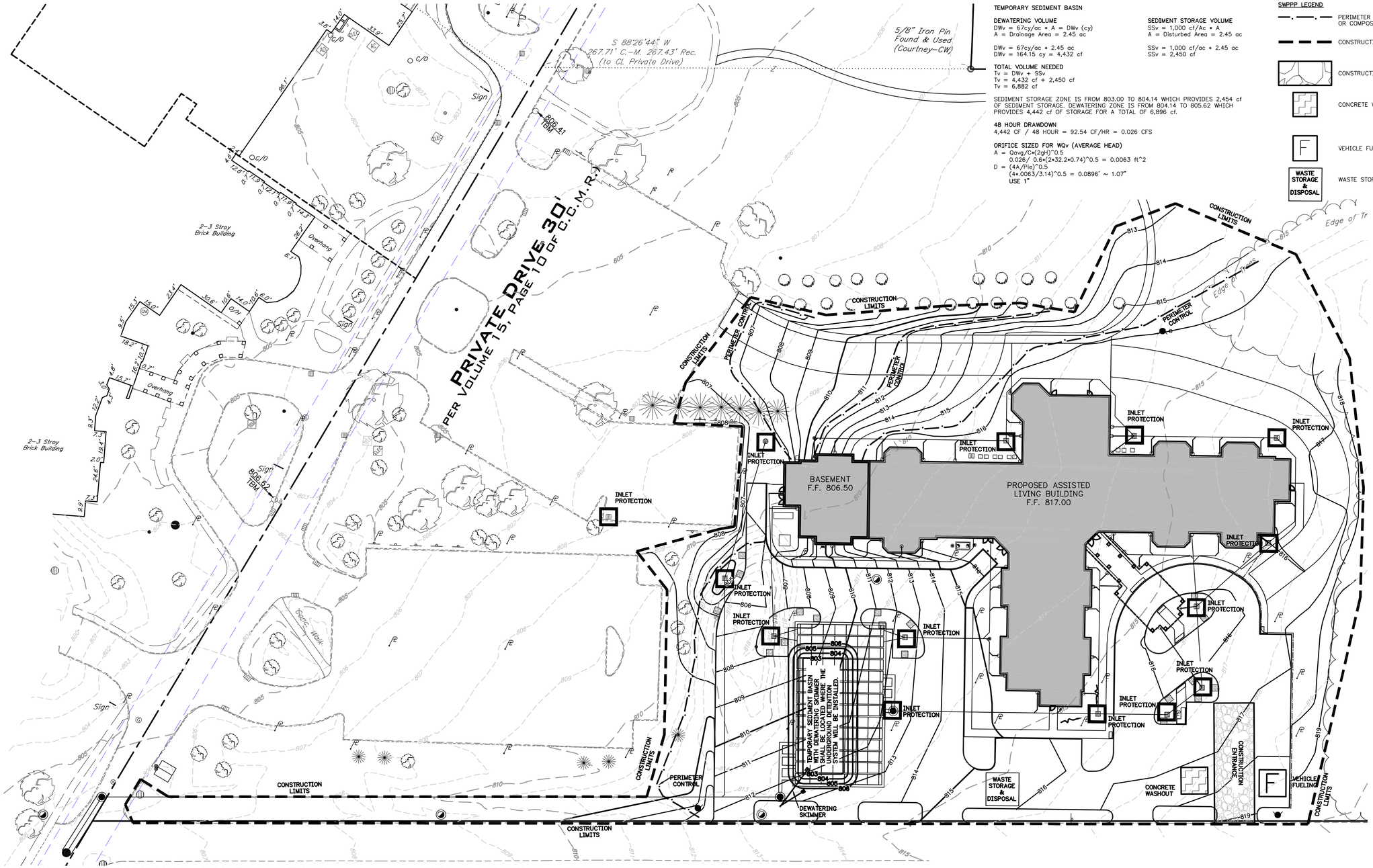
PROJECT NO.:

TITLE:
NOTES & DETAILS


RIVERSTONE
LAND SURVEYING - ENGINEERING - DESIGN
3800 LAKESIDE AVENUE - SUITE 100
CLEVELAND - OHIO - 44114
PHONE: (216) 491-2000 FAX: (216) 491-9640
WWW.RIVERSTONESURVEY.COM


17-094

DRAWING NUMBER: 2017.12
C6.04




**TEMPORARY SEDIMENT BASIN**

**DEWATERING VOLUME**
DWv = 67cy/ac * A = DWv (cy)
A = Drainage Area = 2.45 ac

DWv = 67cy/ac * 2.45 ac
DWv = 164.15 cy = 4,432 cf

**TOTAL VOLUME NEEDED**
Tv = DWv + SSv
Tv = 4,432 cf + 2,450 cf
Tv = 6,882 cf

**SEDIMENT STORAGE VOLUME**
SSv = 1,000 cf/Ac * A
A = Disturbed Area = 2.45 ac

SSv = 1,000 cf/ac * 2.45 ac
SSv = 2,450 cf

SEDIMENT STORAGE ZONE IS FROM 803.00 TO 804.14 WHICH PROVIDES 2,454 cf OF SEDIMENT STORAGE. DEWATERING ZONE IS FROM 804.14 TO 805.62 WHICH PROVIDES 4,442 cf OF STORAGE FOR A TOTAL OF 6,896 cf.

**48 HOUR DRAWDOWN**
4,442 CF / 48 HOUR = 92.54 CF/HR = 0.026 CFS

**ORIFICE SIZED FOR WQv (AVERAGE HEAD)**
A = Qavg/C*(2gH)^0.5
0.026/ 0.6*(2*32.2*0.74)^0.5 = 0.0063 ft^2
D = (4A/Pie)^0.5
(4*.0063/3.14)^0.5 = 0.0896' ~ 1.07"
USE 1"

**SWPPP LEGEND**

- PERIMETER CONTROL; SILT FENCE OR COMPOST FILLED FILTER SOCK
- CONSTRUCTION LIMITS
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- VEHICLE FUELING
- WASTE STORAGE & DISPOSAL

**SITE DATA:** THE PROJECT IS LOCATED ON PRIVATE DRIVE IN THE CITY OF EAST CLEVELAND. THE PROJECT WILL DISTURB APPROXIMATELY 3.1 ACRES. NO ISOLATED WETLANDS ARE PRESENT ON SITE, AND NO SURFACE WATERS OF THE STATE WITHIN 200' OF THE SITE.

**PRIOR LAND USE:** LAND IS CURRENTLY USED AS OPEN GREEN SPACE.

**PRE CONSTRUCTION WEIGHTED C VALUE**

| Surface | C | Area | CxArea |
|---|---|---|---|
| Open (Fair) | 0.57 | 3.10 | 1.767 |
| Total | | 3.10 | 1.767 |

Weighted C = 1.767 / 3.10 = 0.57

**PRE CONSTRUCTION % IMPERVIOUSNESS**
0.00 / 3.10 = 0%

**SOILS:** THE NATIONAL RESOURCE CONSERVATION SERVICE WEB SOIL SURVEY OF CUYAHOGA COUNTY IDENTIFIES THE SOILS ON SITE AS MITIWANGA-URBAN LAND COMPLEX (MxB).

**EXISTING STORM WATER:** STORM WATER FROM THE EXISTING SITE SHEET FLOWS ACROSS THE SITE TOWARDS THE EXISTING PARKING LOTS WHERE IT IS PICKED UP IN STORM SEWERS AND DISCHARGED OFF SITE IN THE STORM SEWERS.

**CONSTRUCTION ACTIVITY:** CONSTRUCTION ACTIVITY WILL INCLUDE THE CLEARING AND GRUBBING OF THE SITE AND THE CONSTRUCTION OF LARGE ASSISTED LIVING FACILITY AND PARKING LOT. CONSTRUCTION WILL ALSO INCLUDE THE INSTALLATION OF NEW UTILITY CONNECTIONS AND STORM SEWER SYSTEM THAT INCLUDES A UNDERGROUND DETENTION SYSTEM FOR STORM WATER DETENTION AND WATER QUALITY TREATMENT.

**POST CONSTRUCTION WEIGHTED C VALUE**

| Surface | C | Area | CxArea |
|---|---|---|---|
| Bldg/Pavt | 0.90 | 1.59 | 1.431 |
| Open (Fair) | 0.57 | 1.51 | 0.861 |
| Total | | 3.10 | 2.292 |

Weighted C = 2.292 / 3.10 = 0.74

**POST CONSTRUCTION % IMPERVIOUSNESS**
1.59 / 3.10 = 51.3%

**FUTURE STORM WATER:** STORM WATER FROM THE DEVELOPED SITE WILL BE COLLECTED AND DETAINED IN A LARGE UNDERGROUND DETENTION SYSTEM TO DETAIN AND TREAT THE WATER QUALITY VOLUME. THE STORM WATER WILL BE DISCHARGED AT A REDUCED RATE TO THE STORM SEWER IN PRIVATE DRIVE WHICH DISCHARGES TO LEE ROAD.

**NOTICE OF INTENT (NOI) & NOTICE OF TERMINATION (NOT):** STORM SEWERS ULTIMATELY DISCHARGE INTO A COMBINED SEWER AND THEREFORE A NOTICE OF INTENT (NOI) DOES NOT NEED TO BE FILED WITH THE OHIO EPA. CONSTRUCTION ACTIVITIES WILL COMPLY IN WITH CITY OF EAST CLEVELAND CODIFIED ORDINANCE AND OEPA CONSTRUCTION GENERAL PERMIT #OHC000004.

**CONSTRUCTION:**
START: SPRING 2018 – COMPLETION: SPRING 2019

**SWPPP CHANGES & AMENDMENTS:** ALL CHANGES AND AMENDMENTS TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE APPROVED BY DAVID A. PIETRANTONE P.E., THE RIVERSTONE COMPANY.

RIVERSTONE
3800 LAKESIDE AVENUE, SUITE 100
CLEVELAND, OHIO 44114
PHONE: (216) 491-2000

**PREPARED FOR & OWNER:**
McGREGOR
14900 PRIVATE DRIVE
CLEVELAND, OHIO 44114
PHONE: (216) 851-8200

**DEVELOPER:**
CLEVELAND HOUSING NETWORK INC.
2999 PAYNE AVENUE, SUITE 300
CLEVELAND, OHIO 44112
ATTN: CHRIS ZELINSKI
PHONE: (216) 672-3533

**CONTRACTOR:**
THE KRILL COMPANY
1275 MAIN AVENUE
CLEVELAND, OHIO 44113
ATTN: DOUG FISCHBACK
PHONE: (216) 357-4777

**GENERAL SWPPP NOTES:**
TOTAL LOT AREA = 9.46 ACRES
DISTURBED AREA = 3.33 ACRES

LOCATION OF WASTE STORAGE AND DISPOSAL SHOWN ON THE PLANS SHALL BE VERIFIED BY CONTRACTOR. LOCATION MAY BE CHANGED AND THE SWPPP AMENDED.

LOCATION OF VEHICLE FUELING SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR. LOCATION MAY BE CHANGED AND THE SWPPP AMENDED. CONTRACTOR TO COORDINATE WITH THE CITY OF EAST CLEVELAND. VEHICLE FUELING AREA SHALL CONFORM WITH ALL OSHA, EPA AND FIRE DEPARTMENT REQUIREMENTS.

A COPY OF THE SWPPP AND ALL ADDENDUM TO THE SWPPP SHALL BE KEPT ON SITE AT ALL TIMES.

ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED AS PER PLAN. ALL PRACTICES MUST BE MAINTAINED AND FUNCTIONAL DURING CONSTRUCTION ACTIVITIES.

EROSION CONTROL BLANKETS WITH MATTING SHALL BE USED ON SLOPES GREATER THAN 6%.

EXCESS SEDIMENT SHALL BE REMOVED FROM THE TEMPORARY SEDIMENT BASIN WHEN THE SEDIMENT OCCUPIES 40% OF THE SEDIMENT STORAGE ZONE.

ONCE THE SITE HAS BEEN STABILIZED AND PROPER AUTHORIZATION HAS BEEN OBTAINED, CONSTRUCTION BMPS MAY BE REMOVED.

**CONSTRUCTION SCHEDULE**
1. INSTALL TEMPORARY STONE CONSTRUCTION ENTRANCE.
2. INSTALL PERIMETER CONTROL.
3. CLEAR AND GRUB WITHIN CONSTRUCTION LIMITS.
4. INSTALL OUTLET STRUCTURE, OUTLET STORM SEWER, TEMPORARY SEDIMENT BASIN AND DEWATERING SKIMMER TO BE INSTALLED WITHIN 7 DAYS OF GRUBBING.
5. STRIP TOPSOIL.
6. MASS GRADE AND APPLY SOIL STABILIZATION AS REQUIRED.
7. INSTALL CEMENT TRUCK WASHOUT AREA.
8. INSTALL UTILITIES.
9. INSTALL INLET PROTECTION ON NEW CATCH BASINS.
10. INSTALL BUILDING FOUNDATION.
11. REMOVE TEMPORARY SEDIMENT BASIN AND INSTALL UNDERGROUND DETENTION SYSTEM.
12. INSTALL CURBS
13. PAVE.
14. FINAL GRADING AS PER GRADING PLAN.
15. APPLY PERMANENT STABILIZATION AS NECESSARY.
16. PRIOR TO AUTHORIZATION CONTRACTOR SHALL CLEAN UNDERGROUND DETENTION SYSTEM REMOVING SEDIMENT BUILT UP IN THE ISOLATION ROWS.
17. AFTER PROPER AUTHORIZATION HAS BEEN OBTAINED BY THE GOVERNING AGENCY, REMOVE EROSION AND/OR SEDIMENT BMP'S.

**POST CONSTRUCTION WATER QUALITY EXPLANATION:** THE POST DEVELOPED SITE WILL USE A UNDERGROUND DETENTION SYSTEM TO DETAIN THE STORM WATER AND TREAT THE WATER QUALITY VOLUME. THE UNDERGROUND DETENTION SYSTEM WILL USE 2 ISOLATOR ROWS TO FILTER AND TREAT THE WATER QUALITY VOLUME. STORM WATER IS INITIALLY DIRECTED TO THE ISOLATOR ROWS WHICH WILL FILTER THE STORM WATER. LARGER STORMS THAT OVERWHELM THE ISOLATOR ROW WILL BE DISTRIBUTED TO ADJACENT ROWS.

WQv = P x C x (A/12)
WHERE
C = 0.858(i^3) – 0.78(i^2) + 0.774(i) + 0.04
i = fraction of post construction impervious surface
P = 0.75 inches
A = 3.11 ACRES

i = Impervious Area/Total Area = 1.61/3.11 = 0.518 = 0.52

C = 0.858(0.52^3) – 0.78(0.52^2) + 0.774(0.52) + 0.04
C = 0.35

SITE WQv = 0.75 x 0.35 x (3.11/12)
SITE WQv = 0.068 ac*ft = 2,962 cf

GRAPHIC SCALE
30 0 15 30 45
( IN FEET )
1 inch = 30 ft.

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17-094

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| MARK | DATE | PURPOSE |
|---|---|---|
| 1 | 11/16/17 | ADDENDUM 01 |
| 2 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 3/13/2018 | CSWCD COMMENTS |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| 3 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| 4 | 4/24/2018 | NEORSD / CCDPW COMMENTS |

McGregor

SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

STATE OF OHIO
DAVID A. PIETRANTONE
E-61756
REGISTERED
PROFESSIONAL ENGINEER

PROJECT NO.:

TITLE:
SWPPP

DRAWING NUMBER: 2017.12
C7.01

## SILT FENCE

### DESCRIPTION:

SILT FENCE IS A SEDIMENT–TRAPPING PRACTICE UTILIZING A GEOTEXTILE FENCE, TOPOGRAPHY AND VEGETATION TO CAUSE SEDIMENT DEPOSITION. SILT FENCE REDUCES RUNOFFS ABILITY TO TRANSPORT SEDIMENT BY PONDING RUNOFF AND DISSIPATING SMALL RILLS OF CONCENTRATED FLOW INTO UNIFORM SHEET FLOW.

### CONDITIONS WHERE PRACTICE APPLIES:

SILT FENCE IS USED WHERE RUNOFF OCCURS AS SHEET FLOW OR WHERE FLOW THROUGH SMALL RILLS CAN BE CONVERTED TO SHEET FLOW. SILT FENCE CANNOT EFFECTIVELY TREAT FLOWS IN GULLIES, DITCHES OR CHANNELS. FOR MORE SEVERE CONDITIONS SEE SPECIFICATIONS FOR TEMPORARY DIVERSIONS, SEDIMENT TRAPS AND SEDIMENT BASINS.

### PLANNING CONSIDERATIONS:

SILT FENCE VS TEMPORARY DIVERSIONS AND SETTLING PONDS – TO TREAT SHEET FLOW RUNOFF, SILT FENCE IS USED OR DIVERSIONS ARE CONSTRUCTED TO DIRECT RUNOFF TO A SEDIMENT POND. SILT FENCE IS MOST APPLICABLE FOR RELATIVELY SMALL AREAS WITH FLAT TOPOGRAPHY. SILT FENCE ALSO REQUIRES LESS SPACE AND CAUSES LESS DISTURBANCE. A SYSTEM OF DIVERSIONS AND SETTLING PONDS, ON THE OTHER HAND, HAS GREATER INTEGRITY. COMPARED TO SILT FENCE, THEY CAN HANDLE MUCH GREATER FLOWS AND ARE MORE DURABLE AND EASIER TO CONSTRUCT CORRECTLY. AS A RESULT, EARTH DIVERSIONS AND SETTLING PONDS GENERALLY ARE RECOMENDED OVER SILT FENCE.

### DESIGN CRITERIA:

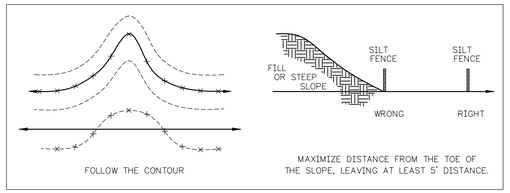
SILT FENCE AS A SEDIMENT CONTROL PRACTICE CONSISTS NOT ONLY OF THE FENCE ITSELF BUT, JUST AS IMPORTANTLY, IT ENTAILS TOPOGRAPHY. THIS IS A CRITICAL CONSIDERATION BECAUSE THE SEDIMENT REMOVAL PROCESS RELIES ON DEPOSITION NOT FILTERING, AS OFTEN ASSUMED. SILT FENCE WORKS BY DISPERSING FLOW, PONDING RUNOFF AND RELEASING DIFFUSE FLOW. HOWEVER, IF SILT FENCE IS USED WITHOUT REGARD TO A SITE'S TOPOGRAPHY, IT WILL TYPICALLY CONCENTRATE RUNOFF, INCREASING ITS ABILITY TO TRANSPORT SEDIMENT RATHER THAN CAUSING DEPOSITION.

LEVEL CONTOUR – FOR SILT FENCE TO ENHANCE DEPOSITION, IT MUST BE PLACED ON THE LEVEL CONTOUR OF THE LAND SO THAT FLOWS ARE DISSIPATED INTO UNIFORM SHEET FLOW, WHICH HAS LITTLE ENERGY FOR TRANSPORTING SEDIMENT. SILT FENCE SHOULD NEVER CONCENTRATE RUNOFF, WHICH WILL RESULT IF IT IS PLACED UP AND DOWN SLOPES RATHER THAN ON THE LEVEL CONTOUR.

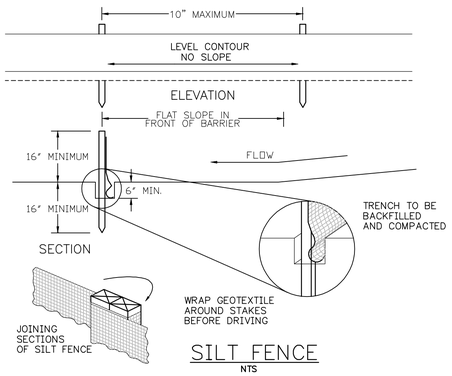
FLAT SLOPES – SILT FENCE MUST ALSO BE USE ON THE FLATTEST AREAS AVAILABLE. BECAUSE OF THE GREAT IMPORTANCE SLOPE HAS ON WATER'S ABILITY TO TRANSPORT SEDIMENT, SILT FENCE SHOULD NEVER BE PLACED DIRECTLY AT THE TOE OF A SLOPE IF IT IS AT ALL POSSIBLE TO PLACE IT SEVERAL FEET AWAY. SILT FENCE GENERALLY SHOULD BE PLACED ON THE FLATTEST AREA AVAILABLE TO INCREASE THE SHALLOW PONDING OF RUNOFF AND MAXIMIZE SPACE AVAILABLE FOR DEPOSITED SEDIMENT.

FLOW AROUND ENDS – TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END MUST BE CONSTRUCTED UP–SLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.

VEGETATION – DENSE VEGETATION ALSO HAS THE EFFECT OF DISSIPATING FLOW ENERGIES AND CAUSING SEDIMENT DEPOSITION. SEDIMENT–TRAPPING EFFICIENCY WILL BE ENHANCED WHERE A DENSE STAND OF VEGETATION OCCURS FOR SEVERAL FEET BOTH BEHIND AND IN FRONT OF A SILT FENCE.




| FABRIC PROPERTIES | VALUES | TEST METHOD |
|---|---|---|
| GRAB TENSILE STRENGTH | 90 LB. MINIMUM | AStm D 1682 |
| MULLEN BURST STRENGTH | 190 PSI MINIMUM | AStm D 3786 |
| SLURRY FLOW RATE | 0.3 GAL./MIN./SQ. FT. MAXIMUM | |
| EQUIVALENT OPENING SIZE | 40–80 | US STD. SLEVE CW–02215 |
| ULTRAVIOLET RADIATION STABILITY | 90% MINIMUM | AStm–G–26 |




SILT FENCE
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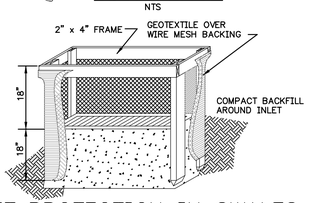



INLET PROTECTION IN SWALES, DITCH LINES OR YARD INLETS

## SPECIFICATIONS FOR SILT FENCE:

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UP–SLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE 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 SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UP–SLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACE ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UP–SLOPE 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 WHICH 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 GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 IN. DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
9. SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
10. MAINTENANCE – SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

## CRITERIA FOR SILT FENCE MATERIALS:

1. FENCE POSTS – THE LENGTH SHALL BE A MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2–BY–2 IN. HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
2. SILT FENCE FABRIC (SEE CHART BELOW):
   1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UP–SLOPE 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 WOODED 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.

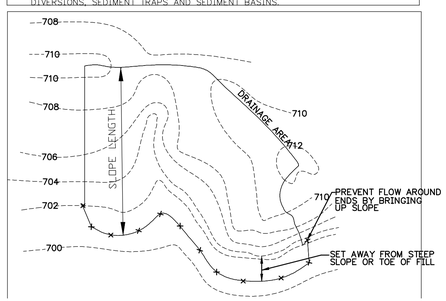
## DRAINAGE AREA:

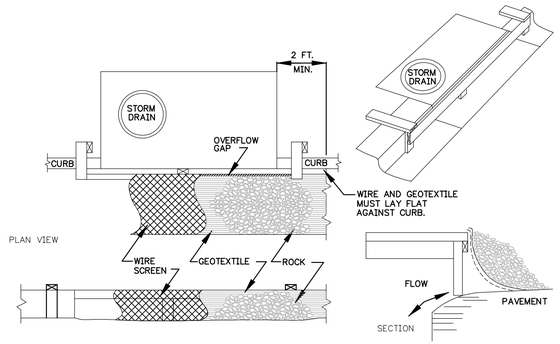
1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UP–SLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOME OPERATIONAL.
2. THE WOODED FRAME IS TO BE CONSTRUCTED OF 2–BY–4 IN. CONSTRUCTION–GRADE LUMBER. THE END SPACERS SHALL BE A MINIMUM OF 1 FT. BEYOND BOTH ENDS OF THE THROAT OPENING. THE ANCHORS SHALL BE NAILED TO 2–BY–4 IN. STAKES DRIVEN ON THE OPPOSITE SIDE OF THE CURB.
3. THE WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC AND STONE. IT SHALL BE A CONTINUOUS PIECE WITH A MINIMUM WIDTH OF 30 IN. AND 4 FT. LONGER THAN THE THROAT LENGTH OF THE INLET, 2 FT. ON EACH SIDE.
4. GEOTEXTILE CLOTH SHALL HAVE AN EQUIVALENT OPENING SIZE (EOS) OF 20–40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE AT LEAST THE SAME SIZE AS THE WIRE MESH.
5. THE WIRE MESH AND GEOTEXTILE CLOTH SHALL BE FORMED TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDE OF THE INLET AND SECURELY FASTENED TO THE 2–BY–4 IN. FRAME.
6. TWO–INCH STONE SHALL BE PLACED OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE CLOTH.

DISPERSING FLOW – PROPER APPLICATIONS OF SILT FENCE WILL ALLOW ALL THE INTERCEPTED RUNOFF TO PASS AS DIFFUSED FLOW THROUGH THE GEOTEXTILE. RUNOFF SHOULD NEVER OVERTOP SILT FENCE, FLOW AROUND THE ENDS, OR IN ANY OTHER WAY FLOW AS CONCENTRATED FLOW FROM THE PRACTICE. IF THIS DOES OCCUR, MAINTENANCE ALTERNATIVE SILT FENCE LAYOUT, OR OTHER PRACTICES ARE NEEDED.

| SILT FENCE MAXIMUM DRAINAGE AREA BASED ON SLOPE AND SLOPE LENGTH | | |
|---|---|---|
| SLOPE | | SLOPE LENGTH (FT.) |
| 0% – 2% | FLATTER THAN 50:1 | 250 |
| 2% – 10% | 50:1 – 10:1 | 125 |
| 10% – 20% | 10:1 – 5:1 | 100 |
| 20% – 33% | 5:1 – 3:1 | 75 |
| 33% – 50% | 3:1 – 2:1 | 50 |
| > 50% | > 2:1 | 25 |

NOTE: FOR LARGER DRAINAGE AREAS, SEE STANDARDS FOR TEMPORARY DIVERSIONS, SEDIMENT TRAPS AND SEDIMENT BASINS.




CURB INLET PROTECTION
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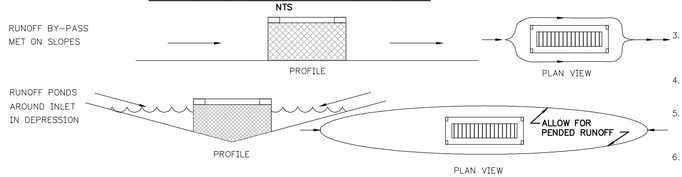


STORM DRAIN INLET PROTECTION
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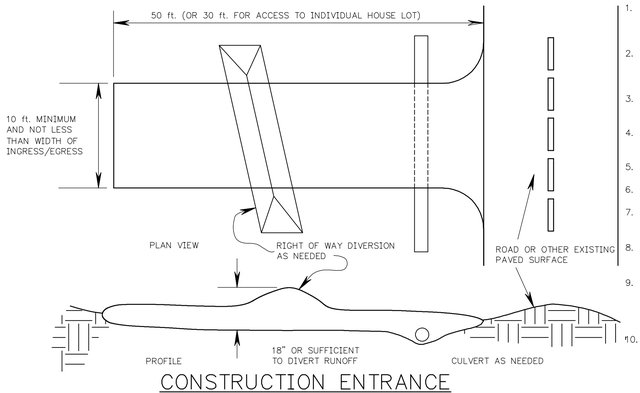


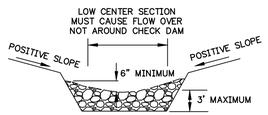

CONSTRUCTION ENTRANCE
NTS

## CONSTRUCTION ENTRANCE

DESCRIPTION:A CONSTRUCTION ENTRANCE IS A STABILIZED PAD OF AGGREGATE OVER A GEOTEXTILE BASE AND IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF–SITE WITH CONSTRUCTION TRAFFIC.

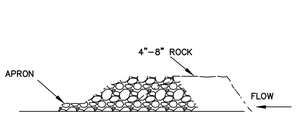
CONDITIONS WHERE PRACTICE APPLIES:
A CONSTRUCTION ENTRANCE SHOULD BE USED:
- WHERE CONSTRUCTION VEHICLES LEAVE ACTIVE CONSTRUCTION AREAS ONTO SURFACES WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS;
- AT ALL POINTS OF EGRESS TO PUBLIC ROADS;
- WHERE FREQUENT VEHICLES AND EQUIPMENT INGRESS/EGRESS IS EXPECTED SUCH AS AT THE AT THE ENTRANCE OF INDIVIDUAL BUILDING LOTS;

PLANNING CONSIDERATIONS:
THIS PRACTICE SHOULD NOT BE RELIED ON TO REMOVE MUD FROM CONSTRUCTION TRAFFIC. MOST MUD IS FLUNG FROM TIRES AS VEHICLES REACH SPEEDS HIGHER THAN IS REACHED ON SITE. THE BEST APPROACH TO PREVENTING OFF–SITE TRACKING IS TO KEEP VEHICLES THAT FREQUENTLY ENTER AND LEAVE A SITE, AWAY FROM MUDDY AREAS IN THE FIRST PLACE. VEHICLES SHOULD BE RESTRICTED TO STABILIZED AREAS TO THE EXTENT PRACTICAL, AND AREAS WHERE FREQUENT INGRESS/EGRESS IS EXPECTED SHOULD BE STABILIZED.




1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4–8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL.

2. THE TOP OF THE CHECK DAM SHALL BE CONSTRUCTED SO THAT THE CENTER IS APPROXIMATELY 6 INCHES LOWER THAN THE OUTER EDGES, SO WATER WILL FLOW ACROSS THE CENTER AND NOT AROUND THE ENDS.




3. THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER OF THE WEIR SHALL NOT EXCEED 3 FOOT.

4. SPACING BETWEEN DAMS SHALL BE AS SHOWN IN THE PLANS.

48 HOURS BEFORE YOU DIG Call–800–362–2764 TOLL FREE OHIO UTILITIES PROTECTION SERVICE

## STORM DRAIN INLET PROTECTION

### DESCRIPTION:

STORM DRAIN INLET PROTECTION CONSISTS OF A GEOTEXTILE BARRIER SUPPORTED AROUND OR ACROSS A STORM DRAIN INLET. IT IS USED TO PREVENT SEDIMENT–LADED WATER FROM ENTERING A STORM DRAIN SYSTEM. IT REDUCES THE RATE AT WHICH SEDIMENT–LADEN WATER MAY ENTER AN INLET THEREBY CAUSING PONDING AND SETTLING OF SEDIMENT.

### CONDITIONS WHERE PRACTICE APPLIES AND PLANNING CONSIDERATIONS:

THIS PRACTICE IS NOT GENERALLY RECOMMENDED AS A PRIMARY MEANS OF SEDIMENT CONTROL. IT SHOULD ONLY BE USED IF IT IS NOT POSSIBLE TO TEMPORARILY DIVERT THE STORM DRAIN OUTFALL INTO A SEDIMENT TRAP OR SEDIMENT BASIN OR IF IT IS TO BE USED ONLY FOR A SHORT PERIOD OF TIME DURING THE CONSTRUCTION PROCESS.

INLET PROTECTION IN EFFECT BLOCKS STORM DRAIN INLETS. THE RESULT FROM BLOCKING STORM DRAIN INLETS WILL HAVE ON THE SITE'S DRAINAGE MUST BE CONSIDERED. LONG SLOPING STREETS OR DITCHES DESIGNED WITH SEVERAL INLETS ALONG THEIR LENGTH MAY HAVE A SIGNIFICANT AMOUNT OF SURFACE FLOW ACCUMULATE IF INLET PROTECTION IS USED. IN LOW AREAS, A POND WILL FORM AROUND INLETS. PONDING IS NECESSARY FOR REMOVING SEDIMENT FROM RUNOFF AND SHOULD BE ENCOURAGED IN CONJUNCTION WITH INLET PROTECTION.

## SPECIFICATIONS FOR CURB INLET PROTECTION:

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
2. THE WOODEN FRAME IS TO BE CONSTRUCTED OF 2–BY–4–IN. CONSTRUCTION–GRADE LUMBER. THE END SPACERS SHALL BE A MINIMUM OF 1 FT. BEYOND BOTH ENDS OF THE THROAT OPENING. THE ANCHORS SHALL BE NAILED TO 2–BY–4–IN. STAKES DRIVEN ON THE OPPOSITE SIDE OF THE CURB.
3. THE WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC AND STONE. IT SHALL BE A CONTINUOUS PIECE WITH A MINIMUM WIDTH OF 30 IN. AND 4 FT. LONGER THAT THE THROAT LENGTH OF THE INLET, 2 FT. ON EACH SIDE.
4. GEOTEXTILE CLOTH SHALL HAVE AN EQUIVALENT OPENING SIZE (EOS) OF 20–40 SLEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE AT LEAST THE SAME SIZE AS THE WIRE MESH.
5. THE WIRE MESH AND GEOTEXTILE CLOTH SHALL BE FORMED TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET AND SECURELY FASTENED TO THE 2–BY–4–IN. FRAME.
6. TWO–INCH STONE SHALL BE PLACED OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE CLOTH.

## EROSION NOTES

1. SEDIMENT PONDS/TRAPS AND PERIMETER CONTROLS SHALL BE IMPLEMENTED AS A FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE TO FUNCTION UNTIL UPLAND AREAS ARE STABILIZED.
2. DISTURBED AREAS WITHIN 50 FEET OF A STREAM, WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 14 DAYS OR MORE, SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROPRIATE MEANS WITHIN 2 DAYS.
3. DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 14 DAYS OR MORE, SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROPRIATE MEANS WITHIN 7 DAYS.
4. EROSION CONTROL BLANKETS WITH MATTING WILL BE USED ON DITCHES GREATER THAN 1.5% AND ALL OTHER SLOPES GREATER THAN 6% GRADE.
5. DISTURBED AREAS THAT WILL BE IDLE OVER WINTER SHALL BE STABILIZED PRIOR TO NOVEMBER 1.
6. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.
7. OFF–SITE VEHICLE TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD(S) NOTED ON THE PLAN.
8. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (1996).
9. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. A TEMPORARY COVERING OF STRAW MULCH OVER BARE GROUND THROUGHOUT THE DURATION OF THE PROJECT IS EFFECTIVE MEANS OF MINIMIZING EROSION. A STOCKPILE OF STRAW BALES SHOULD BE ON HAND.
10. REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24–HOUR PERIOD. PROVIDE NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION AND CORRECTIVE MEASURES TAKEN.

## SPECIFICATIONS FOR CONSTRUCTION ENTRANCE:

1. STONE SIZE––TWO–INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH––THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50 FT. (EXCEPT ON SINGLE RESIDENCE LOT WHERE A 30–FT. MINIMUM LENGTH APPLIES).
3. THICKNESS––THE STONE LAYER SHALL BE AT LEAST 6 IN. THICK.
4. WIDTH––THE ENTRANCE SHALL BE AT LEAST 10 FT. WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCURS.
5. BEDDING––A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LB. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LB.
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 SURFACES.
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 FROM MUDDY AREAS.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| MARK | DATE | PURPOSE |
|---|---|---|
| 1 | 11/16/17 | ADDENDUM 01 |
| 2 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 3/13/2018 | CSWCD COMMENTS |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| 3 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| 4 | 4/24/2018 | NEORSD / CCDPW COMMENTS |

McGregor
SENIOR ASSISTED LIVING
14900 Private Drive
East Cleveland, Ohio 44112

STATE OF OHIO
DAVID A. PIETRANTONE
E-61756
REGISTERED
PROFESSIONAL ENGINEER

PROJECT NO.:

TITLE:
SWPPP

DRAWING NUMBER: 2017.12
C7.02

| AREA REQUIRING TEMPORARY STABILIZATION | TIME FRAME FOR SEEDING |
|---|---|
| ANY DISTURBED AREA WITHIN 50' OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE | WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS. |
| DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN 1 YEAR AND NOT WITHIN 50' OF A SURACE WATER OF THE STATE | WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA |
| DISTURBED AREAS THAT WILL BE IDLE OVER WINTER | PRIOR TO THE ONSET OF WINTER WEATHER |

**TEMPORARY SEEDING MIXTURE**

| SEEDING DATES | SPECIES | LB./1,000 sq.ft. | per Acre |
|---|---|---|---|
| MARCH 1 TO AUGUST 15 | OATS<br>TALL FESCUE<br>ANNUAL RYEGRASS | 3<br>1<br>1 | 4 BUSHEL<br>40 LB<br>40 LB |
| | PERENNIAL RYEGRASS<br>TALL FESCUE<br>ANNUAL RYEGRASS | 1<br>1<br>1 | 40 LB<br>40 LB<br>40 LB |
| AUGUST 15 TO NOVEMBER 1 | RYE<br>TALL FESCUE<br>ANNUAL RYEGRASS | 3<br>1<br>1 | 2 BUSHEL<br>40 LB<br>40 LB |
| | WHEAT<br>TALL FESCUE<br>ANNUAL RYEGRASS | 1<br>1<br>1 | 2 BUSHEL<br>40 LB<br>40 LB |
| | PERENNIAL RYEGRASS<br>TALL FESCUE<br>ANNUAL RYEGRASS | 1<br>1<br>1 | 40 LB<br>40 LB<br>40 LB |
| NOVEMBER 1 TO SPRING SEEDING | USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING | | |

| AREA REQUIRING PERMANENT STABILIZATION | TIME FRAME FOR SEEDING |
|---|---|
| ANY AREAS THAT WILL LIE DORMANT FOR 1 YEAR OR MORE | WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE |
| ANY AREAS WITHIN 50' OF A STREAM AND AT FINAL GRADE | WITHIN TWO DAYS OF REACHING FINAL GRADE |
| ANY OTHER AREAS AT FINAL GRADE | WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA |

**PERMANENT SEEDING MIXTURE**

| SEEDING DATES | SPECIES | LB./1,000 sq.ft. | per Acre |
|---|---|---|---|
| MARCH 15 TO OCTOBER 1 | TALL FESCUE<br>TURF-TYPE (DWARF FESCUE<br>ANNUAL RYEGRASS | 1<br><br>1 | 40-50 LBS<br><br>40 LB |
| | PERENNIAL RYEGRASS<br>TALL FESCUE<br>ANNUAL RYEGRASS | 1<br>1<br>1 | 40 LB<br>40 LB<br>40 LB |
| AUGUST 15 TO NOVEMBER 1 | RYE<br>TALL FESCUE<br>ANNUAL RYEGRASS | 3<br>1<br>1 | 2 BUSHEL<br>40 LB<br>40 LB |
| | WHEAT<br>TALL FESCUE<br>ANNUAL RYEGRASS | 1<br>1<br>1 | 2 BUSHEL<br>40 LB<br>40 LB |
| | PERENNIAL RYEGRASS<br>TALL FESCUE<br>ANNUAL RYEGRASS | 1<br>1<br>1 | 40 LB<br>40 LB<br>40 LB |
| NOVEMBER 1 TO SPRING SEEDING | USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING | | |

## TRENCH AND GROUND WATER CONTROL:

IN ACCORDANCE WITH PART II.C OF OHIO GENERAL CONSTRUCTION PERMIT OHC000003, THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS OF THE STATE RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUND WATER CONTAINS SEDIMENT, IT SHALL PASS THROUGH A SEDIMENT SETTING POND OR OTHER EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE, PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE. ALTERNATIVELY, SEDIMENT MAY BE REMOVED BY SETTING IN PLACE OR BY DEWATERING INTO A SUMP PIT, FILTER BAG OR COMPARABLE PRACTICE. GROUND WATER WHICH 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.

## DUST CONTROL:

**DESCRIPTION:** DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION, AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

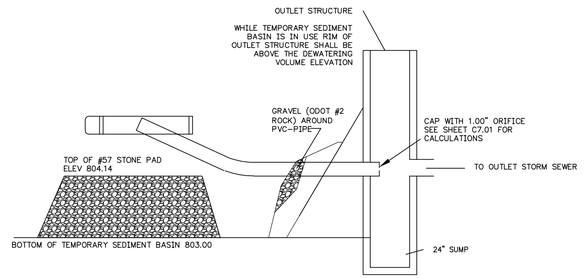
**CONDITIONS WHERE PRACTICE APPLIES AND PLANNING CONSIDERATIONS:** IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON-SITE AND OFF-SITE DAMAGE IS LIKELY TO OCCUR IF PREVENTATIVE MEASURES ARE NOT TAKEN.

**DESIGN CRITERIA:** A NUMBER OF MEASURES CAN BE UTILIZED TO LIMIT DUST EITHER DURING OR BETWEEN CONSTRUCTION STAGES OR ONCE CONSTRUCTION IS COMPLETE. GENERALLY THE SAME METHODS THAT ARE USED TO LIMIT EROSION BY LIMITING EXPOSURE OF SOILS TO RAINFALL CAN BE USED TO LIMIT DUST INCLUDING: STABILIZING EXPOSED SOILS WITH MULCH, VEGETATION OR PERMANENT COVER. ADDITIONAL METHODS PARTICULAR TO DUST CONTROL INCLUDING MANAGING VEHICLES AND CONSTRUCTION TRAFFIC, ROAD TREATMENT AND TREATMENT OF EXPOSED SOIL WITH CHEMICAL STABILIZERS.

USED OIL SHALL NOT BE USED AS A DUST SUPPRESSANT. DUST CONTROLS MAY INCLUDE THE USE OF WATER TRUCKS TO WET DISTURBED AREAS, TAPPING STOCKPILES, TEMPORARY STABILIZATION OF DISTURBED AREAS, AND REGULATION OF THE SPEED OF VEHICLES ON THE SITE.

**SPECIFICATIONS FOR DUST CONTROL:**

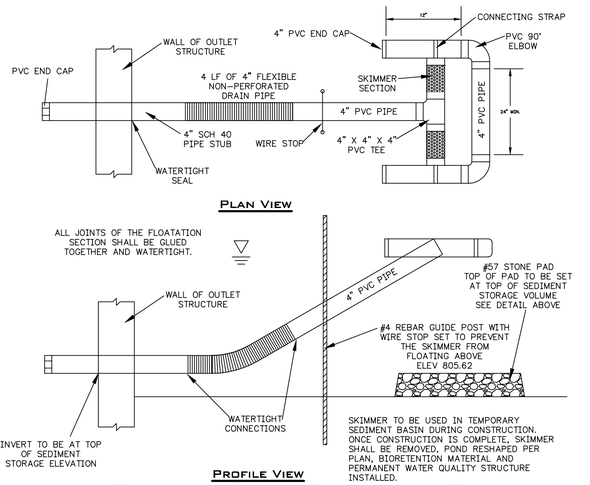
1. VEGETATIVE COVER AND/MULCH – APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS.
2. WATERING – SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION.
3. SPRAY-ON ADHESIVES – APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.
4. STONE – GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
5. BARRIERS – EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL.
6. OPERATION AND MAINTENANCE – WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.
7. STREET CLEANING – PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEEDED, UTILIZING A STREET SWEEPER OR BUCKET-TYPE END LOADER OR SCRAPER.




**PROFILE VIEW**

## TEMPORARY SEDIMENT BASIN OUTLET

NOT TO SCALE




**PLAN VIEW**




**PROFILE VIEW**

## TEMPORARY SEDIMENT BASIN DEWATERING SKIMMER

NOT TO SCALE

**ADDITIONAL CONSTRUCTION SITE POLLUTION CONTROLS**
**OHIO RAINWATER AND LAND DEVELOPMENT MANUAL (2006)**

1. CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, SHALL BE MADE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:
   - PREVENT SPILLS
   - USE PRODUCTS UP
   - FOLLOW LABEL DIRECTIONS FOR DISPOSAL
   - REMOVE LIDS FROM EMPTY BOTTLES AND CAN WHEN DISPOSING IN TRASH
   - RECYCLE WASTES WHENEVER POSSIBLE
   - DON'T POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
   - DON'T POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
   - DON'T BURY CHEMICALS OR CONTAINERS
   - DON'T BURN CHEMICALS OR CONTAINERS
   - DON'T MIX CHEMICALS TOGETHER
2. CONTAINERS SHALL BE PROVIDED FOR THE PROPER COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS USED ON SITE. CONTAINERS SHALL BE COVERED AND NOT LEAKING. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL. CONSTRUCTION DEMOLITION AND DEBRIS (CD&D) WASTE MUST BE DISPOSED OF AT AN OHIO EPA APPROVED CD&D LANDFILL.
3. NO CONSTRUCTION RELATED WASTE MATERIAL ARE TO BE BURIED ON-SITE. BY EXCEPTION, CLEAN FILL (BRICKS, HARDENED CONCRETE SOIL) MAY BE UTILIZED IN A WAY WHICH DOES NOT ENCROACH UPON NATURAL WETLANDS, STREAMS OR FLOOD PLAINS OR RESULT IN THE CONTAMINATION OF WATER OF THE STATE.
4. HANDLING CONSTRUCTION CHEMICALS. MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.
5. EQUIPMENT FUELING AND MAINTENANCE. OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREA MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HOURS OF A 0.5 INCH OR GREATER RAINFALL EVENT TO ENSURE THERE ARE NO EXPOSED MATERIAL WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVE GROUND TANK OF 600 GALLONS OR MORE, ACCUMULATIVE ABOVE GROUND STORAGE OF 1,330 GALLONS OR MORE OR 42,000 GALLONS OF UNDERGROUND STORAGE. CONTAMINATED SOILS MUST BE DISPOSED OF IN ACCORDANCE WITH ITEM 8.
6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW TO STREAM, DITCHES, STORM DRAINS OR ANY OTHER WATER CONVEYANCE. A SUMP OR PIT WITH NO POTENTIAL FOR DISCHARGE SHALL BE CONSTRUCTED IF NEEDED TO CONTAIN CONCRETE WASH WATER. FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FT. OF THE SUMP SHALL BE CUT AND PLUGGED. FOR SMALL PROJECTS, TRUCK CHUTES MAY BE RINSED AWAY FROM ANY WATER CONVEYANCES.
7. SPILL REPORTING REQUIREMENTS. SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST OR KITTY LITTER AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILL SHALL BE REPORTED TO OHIO EPA (1-800-282-9378). SPILL OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO OHIO EPA, THE LOCAL FIRE DEPARTMENT AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MIN. OF THE DISCOVERY OF THE RELEASE. ALL SPILLS WHICH CONTACT WATERS OF THE STATE MUST BE REPORTED TO OHIO EPA.
8. CONTAMINATED SOILS. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEADED OR RELEASED ONTO THE SOIL, THE SOIL SHALL BE DUG UP AND DISPOSED OF A T A LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY. (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). NOTE THAT STORM WATER RUN OFF ASSOCIATED WITH CONTAMINATED SOILS ARE NOT AUTHORIZED UNDER OHIO EPA'S GENERAL STORM WATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
9. OPEN BURNING. NO MATERIALS CONTAINING RUBBER, GREASE, ASPHALT OR PETROLEUM PRODUCTS; SUCH AS TIRES, AUTO PARTS, PLASTICS OR PLASTIC COATED WIRE MAY BE BURNED (OAC 3745-19). OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS, WHICH ARE DEFINED AS:
   1) WITHIN CORPORATION LIMITS;
   2) WITHIN 1,000 FEET OUTSIDE A MUNICIPAL CORPORATION HAVE A POPULATION OF 1,000 TO 10,000;
   3) A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10,000 OR MORE.
   OUTSIDE RESTRICTED AREAS, NO OPEN BURNING IS ALLOWED WITHIN A 1,000 FEET OF AN INHABITED BUILDING ON ANOTHER PROPERTY. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR: HEATING TAR, WELDING, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING FOR WARMTH OR OUTDOOR BARBECUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE FOR LANDSCAPE OR LAND-CLEARING WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM OHIO EPA), AND AGRICULTURAL WASTES, EXCLUDING BUILDINGS.
10. DUST CONTROL OR DUST SUPPRESSANTS SHALL BE USED TO PREVENT NUISANCE CONDITIONS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND IN A MANNER, WHICH PREVENT A DISCHARGE TO WATERS OF THE STATE. SUFFICIENT DISTANCE MUST BE PROVIDED BETWEEN APPLICATIONS AND NEARBY BRIDGES, CATCH BASINS, AND OTHER WATERWAYS. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN RAIN IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL
11. OTHER AIR PERMITTING REQUIREMENTS: CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS INCLUDING BUT NOT LIMITED TO : MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC. THESE ACTIVITIES WILL REQUIRE SPECIFIC OHIO EPA AIR PERMITS FOR INSTALLATION AND OPERATION. OPERATORS MUST SEEK AUTHORIZATION FROM THE CORRESPONDING DISTRICT OF OHIO EPA. FOR DEMOLITION OF ALL COMMERCIAL SITES, A NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO OHIO EPA TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.
12. PROCESS WASTE WATER/LEACHATE MANAGEMENT. OHIO EPA'S CONSTRUCTION GENERAL PERMIT ONLY ALLOWS THE DISCHARGE OF STORM WATER AND DOES NOT INCLUDE OTHER WASTE STREAMS/DISCHARGES SUCH AS VEHICLE AND/OR EQUIPMENT WASHING, ON-SITE SEPTIC LEACHATE, CONCRETE WASH-OUTS, WHICH ARE CONSIDERED PROCESS WASTEWATERS. ALL PROCESS WASTEWATERS MUST BE COLLECTED AND PROPERLY DISPOSED AT AN APPROVED DISPOSAL FACILITY. IN THE EVENT, LEACHATE OR SEPTAGE IS DISCHARGED; IT MUST BE ISOLATED FOR COLLECTION AND PROPER DISPOSAL AND CORRECTIVE ACTIONS TAKEN TO ELIMINATE THE SOURCE OF WASTE WATER.
13. A PERMIT TO INSTALL (PTI) IS REQUIRED PRIOR TO THE CONSTRUCTION OF ALL CENTRALIZED SANITARY SYSTEMS, INCLUDING SEWER EXTENSIONS, AND SEWERAGE SYSTEMS (EXCEPT THOSE SERVICE ONE, TWO AND THREE FAMILY DWELLINGS) AND POTABLE WATER LINES. PLANS MUST BE SUBMITTED AND APPROVED BY OHIO EPA. ISSUANCE OF AN OHIO EPA CONSTRUCTION GENERAL STORM WATER PERMIT DOES NOT AUTHORIZE THE INSTALLATION OF ANY SEWERAGE SYSTEM WHERE OHIO EPA HAS NOT APPROVED A PTI.

**PRE-CONSTRUCTION SWPPP MEETING**

PRIOR TO CONSTRUCTION THE PERMITTEE SHALL INFORM ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH THE IMPLEMENTATION OF THE SWPPP AND OF THE TERMS AND CONDITIONS OF THE OHIO EPA CONSTRUCTION GENERAL PERMIT. THE PERMITTEE SHALL MAINTAIN A WRITTEN DOCUMENT CONTAINING SIGNATURES AS PROOF OF ACKNOWLEDGMENT OF THE CONDITIONS AND RESPONSIBILITIES OF THE SWPPP.

**INSPECTION DURING CONSTRUCTION**

REGULAR INSPECTION AND MAINTENANCE IS TO BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES DURING CONSTRUCTION. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD AND FOR 3 YEARS AFTER TERMINATION OF CONSTRUCTION ACTIVITIES. INSPECTIONS BY QUALIFIED INSPECTION PERSONNEL MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THEN 0.5 INCHES OF RAIN IN A 24-HOUR PERIOD. IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE IS REQUIRED, IT MUST BE REPAIRED WITHIN 3 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF INSPECTION. INSPECTION REPORT SHALL PROVIDE NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION, CORRECTIVE MEASURES TAKEN TO COMPLY WITH THE REQUIREMENTS IN "RAINWATER & LAND DEVELOPMENT" (2006) AND SIGNED BY THE QUALIFIED INSPECTOR. MISSING BMPS REQUIRED BY THE SWPPP ARE REQUIRED TO BE INSTALLED WITHIN 3 DAYS OF THE INSPECTION. IF DURING INSPECTIONS IT IS DETERMINED THAT A BMP IS NOT EFFECTIVE AND THAT ANOTHER BMP IS NEEDED TO PROVIDE ADEQUATE CONTROL ON SITE, THE SWPPP SHALL BE AMENDED AND THE BMP SHALL BE INSTALLED WITHIN 10 DAYS FROM THE DATE OF INSPECTION.

IF SITE IS DORMANT FOR A LONG PERIOD AND IS STABILIZED A WAIVER REQUEST MAY BE SUBMITTED TO THE OHIO EPA TO REDUCE SITE INSPECTIONS TO A MONTHLY BASIS.

**POST CONSTRUCTION**

UPON COMPLETION OF SITE STABILIZATION, A NOTICE OF TERMINATION SHALL BE FILED WITH THE OHIO EPA. THE RESPONSIBLE PARTY SHALL COMPILE ALL INSPECTIONS, SIGN CERTIFICATION ON THE TITLE SHEET AND KEEP RECORDS FOR A MINIMUM OF 3 YEARS AFTER THE NOTICE OF TERMINATION WAS FILED.

POST CONSTRUCTION INSPECTION AND MAINTENANCE OF POST CONSTRUCTION BMPS SHALL BE THE RESPONSIBILITY OF THE DEVELOPMENT OWNER. INSPECTION SHALL BE DONE BY A CONTRACTOR SUITED FOR SUCH INSPECTIONS AND FUNDED BY THE DEVELOPMENT OWNER. CONTRACTOR SHALL REPORT FINDINGS DIRECTLY TO THE DEVELOPMENT OWNER.

## SWPPP AMENDMENT LOG

PROJECT NAME: _____ PAGE OF

SWPPP CONTACT: _____

| AMENDMENT NO. | DESCRIPTION OF AMENDMENT | DATE OF AMENDMENT | AMENDMENT PREPARED BY (NAME & TITLE) |
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COPY AS NECESSARY

## GRADING & STABILIZATION LOG

PROJECT NAME: _____

SWPPP CONTACT: _____

| DATE GRADING ACTIVITY STARTED | DESCRIPTION OF GRADING ACTIVITY | DATE GRADING ACTIVITY CEASED | DATE STABILIZATION MEASURES | DESCRIPTION OF STABILIZATION MEASURES AND LOCATION |
|---|---|---|---|---|
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| MARK | DATE | PURPOSE |
|---|---|---|
| | 3/13/2018 | CSWCD COMMENTS |
| 1 | 11/16/17 | ADDENDUM 01 |
| 2 | 11/28/17 | ADDENDUM 02 |
| | 3/6/2018 | RFI 1 & RFI 2 |
| | 4/4/2018 | NEORSD/CCDPW COMMENTS |
| 3 | 4/9/2018 | CONSTRUCTION CHANGE DIRECTIVE 2 |
| 4 | 4/24/2018 | NEORSD / CCDPW COMMENTS |

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DAVID A. PIETRANTONE
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REGISTERED
PROFESSIONAL ENGINEER

PROJECT NO.:

TITLE:
SWPPP

DRAWING NUMBER: **2017.12**
C7.03