



PLAN COMMISSION STAFF REPORT

To: Members of the Plan Commission

From: Rachel Christenson, AICP, On-call Planner for the Town of Munster

Meeting Date: July 11, 2023

Agenda Item: PC Docket No. 23-015

Application: **Development Plan**

Hearing: **PUBLIC HEARING**

Summary: Matt Kimmel/Centennial Village LLC, is requesting approval of a development plan of Building M within Centennial Village Planned Unit Development

Applicant: Matt Kimmel/Centennial Village, LLC

Property Address: 9601 & 9605 N Centennial Drive

Current Zoning: SD-PUD: Special District - Planned Unit Development

Adjacent Zoning: North: CD-4.A (General Urban – A Character District); CD-4.R4 (General Urban – Multifamily Residence Character District)
South: CZ (Civic Zone)
East: CZ (Civic Zone)
West: SD-M (Special District – Manufacturing)

Action Requested: Approval of Site Plan

Additional Actions Required: Building and Lot Plan Process
Building Permit Application Process

Staff Recommendation: Approve with conditions

Attachments:

1. Development Plan Review Application
2. Centennial Village Lot 9 Building M Civil Drawings prepared by DVG dated 05.26.2023
3. Landscape Plan prepared by Hubinger dated 06.26.2023
4. Windy City Social Exterior Renderings

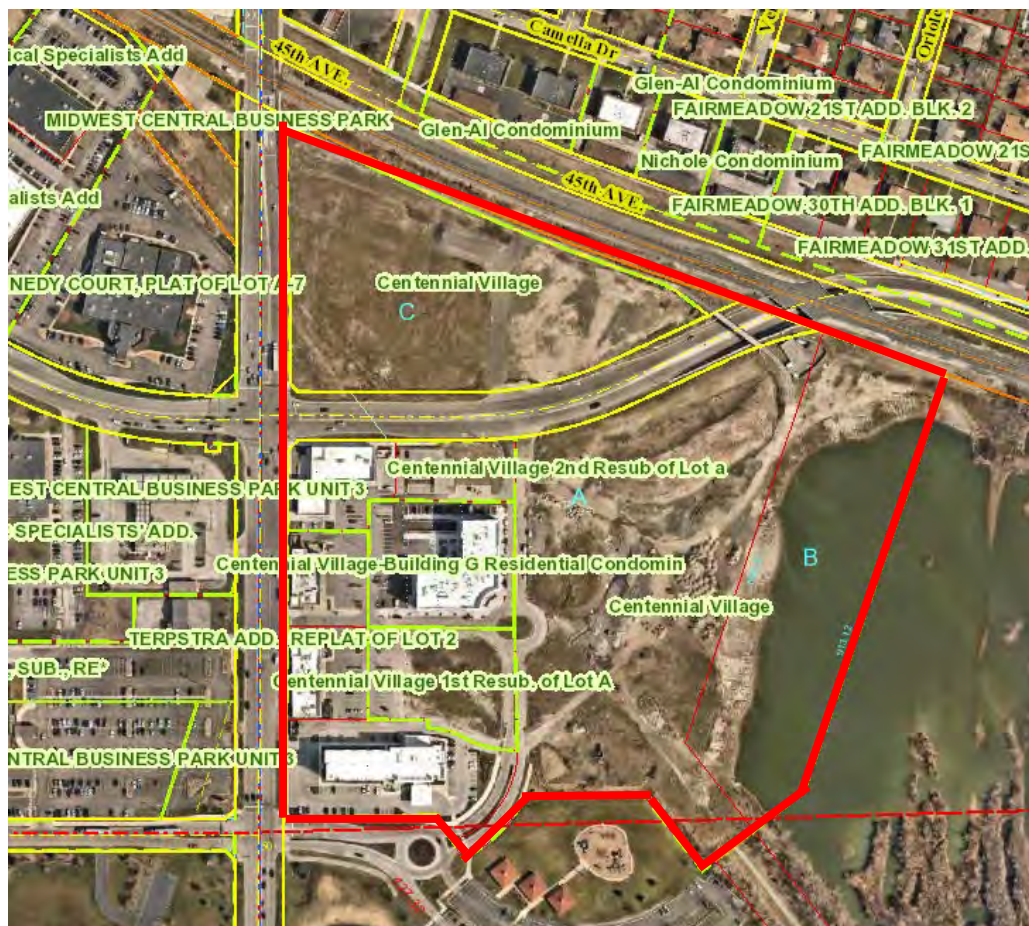
BACKGROUND

Figure 1: Centennial Village PUD outlined in red.

The Centennial Village PUD is currently governed by the Centennial Village PUD Design Standards and Conceptual Plan that was adopted February 15, 2017. The purpose of the Centennial Village Development is to provide the Town of Munster with a sustainable, mixed-use, walkable lifestyle community adjacent to the key regional thoroughfares of Calumet Avenue and 45th Street.

Matt Kimmel/Centennial Village LLC, is requesting approval of a development plan of Building M within Centennial Village Planned Unit Development

ANALYSIS

Centennial Village was designed to be a sustainable, mixed-use, walkable lifestyle community. The

treatment of building design, parking, landscaping, site improvements and pedestrian spaces as outlined in the Centennial Village PUD Design Standards is essential to creating the pedestrian oriented environment for the Centennial Village walkable lifestyle community. The Pensey Greenway is an integral part of this development.

Section 4: Building Materials and Architectural Design Standards and Section 6: Building Design Elements

The petitioner is proposing a Retail-Single Tenant use for Building M with the PUD Amendment Request (PC Docket No. PC23-013). That petition proposes that Building M would be two story structure with Class 1 & 2 exterior building materials on the first floor, and Class 3 & 4 exterior building materials on the second floor. The renderings submitted with this application appear to be inline with these standards, but architectural drawings will need to be submitted for a full review.

Section 7: Site Circulation – Pedestrian

The intent of the Centennial Village development is to be a sustainable, mixed-use, walkable lifestyle Community. Language in the PUD Design Standards states that the “treatment of building design, parking, landscaping, site improvements and pedestrian spaces as outlined in the Centennial Village PUD Design Standards is essential to creating the pedestrian oriented environment for the Centennial Village walkable lifestyle community.”

With Building M moving to the west, it has been pulled off of the Pensey Greenway. It also appears that the sidewalk along the south side of 45th Street has not been included on the submitted drawings. Staff would like to see the site plan modified to show how pedestrians using Building M would navigate to Building I and the rest of the Centennial Village pedestrian network without having to get in a vehicle or walk through grass.

Section 8: Parking

If the intent is for Lot 8 and Lot 9 to share parking, a Cross Access Easement is required per the Centennial Village PUD Design Standards. The following parking standards must be met for Building M:

| Land Use | Minimum Required Parking |
|------------------------|---|
| Retail – Single Tenant | 3.25 parking spaces per 1,000 sf of Gross Building Floor Area |

The proposed structure is 7,098 SF. According to the Centennial Village PUD Design Standards, a minimum of 23 spaces are required. The petitioner is providing 139 spaces.

Section 10: Site Landscaping

A landscaping plan has been submitted for Building M and the surrounding parking lot. There are trees indicated on the plan that are not on the approved tree list for Parking Lot Islands and General Landscaping (Table 10-13-1) or Trees for Parkway Planting (Table 10-13-2) that are found in the Centennial Village PUD Design Standards. Staff would like to see an updated landscaping plan with trees from adopted lists. If a species is selected that is not on this list, staff would like to have a letter/email stating why a different species was selected (nursery unavailability, etc.).

Section 14: Site Furniture, Fixtures & Equipment

Per the Centennial Village PUD Design Standards, site furnishings and fixtures will be incorporated into the final site design of all buildings. At a minimum, the locations of bicycle racks, decorative trash receptacles, pedestrian benches, and decorative plant containers must be shown on the site plan.

Section 15: Utility Service

During Site Plan Review, it was requested that the water main be relocated to the utility easement to the west. Staff would like to understand if there was a reason this could not be accommodated.

Section 16: Storm Water Management

Maintenance of the hydrodynamic separator is not included on the Post-Construction Stormwater Management Plan on Sheet C-301. This addition should be made to the drawing set.

STAFF RECOMMENDATION

Staff recommends to approve the plat as presented with the following conditions:

1. *Approval of PC Docket No. 23-013 and 23-014 and any conditions that are part of those approvals.*
2. *The addition of a sidewalk on the south side of 46th Street as shown in the Centennial Village Concept Plan.*
3. *The sidewalk network around Building M will be modified to connect to the future Building I and the rest of the Centennial Village pedestrian network.*
4. *A Cross Access Easement for shared parking between Lots 7 and 8 is developed and recorded with the Final Plat for the subdivision of Lot A.*
5. *Replacement of landscape materials to meet the approved tree and shrub lists found in the Centennial Village PUD Design Standards.*
6. *The locations of site furnishings and fixtures will be shown on the site plan (including bicycle racks, decorative trash receptacles, pedestrian benches, and decorative plant containers).*
7. *Maintenance of the hydrodynamic separator in the Post-Construction Stormwater Management Plan.*

MOTION

The Plan Commission may wish to consider the following motion:

Motion to approve PC Docket No. 23-015, a development plan of Building M within Centennial Village Planned Unit Development, with the conditions recommended by staff.



Petition PC _____ - _____

Date: _____

Application Fee: \$ _____

Sign Fee: \$ _____

Town of Munster Plan Commission Petition Application

OWNER INFORMATION:

Matt Kimmel

Name of Owner

Phone Number

631 Killarney Drive Dyer, IN 46311

Street address, City, ST, ZIP Code

matt@mkimmel.com

Email address

APPLICANT OR PETITIONER INFORMATION (if different than above):

Matt Kimmel

Name of Applicant/Petitioner

Phone Number

631 Killarney Drive Dyer, IN 46311

Street address, City, ST, ZIP Code

matt@mkimmel.com

Email address

PROPERTY INFORMATION: Centennial Village

Business or Development Name (if applicable)

9605 N. Centennial Drive Munster, IN 46321

Address of Property or Legal Description

PUD

Current Zoning

APPLICATION INFORMATION:

Please select what this Application is for:

☐ Subdivision

If yes, select one of the following:

☐ Preliminary Plat

☐ Final Plat

☒ Development Plan Review

Rezoning (including Planned Unit Development) – Proposed Zoning District

Brief Description of Project:

Site design for Building M (Lot 9) within Centennial Village PUD. The building is a two (2) story Restaurant (Windy City Social), approximately 7,162 sf total.

Russ Pozen, PE

Name of Registered Engineer, Architect or Land Surveyor

(219) 281-4068

Phone Number

1155 Troutwine Road Crown Point, IN 46307

Street address, City, ST, ZIP Code

rpozen@dvgteam.com

Email address

CENTENNIAL VILLAGE - LOT 9 - BUILDING "M"

9603 N. CENTENNIAL DRIVE MUNSTER, INDIANA

ISSUED FOR REVIEW - 06/08/2023



Location Map
(No Scale)

BENCHMARK

SITE BENCHMARK
CUT X IN CURB AT VILLAGE PARKWAY & N. CENTENNIAL DRIVE
ELEVATION = 617.49 (NAVD88)



Know what's below. Call before you dig.
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24 Hours a Day, Seven Days a Week:
Call 811 or 800-382-5544
www.Indiana811.org

INDEX OF SHEETS

| | |
|-----------|--|
| C001 | Cover Sheet |
| C101 | Existing Conditions |
| C102 | Demolition Plan |
| C103 | Site Plan |
| C104 | Grading Plan |
| C105 | Utility Plan |
| C106 | Stormwater Pollution Prevention Plan (SWPPP) |
| C201-C205 | Construction Details |
| C301-C304 | SWPPP Details |
| E101 | Lighting Plan |
| E201-E204 | Lighting Details |

LEGEND

| | | | |
|--|--|--|--|
| | EXISTING DRAINAGE STRUCTURE | | EXISTING CONTOURS |
| | EXISTING END SECTION | | PROPOSED CONTOURS |
| | EXISTING SANITARY STRUCTURE | | BOUNDARY LINES |
| | EXISTING FIRE HYDRANT | | RIGHT-OF-WAY LINES |
| | EXISTING VALVE & BOX | | PROPOSED LOT LINES |
| | EXISTING B-BOX | | UNDERLYING LOT LINE |
| | EXISTING STREET LIGHT | | EASEMENT LINES |
| | POWER POLE | | BUILDING LINES |
| | SRC PEDESTAL | | CHAINLINK FENCE |
| | MAIL BOX | | ORNAMENTAL FENCE |
| | PROPOSED DRAINAGE STRUCTURE | | OVERHEAD POWER LINES |
| | PROPOSED END SECTION | | TELEPHONE ROUTE |
| | PROPOSED SANITARY STRUCTURE | | ELECTRIC ROUTE |
| | PROPOSED FIRE HYDRANT | | GAS ROUTE |
| | PROPOSED VALVE & VAULT | | EXISTING WATER |
| | PROPOSED VALVE & BOX | | EXISTING STORM |
| | PROPOSED B-BOX | | EXISTING SANITARY |
| | PROPOSED STREET LIGHT | | PROPOSED WATER |
| | DIRECTION OF FLOW | | EXISTING STORM |
| | OVERLAND FLOOD ROUTE | | PROPOSED SANITARY |
| | PROPOSED TOP RETAINING WALL ELEVATION | | |
| | PROPOSED BOTTOM OF RETAINING ELEVATION | | |
| | PROPOSED TOP OF CURB ELEVATION | | |
| | PROPOSED GUTTER FLOWLINE ELEVATION | | |
| | PROPOSED SURFACE ELEVATION | | |
| | STORM SEWER | | PROPOSED STORM SEWER |
| | SANITARY SEWER | | PROPOSED SANITARY SEWER |
| | WATER | | PROPOSED WATER |
| | FIRE HYDRANT & NUMBER LABEL | | GROUND ELEVATION |
| | V.B. #1 | | V.B. FOR VALVE BOX AND V.V. FOR VALVE IN VAULT |
| | SIZE OF GATE VALVE OR TAPPING SLEEVE | | GROUND ELEVATION |
| | TOP OF PIPE ELEVATION | | |

PROJECT CONTACTS

SCHOOL DISTRICT
SCHOOL TOWN OF MUNSTER
8616 COLUMBIA AVENUE
MUNSTER, IN 46321
(219) 836-9111

WATER UTILITY
TOWN OF MUNSTER
WATER DEPARTMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6970

ELECTRIC & GAS UTILITY
NIPSCO
801 E. 86th AVENUE
MERRILLVILLE, IN 46410
(800) 464-7726

DEVELOPER/OWNER
MATT KIMMEL
631 KILLARNEY DRIVE
DYER, INDIANA 46311
MATT@MKIMMEL.COM

MUNICIPAL
TOWN OF MUNSTER
COMMUNITY DEVELOPMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6995

SANITARY SEWER UTILITY
TOWN OF MUNSTER
SEWER DEPARTMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6970

CABLE UTILITY
COMCAST
16 W. 84th DRIVE
MERRILLVILLE, IN 46410
(219) 738-2780

TELECOM UTILITY
AT&T
5858 N. COLLEGE AVENUE
INDIANAPOLIS, IN 46220
(317) 252-4007



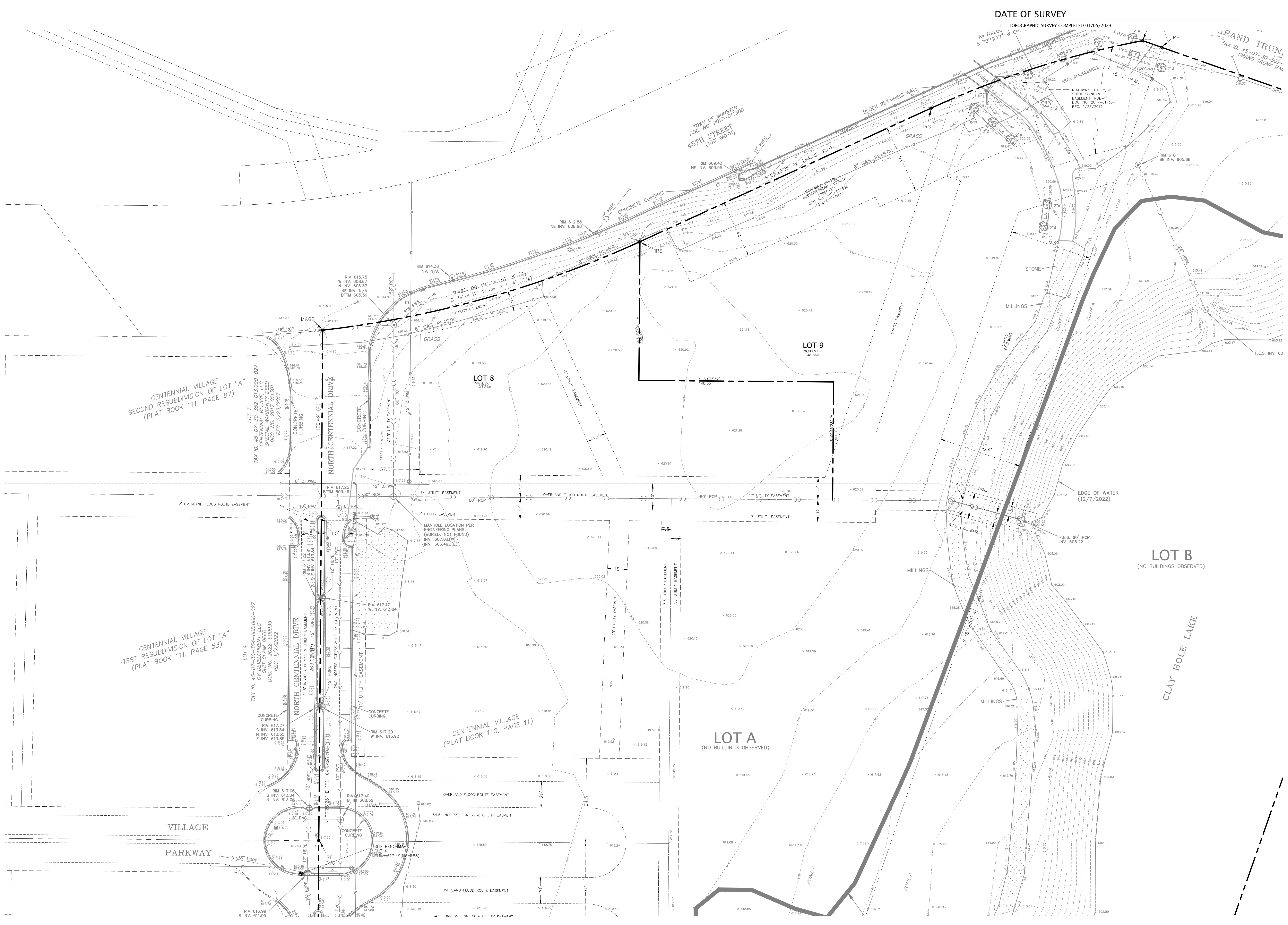
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

CENTENNIAL VILLAGE
631 KILLARNEY DRIVE
DYER, INDIANA 46311

| DATE: | REVISIONS AND NOTES: |
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CENTENNIAL VILLAGE -
LOT 9 - BUILDING M
Cover Sheet

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| DESIGN BY | DATE |
| DVG | 05/26/23 |
| PROJECT NO. | 23-0026 |
| C001 | |



DATE OF SURVEY

1. TOPOGRAPHIC SURVEY COMPLETED 01/05/2023.



1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
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NOT FOR CONSTRUCTION

CENTENNIAL VILLAGE
631 KILLARNEY DRIVE
DYER, INDIANA 46311

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CENTENNIAL VILLAGE -
LOT 9 - BUILDING "M"
Existing Conditions

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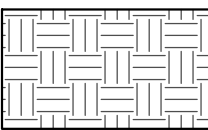
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| C101 | |

LEGEND



REMOVE BITUMINOUS GRINDINGS
AND SUB-BASE MATERIAL



CONTRACTOR TO STRIP AND REMOVE
SOD FROM ALL AREAS TO BE
REGRADED AND PROPERLY DISPOSE.
REMOVE SUBGRADE MATERIAL OR
TOPSOIL AS NEEDED



ITEM TO BE REMOVED

-XXXXXXX-

LINEAR REMOVAL ITEM

NOTES

1. NO DEMOLITION SHALL TAKE PLACE UNTIL ALL PERMITS HAVE BEEN ACQUIRED.
2. THE CONTRACTOR SHALL FIELD-VERIFY SITE CONDITIONS AND INFORMATION ON DRAWINGS. PROMPTLY REPORT ANY CONCEALED CONDITIONS, MISTAKES, DISCREPANCIES, OR DEVIATIONS FROM THE INFORMATION SHOWN IN THE CONTRACT DOCUMENTS. THE OWNER IS NOT RESPONSIBLE FOR UNAUTHORIZED CHANGES OR EXTRA WORK REQUIRED TO CORRECT UNREPORTED DISCREPANCIES.
3. "REMOVAL" MEANS REMOVAL OF AN ITEM ABOVE GRADE AND REMOVAL OF ALL ELEMENTS BELOW GRADE INCLUDING, BUT NOT LIMITED TO, FOOTINGS, WIRINGS, AND PIPING THAT ARE IMMEDIATELY ADJACENT TO ITEM BEING REMOVED.
4. THE CONTRACTOR SHALL SAW CUT PAVEMENT FULL DEPTH AT LIMITS OF ASPHALT REMOVAL.
5. FOR ALL CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE CONCRETE TO NEAREST JOINT, UNLESS NOTED OTHERWISE.
6. EXISTING MATERIALS TO REMAIN AROUND THE CONSTRUCTION AREA SHALL NOT BE DAMAGED DURING CONSTRUCTION. IF ANY DAMAGE IS MADE, THE CONTRACTOR IS RESPONSIBLE TO REPAIR OR RESTORE TO THE ORIGINAL CONDITION AT CONTRACTOR'S OWN EXPENSE.



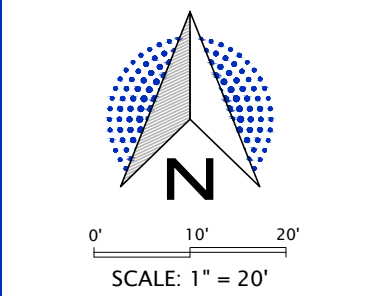
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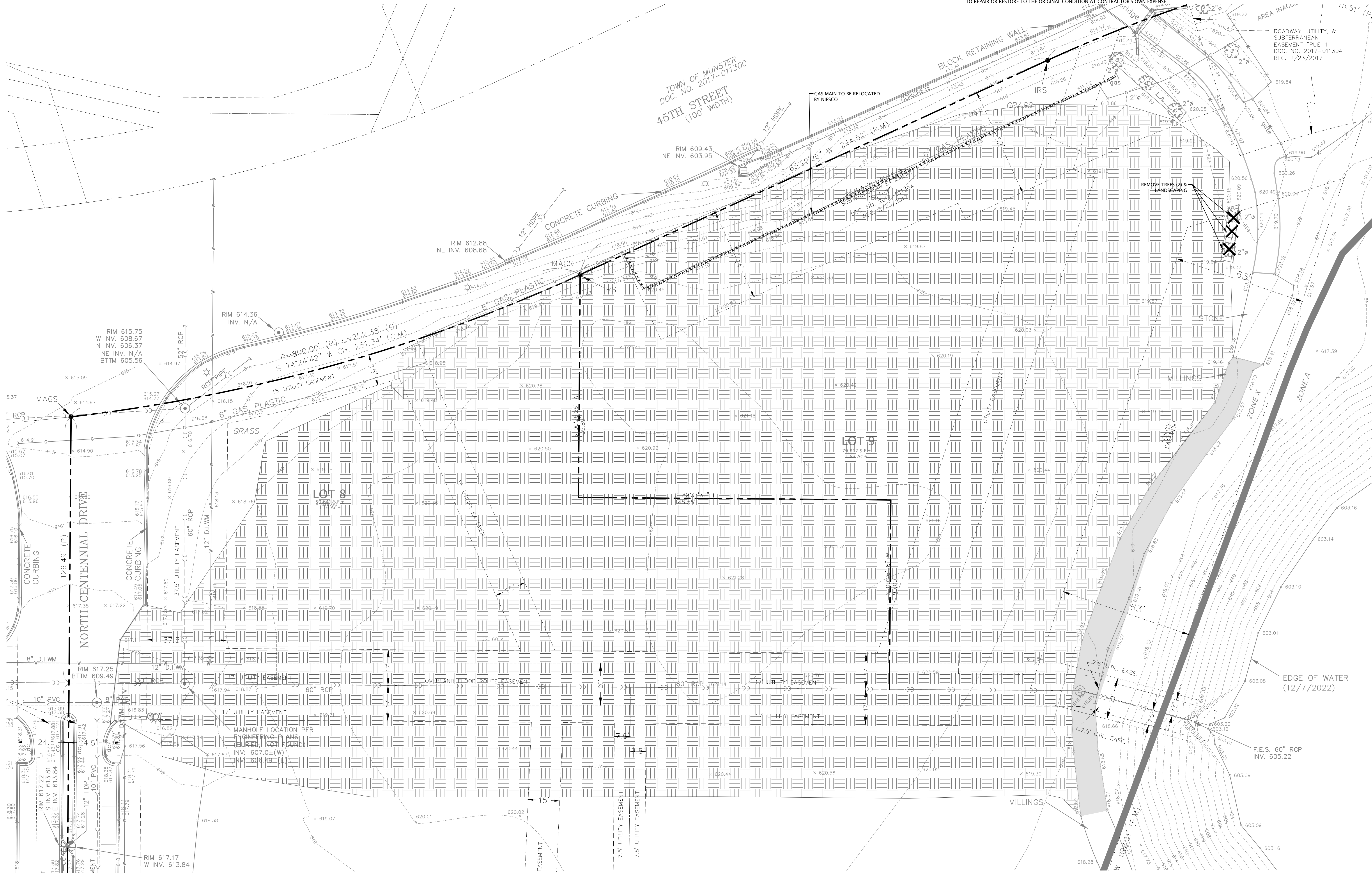
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CENTENNIAL VILLAGE -
LOT 9 - BUILDING "M"
Demolition Plan

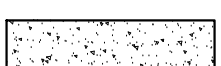


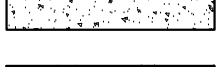







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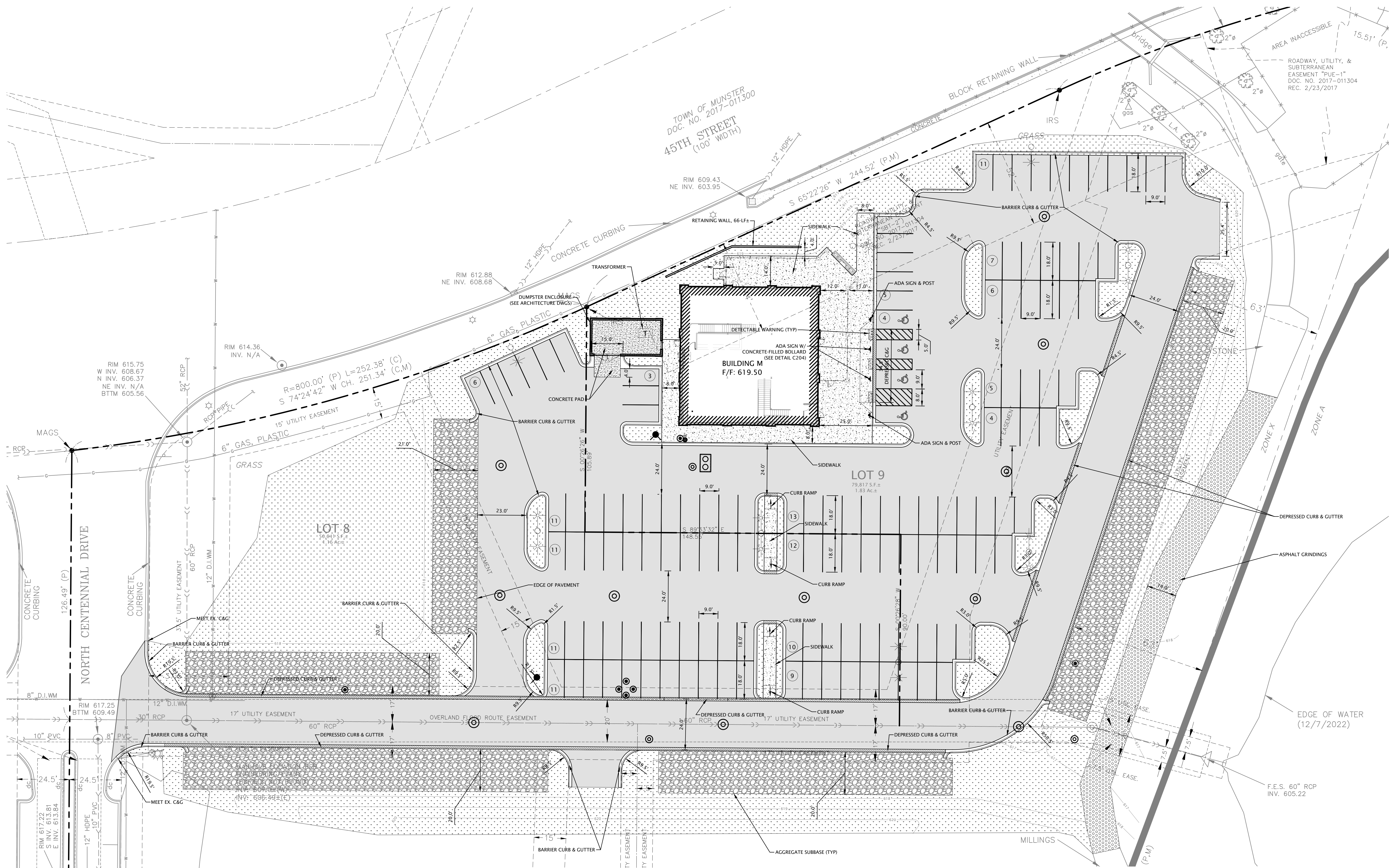


| SITE DATA | |
|---------------------|---|
| • ZONING: | PUD |
| • BUILDING AREA: | 7,098 SQ. FT. ± (2 FLOORS) |
| • PARKING REQUIRED: | 83 SPACES (INCLUDING 4 ADA & 1 SPACE PER 4 CUSTOMER SEATS: 230 INDOOR, 100 OUTDOOR) 83 SPACES REQUIRED |
| • PARKING PROVIDED: | 139 SPACES SHOWN (INCLUDES 4 ADA SPACES) |

| LEGEND | | | | | |
|---|--|---|--|---|---------------------------|
|  | CONCRETE SIDEWALK (SEE DETAIL C204) |  | ASPHALT PAVEMENT (SEE DETAIL C204) |  | STRIPING (PAINT, 4" WIDE) |
|  | CONCRETE PAD (SEE DETAIL C204) |  | 4" (MIN) TOPSOIL & SEEDING/LANDSCAPING (SEE LANDSCAPE PLAN) |  | BARRIER CURB & CUTTER |
|  | AGGREGATE SUBBASE (SEE DETAIL C204) |  | ASPHALT GRINDINGS (8-INCH DEPTH) |  | 6-INCH BARRIER CURB |

NOTES

1. DIMENSIONING SHALL BE TO FACE OF CURB; RADII SHALL BE BACK OF CURB UNLESS OTHERWISE NOTED.



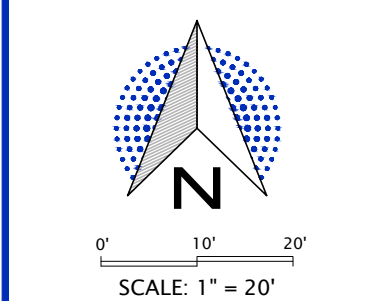
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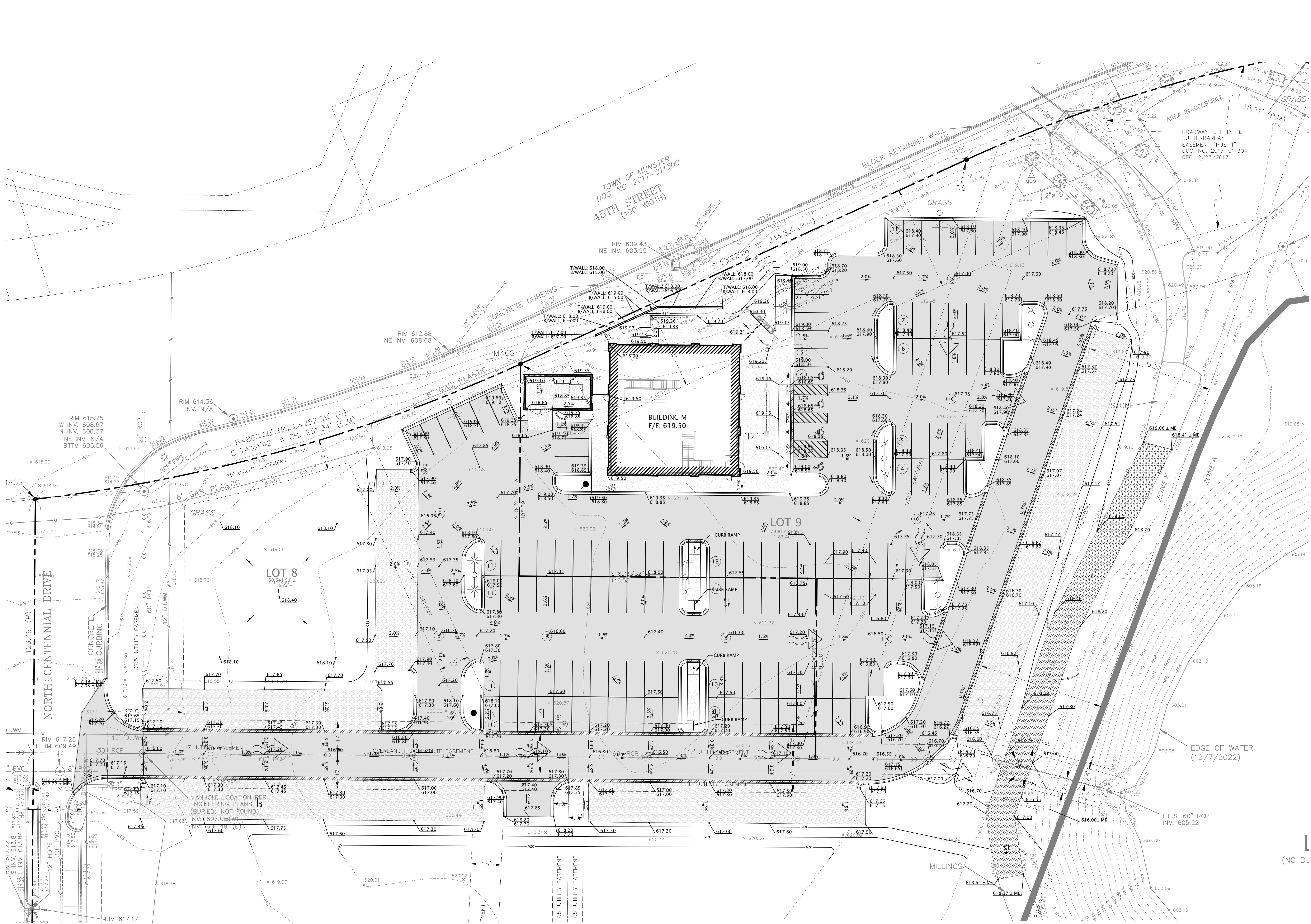
CENTENNIAL VILLAGE
631 KILLARNEY DRIVE
DYER, INDIANA 46311

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CENTENNIAL VILLAGE -
LOT 9 - BUILDING "M"
Site Plan



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| MPO | |
| PROJECT NO. | 23-0026 |
| C103 | |



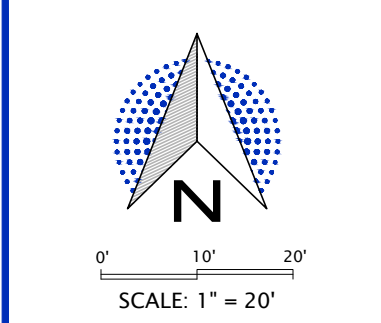
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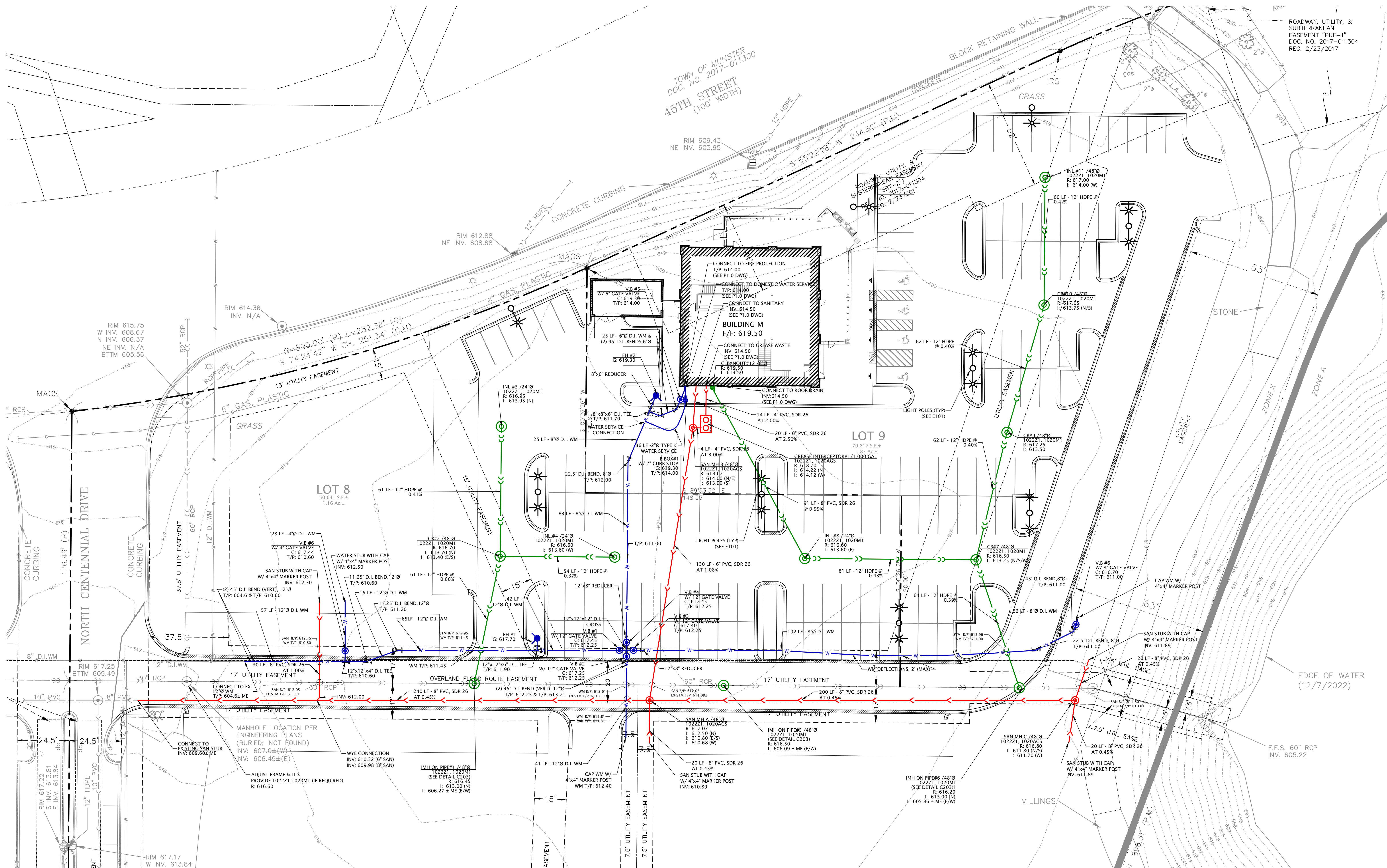
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CENTENNIAL VILLAGE -
LOT 9 - BUILDING "M"
Grading Plan



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C104



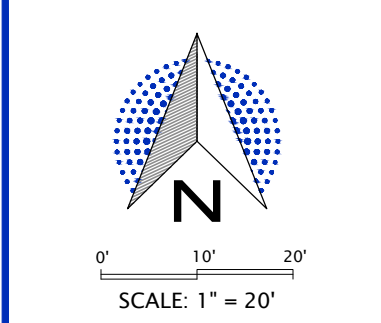
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631 KILLARNEY DRIVE
DYER, INDIANA 46311











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**CENTENNIAL VILLAGE -
LOT 9 - BUILDING "M"**
Utility Plan



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| C105 | |

LEGEND

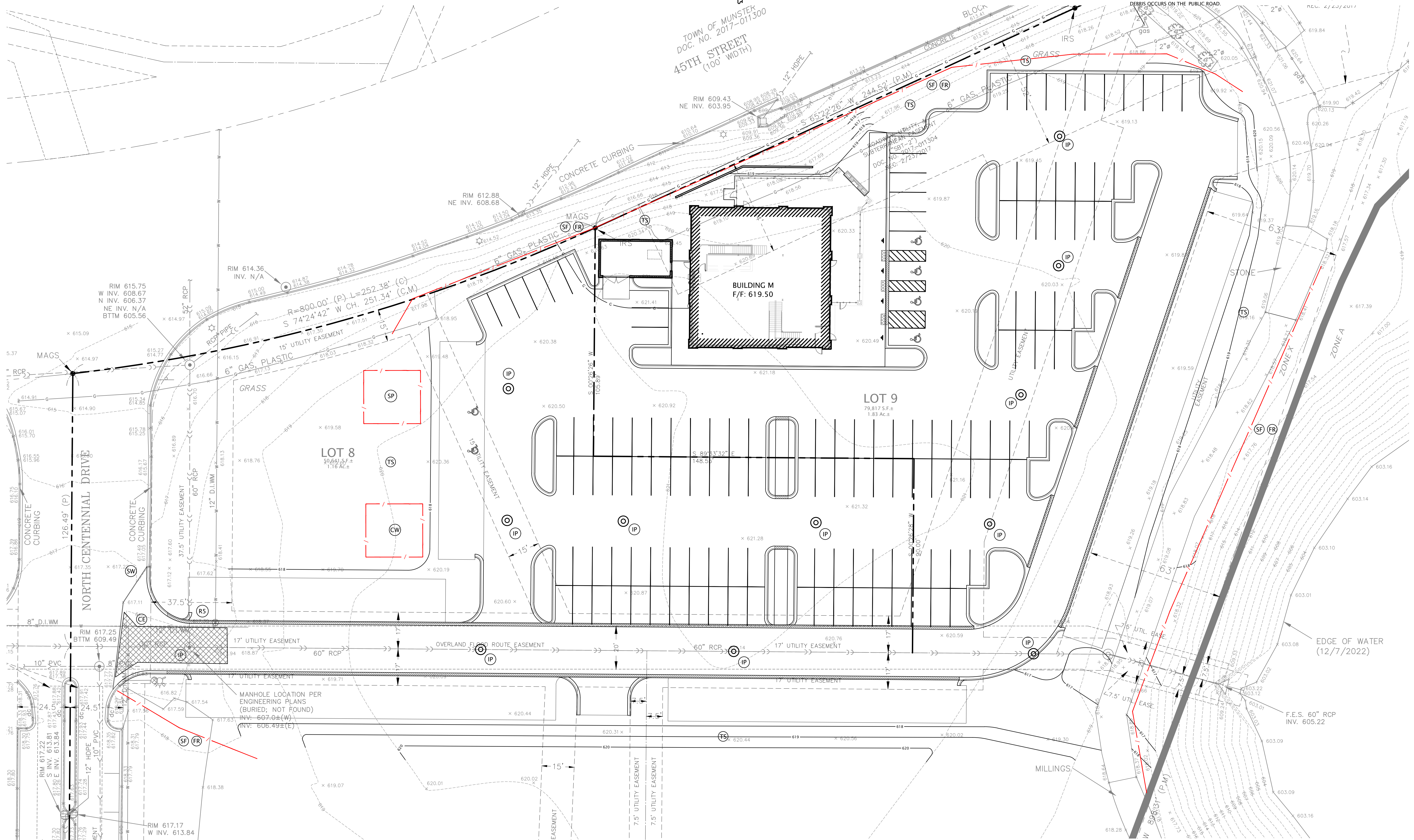
- | | | | | |
|---|---|---|---|-----------|
|  | TEMPORARY CONSTRUCTION ENTRANCE |  | STREET SWEEPING | |
|  | INLET BARRIER PROTECTION |  | CONCRETE WASHOUT | |
|  | TEMPORARY/PERMANENT SEEDING |  | BUILDING & STORMWATER PERMITS | |
|  |  | SILT FENCE/FIBER ROLLS (MAY BE USED INTERCHANGEABLY WHERE REQUIRED) |  | STOCKPILE |
|  | EROSION CONTROL BLANKET | | | |

CONCRETE WASHOUT SIGNAGE

CONCRETE
WASHOUT
ONLY

NOTES

- | | |
|--|---|
| 1. THE SITE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. MEASURES MUST BE IMPLEMENTED PRIOR TO BEGINNING CONSTRUCTION. | 5. THE SITE CONTRACTOR SHALL INSTALL THE CONSTRUCTION ENTRANCE AND PLACE PERIMETER SILT FENCING/FIBER ROLLS PRIOR TO COMMENCING ANY SOIL DISTURBANCE. SEE SITE PLAN FOR LOCATIONS. THE CONSTRUCTION ENTRANCE SHALL SERVE AS SITE ACCESS FOR ALL CONSTRUCTION TRAFFIC INGRESS AND EGRESS TO THE PROJECT SITE. |
| 2. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND/OR CLEANING TO THE STRUCTURE OR FEATURE. CORRECTIVE WORK INCURRED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. | 6. THE SOIL STOCKPILE SHALL BE PROTECTED BY SILT FENCE/FIBER ROLLS SURROUNDING THE PILE AND THE PILE SHALL BE TEMPORARILY SEEDED IF THE STOCKPILE REMAINS DORMANT FOR GREATER THAN 7 DAYS. THE PILE SHALL BE STABILIZED WITHIN 14 DAYS. |
| 3. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE S.W.P.P.P. ANY FINES OR PUNITIVE MEASURES INCURRED BY THE PROJECT DUE TO FAILURE TO COMPLY WITH THE S.W.P.P.P. ARE THE RESPONSIBILITY OF THE CONTRACTOR. THESE COSTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND SHALL NOT BE CONSIDERED AN EXTRA. | 7. DURING SOIL-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CREATE DIVERSION SWALES AND INSTALL DITCH CHECKS SO THAT ALL SITE RUNOFF PASSES THROUGH AN EROSION CONTROL MEASURE PRIOR TO BEING DISCHARGED OFF-SITE. |
| 4. DURING THE COURSE OF CONSTRUCTION, THE LOCAL ENFORCEMENT OF THE S.W.P.P.P. MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES TO BE INSTALLED TO ADDRESS SITE-SPECIFIC THREATS ANTICIPATED BY THIS PLAN. THESE ITEMS ARE CONSIDERED AN EXTRA TO THE CONTRACT, BUT ONLY TO THE EXTENT OF INITIAL INSTALLATION. CORRECTIVE WORK AND MAINTENANCE SHALL BE CONSIDERED INCIDENTAL AND SHALL NOT BE CONSIDERED AN EXTRA. | 8. UPON COMPLETION OF THE ROUGH GRADING, ALL AREAS AFFECTED BY CONSTRUCTION SHALL BE TEMPORARILY SEEDED IF THEY WILL REMAIN DORMANT FOR GREATER THAN 7 DAYS. THESE AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF REMAINING DORMANT AND EROSION CONTROL BLANKETS SHALL BE INSTALLED ON SLOPES AS SHOWN ON THE PLANS. |
| | 9. CONTRACTOR SHALL PERFORM CATERPILLER TRACKER TREADS, GRUBBING, BITE, AND CONSTRUCTION |



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CENTENNIAL VILLAGE -
LOT 9 - BUILDING "M"

Storm Water Pollution Prevention Plan

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| | |
|--------------|------------------|
| GN BY RJP | DATE 05/26/23 |
|--------------|------------------|

ECT NO.
23-0026

C106



155 Troutwine Road
 Town Point, IN 46307
 P: (219) 662-7710
 F: (219) 662-2740
www.dvgteam.com

NOT FOR CONSTRUCTION

CENTENNIAL VILLAGE

631 KILLARNEY DRIVE
DYER, INDIANA 46311

SITE DEVELOPMENT
COMMON EXCAVATION AND EARTHWORK
GENERAL SPECIFICATIONS

- 1.0 Quality Assurance:
- Contractor shall notify the Construction Manager, Architect, Engineer and testing laboratory inspector when common excavation and earthwork is scheduled. Earthwork operations which require inspecting and testing by testing laboratory inspector shall not be performed unless testing laboratory inspector is present.
 - Contractor shall provide a 1-year warranty against settlement and damage caused by settlement for common excavation and earthwork.
 - If settlement occurs within 1 year after the date of Substantial Completion, the Contractor shall remove the affected surface feature, provide additional suitable fill, thoroughly compact and restore the surface feature to its original undisturbed condition.
- 2.0 Testing:
- An inspector from the Owner's soils testing laboratory shall, during the common excavation work operations, provide the following services:
 - Test & Classify on-site excavated soils for reuse as topsoil, common site fill, embankment fill and structural fill.
 - Test materials furnished from any off-site sources to verify compliance with specified requirements.
 - Observe proofing rolling of exposed subsoil in areas where grades will be raised and provide recommendations for soil correction to ensure that unstable materials have been removed.
 - Inspect placement and compaction of common site fill, embankment fill and structural fill to ensure the material being compacted is in accordance with specified requirements. For each lift, a minimum of 1 density test for every 10,000 square feet of lawn surface area, and 5,000 square feet of paved surface area, and 500 square feet of proposed building area is required.
 - Density tests are required for all subgrade/subsoil in areas that have been cut to rough grade elevations, after soils have been compacted to ensure soil compaction density is in accordance with the specified requirements. Test frequency shall be as described above in sub-paragraph 1.d..
 - Tests and analysis of fill materials shall be performed in the laboratory in accordance with ASTM D1557.
 - Testing shall be performed as directed by the Soils Report Engineer. Compaction Testing shall be performed in accordance with ASTM D2922 and D3017.

- 3.0 Special Weather Protection:
- Construction shall be limited during cold weather to prevent the formation of frost and snow accumulation to occur in materials used for site fill or in soils where site excavation is taking place. All areas that are scheduled for excavation activity shall be protected from freezing and snow accumulation. Any frozen material shall be removed and disposed of off site.

- 4.0 Clearing & Grubbing:
- Contractor shall provide all clearing, grubbing, removal and disposal of all vegetation and debris related to the existing site conditions.
 - Vegetation debris shall be removed from site and transported to a local and state authorized disposal sites.

- 5.0 Top Soil Stripping:
- The project has a depth of topsoil variation throughout the site. The geotechnical report shows the topsoil depths at several locations throughout the project site. The Contractor shall strip and stockpile all topsoil at the location designated in the Site Development Drawings or as directed by the owner.
 - Topsoil removal material shall consist of fertile, friable, organic surface soil stripped from the site and shall be free of subsoil, brush, turf grasses, weeds, roots, stumps, stones larger than 1-inch in diameter and other contaminated matter."
 - Topsoil shall be stockpiled so that it may be reused and re-spread on site over Lawn and Landscaped areas.
 - The topsoil stockpile area shall be properly protected against soil erosion into the adjacent drainage system.

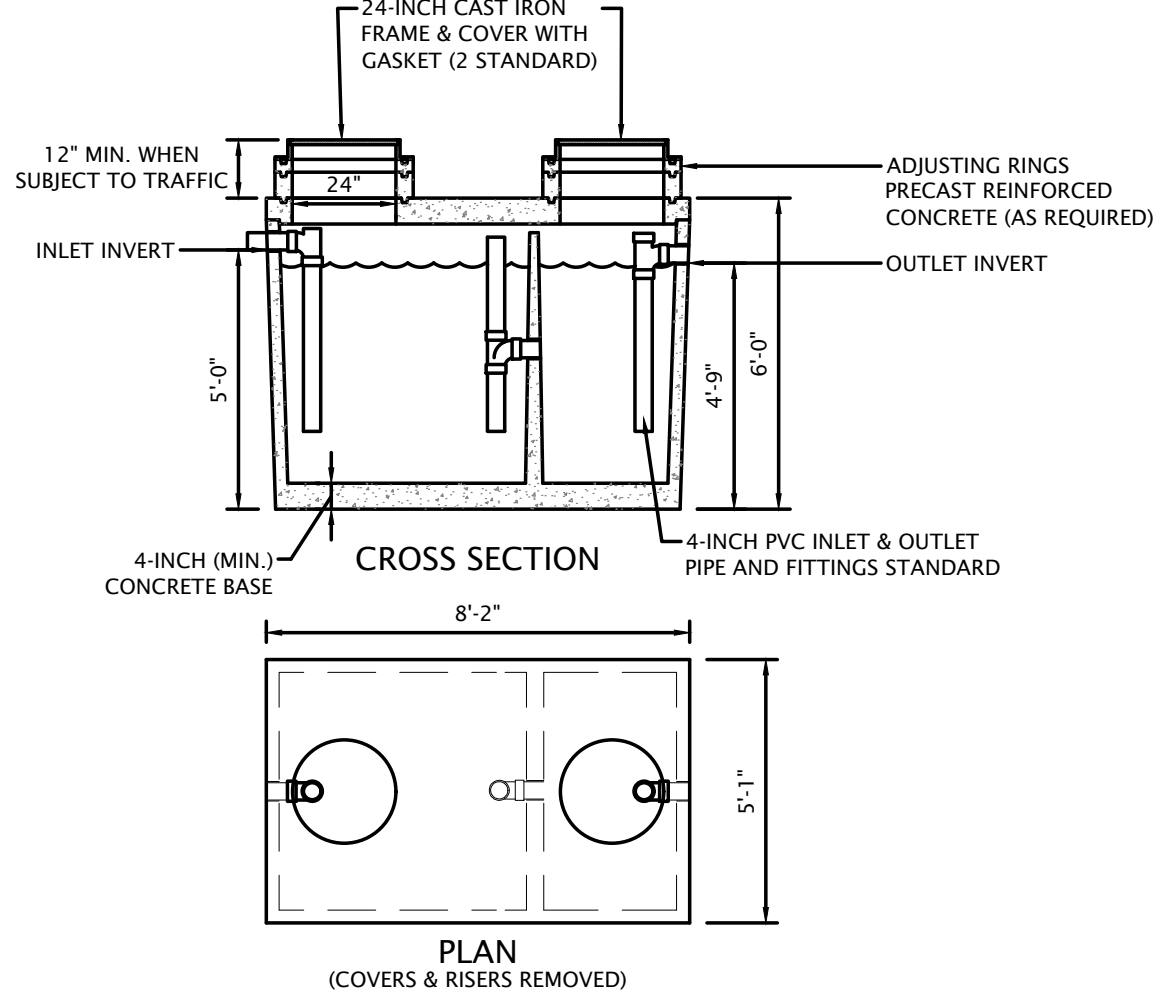
- 6.0 Borrow Material/Embankment & Structural Fill Material:
- Borrow material for structural fill shall be first excavated from on site source locations as defined by the Soils Report Engineer.
 - Structural fill material shall be placed under all utility trench corridors, building pad locations, paved parking, driveway, sidewalk and roadway areas.
 - Common site and embankment fill shall be placed under lawn, landscape and detention pond areas.
 - Maintain moisture content of structural fill within plus or minus 3 percent of the optimum moisture content as determined by the Modified Proctor Test.
 - Contractor shall provide subgrade conditions meeting the design grades for pavements, exterior walks, curbs and building pads.
 - Contractor shall only place approved fill material under proposed building pads and parking areas
 - Contractor shall undercut any areas that do not meet the requirements for structural fill and shall replace with structural fill.

- 7.0 Excavation:
- Protect all existing natural features on site.
 - Install soil erosion prevention measures in accordance with local and state ordinances and in accordance with the soil erosion control project drawings.
 - All proposed contours shown on this set of plans are proposed surface elevation. All fill shall be placed as structural fill for buildings and parking lots.
 - Prior to excavation an on-site Pre-construction Meeting shall be held between the Engineer, Owner/Owner's Representative and General Contractor to discuss earthwork protocol.
 - During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if ordinarily encountered at the site, the party discovering such conditions shall promptly notify the Owner/Owner's Representative/General Contractor and the Engineer in writing of the specific differing conditions. Upon written notification, the Engineer and Owner/Owner's Representative/General Contractor will investigate the conditions, and determine if adjustments to the Construction Documents and/or to the Contract are warranted. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice of a changed condition.

- 8.0 Compaction:
- Exercise care when compacting exposed soils relative to water table, rain or other moisture conditions.
 - Maintain moisture content of embankment material and structural fill material near optimum as recommended by the soils testing laboratory and Soil Boring Engineer. Maintain optimum moisture content of backfill and fill material to attain the required compaction density.
 - Backfill common site fill, embankment fill, structural fill and utility trenches to contours and elevations defined on the project site development plans.
 - Systematically backfill to allow maximum time for optimum compaction and do not backfill over porous, wet or spongy subgrade surfaces.
 - Employ a soils placement and compaction method that does not disturb or damage work performed and that maximizes soil compaction.
 - All common site, embankment and structural fill shall be place and compacted in continuous layers/lifts not exceeding 8-inches loose depth.
 - Compact subsoil for structural fill to 95% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all building pad locations.
 - Compact subsoil for structural fill to 95% of Modified Proctor Maximum Dry Density (ASTM D1557) beneath all pavement areas and utility corridor trenches.
 - Compact subsoil for common site fill and embankment fill to 90% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all lawn, landscape and detention pond areas.
 - Compact subsoil under building pad area to achieve soil-bearing capacities of 3,000 psf at a distance of 4-feet below the proposed finish floor elevations of all building ads.
 - If tests indicated work does not meet specified requirements, all sub-standard work shall be immediately removed, replaced and retested at no expense to the Owner.

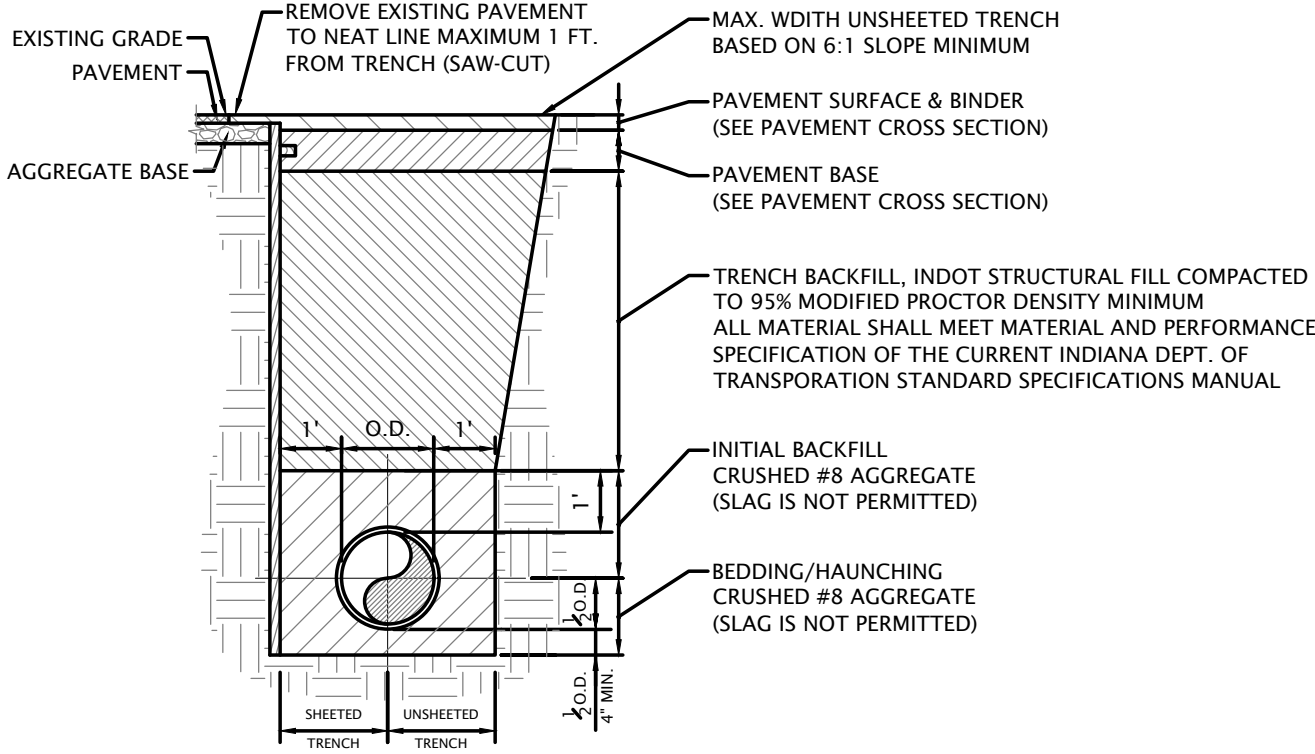
GENERAL NOTES

- The Town of Munster, DVG Team, Inc. (Engineer) and any Utility Company affected must be notified at least two working days prior to commencement of work. Prior to construction the contractor is to call INDIANA 811.
- Elevation Datum is U.S.G.S.
-
- The locations of existing underground utilities, such as water mains, sewer, gas lines, etc., as shown on the plans have been determined from the best available information and is given for the convenience of the contractor. However, the engineer and the owner do not assume responsibility for the accuracy of the locations shown. It shall be the responsibility of the contractor to contact all utility companies and their facilities shall be located prior to commencement of any work.
- Wherever obstructions not shown on the plans are encountered during the progress of the work and interfere to such an extent that alteration in the plans is required, the engineer shall be notified prior to any changes and any changes shall only be as approved via written instruction by the Engineer and the local Municipal Engineer.
- As-built drawings shall be prepared by the contractor and submitted to the engineer as soon as the project is completed. Any change in the length, location or alignment shall be shown in red. "AS BUILT" drawings shall be forwarded to the appropriate utility organizations. Four (4) copies shall be submitted to the Municipal Engineer.
- All proposed sanitary sewer, storm sewer, water main and service lines under and within 2' of pavement, curbs, and sidewalk shall be backfilled with crushed limestone (INDOT #53) or material consistent with Class I or II material as described in ASTM D2321 placed in 8" maximum layers and mechanically compacted to 95% modified proctor density. Slag is not permitted.
- Materials used for water, sanitary sewer, storm sewer and streets shall conform to the Town of Munster standards and specifications.
- Any existing public improvements (sidewalks, curb and gutter, etc.), disturbed during construction shall be replaced in kind, or per current Town of Munster specifications as directed by the Municipal Engineer.
- All public street construction shall meet performance standards of the current edition of the Indiana Department of Transportation Standard Specifications.
- Street signage shall be included in accordance with the MUTCD requirements applicable at the time of construction.
- The Owner/General Contractor shall be responsible for any and all utility new customer form submissions. Utility company review typically cannot begin until all new customer forms have been submitted.

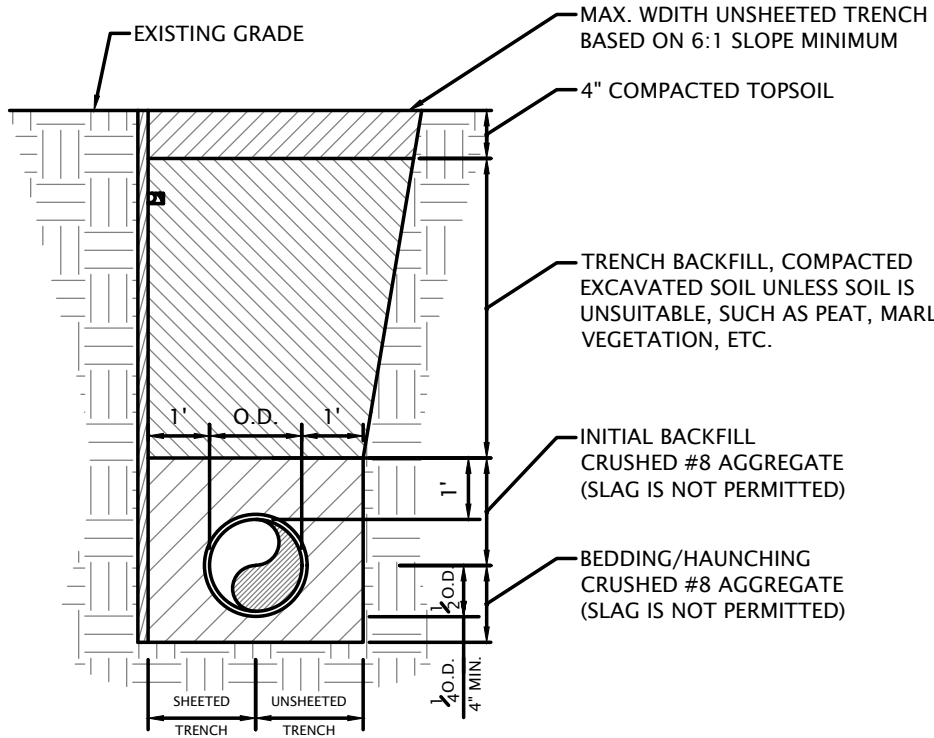


GREASE INTERCEPTOR (1,000 GALLON)
(NOT TO SCALE)

- NOTES:
- LIQUID CAPACITY IS 1,000 GALLONS.
 - TANK DESIGNED FOR H-20 TRAFFIC WHEEL LOAD WITH DRY SOIL CONDITIONS (WATER TABLE BELOW TANK) AND EARTH COVER OVER TANK NOT TO EXCEED 6 FEET.
 - SUITABLE NATIVE OR SUB-BASE SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS.
 - EXCAVATION SHALL BE BEDDED WITH SUITABLE GRANULAR MATERIAL AND SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY OR TO REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER.
 - MINIMUM EXCAVATION SIZE: 6'-1" x 9'-2" x DEPTH REQUIRED.
 - PROVIDE FLEXIBLE RESILIENT COMPRESSION FITTINGS BY A-LOK PRODUCTS INC (OR APPROVED EQUAL) AT INLET & OUTLET PIPE.
 - GREASE INTERCEPTOR SHALL MEET THE REQUIREMENTS OF ARTICLE 6 - SANITARY ENGINEERING, SECTION 410 IAC 6-10.1-66 GREASE TRAPS IN THE INDIANA ADMINISTRATIVE CODE.



PIPE BEDDING/TRENCH BACKFILL
(NOT TO SCALE)
FOR TRENCH IN PAVEMENT AREAS

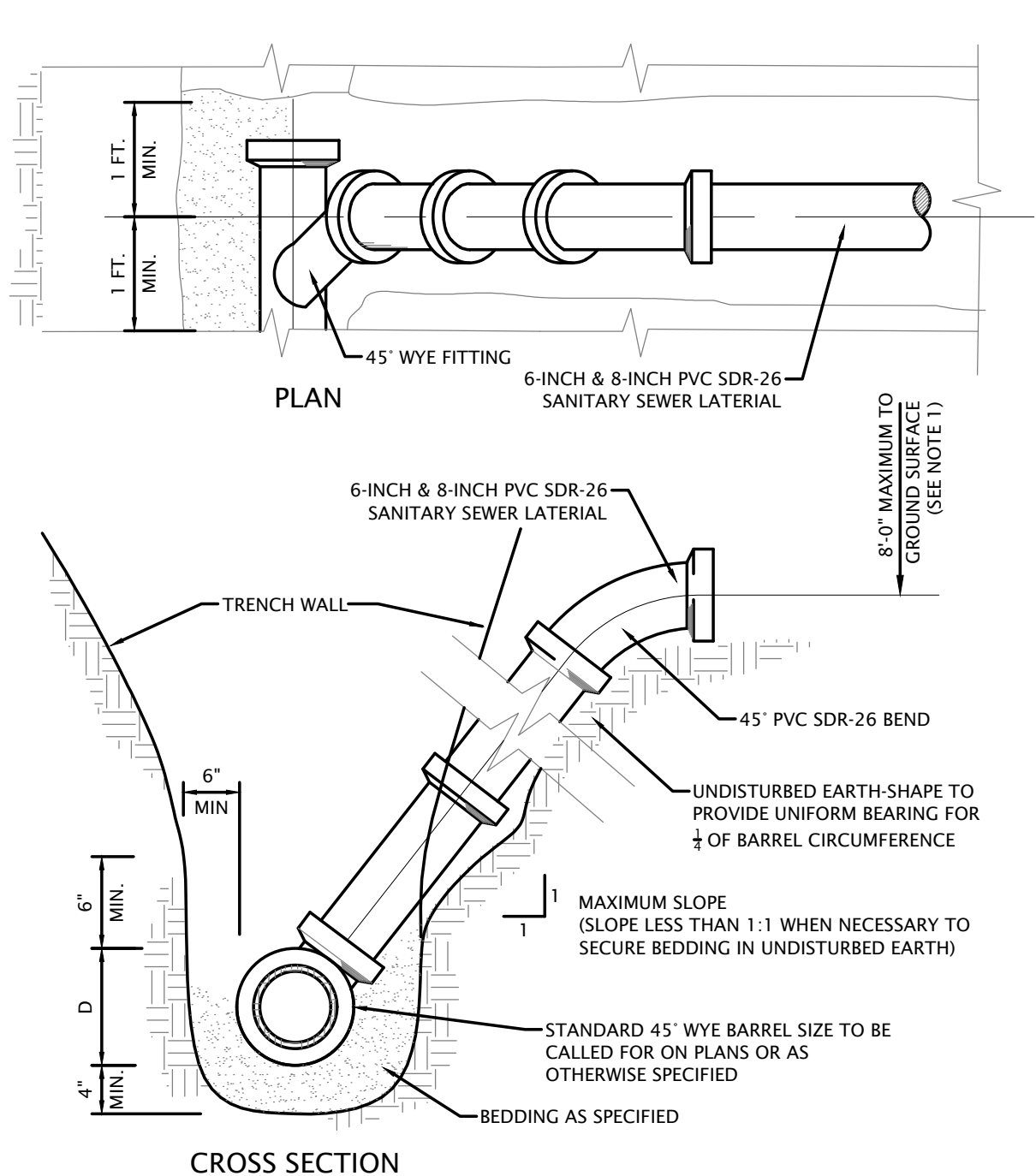


PIPE BEDDING/TRENCH BACKFILL
(NOT TO SCALE)
FOR TRENCH IN GRASS/LANDSCAPED AREAS

CENTENNIAL VILLAGE
631 KILLARNEY DRIVE
DYER, INDIANA 46311

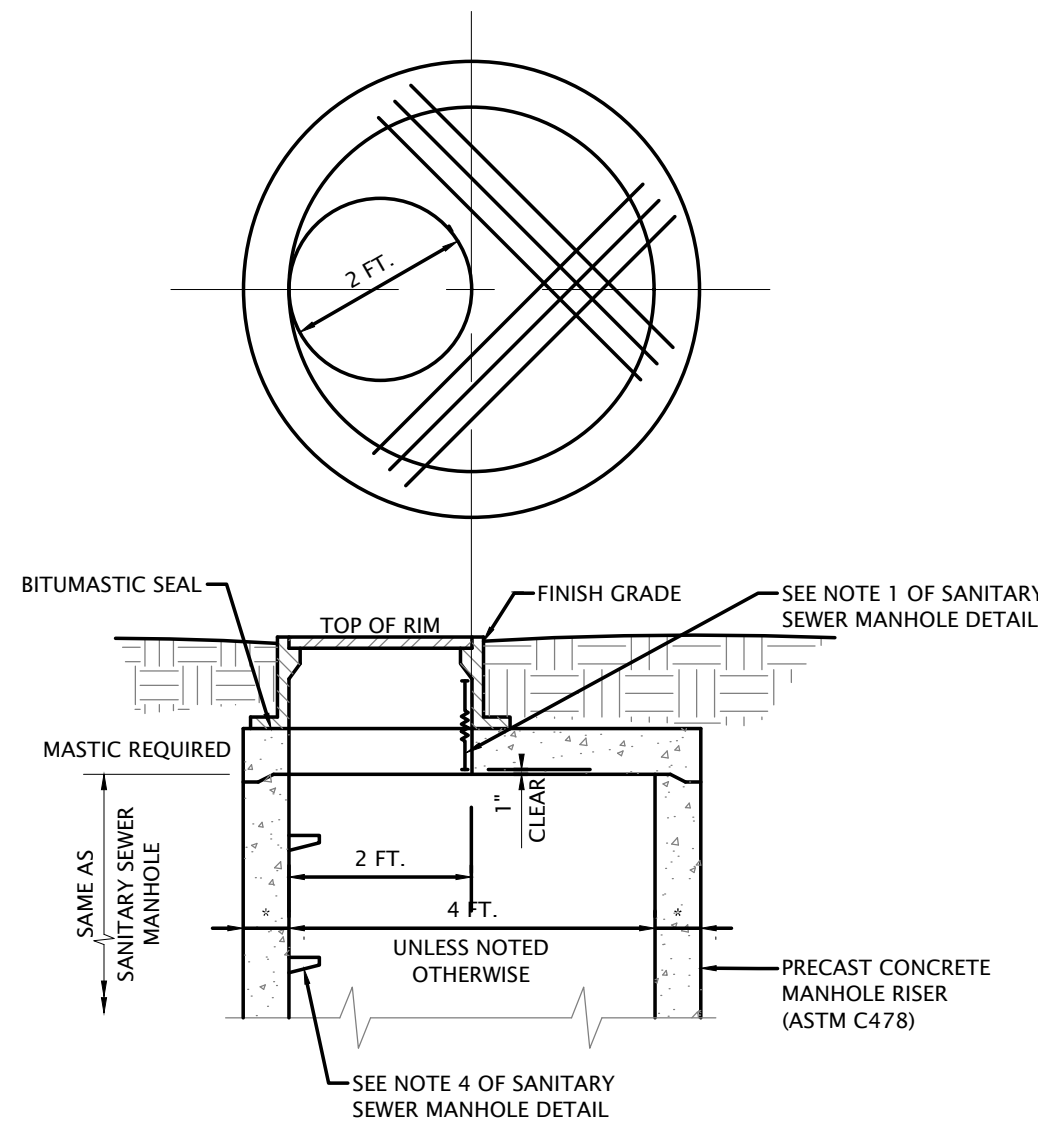
CENTENNIAL VILLAGE -
LOT 9 - BUILDING M
Construction Details

1. All Floor Drains shall discharge to the sanitary sewer.
2. Sanitary sewer pipe shall be PVC (SDR 26) ASTM D-3034 with push-on rubber gasket joints and shall be in accordance with ASTM C-3212, unless otherwise noted on the plans for portions to be in PVC (SDR 21).
3. All sanitary sewer manholes shall be air tested for leaks in accordance with ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test.
4. Where ductile iron pipe is used for sanitary sewer, the pipe shall be in accordance with ANSI A-21.51 and the joints in accordance with ANSI A-21.11.
5. A deflection test shall be performed on each flexible pipe following the elapse of thirty (30) days after the placement of the final backfill. No pipe shall exceed a deflection of five percent (5%) or greater. The diameter of the rigid ball or mandrel used for a deflection test shall be no less than ninety-five percent (95%) of the base inside diameter of the pipe to be tested dependent on what is specified in the corresponding ASTM standard. The test shall not be performed with the aid of a mechanical pulling device.
6. A leakage test shall be performed using one of the following leakage test types.
 - a.) A hydrostatic test shall be performed with a minimum of two (2) feet of positive head. The rate of exfiltration or infiltration shall not exceed two hundred (200) gallons per inch of pipe diameter per linear mile per day.
 - b.) An air test shall conform to ASTM F1417-92, Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, for plastic pipe.
7. All sanitary sewer shall be inspected by the Town of Munster.



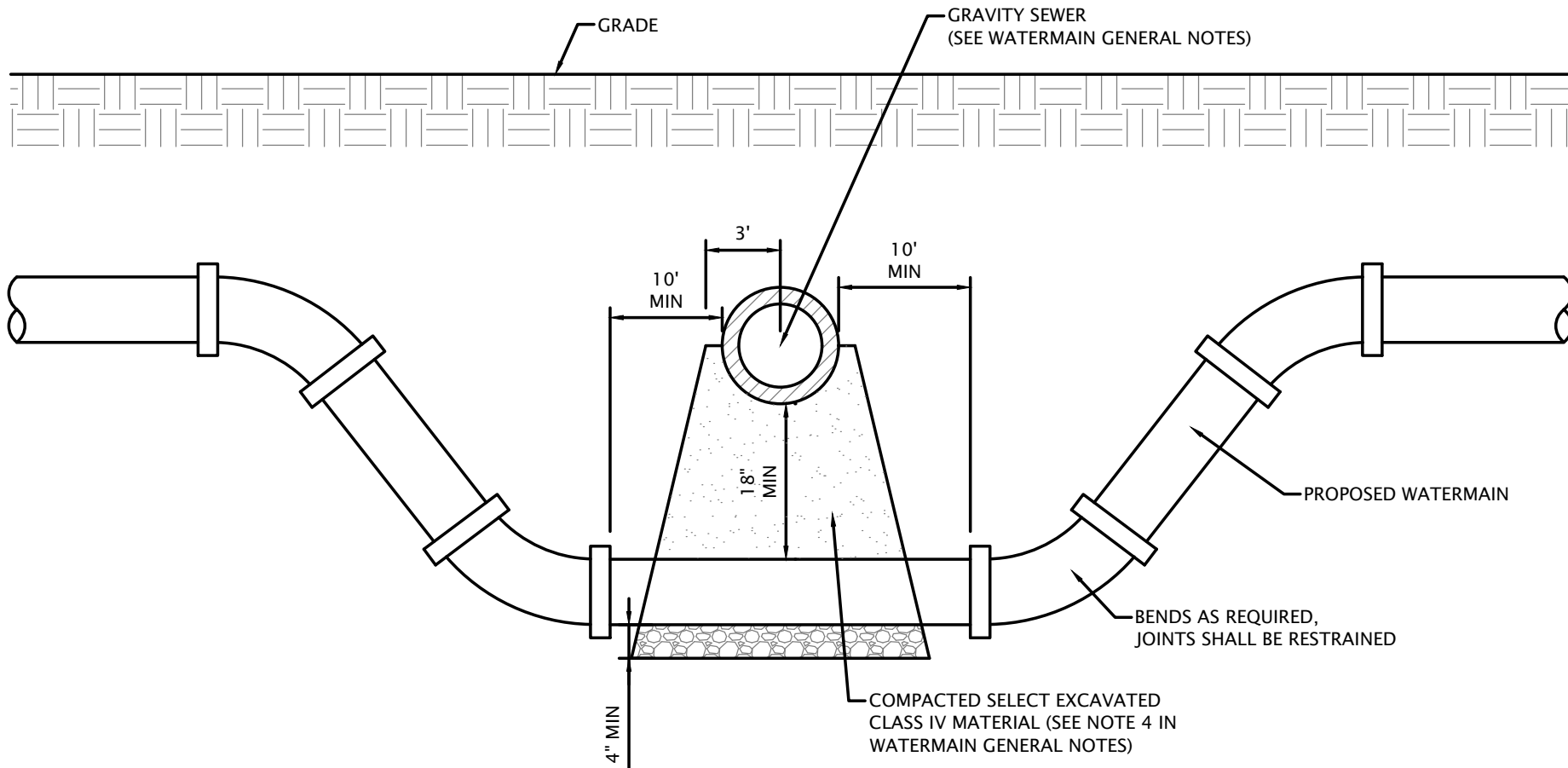
1. RISERS TO BE CONSTRUCTED IN LIEU OF WYES WHERE SEWER DEPTH EXCEEDS 10 FEET. FOR PIPE MATERIAL AND CONCRETE, SEE SPECIFICATIONS.
2. ALL SANITARY SEWER SERVICE LATERALS SHALL BE PLUGGED WITH A WATERTIGHT CAP AND SHALL BE LOCATED WITH 4-INCH x 4-INCH WOOD MARKERS TO IDENTIFY LATERAL END.

(NOT TO SCALE)

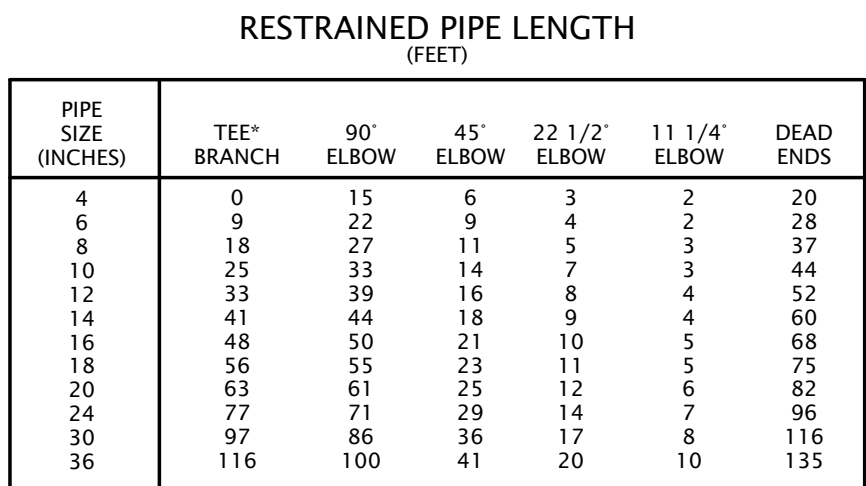


(NOT TO SCALE)

USED WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS
SEE SANITARY MANHOLE NOTES



(NOT TO SCALE)



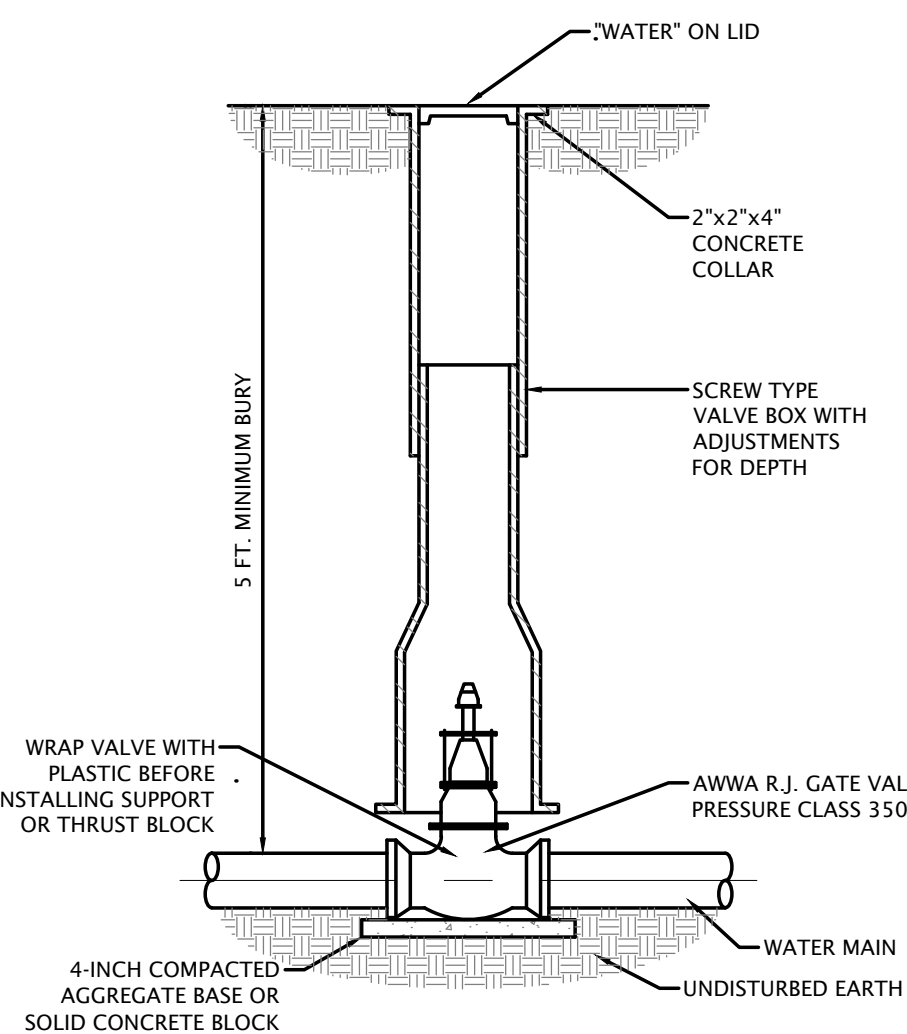
* ONE FULL LENGTH (18') OF PIPE ON BOTH SIDES OF BRANCH TO BE RESTRAINED.

INCREASE ALL LENGTHS IN TABLE BY 75% FOR USE ON POLYETHYLENE WRAPPED DUCTILE IRON PIPE OR PVC PIPE.

TEST PRESSURE BASED ON 150 PSI.

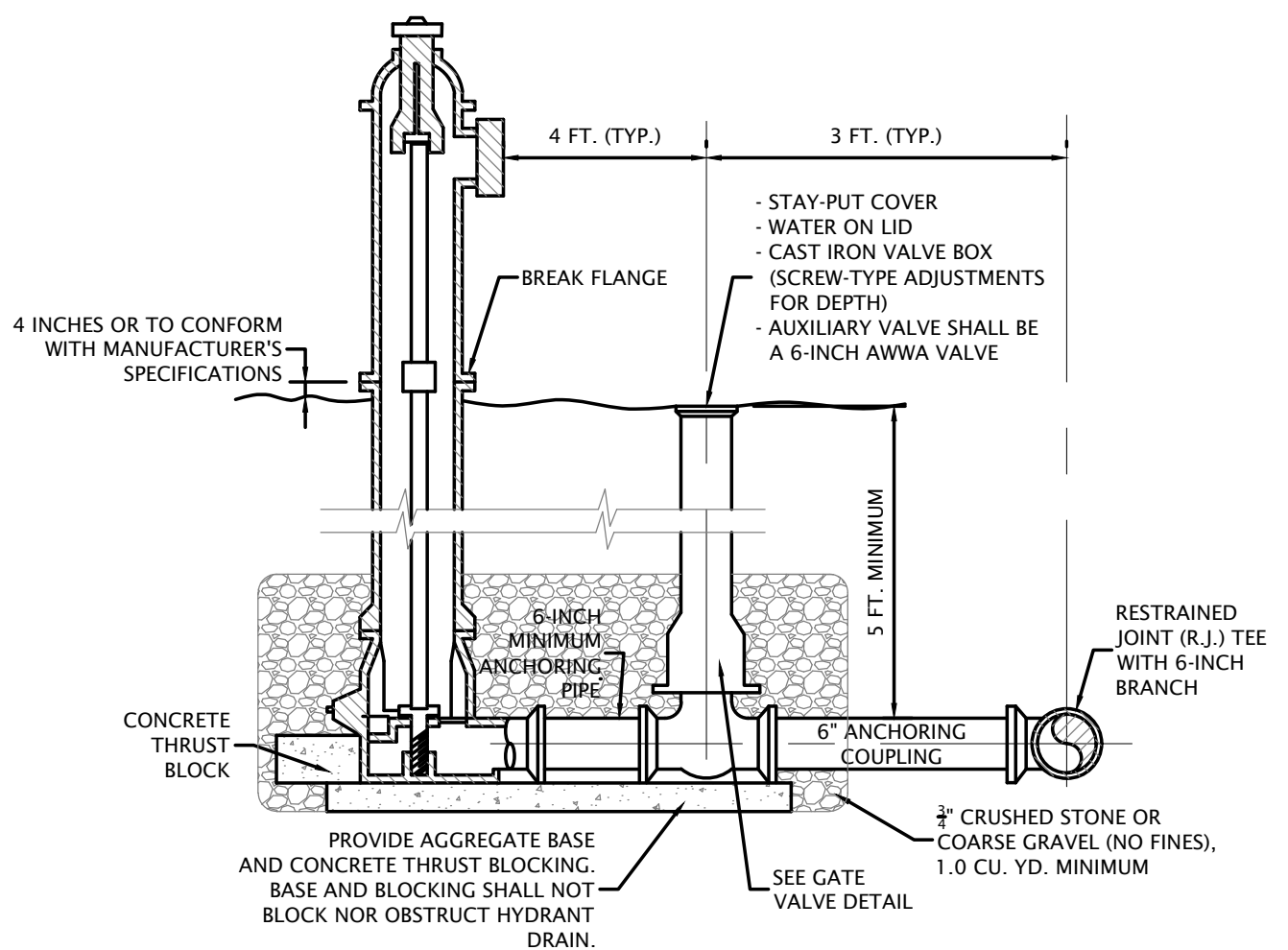
This diagram illustrates a tapping method for a water main. A vertical service box (B-BOX) is shown, with its top at ground elevation. The box is connected to a water main via a corporation stop coupling. The water main is shown as a circular pipe with a varying diameter, labeled "WATER MAIN (SIZE VARIES)". A tap service piping, made of copper tube (Type K), is connected to the water main through a direct connection. The depth of the service box is indicated as 5'-0" (min.), and it is noted that this depth varies depending on the frost line. The top of the service box is labeled "WATER" ON LID. The ground elevation is also indicated. The diagram is labeled "VARIES" at the top and "CURB STOP COUPLING" at the bottom left.

(NOT TO SCALE)



(NOT TO SCALE)

USE IF DUCTILE IRON IS USED FOR WATER SERVICE



(NOT TO SCALE)

NOTES:

1. HYDRANT TYPE SHALL BE KENNEDY, 3-NOZZLE WITH 5" STORZ CONNECTION.
2. NEAREST PART OF HYDRANT NOT LESS THAN 1.5 FT. FROM BACK OF CURB
3. ALL JOINTS SHALL BE RESTRAINED BY RETAINER GLANDS OR RODDING, AS APPROVED BY THE ENGINEER.

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CENTENNIAL VILLAGE -
LOT 9 - BUILDING M

Construction Details

NO SCALE

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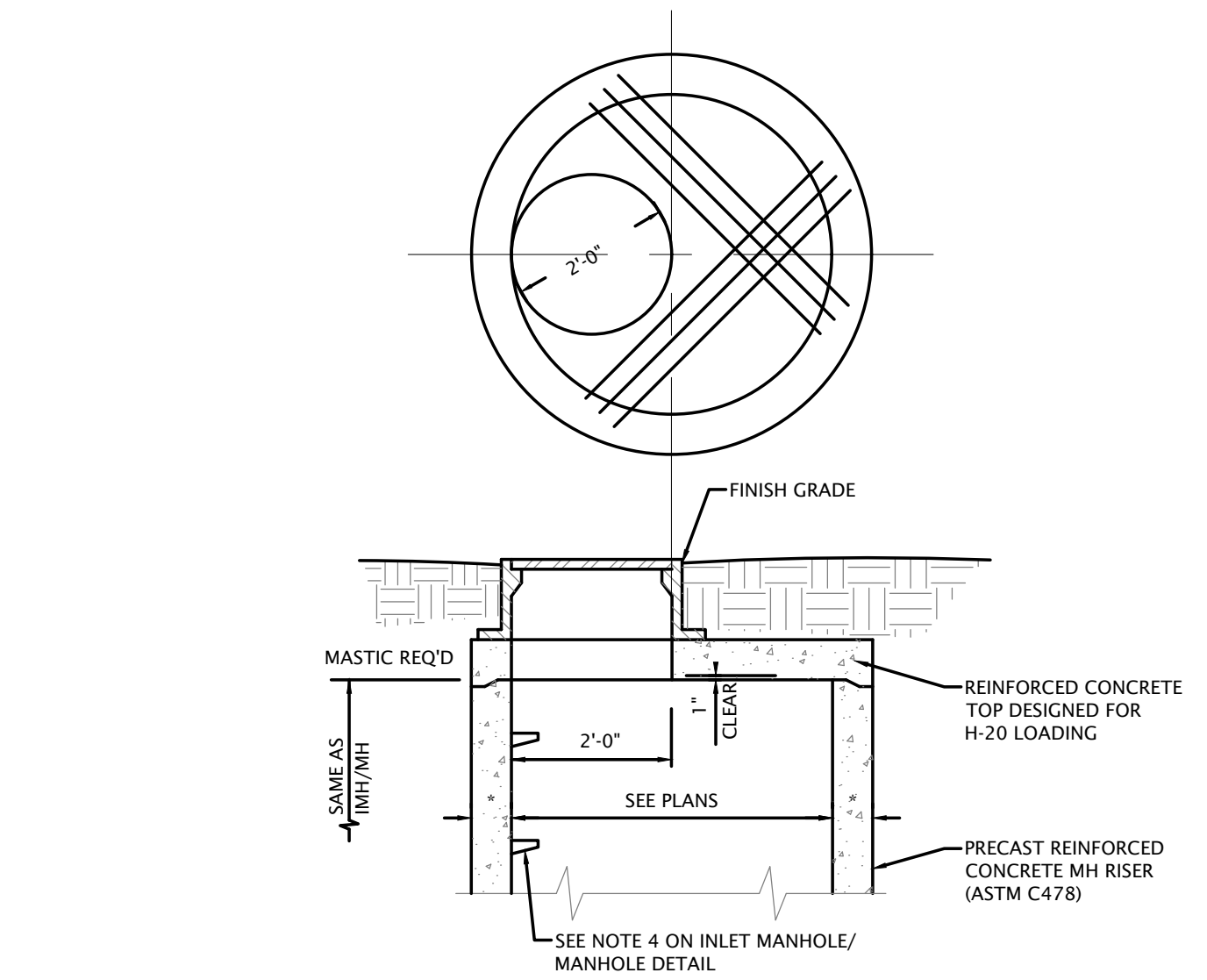
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PROJECT NO.

C202

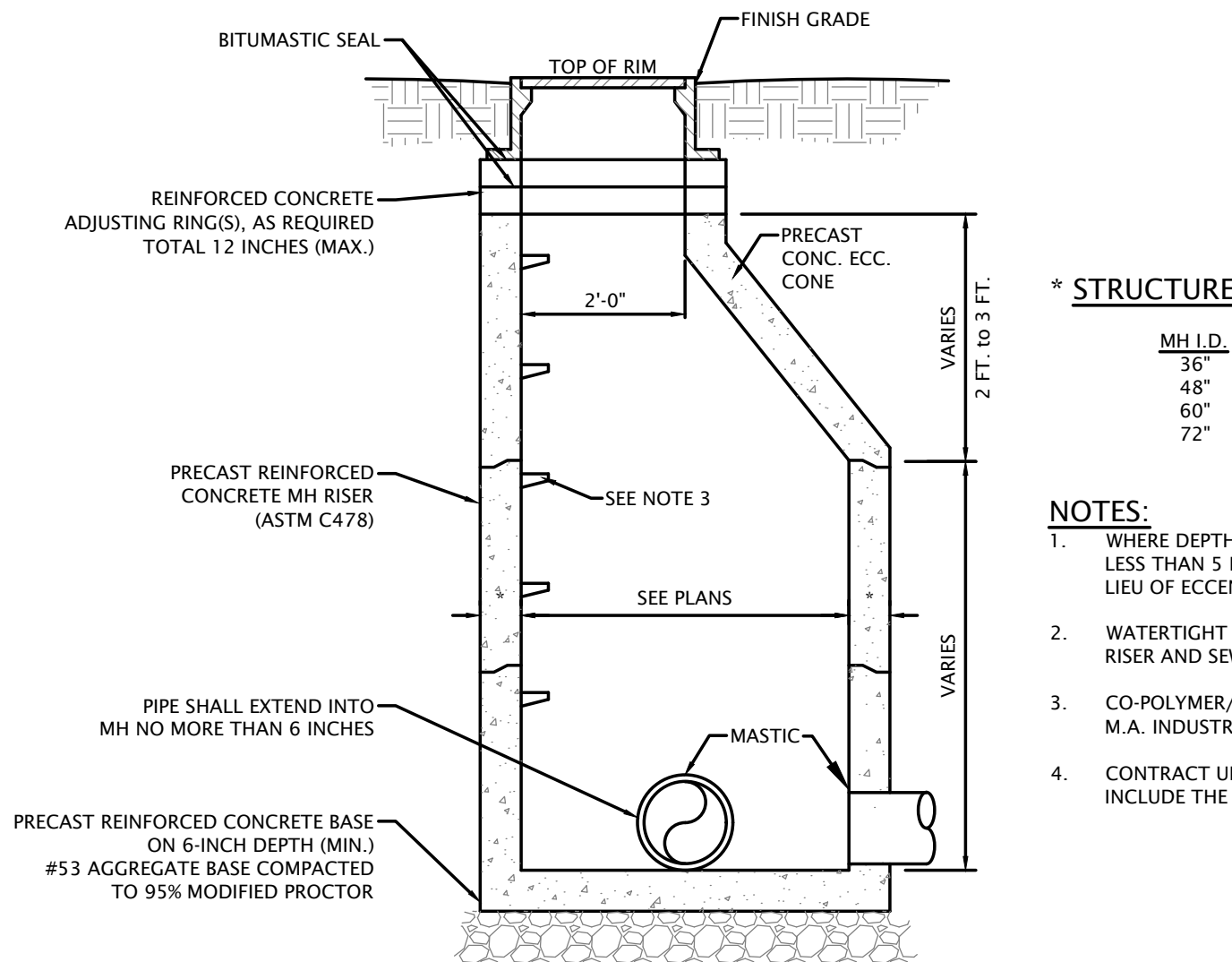
STORM SEWER GENERAL NOTES

1. Footing drains, sump pump drains and outside drains shall discharge to the storm sewer where storm sewer is provided.
2. The maximum allowable rate of infiltration or exfiltration shall not exceed 100 gallons, per 24 hours per inch-diameter per mile of sewer pipe.
3. Storm sewers shall be as noted on the plans. If approved by the Engineer, an alternative storm sewer pipe 12 inches and larger can be reinforced concrete minimum Class III, wall B conforming to ASTM C-76; Corrugated High-Density Polyethylene Pipe with smooth interior (ADS N-12) conforming to AASHTO M-294; Corrugated Polypropylene Pipe with smooth interior conforming to AASHTO M-330 (ADS HP STORM); Corrugated High-Density Polyethylene Pipe with smooth interior (PRINSCO, GOLDFLO) conforming to AASHTO M-294 or other INDOT, Type 2 storm sewers as approved by the Engineer.
4. All HDPE storm sewer pipe shall be tested with a mandrel. Maximum deflection shall meet ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes 30 days after backfill, and should be performed without the aid of a mechanical pulling device. The deflection testing shall meet all requirements of IDEM section 327 IAC 3-6-19(a) (b) (c).



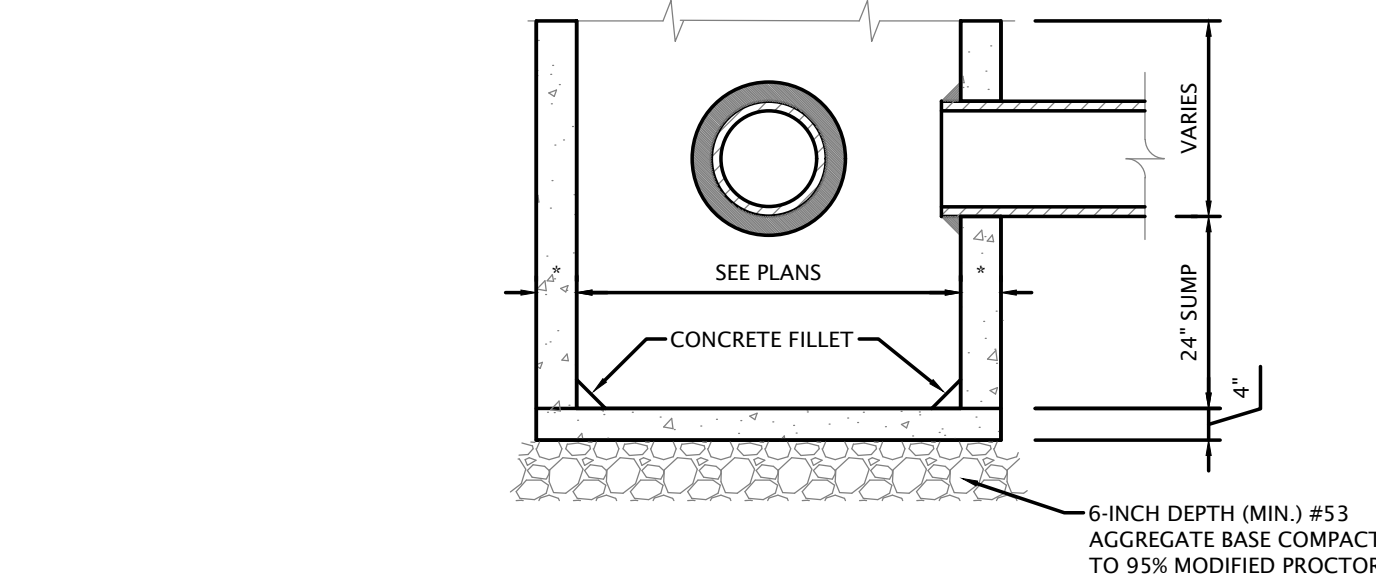
MANHOLE TOP (FLAT TOP)
(NOT TO SCALE)

USE WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS



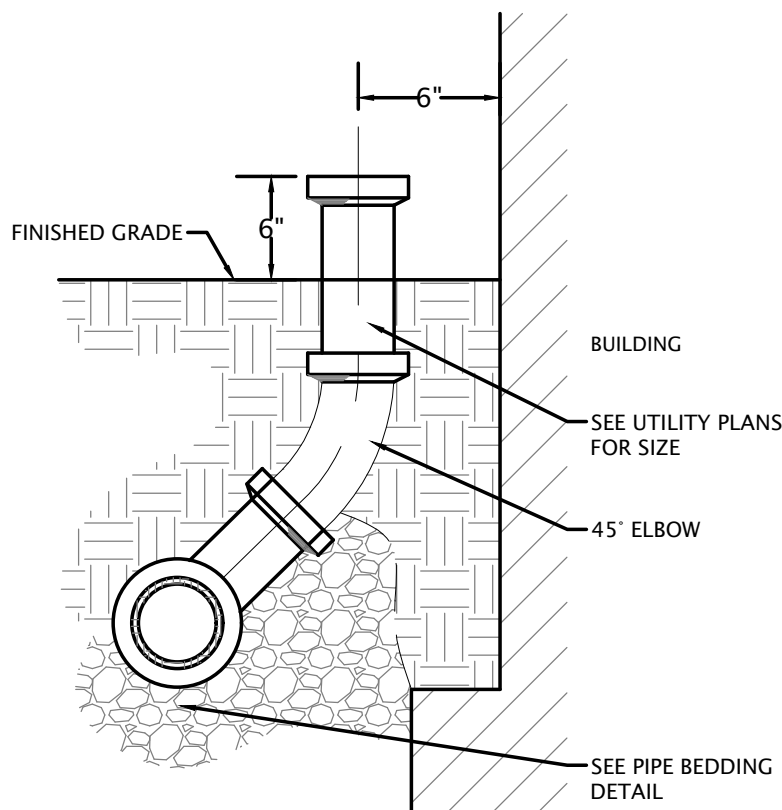
INLET MANHOLE/MANHOLE
(NOT TO SCALE)

INLET MANHOLE (IMH) USES AN OPED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE
MANHOLE (MH) USES A CLOSED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE.

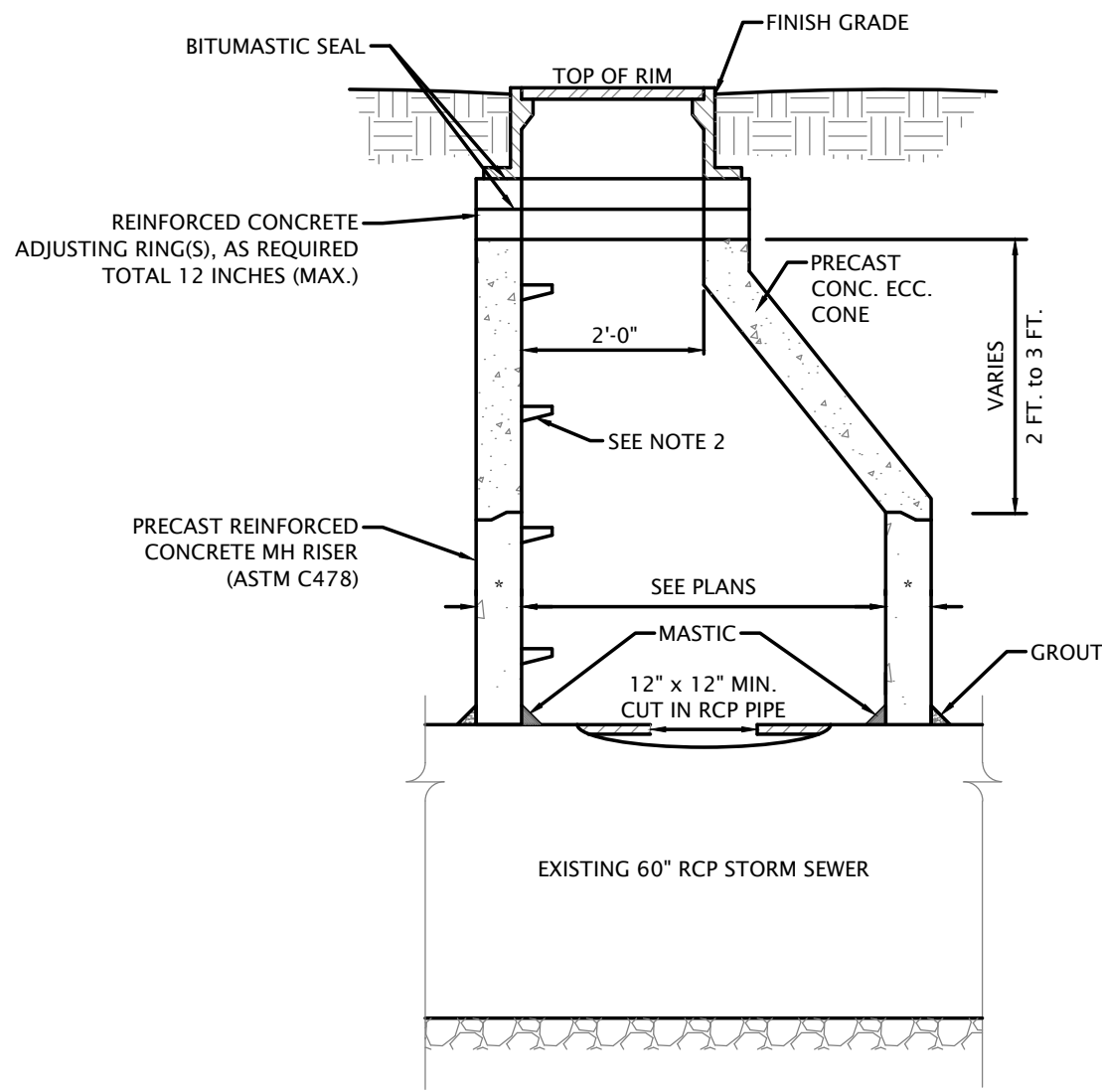


CATCH BASIN
(NOT TO SCALE)

SEE INLET MANHOLE/MANHOLE DETAIL
CATCH BASIN USES EITHER CLOSED OR OPEN LIDS - SEE UTILITY PLAN FOR FRAME & LID TYPE.



DOWNSPOUT CONNECTION
(NOT TO SCALE)



INLET MANHOLE ON PIPE
(NOT TO SCALE)

* STRUCTURE WALL THICKNESS TABLE

| MH I.D. | WALL THICKNESS |
|---------|----------------|
| 36" | 4" |
| 48" | 5" |
| 60" | 6" |
| 72" | 7" |

NOTES:

1. WHERE DEPTH FROM TOP OF CASTING TO INVERT IS LESS THAN 5 FEET, USE FLAT TOP MANHOLE TYPE "C" IN LIEU OF ECCENTRIC CONE.
2. CO-POLYMER/STEEL MH STEPS AS MANUFACTURED BY M.A. INDUSTRIES OR EQUAL, AT 16 INCHES O.C. (MAX.).
3. CONTRACT UNIT PRICE FOR ALL STRUCTURES SHALL INCLUDE THE FRAME AND GRATE SPECIFIED.



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| DATE: | REVISIONS AND NOTES: |
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CENTENNIAL VILLAGE -
LOT 9 - BUILDING M
Construction Details

NO SCALE

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| DESIGN BY | DATE |
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| DVG | 05/26/23 |

| PROJECT NO. |
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| 23-0026 |

C203

EROSION CONTROL MEASURES (continued)

MULCHING

| | | |
|-----------------------------|--|--|
| MATERIAL: | STRAW, HAY, WOOD FIBER, CELLULOSE OR EXCELSIOR OR EROSION CONTROL BLANKETS OR TURF REINFORCEMENT MATS, AS SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN | |
| COVERAGE: | AT LEAST 75% OF THE SOIL SURFACE | |
| ANCHORING: | REQUIRED FOR STRAW OR HAY MULCH AND SOMETIMES EXCELSIOR TO PREVENT DISPLACEMENT BY WIND AND/OR WATER | |
| MATERIAL | RATE | COMMENTS |
| STRAW OR HAY | 1.5 TO 2 TONS/ACRE | SHOULD BE DRY, UNCHOPPED, FREE OF UNDESIRABLE SEEDS |
| WOOD FIBER OF CELLULOSE | 1 TON/ACRE | SREAD BY HAND OR ANCHORED MUST BE CRIMPED OR ANCHORED |
| LONG FIBER WOOD (EXCELSIOR) | 0.5 TO 0.75 TON/ACRE | APPLY WITH A HYDROMULCHER AND USE WITH TACKING AGENT ANCHOR IN AREAS SUBJECT TO WIND |

- INSTALLATION:
1. APPLY MULCH AT THE RECOMMENDED RATE.
 2. SPREAD UNIFORMLY BY HAND, HAY FORK, MULCH BLOWER OR HYDROMULCHER. AFTER SPREADING, NO MORE THAN 25% OF THE GROUND SURFACE SHOULD BE VISIBLE
 3. IF STRAW OR HAY IS USED, ANCHOR IT IMMEDIATELY IN ONE OF THE FOLLOWING WAYS:

- MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION.
 2. IF ANY AREA SHOWS EROSION, REPAIR THE GRADE AND RE-APPLY "SILT STOP" POWDER AND RE-LAY AND STAPLE THE BLANKET.
 3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.

| | |
|---|--|
| ANCHORING METHOD | HOW TO APPLY |
| MULCH ANCHORING TOOL OR FARM DISK (DULL, SERRATED AND SET STRAIGHT) | CRIMP OR PUNCH THE STRAW OR HAY INTO THE SOIL 2 TO 4 INCHES. OPERATE MACHINERY ON THE CONTOUR OF SLOPE. |
| CLEATING WITH DOZER TRACKS | OPERATE DOZER UP AND DOWN SLOPE, NOT ACROSS OR ELSE THE TRACKS WILL FORM RILLS. |
| WOOD HYDROMULCH FIBERS | APPLY 1 TO 2 TONS/ACRE USING A HYDROMULCHER AT A RATE OF 750 LBS./ACRE WITH A TACKING AGENT (OR ACCORDING TO CONTRACTOR SPECIFICATIONS). DO NOT USE IN AREAS OF CONCENTRATED FLOW. |
| ASPHALT EMULSION | EMULSIFIED ASPHALT SHOULD CONFORM TO THE REQUIREMENTS OF ASTM SPEC. #977. APPLY WITH SUITABLE EQUIPMENT AT A RATE OF 0.05 GAL/SY. DO NOT USE IN AREAS OF CONCENTRATED FLOW. |
| SYNTHETIC TACKIFIER, BINDER OR SOIL STABILIZER | APPLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS |
| BIODEGRADABLE NETTING (POLYPROPYLENE OR SIMILAR MATERIAL) | APPLY OVER MULCH AND STAPLE WITH 6 TO 8 INCH WIRE STAPLES. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION. BEST SUITED TO SLOPE APPLICATION. |

* INSTALL THE NETTING IMMEDIATELY AFTER APPLYING THE MULCH. IN AREAS OF CONCENTRATED WATER FLOW, LAY NETTING PARALLEL TO THE DIRECTION OF FLOW. ON OTHER SLOPES, LAY NETTING EITHER PARALLEL OR PERPENDICULAR TO DIRECTION OF FLOW. EDGES OF ADJACENT NETTING STRIPS SHOULD OVERLAP 4 TO 6 INCHES WITH THE STRIP ON THE UPGRADE SIDE OF ANY LATERAL WATER FLOW ON TOP. INSTALLATION DETAILS ARE SITE SPECIFIC, SO FOLLOW THE MANUFACTURER'S DIRECTIONS.

- MAINTENANCE:
1. INSPECT AFTER STORM EVENTS TO CHECK FOR MOVEMENT OF MULCH OR FOR EROSION.
 2. IF WASHOUT, BREAKAGE, OR EROSION IS PRESENT, REPAIR THE SURFACE, THEN RE-SEED, RE-MULCH AND, IF APPLICABLE, INSTALL NEW NETTING.
 3. CONTINUE INSPECTIONS UNTIL VEGETATION IS FIRMLY ESTABLISHED.

SOIL ROUGHENING

DESCRIPTION:

SOIL ROUGHENING IS A TEMPORARY EROSION CONTROL PRACTICE OFTEN USED IN CONJUNCTION WITH GRADING. SOIL ROUGHENING INVOLVES INCREASING THE RELIEF OF A BARE SOIL SURFACE WITH HORIZONTAL GROOVES BY EITHER STAIR-STEPPING (RUNNING PARALLEL TO THE CONTOUR OF THE LAND) OR USING CONSTRUCTION EQUIPMENT TO TRACK THE SURFACE. SLOPES THAT ARE NOT FINE GRADED AND LEFT IN A ROUGHENED CONDITION CAN ALSO REDUCE EROSION. SOIL ROUGHENING REDUCES RUNOFF VELOCITY, INCREASES INFILTRATION, REDUCES EROSION, TRAPS SEDIMENT, AND PREPARES THE SOIL FOR SEEDING AND PLANTING BY GIVING SEED AN OPPORTUNITY TO TAKE HOLD AND GROW.

APPLICABILITY:

SOIL ROUGHENING IS APPROPRIATE FOR ALL SLOPES, BUT WORKS ESPECIALLY WELL ON SLOPES GREATER THAN 3:1, ON PILES OF EXCAVATED SOIL, AND IN AREAS WITH HIGHLY ERODIBLE SOILS. THIS TECHNIQUE IS ESPECIALLY APPROPRIATE FOR SOILS THAT ARE FREQUENTLY DISTURBED, BECAUSE ROUGHENING IS RELATIVELY EASY, TO SLOW EROSION, ROUGHEN THE SOIL AS SOON AS POSSIBLE AFTER THE VEGETATION HAS BEEN REMOVED FROM THE SLOPE OR IMMEDIATELY AFTER GRADING ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY). USE THIS PRACTICE IN CONJUNCTION WITH SEEDING, PLANTING, AND PLANTING TO STABILIZE AN AREA. A COMBINATION OF SOIL ROUGHENING AND VEGETATION IS APPROPRIATE FOR STEEPER SLOPES AND SLOPES THAT WILL BE LEFT BARE FOR LONGER PERIODS OF TIME.

SITING AND DESIGN CONSIDERATIONS:

ROUGHENED SLOPE SURFACES HELP ESTABLISH VEGETATION, IMPROVE INFILTRATION, AND DECREASE RUNOFF VELOCITY. A ROUGH SOIL SURFACE ALLOWS SURFACE PONDING THAT PROTECTS LIMES, FERTILIZER, AND SEED AND DECREASES EROSION POTENTIAL. GROOVES IN THE SOIL ARE COOLER AND PROVIDE MORE FAVORABLE MOISTURE CONDITIONS THAN HARD, SMOOTH SURFACES. THESE CONDITIONS PROMOTE SEED GERMINATION AND VEGETATIVE GROWTH.

AVOID EXCESSIVE SOIL COMPACTING, BECAUSE THIS INHIBITS VEGETATION GROWTH AND CAUSES HIGHER RUNOFF VELOCITY. LIMIT ROUGHENING WITH TRACKED MACHINERY TO SANDY SOILS THAT DO NOT COMPACT EASILY. ALSO, AVOID TRACKING ON HEAVY CLAY SOILS, ESPECIALLY WHEN WET. SEED ROUGHENED AREAS AS QUICKLY AS POSSIBLE, AND FOLLOW PROPER PROCEDURES.

DEPENDING ON THE TYPE OF SLOPE AND THE AVAILABLE EQUIPMENT, USE DIFFERENT METHODS FOR ROUGHENING SOIL ON A SLOPE. THESE INCLUDE STAIR-STEP GRADING, GROOVING, AND TRACKING. WHEN CHOOSING A METHOD, CONSIDER FACTORS SUCH AS SLOPE STEEPNESS, MOWING REQUIREMENTS, WHETHER THE SLOPE IS FORMED BY CUTTING OR FILLING, AND AVAILABLE EQUIPMENT. CHOOSE FROM THE FOLLOWING METHODS FOR SURFACE ROUGHENING:

- **CUT SLOPE ROUGHENING FOR AREAS THAT WILL NOT BE MOWED.** USE STAIR-STEP GRADES OR GROOVE-CUT SLOPES FOR GRADIENTS STEEPER THAN 3:1. USE STAIR-STEP GRADING ON ANY ERODIBLE MATERIAL THAT IS SOFT ENOUGH TO BE RIPPED WITH A BULLDOZER. ALSO, IT IS WELL SUITED FOR SLOPES CONSISTING OF SOFT ROCK WITH SOME SUBSOIL. MAKE THE VERTICAL CUT DISTANCE LESS THAN THE HORIZONTAL DISTANCE, AND SLOPE THE HORIZONTAL PORTION OF THE STEP SLIGHTLY TOWARD THE VERTICAL WALL. KEEP INDIVIDUAL VERTICAL CUTS LESS THAN 2 FEET DEEP IN SOFT MATERIALS AND LESS THAN 3 FEET DEEP IN ROCKY MATERIALS.
- **GROOVING.** THIS TECHNIQUE USES MACHINERY TO CREATE A SERIES OF RIDGES AND DEPRESSIONS THAT RUN ACROSS THE SLOPE ALONG THE CONTOUR. MAKE GROOVES USING ANY APPROPRIATE IMPLEMENT THAT CAN BE SAFELY OPERATED ON THE SLOPE, SUCH AS DISKS, TILLERS, SPRING HARROWS, OR THE TEETH ON A FRONT-END LOADER BUCKET. MAKE THE GROOVES LESS THAN 3 INCHES DEEP AND LESS THAN 15 INCHES APART.
- **FILL SLOPE ROUGHENING FOR AREAS THAT WILL NOT BE MOWED.** FILL SLOPES WITH A GRADIENT STEEPER THAN 3:1 SHOULD BE PLACED IN LIFTS LESS THAN 9 INCHES, AND PROPERLY COMPACT EACH LIFT. THE FACE OF THE SLOPE SHOULD CONSIST OF LOOSE, UNCOMPACTED FILL 4 TO 6 INCHES DEEP. IF NECESSARY, ROUGHEN THE FACE OF THE SLOPES BY GROOVING THE SURFACE AS DESCRIBED ABOVE. DO NOT BLADE OR SCRAPE THE FINAL SLOPE FACE.
- **CUTS, FILLS, AND GRADED AREAS THAT WILL BE MOWED.** MAKE MOWED SLOPES NO STEEPER THAN 3:1. ROUGHEN THESE AREAS WITH SHALLOW GROOVES LESS THAN 10 INCHES APART AND DEEPER THAN 1 INCH USING NORMAL TILLING, DISKING, OR HARROWING EQUIPMENT (A CULTIPACKER-SEEDER CAN ALSO BE USED). EXCESSIVE ROUGHNESS IS UNDESIRABLE WHERE MOWING IS PLANNED.
- **ROUGHENING WITH TRACKED MACHINERY.** TO AVOID UNDUE COMPACTION OF THE SOIL SURFACE, LIMIT ROUGHENING WITH TRACKED MACHINERY ONLY TO SANDY SOILS. OPERATE TRACKED MACHINERY PERPENDICULARLY TO THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN THE SOIL. TRACKING IS GENERALLY NOT AS EFFECTIVE AS OTHER ROUGHENING METHODS.

LIMITATIONS:

SOIL ROUGHENING IS NOT APPROPRIATE FOR ROCKY SLOPES. TRACKED MACHINERY CAN EXCESSIVELY COMPACT THE SOIL. TYPICALLY, SOIL ROUGHENING IS EFFECTIVE ONLY FOR GENTLE OR SHALLOW DEPTH RAINS. IF ROUGHENING IS WASHED AWAY IN A HEAVY STORM, RE-ROUGHEN THE SURFACE AND RE-SEED.

MAINTENANCE CONSIDERATIONS:

INSPECT ROUGHENED AREAS AFTER STORMS TO SEE IF RE-ROUGHENING IS NEEDED. REGULAR INSPECTION SHOULD INDICATE WHERE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ARE NEEDED. IF RILLS (SMALL WATERCOURSES THAT HAVE STEEP SIDES AND ARE USUALLY ONLY A FEW INCHES DEEP) APPEAR, FILL, REGRADE, AND RESEED THEM IMMEDIATELY. USE PROPER METHODS.

EFFECTIVENESS:

SOIL ROUGHENING PROVIDES MODERATE EROSION PROTECTION FOR BARE SOILS WHILE VEGETATIVE COVER IS BEING ESTABLISHED. IT IS INEXPENSIVE AND SIMPLE FOR SHORT-TERM EROSION CONTROL WHEN USED WITH OTHER EROSION AND SEDIMENT CONTROLS.

TOPSOIL (SALVAGE AND UTILIZATION)

- SALVAGING AND STOCKPILING:
1. DETERMINE DEPTH AND SUITABILITY OF TOPSOIL AT THE SITE.
 2. PRIOR TO STRIPPING TOPSOIL, INSTALL ANY SITE-SPECIFIC DOWNSLOPE PRACTICES NEEDED TO CONTROL RUNOFF AND SEDIMENTATION.
 3. REMOVE THE SOIL MATERIAL NO DEEPER THAN WHAT THE COUNTY SOIL SURVEY DESCRIBES AS "SURFACE SOIL" (i.e., A OR AP HORIZON).
 4. STOCKPILE THE MATERIAL IN ACCESSIBLE LOCATIONS THAT NEITHER INTERFERE WITH OTHER CONSTRUCTION ACTIVITIES NOR BLOCK NATURAL DRAINAGE; AND INSTALL SILT FENCES, STRAW BALES, OR OTHER BARRIERS TO TRAP SEDIMENT. (SEVERAL SMALLER PILES AROUND THE CONSTRUCTION SITE ARE USUALLY MORE EFFICIENT AND EASIER TO CONTAIN THAN ONE LARGE PILE.)
 5. IF SOIL IS STOCKPILED FOR MORE THAN 6 MOS., IT SHOULD BE TEMPORARILY SEEDED OR COVERED WITH A TARP OR SURROUNDED BY A SEDIMENT BARRIER.

- SPREADING TOPSOIL:
1. PRIOR TO APPLYING TOPSOIL, GRADE THE SUBSOIL AND ROUGHEN THE TOP 3-4 IN. BY DISKING. THIS HELPS THE TOPSOIL BOND WITH THE SUBSOIL.
 2. DO NOT APPLY TOPSOIL WHEN THE SITE IS WET, MUDDY OR FROZEN, BECAUSE IT MAKES SPREADING DIFFICULT, INHIBITS BONDING, AND CAN CAUSE COMPACTION PROBLEMS.
 3. APPLY TOPSOIL EVENLY TO A DEPTH OF AT LEAST 4 IN. (8-12 IN. IF THE UNDERLYING MATERIAL IS BEDROCK.
 4. LOOSE SAND, ROCK FRAGMENTS, GRAVEL OR OTHER UNSUITABLE SOIL MATERIAL) COMPACT SLIGHTLY TO IMPROVE CONTACT WITH THE SUBSOIL.
 5. AFTER SPREADING, GRADE AND STABILIZE.

- MAINTENANCE:
2. INSPECT NEWLY TOPSOILED AREAS FREQUENTLY UNTIL VEGETATION IS ESTABLISHED.
 3. REPAIR ERODED OR DAMAGED AREAS AND REPLANT.

TEMPORARY SEEDING

- SITE PREPARATION:
1. THESE INSTALLATION PRACTICES ARE NEEDED TO CONTROL EROSION, SEDIMENTATION, AND WATER RUNOFF, SUCH AS TEMPORARY AND PERMANENT DIVERSIONS, SEDIMENT TRAPS OR BASINS, SILT FENCES, AND TRIANGULAR SILT DIKES.
 2. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN.

- SEEDBED PREPARATION:
1. FERTILIZE AS REQUIRED.
 2. WORK THE FERTILIZER INTO THE SOIL 2-4 IN. DEEP WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE.

- SEEDING:
1. SELECT A SEEDING MIXTURE AND RATE FROM THE TABLE AND PLANT AT DEPTH AND ON DATES SHOWN.
 2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER-SEEDER OR BY BROADCASTING, AND COVER TO THE DEPTH SHOWN.
 3. IF DRILLING OR BROADCASTING, FIRM THE SEEDBED WITH A ROLLER OR CULTIPACKER.
 4. MULCH SEEDED AREAS TO INCREASE SEEDING SUCCESS.
 5. UPON COMPLETION OF THE ROUGH GRADING, ALL AREAS AFFECTED BY CONSTRUCTION SHALL BE TEMPORARILY SEEDED IF THEY WILL REMAIN DORMANT FOR GREATER THAN 7 DAYS. THESE AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF REMAINING DORMANT AND EROSION CONTROL BLANKETS SHALL BE INSTALLED ON SLOPES AS SHOWN ON THE PLANS.

1. MAINTENANCE
2. INSPECT PERIODICALLY AFTER PLANTING TO SEE THAT VEGETATIVE STANDS ARE ADEQUATELY ESTABLISHED, RE-SEED IF NECESSARY. CHECK FOR EROSION DAMAGE AFTER STORM EVENTS AND REPAIR, RESEED AND MULCH IF NECESSARY.
3. TOP-DRESS FALL SEEDED WHEAT OR RYE SEEDING WITH 50 LBS./ACRE OF NITROGEN IN FEBRUARY OR MARCH IF NITROGEN DEFICIENCY IS APPARENT. TEMPORARY SEEDING RECOMMENDATIONS

| SEED SPECIES | RATE/ACRE | PLANTING DEPTH | OPTIMUM DATES** |
|-----------------|-----------|-----------------|---|
| WHEAT OR RYE | 150 LBS. | 1 TO 1.5 INCHES | SEPTEMBER 15 TO OCTOBER 30 |
| SPRING OATS | 100 LBS. | 1 INCH | MARCH 1 TO APRIL 15 |
| ANNUAL RYEGRASS | 40 LBS. | 0.25 INCH | MARCH 1 TO MAY 1 AUGUST 1 TO SEPTEMBER 1 |
| GERMAN MILLET | 40 LBS. | 1 TO 2 INCHES | MAY 1 TO JUNE 1 |
| SUDANGRASS | 35 LBS. | 1 TO 2 INCHES | MAY 1 TO JULY 30 |

* PERENNIAL SPECIES MAY BE USED AS A TEMPORARY COVER, ESPECIALLY IF THE AREA TO BE SEEDED WILL REMAIN IDLE FOR MORE THAN A YEAR

** SEEDING DONE OUTSIDE THE OPTIMUM DATES INCREASES THE CHANCE OF SEEDING FAILURE

PERMANENT SEEDING

PERMANENTLY SEED ALL FINAL GRADE AREAS (E.G., LANDSCAPE BERMS, DRAINAGE SWALES, EROSION CONTROL STRUCTURES, ETC.) AS EACH IS COMPLETED AND ALL AREAS WHERE ADDITIONAL WORK IS NOT SCHEDULED FOR A PERIOD OF MORE THAN A YEAR.

- SITE PREPARATION:
1. THESE INSTALLATION PRACTICES ARE NEEDED TO CONTROL EROSION, SEDIMENTATION, AND WATER RUNOFF, SUCH AS TEMPORARY AND PERMANENT DIVERSIONS, SEDIMENT TRAPS OR BASINS, SILT FENCES, AND TRIANGULAR SILT DIKES.
 2. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN AND FILL IN DEPRESSIONS THAT CAN COLLECT WATER.
 3. ADD TOPSOIL TO ACHIEVE NEEDED DEPTH FOR ESTABLISHMENT OF VEGETATION.

- SEEDBED PREPARATION:
1. FERTILIZE AS REQUIRED.
 2. TILL THE SOIL TO OBTAIN A UNIFORM SEEDBED, WORKING THE FERTILIZER INTO THE SOIL 2-4 IN. DEEP WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE.

- SEEDING:
- OPTIMUM SEEDING DATES ARE MARCH 1-MAY 10 AND AUGUST 10-SEPTEMBER 30. PERMANENT SEEDING DONE BETWEEN MAY 10 AND AUGUST 10 MAY NEED TO BE IRRIGATED. AS AN ALTERNATIVE, USE TEMPORARY SEEDING UNTIL THE PREFERRED DATE FOR PERMANENT SEEDING.
1. SELECT A SEEDING MIXTURE AND RATE FROM THE TABLE AND PLANT AT DEPTH AND ON DATES SHOWN.
 2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER-SEEDER OR BY BROADCASTING, AND COVER TO THE DEPTH SHOWN.
 3. IF DRILLING OR BROADCASTING, FIRM THE SEEDBED WITH A ROLLER OR CULTIPACKER.
 4. MULCH SEEDED AREAS. USE EROSION CONTROL BLANKETS ON SLOPING AREAS. IF SEEDING IS DONE WITH A HYDROSEEDER, FERTILIZER AND MULCH CAN BE APPLIED WITH THE SEED IN A SLURRY MIXTURE.

- MAINTENANCE
1. INSPECT PERIODICALLY AFTER PLANTING TO SEE THAT VEGETATIVE STANDS ARE ADEQUATELY ESTABLISHED, RE-SEED IF NECESSARY.
 2. CHECK FOR EROSION DAMAGE AFTER STORM EVENTS AND REPAIR, RESEED AND MULCH IF NECESSARY.

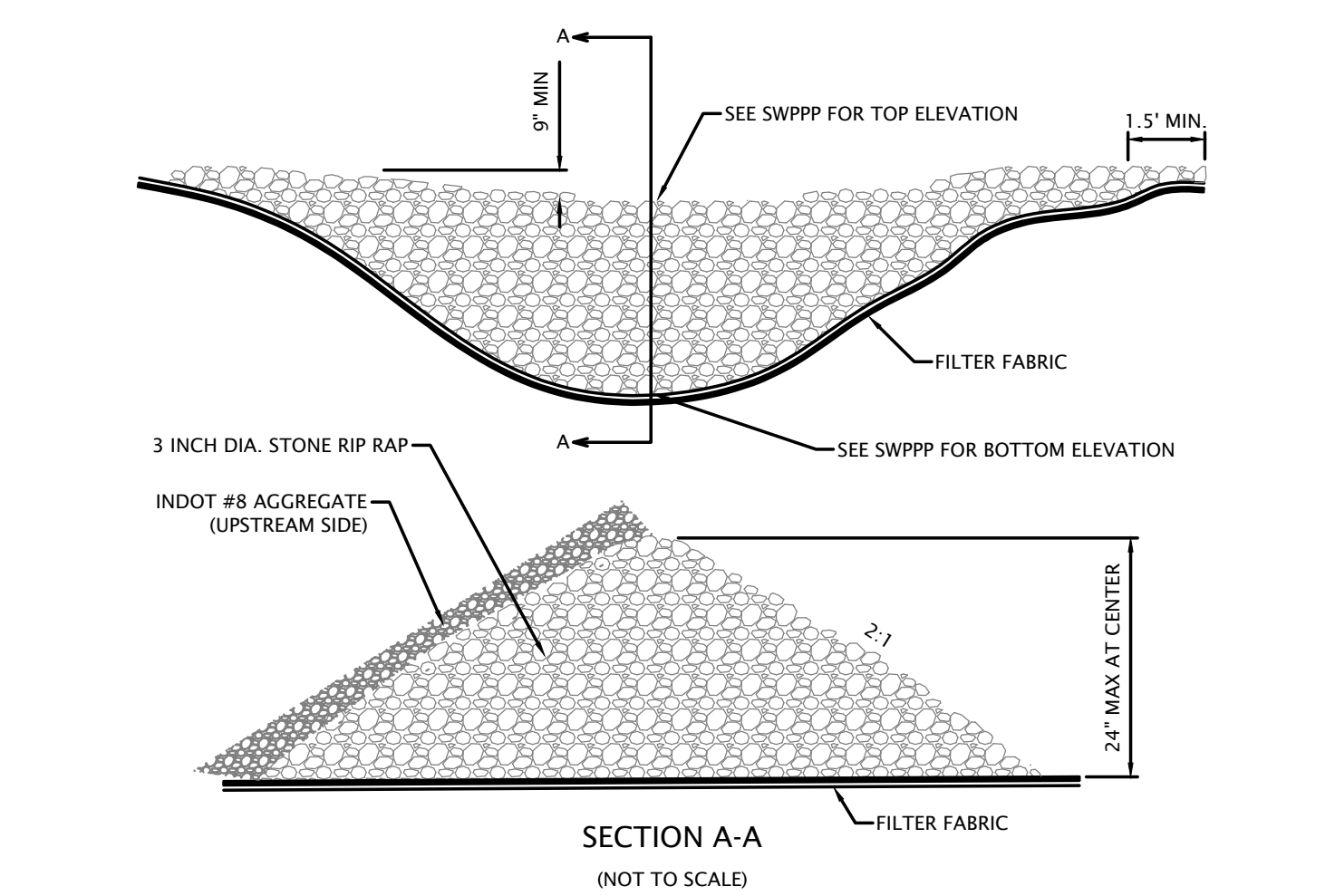
PERMANENT SEEDING RECOMMENDATIONS

THIS TABLE PROVIDES SEVERAL SEEDING OPTIONS. ADDITIONAL SEED SPECIES AND MIXTURES ARE AVAILABLE COMMERCIALY. WHEN SELECTING A MIXTURE, CONSIDER SITE CONDITIONS, INCLUDING SOIL PROPERTIES (E.G., SOIL PH AND DRAINAGE), SLOPE ASPECT AND THE TOLERANCE OF EACH SPECIES TO SHADE AND DROUGHT.

| SEED SPECIES AND MIXTURES | RATE/ACRE | OPTIMUM SOIL pH |
|--|---------------|-----------------|
| OPEN AND DISTURBED AREAS (REMAINING IDLE FOR MORE THAN ONE YEAR) | | |
| PERENNIAL RYEGRASS | 30 TO 50 LBS. | 5.6 TO 7.0 |
| + WHITE OR LADINO DOVER | 1 TO 2 LBS. | |
| KENTUCKY BLUEGRASS | 20 LBS. | 5.5 TO 7.5 |
| + SMOOTH BROMEGRASS | 10 LBS. | |
| + SWITCHGRASS | 3 LBS. | |
| + TIMOTHY | 4 LBS. | |
| + PERENNIAL RYEGRASS | 10 LBS. | |
| + WHITE OR LADINO DOVER | 1 TO 2 LBS. | |

RUNOFF CONTROL MEASURES

RIP-RAP CHECK DAMS



- MAINTENANCE:
1. INSPECT AFTER EACH STORM EVENT.
 2. REMOVE BUILT-UP SEDIMENT AND REPAIR/REPLACE THE CHECK DAMS AS NEEDED.

TRIANGULAR SILT FENCE DIKE - CHECK DAMS

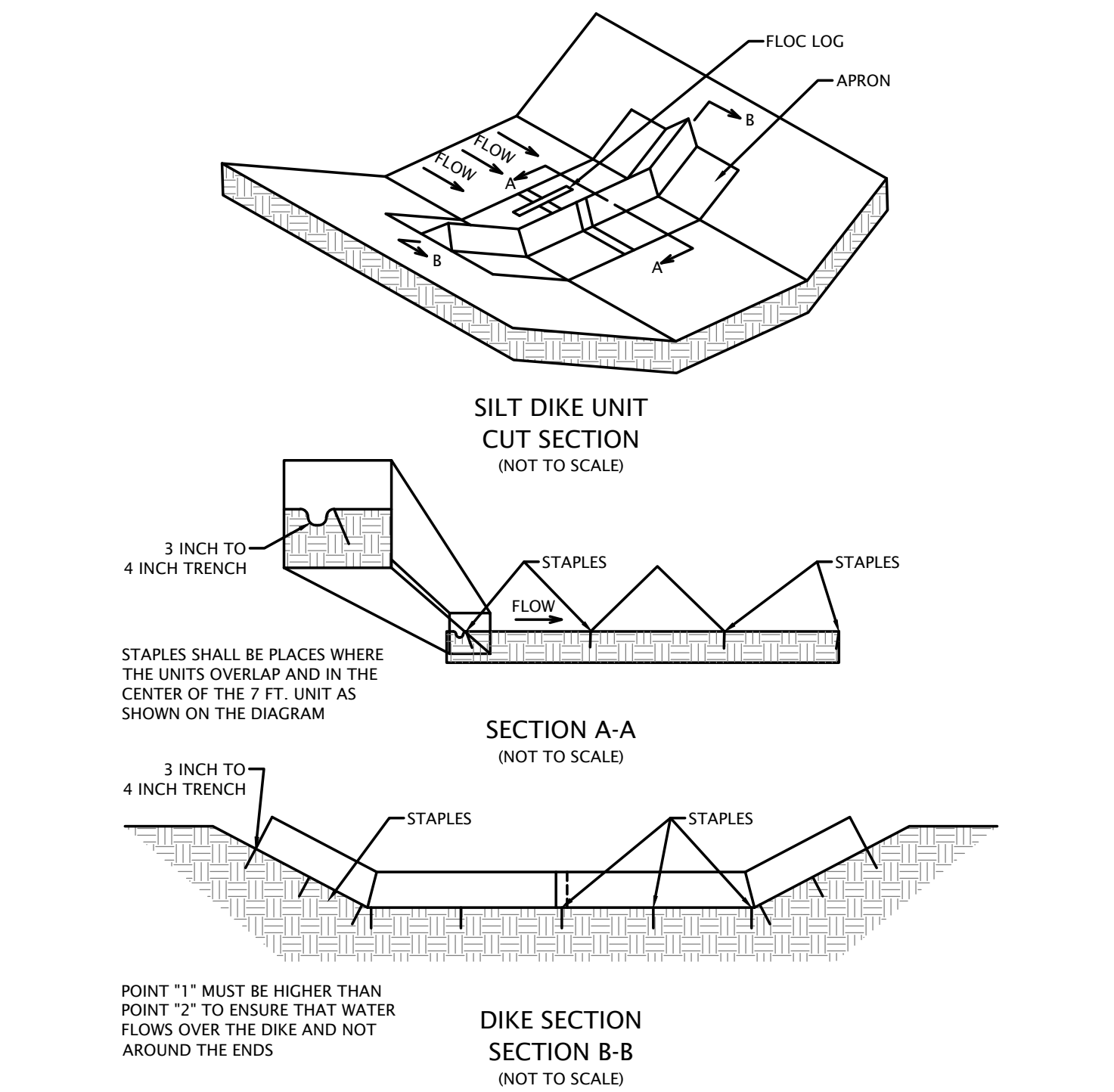
MATERIAL:

THE TRIANGULAR-SHAPED INNER MATERIAL SHALL BE URETHANE FORM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL AND ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 2 TO 3 FEET.

ANCHORING:

THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE #11 GAUGE WIRE AND BE AT LEAST 6 TO 8 INCHES LONG. STAPLES SHALL BE PLACED AS INDICATED ON THE INSTALLATION DETAIL.

- INSTALLATION:
1. PLACE TRIANGULAR SILT FENCE DIKE AS REQUIRED.
 2. ATTACHED DIKES TO THE GROUND WITH STAPLES AS INDICATED ON THE DETAIL.



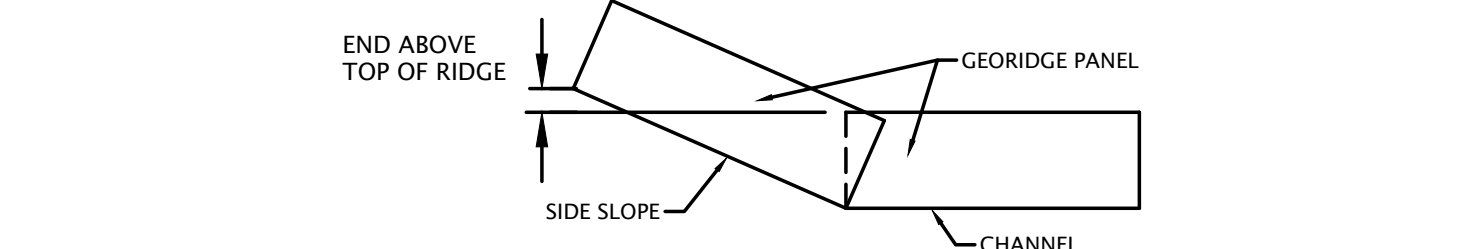
- MAINTENANCE:
1. INSPECT AFTER EACH STORM EVENT.
 2. REMOVE BUILT-UP SEDIMENT AND REPAIR/REPLACE THE CHECK DAMS AS NEEDED.

GEORIDGE DITCH BERM - CHECK DAMS

MATERIAL:

GEORIDGE OR GEORIDGE BIO BY NILEX PRODUCTS, AN HDPE PRODUCT THAT SERVES TO DISSIPATE WATER ENERGY WITHIN A DITCH OR CHANNEL. GEORIDGE BIO CAN BE USED WHEN THE MEASURE CAN BE LEFT TO DECOMPOSE IN LIEU OF BEING REMOVED.

- INSTALLATION:
1. PLACE AN EROSION CONTROL BLANKET (ECB), LAID PARALLEL WITH THE CHANNEL DIRECTION, IN THE AREA WHERE THE GEORIDGE IS TO BE PLACED. ECB SHALL BE APPROPRIATE FOR THE CHANNEL SLOPE, VOLUME AND VELOCITY. ECB SHALL BE SECURED WITH A 4" TRENCH AT THE UPSTREAM EDGE, WITH MINIMUM 6-INCH STAPLES PLACED 23-INCH O.C. ALONG THE UPSTREAM AND DOWNSTREAM EDGES.
 2. PLACE GEORIDGE BERM IN THE MIDDLE OF THE ECB, PERPENDICULAR TO THE CHANNEL FLOW DIRECTION, AND ANCHOR WITH 10-INCH SPIRAL SPIKES. A MINIMUM OF 3 ANCHORS SHALL BE USED ON THE UPSTREAM SIDE AND 2 ANCHORS ON THE DOWNSTREAM SIDE. IF MORE THAN ONE GEORIDGE BERM PANEL IS REQUIRED TO SPAN THE CHANNEL, LINE UP THE ANCHORING HOLES FOR INSTALLATION OF THE ANCHORS.
 3. WHEN PLACING THE GEORIDGE PANEL ON THE SIDE SLOPE OF THE CHANNEL, THE BOTTOM OF THE PANELS SHOULD MEET WITH THE RIDGE BEING OVERLAPPED. THIS PREVENTS WATER FROM PASSING THROUGH THE BERM. ADDITIONALLY, THE OUTSIDE EDGE OF THE PANEL ON THE SIDE SLOPE SHOULD BE INSTALLED SO THAT IT IS HIGHER THAN THE TOP OF THE PANEL IN THE CHANNEL BOTTOM.



4. THE SPACING IS CALCULATED BY DIVIDING THE HEIGHT OF THE GEORIDGE BY THE GRADIENT OF THE CHANNEL SLOPE. 9-INCH / 0.0.2 GRADIENT = 450 INCHES OR 37.5 FEET

- MAINTENANCE
1. INSPECT AFTER EACH STORM EVENT.
 2. REMOVE BUILT-UP SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE GEORIDGE.
 3. REPAIR/REPLACE THE GEORIDGE AND THE EROSION CONTROL MAT AS NEEDED.

SEDIMENT CONTROL MEASURES

POLYMER SYSTEMS

- MATERIAL:
- APS 700 SERIES FLOC LOG OR EQUAL
- INSTALLATION:
1. THE FLOC LOG VENDOR SHALL SAMPLE THE WATER THAT IS TO BE TREATED WITH THE SYSTEM. THIS SAMPLE SHALL BE USED TO DETERMINE THE SITE-SPECIFIC POLYMER MIX THAT SHOULD BE USED.
 2. IN APPLICATIONS WHERE THE OBJECTIVE OF THIS MEASURE IS TO MEET THE TOTAL SUSPENDED SOLIDS REQUIREMENTS PRIOR TO COMPLETION OF THE DETENTION POND, I.E. THE SIDE SLOPES ARE NOT FULLY STABILIZED, DEWATERING THE POND FOR FURTHER EXPANSION, ETC., THE FLOC LOG SHOULD BE INSTALLED AT THE END OF THE OUTFALL PIPE AND A TEMPORARY MATERIAL SUCH AS GEOTUTE SHOULD BE PLACED DOWNSTREAM OF THE FLOC LOG PROVIDING A SEDIMENT SETTLING AREA. (SEE PLANS FOR SPECIFIC INSTALLATION LOCATIONS.)
 3. IN APPLICATIONS WHERE THE OBJECTIVE OF THIS MEASURE IS TO MEET THE TOTAL SUSPENDED SOLIDS REQUIREMENTS AFTER THE DETENTION POND IS COMPLETED, THE FLOC LOGS SHOULD BE INSTALLED AT THE END OF THE INLET PIPES INTO THE DETENTION POND. THIS WILL CAUSE THE SEDIMENT TO SETTLE MORE QUICKLY IN THE WET DETENTION POND, PROVIDING A CLEANER DISCHARGE. (SEE PLANS FOR SPECIFIC INSTALLATION LOCATIONS.)
 4. FOLLOWING THE USE OF THE FLOC LOG, THE SETTLED SEDIMENT WILL NEED TO BE REMOVED. THIS TEMPORARY SETTLING MEDIA REMOVED, OR THE DETENTION POND MIGHT NEED TO BE CLEANED IF SEDIMENT SETTLING HAS SIGNIFICANTLY REDUCED THE POND VOLUME.

- MAINTENANCE:
1. INSPECT AFTER STORM EVENTS TO CHECK FOR MOVEMENT OF MULCH OR FOR EROSION.
 2. IF WASHOUT, BREAKAGE, OR EROSION IS PRESENT IN THE SEDIMENT SETTLING MEDIA, REPAIR THE MEDIA.
 3. BE SURE THE FLOC LOG IS SECURE ATTACHED AT THE INSTALLED LOCATION, VERIFY THAT STORM WATER IS HAVING CONTACT WITH THE FLOC LOG.

FIBER ROLLS

MATERIAL:

TUBE SHAPED FIBER ROLLS FILLED WITH STRAW, FLAX, RICE, COCONUT FIBER MATERIAL, MULCH, OR COMPOSTED MATERIAL. EACH ROLL IS WRAPPED WITH UV-DEGRADABLE POLYPROPYLENE NETTING FOR LONGEVITY OR WITH 100 PERCENT BIODEGRADABLE MATERIALS LIKE BURLAP, JUTE, OR COIR.

- INSTALLATION:
1. INSTALL ROLLS PARALLEL WITH THE SLOPE CONTOUR, WITH THE ENDS SLIGHTLY LOWER THAN THE MID-SECTION, TO PREVENT WATER PONDING AT THE MID-SECTION. TURN THE ENDS SLIGHTLY UPSLOPE TO PREVENT WATER FROM BYPASSING THE MEASURE.
 2. EXCAVATE A TRENCH WITH A WIDTH AND DEPTH EQUAL TO ONE-FOURTH THE DIAMETER OF THE LOG.
 3. WHERE APPLICABLE INSTALL THE MEASURE UPSLOPE OF A CURB OR SIDEWALK. PLACING THE MEASURE AGAINST THE CURB WILL PROVIDE ADDITIONAL STABILITY AND RESISTANCE TO SURFACE FLOW.
 4. PLACE ROLLS END TO END TO FORM A CONTINUOUS BARRIER.
 5. HARDWOOD STAKES SHALL BE DRIVEN THROUGH THE ROLLS, SPACED NO GREATER THAN 5' TO A DEPTH OF 18".
 6. THE FIBER ROLLS SHOULD BE FASTENED TO THE HARDWOOD STAKES WITH ROPE.
 7. BACKFILL THE TRENCH WITH EXCAVATED SOIL TO GROUND LEVEL ON THE DOWN-SLOPE SIDE AND 2" ABOVE GROUND LEVEL ON THE UP-SLOPE SIDE OF THE ROLL.

- MAINTENANCE:
1. THE ROLLS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT. INSPECTION SHOULD INCLUDE IF THE MATERIAL'S DIAMETER IS LESS THAN SPECIFICATION AND IF THE OUTER NETTING HAS BEEN DEGRADED OR BROKEN.
 2. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE-QUARTER OF THE HEIGHT OF THE ROLL.
 3. REPAIR ERODED AND DAMAGED AREAS.
 4. IF PONDING BECOMES EXCESSIVE, ROLLS SHOULD BE REMOVED AND EITHER RECONSTRUCTED OR NEW PRODUCT INSTALLED.

SEDIMENT BASINS/DETENTION PONDS

MATERIAL:

DEPRESSIONAL AREAS CONSTRUCTED AT THE OUTFALL OF PIPES, END OF CHANNELS, OR END OF SURFACE SHEET FLOW, WHICH SERVES TO SETTLE OUT THE SUSPENDED SOLIDS.

- INSTALLATION:
1. AT LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXCAVATE A SMALL BASIN. THE BASIN SIZE SHALL BE SHOWN ON THE PLANS AND IS DETERMINED BY THE VOLUME OF WATER TRIBUTARY TO THE BASIN. THE BASIN OVERFLOW ELEVATION SHALL BE LOWER THAN THE INCOMING WATER, BY A MINIMUM OF 12 INCHES.
 2. THE BASIN SHALL BE LINED WITH A GEOTEXTILE FABRIC, 9" OF 4" RIPRAP SHALL BE PLACED ALL AROUND THE INSIDE OF THE BASIN.

- MAINTENANCE:
1. THE BASINS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT.
 2. REPLACE AND RESTORE ANY BASIN BANK EROSION.
 3. REPAIR OR REPLACE ANY DISPLACED RIPRAP.
 4. RE-EXCAVATE AND REPLACE THE BASIN WHEN IT BECOMES MORE THAN 50% FULL OF SEDIMENT.

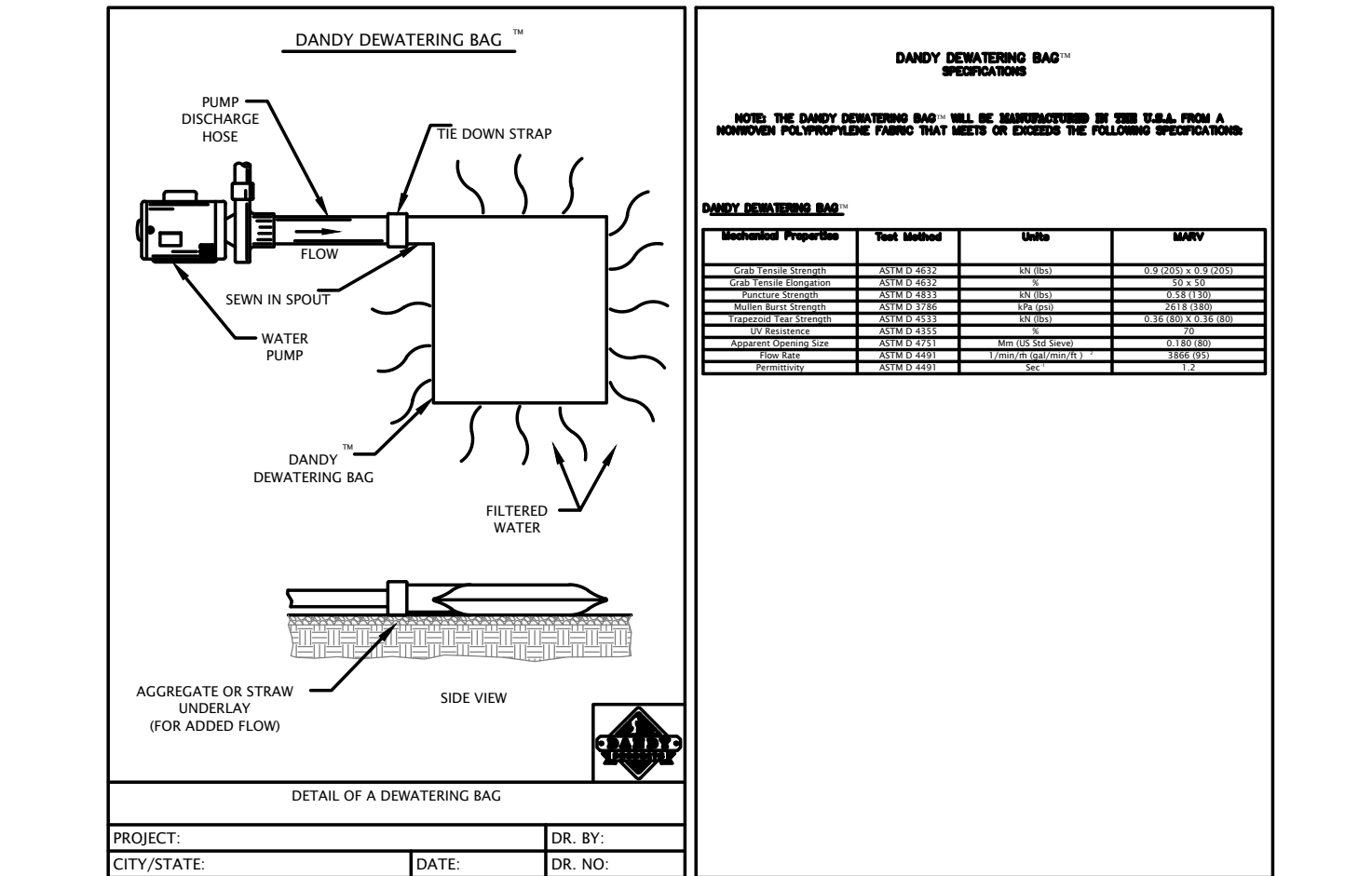
DEWATERING BAGS

MATERIAL:

"DANDY" DE-WATERING BAG OR "PUMP-IT" DE-WATERING BAG

- INSTALLATION:
1. AT LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXCAVATE A SMALL BASIN. THE BASIN SIZE SHALL BE SHOWN ON THE PLANS AND IS DETERMINED BY THE VOLUME OF WATER TRIBUTARY TO THE BASIN. THE BASIN OVERFLOW ELEVATION SHALL BE LOWER THAN THE INCOMING WATER, BY A MINIMUM OF 12 INCHES.
 2. THE BASIN SHALL BE LINED WITH A GEOTEXTILE FABRIC, 9" OF 4" RIPRAP SHALL BE PLACED ALL AROUND THE INSIDE OF THE BASIN.

- MAINTENANCE:
1. THE BASINS SHOULD BE INSPECTED PRIOR TO EACH USE.
 2. REPLACE BAG WHEN IT IS HALF FULL.



| DATE: | REVISIONS AND NOTES: |
|-------|----------------------|
| | |
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| | |

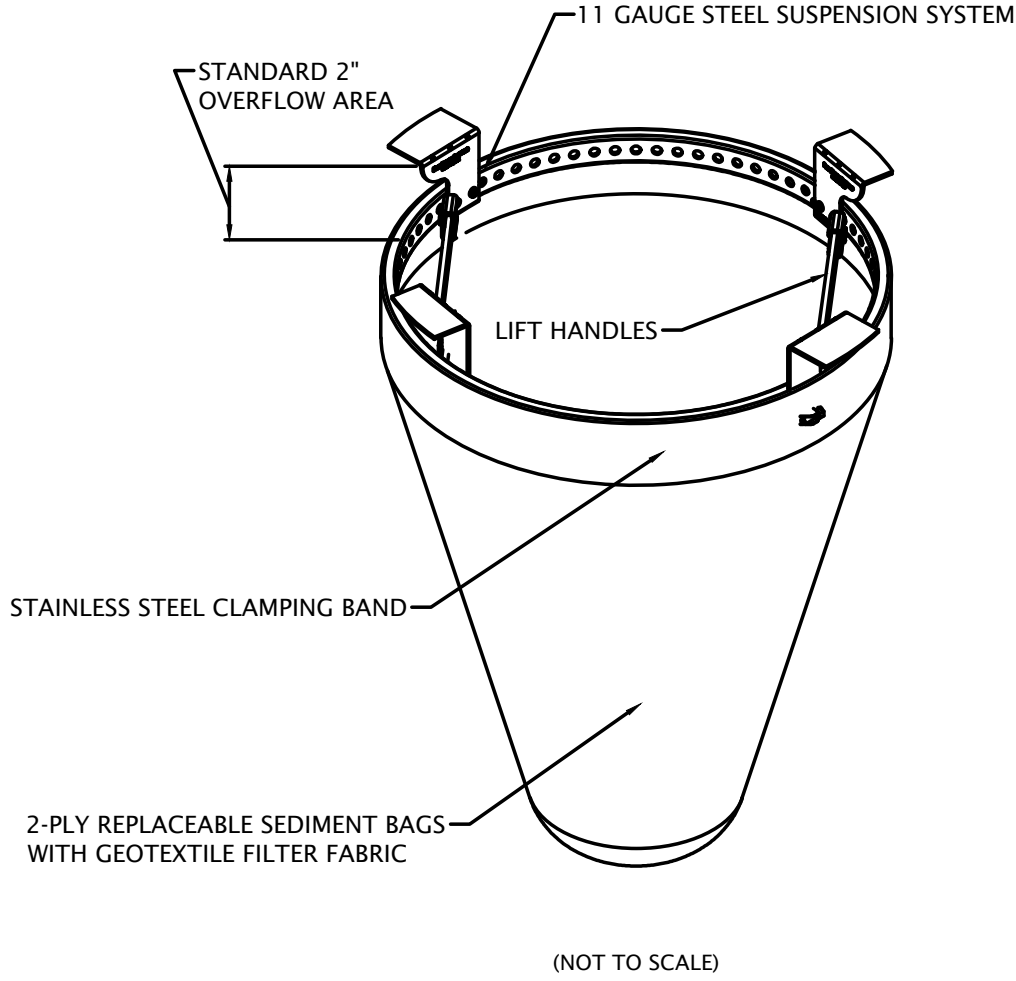
SEDIMENT CONTROL MEASURES (continued)

INLET PROTECTION

MATERIAL: FLEKSTORM CATCH-IT BY ADS, INC. OR APPROVED EQUAL.
ADS CAN BE CONTACTED AT (866) 287-8655

| SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL SIZE | | | | |
|--|------------------------|-------------------------------------|------------|----------------|
| Nominal Bag Size | Solids Storage (Cu Ft) | Filtered Flow Rate at 50% Max (CFS) | Pr (Women) | Pr (Men/Women) |
| Small | 1.6 | 1.2 | 0.9 | |
| Medium | 2.1 | 1.7 | 1.3 | |
| Large | 3.6 | 2.7 | 1.9 | |
| XL | 4.2 | 3.6 | 2.6 | |

- INSTALLATION:
1. REMOVE GRATE; INSTALL PRIOR TO LAND DISTURBING ACTIVITIES AND/OR IMMEDIATELY AFTER DRAINAGE STRUCTURES HAVE BEEN INSTALLED
 2. DROP INLET PROTECTION ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE.
 3. REPLACE GRATE.



INLET PROTECTION - CURB BASKET

CONTRIBUTING DRAINAGE AREA: 0.25 ACRE MAXIMUM

LOCATION: AT CURB INLETS WHERE BARRIERS SURROUNDING THEM WOULD BE IMPRACTICAL OR UNSAFE

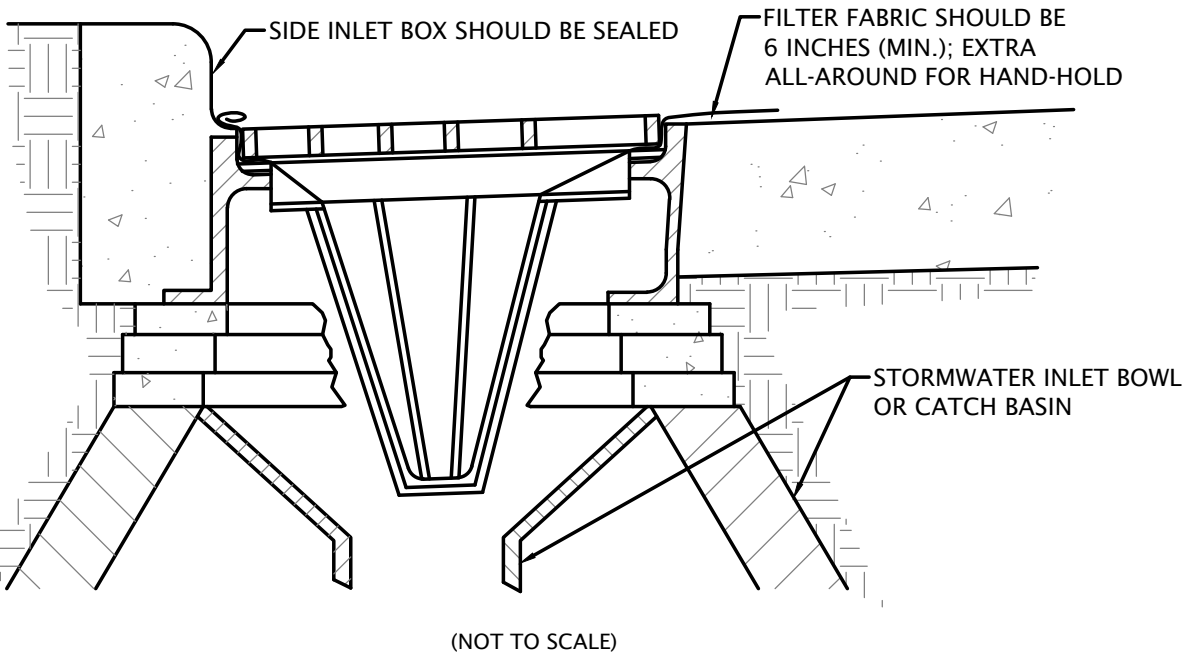
MATERIAL: D2 CATCH-ALL INLET PROTECTOR OR APPROVED EQUAL
D2 LAND & WATER RESOURCE (WWW.D2LWR.COM OR 800-597-2180)

CAPACITY: RUNOFF FROM A 2-YEAR FREQUENCY, 24-HOUR DURATION STORM EVENT ENTERING A STORM DRAIN WITHOUT BYPASS FLOW

BASKET: FABRICATED METAL WITH TOP WIDTH/LENGTH DIMENSIONS SUCH THAT THE BASKET FITS INTO THE INLET WITHOUT GAPS

GEOTEXTILE FABRIC: FOR FILTRATION

- INSTALLATION:
1. INSTALL BASKET CURB INLET PROTECTIONS AS SOON AS INLET BOXES ARE INSTALLED IN THE NEW DEVELOPMENT OR BEFORE LAND-DISTURBING ACTIVITIES BEGIN IN A STABILIZED AREA.
 2. IF NECESSARY, ADAPT BASKET DIMENSIONS TO FIT INLET BOX DIMENSIONS, WHICH VARY ACCORDING TO THE MANUFACTURER AND/OR MODEL.
 3. SEAL THE SIDE INLETS ON THOSE TYPES OF INLET BOXES THAT HAVE THEM.
 4. REMOVE THE GRATE AND PLACE THE BASKET IN THE INLET.
 5. CUT AND INSTALL A PIECE OF FILTER FABRIC LARGE ENOUGH TO LINE THE INSIDE OF THE BASKET AND EXTEND AT LEAST 6 INCHES BEYOND THE FRAM.
 6. REPLACE THE INLET GRATE, WHICH ALSO SERVES TO ANCHOR THE FABRIC.



- MAINTENANCE:
1. INSPECT AFTER EACH STORM EVENT.
 2. REMOVE BUILT-UP SEDIMENT AND REPAIR (OR REPLACE IF NECESSARY) THE GEOTEXTILE FABRIC AFTER EACH STORM EVENT.
 3. PERIODICALLY REMOVE SEDIMENT AND TRACKED-ON SOIL FROM THE STREET (BUT NOT BY FLUSHING WITH WATER) TO REDUCE THE SEDIMENT LOAD ON THIS CURB INLET PRACTICE.

- COMMON CONCERNS:
1. SEDIMENT NOT REMOVED AND GEOTEXTILE FABRIC NOT REPLACED FOLLOWING A STORM EVENT RESULTS IN INCREASED SEDIMENT, TRACKING, TRAFFIC HAZARD, AND EXCESSIVE PONDING.
 2. GEOTEXTILE FABRIC PERMITTIVITY THAT IS TOO LOW RESULTS IN RAPID CLOGGING AND CAUSES SEVERE PONDING WITH SEDIMENT ENTERING THE DRAIN IF THE FABRIC BREAKS.
 3. DRAINAGE AREA TOO LARGE RESULTS IN SEDIMENT OVERLOAD AND SEVERE PONDING; SEDIMENT ENTERS THE DRAIN IF FABRIC BREAKS.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT PAD

MATERIAL: 2 TO 3 INCHES OF WASHED STONE (INDOT #2 AGGREGATE) OVER A STABLE FOUNDATION

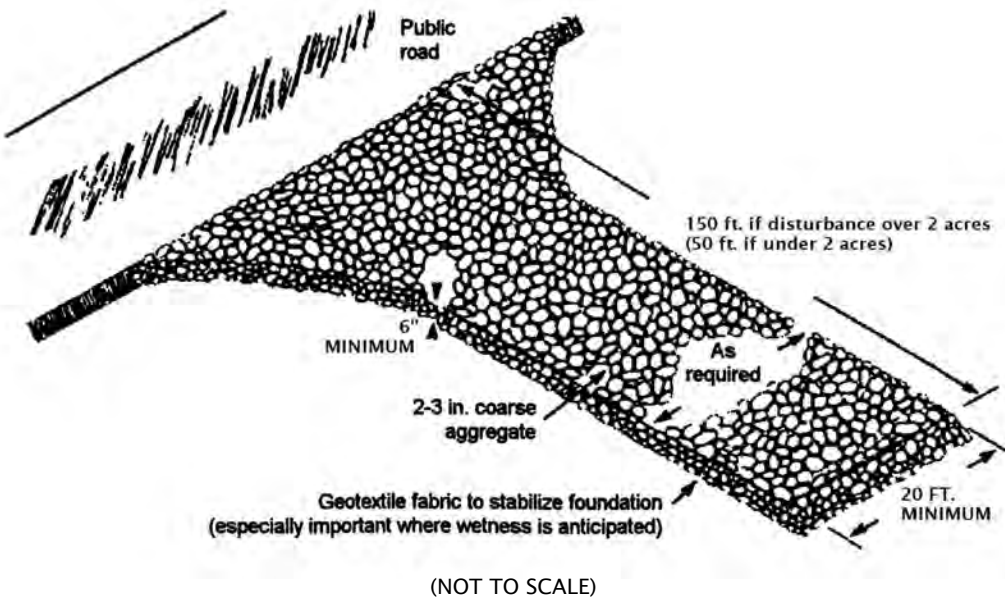
THICKNESS: 6 INCHES MINIMUM

WIDTH: 20 FEET MINIMUM OR FULL WIDTH OF ENTRANCE/EXIT ROADWAY, WHICHEVER IS GREATER

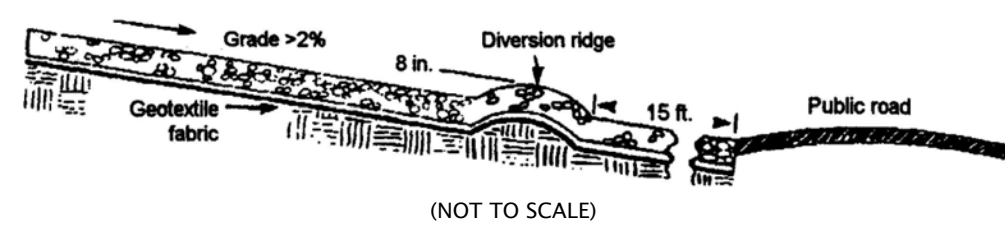
LENGTH: 150 FEET MINIMUM (50 FEET MINIMUM IF SITE DISTURBANCE IS UNDER 2.0 ACRES)

WASHING FACILITY: LEVEL AREA WITH 3 INCHES OF WASHED STONE (MINIMUM) OR A COMMERCIAL RACK AND WASTE WATER DIVERTED TO A SEDIMENT TRAP OR BASIN (PRACTICE 3.72)

GEOTEXTILE FABRIC UNDERLINER: MAY BE USED UNDER WET CONDITIONS OR FOR SOILS WITHIN A HIGH SEASONAL WATER TABLE TO PROVIDE GREATER BEARING STRENGTH



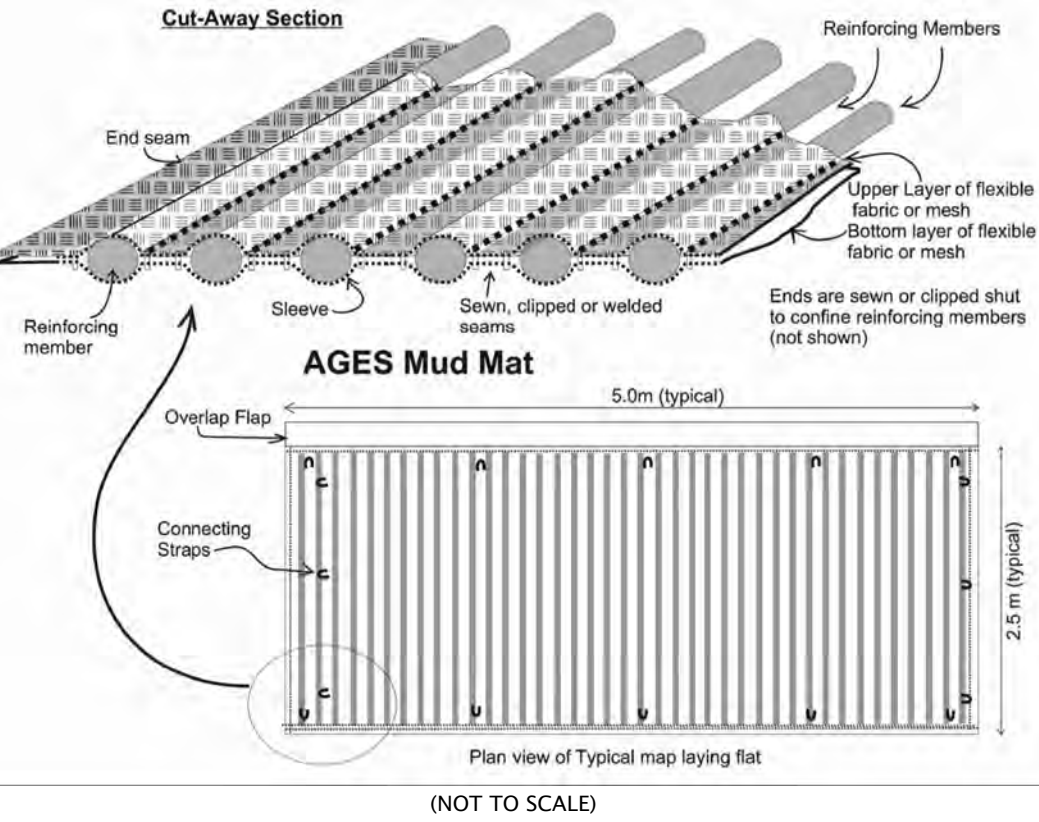
- INSTALLATION:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
 2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
 3. IF SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A 6-8 IN. HIGH WATER BAR (RIDGE) WITH 3:1 SIDE SLOPES ACROSS THE FOUNDATION AREA ABOUT 15 FT. FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE ROAD (PRACTICE 3.24) SEE EXHIBIT.
 4. INSTALL PIPE UNDER THE PAD IF NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
 5. IF WET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY.
 6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN IN THE EROSION/SEDIMENT CONTROL PLAN, LEAVING THE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.
 7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.



- MAINTENANCE:
1. INSPECT ENTRANCE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER STORM EVENTS OR HEAVY USE.
 2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
 3. TOP-DRESS WITH CLEAN STONE AS NEEDED.
 4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
 5. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

MUD MATS - ENTRANCE STABILIZATION

MATERIAL: MUD MAT BY AGES, RE-USABLE SOIL STABILIZATION SYSTEM OR APPROVED EQUAL



- INSTALLATION:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
 2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
 3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. UNROLL, CONNECT MATS TOGETHER TO FORM AREA OF PROTECTION AND PROPERLY ANCHOR TO GROUND.
 4. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE MUD MAT TO A SEDIMENT TRAP OR BASIN.
 5. MINIMUM SIZE OF THE MAT IS 12 FEET WIDE AND 50 FEET LONG.

- MAINTENANCE:
1. INSPECT ENTRANCE PAD DAILY AND REMOVE BUILT-UP DEBRIS AS NECESSARY.
 2. INSPECT ENTRANCE PAD FOR BREAKS AND TEARS IN THE MATERIAL. REPAIR OR REPLACE AS NECESSARY.
 3. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
 4. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

MATERIAL MANAGEMENT MEASURES (HOUSEKEEPING)

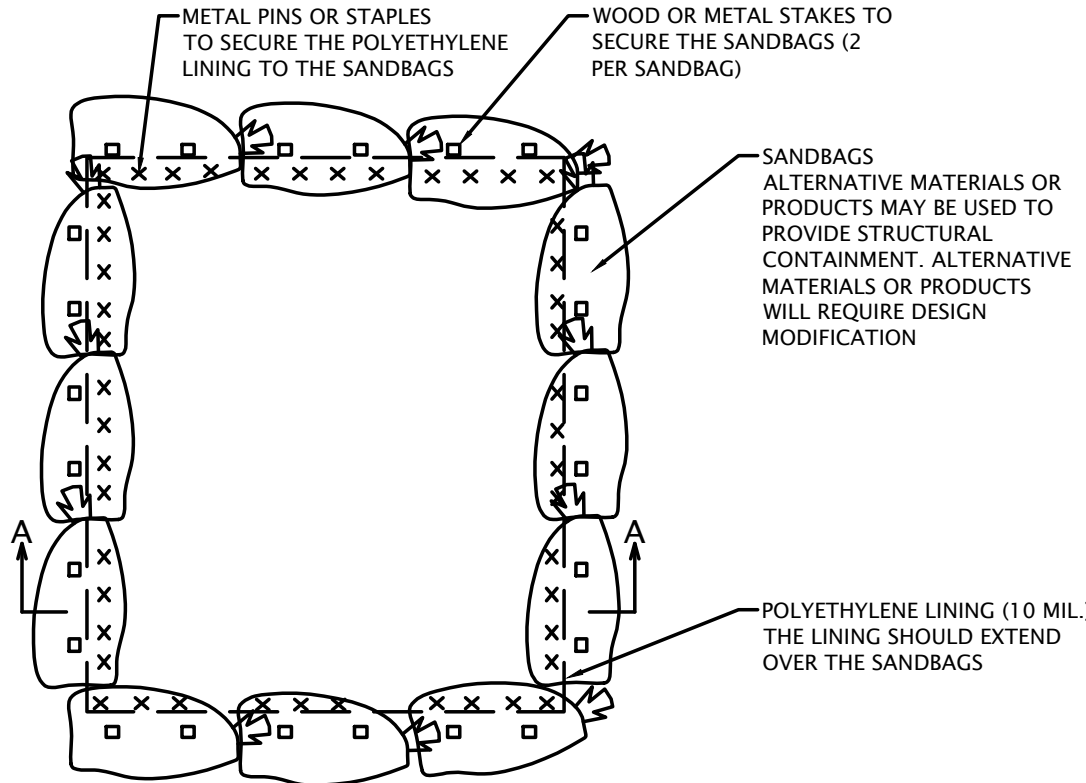
CONCRETE WASHOUT

MATERIALS: MINIMUM OF TEN MIL POLYETHYLENE SHEETING, FREE OF HOLES, TEARS, AND OTHER DEFECTS
ORANGE SAFETY FENCING OR EQUIVALENT
SANDBAGS
METAL PINS OR STAPLES SIX INCHES IN LENGTH MINIMUM.

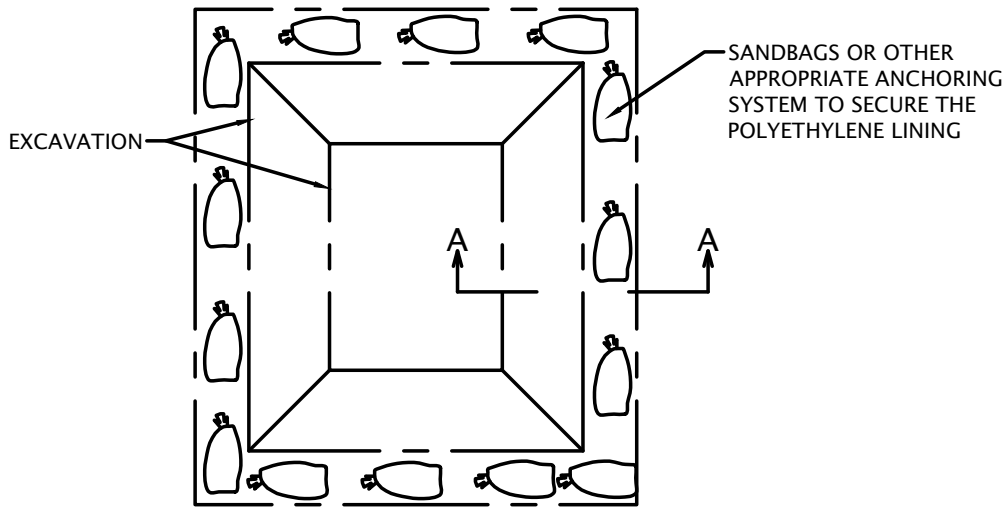
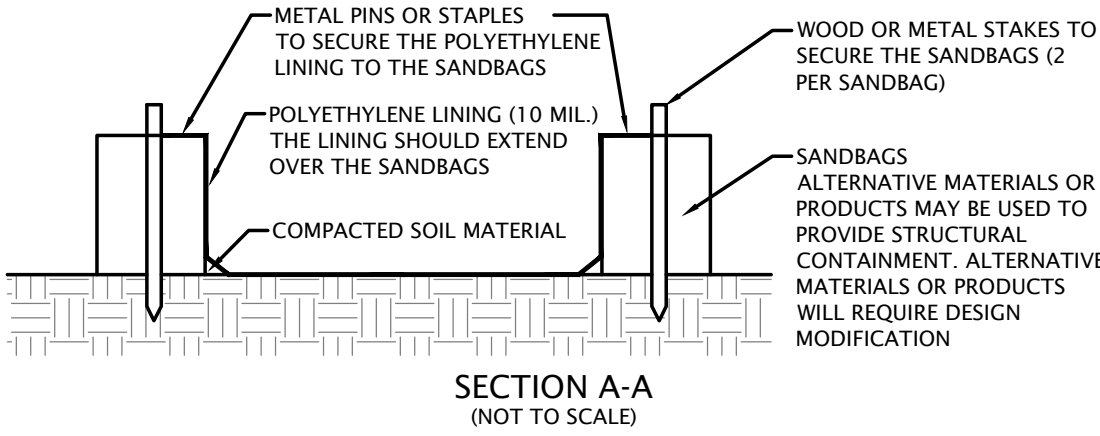
- LOCATION:
1. LOCATE CONCRETE WASHOUT SYSTEMS AT LEAST 50 FEET FROM ANY CREEKS, WETLANDS, DITCHES, KARST FEATURES, OR STORM DRAINS/MANMADE CONVEYANCE SYSTEMS.
 2. LOCATE CONCRETE WASHOUT SYSTEMS IN RELATIVELY FLAT AREAS THAT HAVE ESTABLISHED VEGETATIVE COVER AND DO NOT RECEIVE RUNOFF FROM ADJACENT LAND AREAS.
 3. LOCATE AWAY FROM OTHER CONSTRUCTION TRAFFIC IN AREAS THAT PROVIDE EASY ACCESS FOR CONCRETE TRUCKS.

- INSTALLATION:
1. A BASE SHALL BE CONSTRUCTED AND PREPARED THAT IS FREE OF ROCKS AND OTHER DEBRIS THAT MAY CAUSE TEARS OR PUNCTURES IN THE POLYETHYLENE LINING.
 2. INSTALL THE POLYETHYLENE LINING. FOR EXCAVATED SYSTEMS, THE LINING SHOULD EXTEND OVER THE ENTIRE EXCAVATION. THE LINING FOR BERMED SYSTEMS SHOULD BE INSTALLED OVER THE POOLING AREA WITH ENOUGH MATERIAL TO EXTEND THE LINING OVER THE BERM OR CONTAINMENT SYSTEM. THE LINING SHOULD BE SECURED WITH PINS, STAPLES, OR OTHER FASTENERS.
 3. PLACE FLAGS, SAFETY FENCING, OR EQUIVALENT TO PROVIDE A BARRIER TO CONSTRUCTION EQUIPMENT AND OTHER TRAFFIC.
 4. INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
 4. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD.

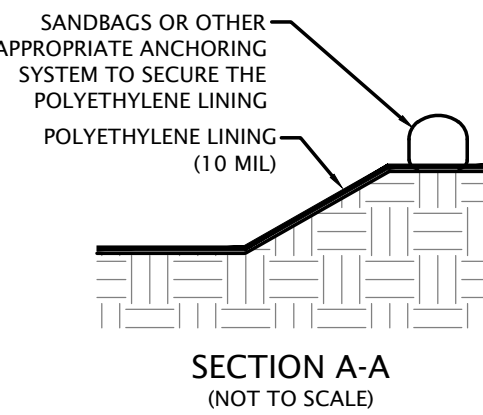
- MAINTENANCE:
1. INSPECT DAILY AND AFTER EACH STORM EVENT.
 2. INSPECT THE SYSTEM FOR LEAKS, SPILLS, AND TRACKING OF SOIL BY EQUIPMENT.
 3. INSPECT THE POLYETHYLENE LINING FOR FAILURE, INCLUDING TEARS AND PUNCTURES.
 4. ONCE CONCRETE WASTES HARDEN, REMOVE AND DISPOSE OF THE MATERIAL.
 5. EXCESS CONCRETE SHOULD BE REMOVED WHEN THE WASHOUT SYSTEM REACHES 50 PERCENT OF THE DESIGN CAPACITY. USE OF THE SYSTEM SHOULD BE DISCONTINUED UNTIL APPROPRIATE MEASURES CAN BE INITIATED TO CLEAN THE STRUCTURE.
 6. UPON REMOVAL OF THE SOLIDS, INSPECT THE STRUCTURE. REPAIR THE STRUCTURE AS NEEDED OR CONSTRUCT A NEW SYSTEM.
 7. THE PLASTIC LINER SHOULD BE REPLACED AFTER EVERY CLEANING; THE REMOVAL OF MATERIAL WILL USUALLY DAMAGE THE LINING.
 8. THE CONCRETE WASHOUT SYSTEM SHOULD BE REPAIRED OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE.
 8. CONCRETE WASHOUT SYSTEMS ARE DESIGNED TO PROMOTE EVAPORATION. HOWEVER, IF THE LIQUIDS DO NOT EVAPORATE AND THE SYSTEM IS NEAR CAPACITY IT MAY BE NECESSARY TO VACUUM OR REMOVE THE LIQUIDS AND DISPOSE OF THEM IN AN ACCEPTABLE METHOD. DISPOSAL MAY BE ALLOWED AT THE LOCAL SANITARY SEWER AUTHORITY PROVIDED THEIR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS ALLOW FOR ACCEPTANCE OF THIS MATERIAL. ANOTHER OPTION WOULD BE TO UTILIZE A SECONDARY CONTAINMENT SYSTEM OR BASIN FOR FURTHER Dewatering.
 9. INSPECT CONSTRUCTION ACTIVITIES ON A REGULAR BASIS TO ENSURE SUPPLIERS, CONTRACTORS, AND OTHERS ARE UTILIZING DESIGNATED WASHOUT AREAS. IF CONCRETE WASTE IS BEING DISPOSED OF IMPROPERLY, IDENTIFY THE VIOLATORS AND TAKE APPROPRIATE ACTION.
 10. WHEN CONCRETE WASHOUT SYSTEMS ARE NO LONGER REQUIRED, THE CONCRETE WASHOUT SYSTEMS SHALL BE CLOSED. DISPOSE OF ALL HARDENED CONCRETE AND OTHER MATERIALS USED TO CONSTRUCT THE SYSTEM.
 11. HOLES, DEPRESSIONS, AND OTHER LAND DISTURBANCES ASSOCIATED WITH THE SYSTEM SHOULD BE BACKFILLED, GRADED, AND STABILIZED.



ABOVE GRADE CONCRETE WASHOUT



BELOW GRADE CONCRETE WASHOUT



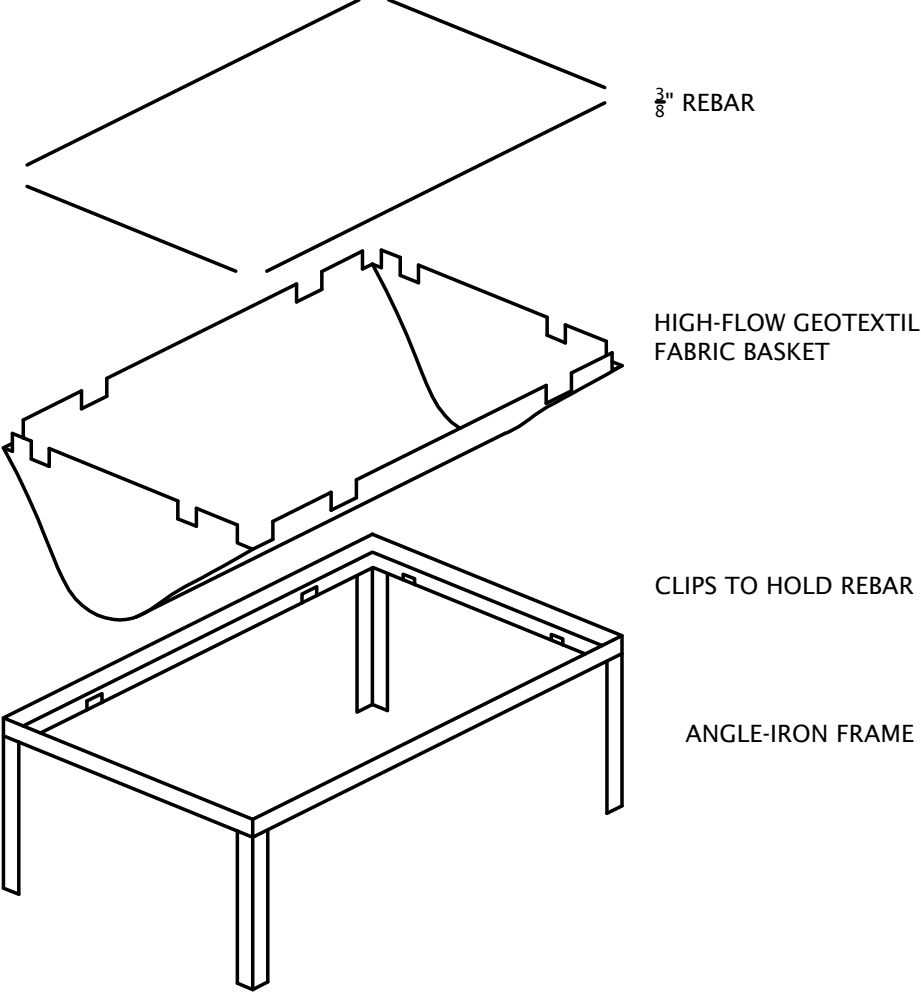
- COMMON CONCERNS:
1. COMPLETE CONSTRUCTION/INSTALLATION OF THE SYSTEM AND HAVE WASHOUT LOCATIONS OPERATIONAL PRIOR TO CONCRETE DELIVERY.
 2. IT IS RECOMMENDED THAT WASHOUT SYSTEMS BE RESTRICTED TO WASHING CONCRETE FROM MIXER AND PUMP TRUCKS AND NOT USED TO DISPOSE OF EXCESS CONCRETE OR RESIDUAL LOADS DUE TO POTENTIAL TO EXCEED THE DESIGN CAPACITY OF THE WASHOUT SYSTEM.
 3. INSTALL SYSTEMS AT STRATEGIC LOCATIONS THAT ARE CONVENIENT AND IN CLOSE PROXIMITY TO WORK AREAS AND IN SUFFICIENT NUMBER TO ACCOMMODATE THE DEMAND FOR DISPOSAL.
 4. INSTALL SIGNAGE IDENTIFYING THE LOCATION OF CONCRETE WASHOUT SYSTEMS.

FRYEFLOW FILTRATION SYSTEMS WASHOUT

MATERIALS: FRYE-FLOW FILTRATION SYSTEMS CONCRETE WASHOUT DEVICE OR APPROVED EQUAL

- INSTALLATION:
1. INSERT REBAR INTO POCKETS OF DEBRIS BAG.
 2. INSTALL FRYEFLOW SYSTEMS DEBRIS BAG INTO ANGLE IRON FRAME.
 3. MAKE SURE REBAR SETS BEHIND REBAR BRACKETS.
 4. MAKE SURE FRAME AND BAG IS SET ON FLAT SURFACE.
 5. INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
 6. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD.

- MAINTENANCE:
1. ONCE DEBRIS BAG IS FULL, USE HANDLES PROVIDED TO LIFT OUT OF FRAME.
 2. REMOVE REBAR FROM SIDE POCKETS.
 3. INSERT NEW DEBRIS BAG.



SPILL PREVENTION AND CONTROL PLAN

1. ONLY APPROVED FUEL STORAGE TANK SHALL BE ALLOWED ON SITE.
2. SPILL KITS MUST BE LOCATED ON-SITE IN THE VICINITY OF THE FUEL STORAGE SINK.
3. MOBILE FUELING SHALL BE USED WHENEVER POSSIBLE.
4. FUELING SHOULD TAKE PLACE IN A CENTRAL LOCATION.
5. EQUIPMENT SHOULD BE KEPT IN GOOD WORKING ORDER, WELL MAINTAINED SO THAT BREAKDOWNS, AND EQUIPMENT FAILURES ARE REDUCED.

FUEL STORAGE

1. ALL FUEL TANKS ON SITE SHALL HAVE SECONDARY CONTAINMENT APPROVED BY IDEM.
2. NO FUEL TANKS ARE TO BE LOCATED WITHIN 100 FEET OF A STORM SEWER INLET.
2. FUEL STORAGE SYSTEM SHALL BE KEPT IN GOOD WORKING ORDER AND SHALL BE SUBJECT TO PERIODIC IDEM INSPECTIONS.
4. SPILL KITS MUST BE LOCATED ON-SITE IN THE VICINITY OF THE FUEL STORAGE SINK.
5. FUEL TANKS SHALL HAVE A SAFETY GAUGE.

STOCKPILES

1. THE CONTRACTOR SHALL LOCATE TOPSOIL STOCKPILES ON-SITE AS NOTED ON THE S.W.P.P.P. AND SHALL ENCOMPASS EACH WITH SEDIMENT DITCH AND SILT FENCE.
2. IN CASES WHERE THE STOCKPILE IS SMALL AND WILL BE REMOVED FROM THE SITE WITHIN 15 DAYS, THE CONTRACTOR CAN COVER THE STOCKPILE WITH A WATERPROOF TARPALINE TYPE COVER.
3. NO OFF-SITE STOCKPILES ARE BEING PROPOSED. ANY OFF-SITE STOCKPILES THAT THE CONTRACTOR UTILIZES SHALL FOLLOW THE SAME REQUIREMENTS AS ON-SITE STOCKPILES. THE CONTRACTOR SHALL IDENTIFY TO THE LOCAL S.W.P.P.P. ENFORCEMENT AGENCY THE LOCATIONS OF ANY OFF-SITE STOCKPILES.

TEMPORARY FACILITIES

1. THE CONTRACTOR SHALL FOLLOW THE PROCEDURES DELINEATED ON THE PLAN IN ORDER TO CONSTRUCT AND MAINTAIN THE FACILITIES SHOWN ON THE DRAWINGS TO CONTROL WATER AND WIND EROSION DURING CONSTRUCTION OF THE PROJECT.
2. ALL DISTURBED SURFACE AREAS (INCLUDING UTILITY TRENCHES) SHALL BE TEMPORARILY GRADED AND/OR DITCHED TO DIRECT WATER RUNOFF FROM SUCH AREAS TO SEDIMENTATION CONTROL DEVICES WHICH WILL PREVENT DISTURBING ERODED WATER CARRYING SOIL FROM ENTERING A WATERCOURSE, SEWER, OR ADJACENT LANDS. SUCH SEDIMENTATION CONTROL DEVICES SHALL INCLUDE BUT NOT BE LIMITED TO PROTECTIVE DITCHES, SEDIMENT TRAPS, SEDIMENT FILTERS, DITCH TRAPS, PIPE BARRIERS, SILE DIKES, CHECK DAMS, CHEMICAL SETTLING FILTERS.
3. UPON COMPLETION OF THE ROUGH GRADING ALL AREAS NOT EFFECTED BY CONSTRUCTION TRAFFIC SHALL BE PERMANENTLY SEEDED, AND EROSION CONTROL BLANKETS INSTALLED ON SIDE SLOPES THAT EXCEED 5:1.
4. UPON COMPLETION OF THE STORM SEWER SYSTEM, INLET PROTECTION SHALL BE INSTALLED, CHECK DAMS INSTALLED IN THE SWALES, AND TEMPORARY RIPRAP WITH SETTLING BASINS PLACED AT THE OUTFALLS OF ALL PIPE.
5. IN ROADWAY AREAS TEMPORARY AGGREGATE SURFACING SHALL BE PLACED IMMEDIATELY AFTER THE BACKFILLING HAS BEEN COMPLETED. POSITIVE DUST CONTROL MEASURES SHALL BE TAKEN AT ALL TIMES.
6. WITHIN 14 DAYS FROM THE DATE A PROJECT IMPROVEMENT IS INSTALLED THE CONTRACTOR SHALL PROCEED WITH FINAL CLEANUP AND RESTORATION OF THE PROJECT AREA DISTURBED INCLUDING POIL AREAS AND COMPLETE SUCH OPERATIONS WITHIN THE NEXT 15 DAYS. IF SEASONAL CONDITIONS PREVENT FINAL CLEANING AND RESTORATION, THE CONTRACTOR SHALL PROCEED WITH TEMPORARY STABILIZATION OF THE DISTURBED AREAS. FINAL CLEANUP AND RESTORATION WILL CONSIST OF FINAL GRADING, APPLYING TOPSOIL, SEEDING AND MULCHING AND/OR SODDING OF ALL DISTURBED AREAS OF THE PROJECT. TEMPORARY STABILIZATION SHALL CONSIST OF ROUGH GRADING THE DISTURBED AREAS TO A CONDITION READY TO RECEIVE TOPSOIL, SEEDING, AND MULCHING IN ACCORDANCE WITH THE TEMPORARY SEEDING SCHEDULE. TEMPORARY STABILIZATION MATERIALS SHALL BE REMOVED, DISPOSED OF, AND FINAL CLEANUP AND RESTORATION SHALL BE COMPLETED NOT LATER THAN 60 DAYS AFTER SEASONAL CONDITIONS ALLOW PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL LOCATE TOPSOIL STOCKPILES ON-SITE AS NOTED ON THE S.W.P.P.P. AND SHALL ENCOMPASS EACH WITH SEDIMENT DITCH AND SILT FENCE. IN CASES WHERE THE STOCKPILE IS SMALL AND WILL BE REMOVED FROM THE SITE WITHIN 15 DAYS, THE CONTRACTOR CAN COVER THE STOCKPILE WITH A WATERPROOF TARPALINE TYPE COVER. NO OFF-SITE STOCKPILES ARE BEING PROPOSED. ANY OFF-SITE STOCKPILES THAT THE CONTRACTOR UTILIZES SHALL FOLLOW THE SAME REQUIREMENTS AS ON-SITE STOCKPILES. THE CONTRACTOR SHALL IDENTIFY TO THE LOCAL S.W.P.P.P. ENFORCEMENT AGENCY THE LOCATIONS OF ANY OFF-SITE STOCKPILES.

MATERIAL HANDLING AND STORAGE

THE CONTRACTOR SHALL MINIMIZE THE DISTURBANCE OF EXCAVATED SOILS BY MINIMIZING THE NUMBER OF TIMES THE SOIL IS HANDLED. ON-SITE HANDLING OF SOILS WILL OCCUR DURING EXCAVATION, LOADING, AND SPREADING ACTIVITIES. FUEL FOR HEAVY EQUIPMENT AND VEHICLES WILL NOT BE STORED ON THE SITE DURING CONSTRUCTION OPERATIONS. MOBILE FUEL TANKS WILL FUEL HEAVY EQUIPMENT. IN THE EVENT OF A SPILL OR LEAK THE CONTRACTOR SHALL FOLLOW PROPER PROCEDURES TO MINIMIZE CONCERN. THE CONTRACTOR SHALL:

1. TAKE IMMEDIATE MEASURES TO CONTROL AND CONTAIN THE SPILL TO PREVENT RELEASE INTO SEWERS OR SURFACE WATERS.
2. NOTIFY THE LOCAL FIRE DEPARTMENT IMMEDIATELY AT 9-1-1.
3. NOTIFY THE FEDERAL EMERGENCY SPILL HOTLINE AT 1-800-424-8802 WITHIN 2 HOURS IF THE AMOUNT IS ABOVE A REPORTABLE QUANTITY OR ANY AMOUNT ENTERS A WATERWAY OR STORM SEWER.
4. NOTIFY THE INDIANA EMERGENCY RESPONSE HOTLINE AT 1-888-233-7745.
6. FOLLOW THE GUIDELINES FOR HANDLING THE SPILL AS OUTLINED IN THE INCLUDED MATERIAL SAFETY DATA SHEETS.



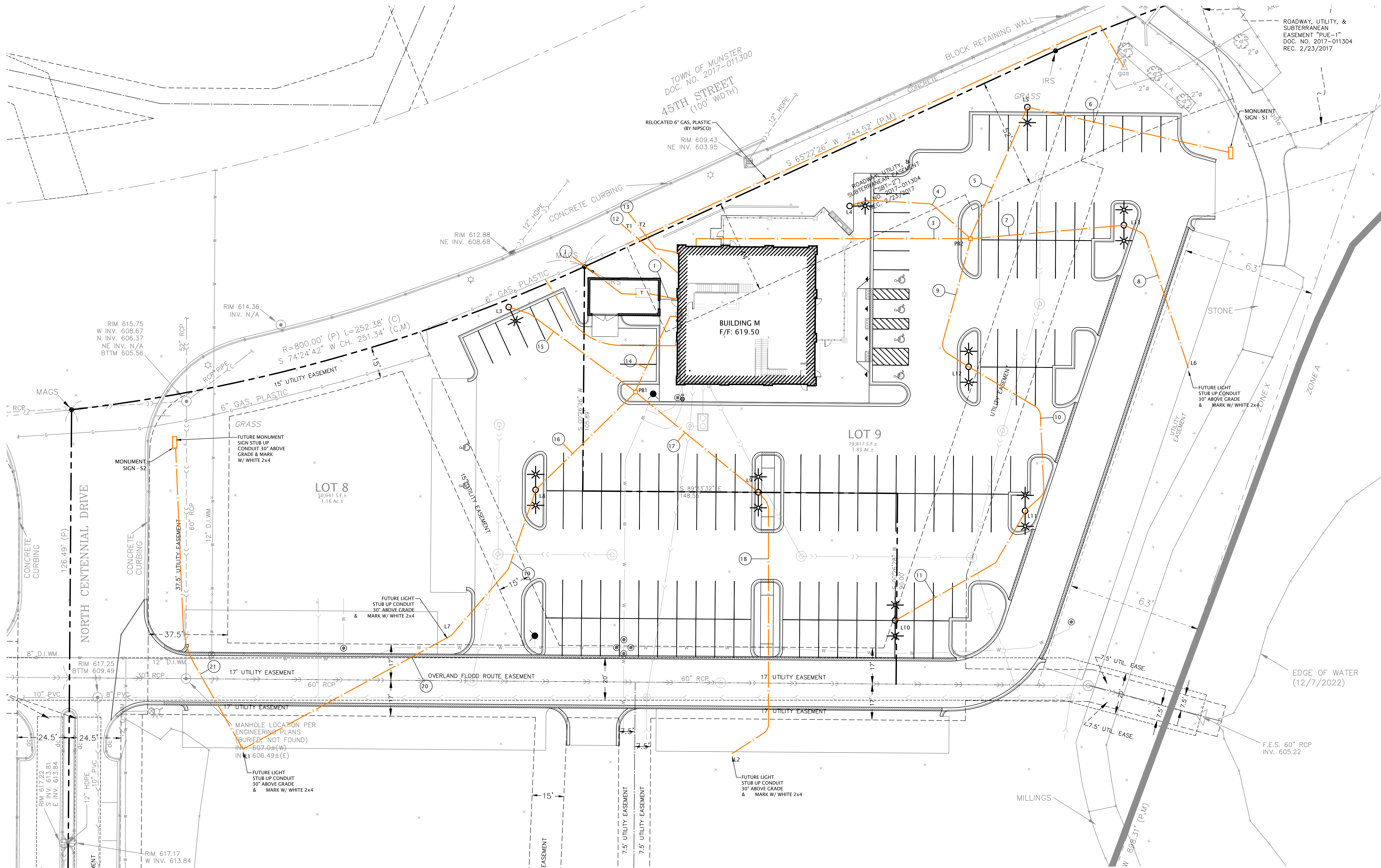
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-2710
F: (219) 662-2740
www.dvgteam.com

CENTENNIAL VILLAGE
631 KILLARNEY DRIVE
DYER, INDIANA 46311

| REVISIONS AND NOTES: | |
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| DATE: | |
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CENTENNIAL VILLAGE -
LOT 9 - BUILDING M
Stormwater Pollution
Prevention Plan Details

| | |
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| NO SCALE | |
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| PROJECT NO. 23-0026 | |
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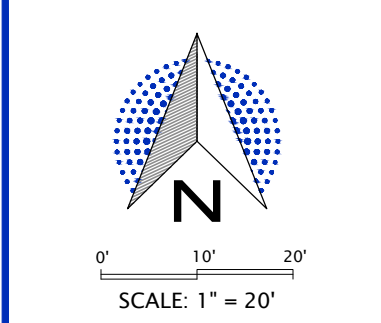
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NOT FOR CONSTRUCTION

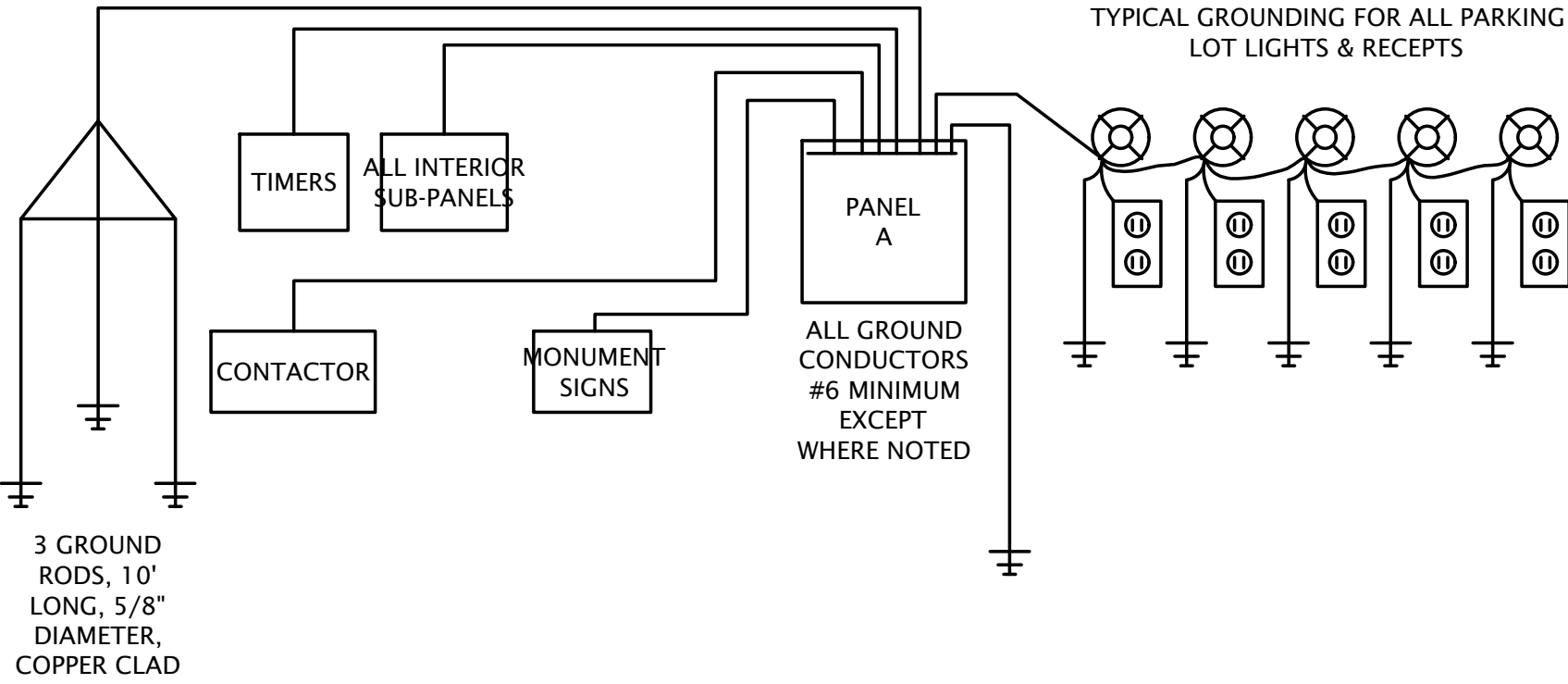
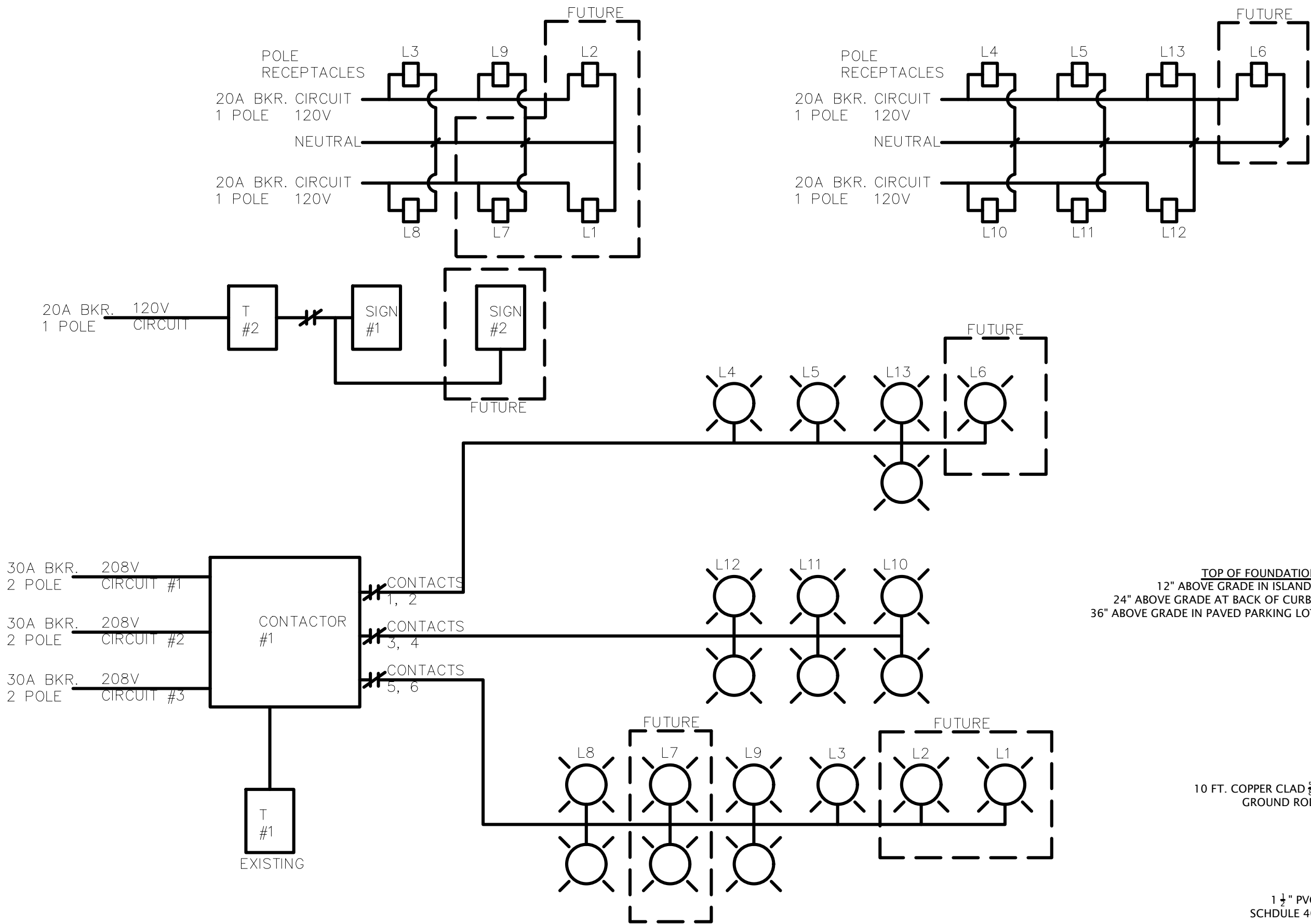
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631 KILLARNEY DRIVE
DYER, INDIANA 46311

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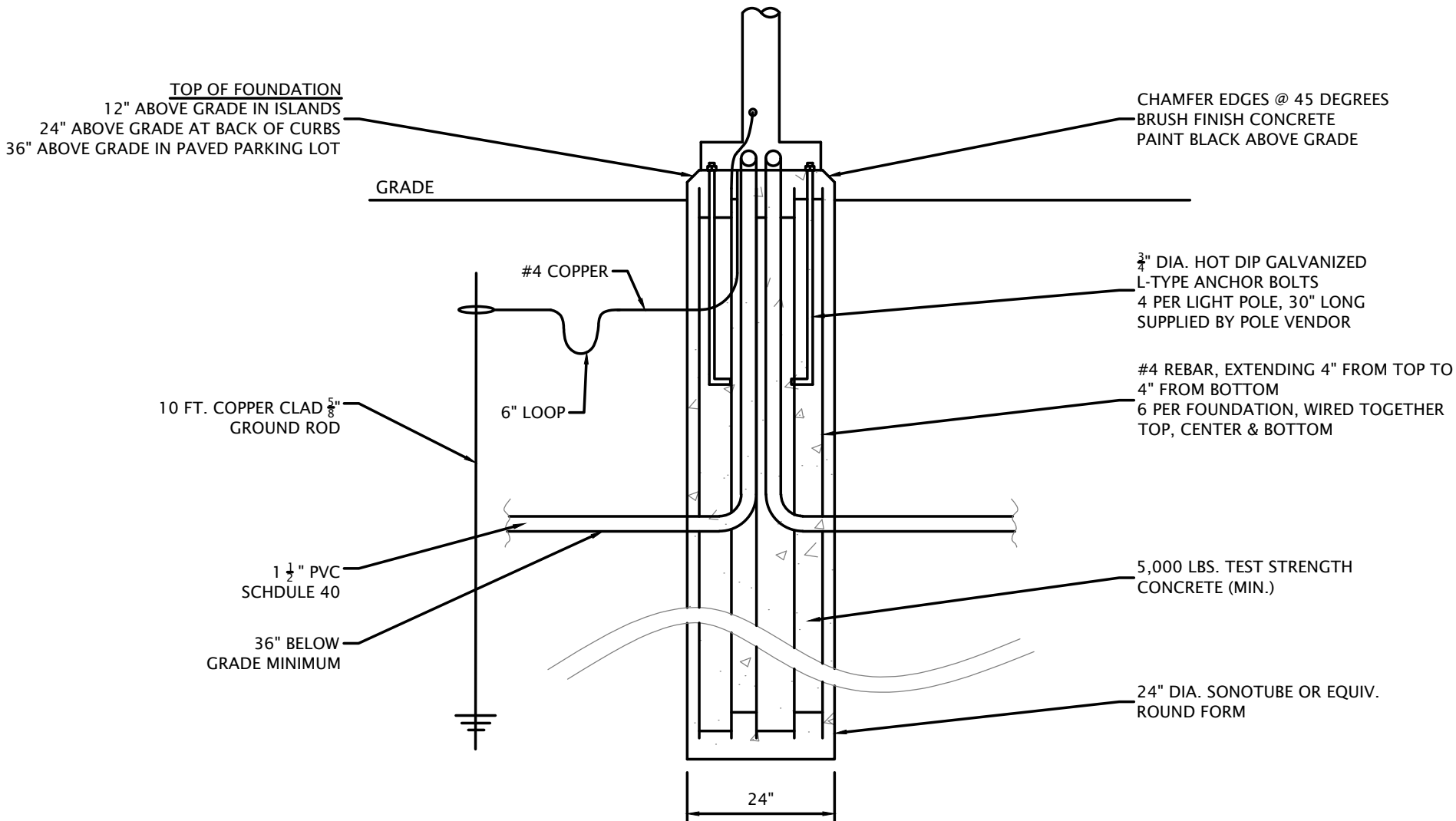
CENTENNIAL VILLAGE -
LOT 9 - BUILDING "M"
Parking Lot Lighting Plan



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| PROJECT NO. 23-0026 | |
| E101 | |



SYSTEM GROUNDING DETAIL



ORNAMENTAL LIGHT POLE FOUNDATION DETAIL

- NOTES:
1. CENTER POLE ON CONCRETE BASE
 2. IF SOIL IS STABLE, SONOTUBES MAY BE USED IN THE TOP OF FOUNDATION AND THE CLAY OF THE AUGURED HOLE WILL FORM THE REMAINDER
 3. CONTRACTOR SHALL USE TEMPLATE FURNISHED WITH POLE TO SET ANCHOR BOLTS
 4. INSTALL NON-SHRINK GROUT BETWEEN POLE AND BASE
 5. FOUNDATION TO EXTEND 7 FEET BELOW GRADE

| Centennial Village Building M - Electrical Conduit Routing & Wire Sizing Schedule | | | | | | |
|---|-----------|-------------|-----------|-------------------------|--------------------------------------|----------------|
| Conduit | ID Inches | From | To | Cond.Count & AWG | Description/Notes | Est.Length Ft. |
| 1 | 4.0 | NIPSCO Pole | Xfmr. Pad | By NIPSCO | Pole or Primary Switchgear | 100 |
| 2 | 4.0 | Xfmr. Pad | Mtr.Bnk. | 8c250mcm in ea. conduit | 2 - 4"conduits in parallel | 30 |
| 3 | 2.0 | Utility Rm. | PB2 | 9c6,1c6g | From Ltg Contactor, Ltg Panel, Timer | 150 |
| 4 | 1.5 | PB2 | L4 | 4c6,1c6g | Power to L4 | 65 |
| 5 | 1.5 | PB2 | L5 | 6c6,1c6g | Power to L5, Sign S1 | 75 |
| 6 | 1.0 | L5 | S1 | 3c6,1c6g | Power to Sign S1 (2c + Neutral) | 110 |
| 7 | 1.5 | PB2 | L13 | 4c6,1c6g | Power to L13, L6 | 85 |
| 8 | 1.5 | L13 | L6 | 4c6,1c6g | Power to L6 | 90 |
| 9 | 1.5 | PB2 | L12 | 4c6,1c6g | Power to L10, L11, L12 | 70 |
| 10 | 1.5 | L12 | L11 | 4c6,1c6g | Power to L10, L11 | 85 |
| 11 | 1.5 | L11 | L10 | 4c6,1c6g | Power to L10 | 95 |
| 12 | 2.0 | Utility Rm. | Street | By telecom supplier #1 | To telecom pedestal if existing | 100 |
| 13 | 2.0 | Utility Rm. | Street | By telecom supplier #2 | To telecom pedestal if existing | 100 |
| 14 | 2.0 | Utility Rm. | PB1 | 7c6,1c6g | From Ltg Contactor, Ltg Panel, Timer | 65 |
| 15 | 1.5 | PB1 | L3 | 4c6,1c6g | Power to L3 | 90 |
| 16 | 1.5 | PB1 | L8 | 7c6,1c6g | Power to L1, L7, L8, Sign S2 | 75 |
| 17 | 1.5 | PB1 | L9 | 4c6,1c6g | Power to L2, L9 | 85 |
| 18 | 1.5 | L9 | L2 | 4c6,1c6g | Power to L2 | 145 |
| 19 | 1.5 | L8 | L7 | 7c6,1c6g | Power to L1, L7, Sign S2 | 75 |
| 20 | 1.5 | L8 | L7 | 7c6,1c6g | Power to L1, Sign S2 | 95 |
| 21 | 1.5 | L7 | L1 | 3c6,1c6g | Power to Sign S2 (2c + Neutral) | 150 |

| Centennial Village, Building M, Outdoor Lighting and Electrical Equipment Schedule | | | | | | |
|--|----------|-----------|-----------|-------|---|------------|
| Item | Quantity | Brand | Size | Volts | Description | Type |
| Poles L1-L6 | 6 | Holophane | P60S | 208 | Memphis MPL3P60S40KMVOLTTG4Q5MBK | Head |
| Poles L7-L13 | 13 | Holophane | P60S | 208 | Memphis MPL3P60S40KMVOLTTG4Q5MBK | Head |
| Poles L1-L13 | 13 | Holophane | 18 ft | N/A | WDA18SL517DC12BKABG-RP60AFGIUSBKASSY14460 | Alum. Pole |
| Poles L1-L6 | 6 | Holophane | 27 inches | N/A | CVC27IN1ATNQ5MBK | Single Arm |
| Poles L7-L13 | 7 | Holophane | 27 inches | N/A | CVC27IN2ATNQ5MBK | Dbl Arm |
| Wallpack | 12 | Holophane | 115 watts | 120 | HLWPC2P5040KMVOLTTFTMBKSDP (See Note #1) | Aluminum |
| Contactor | 1 | Square D | 30 amp | 208 | Cat.# 8903LG60V02CP1 w/120 volt coil | 6-pole |
| PB1,2 | 2 | Quazite | 14X14X12 | N/A | Cat.#PC1212Z80109 | W/Cover |
| T1 | 2 | Tork | 40 amp | 120 | Timer - EWZ103 indoor surface mounting | DPST |

Note #1: Architect to Specify This or Equivalent Light Output Fixture, 3/Side Spaced Around Building 10' Above Grade

Note #1: Architect to Specify This or Equivalent Light Output Fixture, 3/Size Spaced Around Building 10' Above Grade

| SITE POWER SYSTEMS CONSTRUCTION NOTES | |
|---|--|
| 1. The electrical contractor to coordinate "Turn Ons" with NIPSCO, the city, and developer. | |
| 2. The electrical work includes furnishing all supervision, labor, materials, site lighting supplies, tools and services required to complete the installation of all electrical work as shown and described in the Project Plans. | |
| 3. The electrical contractor shall install all work in accordance with all local electrical requirements and codes and shall be completed in full compliance with the National Electric Code (NFPA 70). The electrical contractor shall verify all voltage, phase, full load current, wire size, and exact location of all electrical equipment before rough installation. | |
| 4. The electrical contractor shall submit shop drawings for designer approval on all electrical components, including, but not limited to lighting, contactors, panels, timers, conduits, and foundation systems. | |
| 5. Conduit trenches shall be 36 inches deep minimum with sand surrounding conduits. | |
| 6. The electrical contractor shall obtain all required electrical licenses, permits and pay the required inspection fees in accordance with local ordinances and the work shown on the project plans. | |
| 7. All electrical material shall bear the appropriate U.L. label if applicable. | |
| 8. All wire and cable shall be copper with 600V insulation. The minimum wire size shall be #12 AWG, except for control cable. All wire sizes #10 and smaller may be solid. All cable sizes #8 and larger shall be stranded with types as follows: "THHN" - Feeders & branch cables above finished floor and not subject to moisture. "THWN" - Feeders & branch cables installed below finished floor or grade subject to moisture. | |
| 9. All wiring shall be color coded to indicate its voltage and phasing, suggested color coding scheme is as follows SYSTEM 120/240V 277/480V POLE 1 BLACK AØ BROWN Ground conductors shall be green or POLE 2 BLUE BØ ORANGE taped green at points of connection POLE 3 N/A CØ YELLOW NEUTRAL WHITE GREY Neutral wires with tracers shall be used to identify neutrals for conduits containing more than one network neutral. | |
| 10. All wiring above grade shall be installed in electrical metallic tubing (EMT), intermediate metallic conduit (IMC), or galvanized rigid conduit (GRS). All wiring below finished floor or grade shall be installed in rigid non-metallic conduit (PVC), where allowed, IMC or GRC with galvanized rigid or intermediate metallic conduit stubs. All wiring installed in areas subject to damage or weather shall be installed in IMC or GRC | |
| 11. All wiring installed in PVC shall have the appropriately sized equipment grounding conductor installed. | |
| 12. All fittings for EMT shall be steel set screw, all fittings for IMC and GRC shall be threaded or steel headless set screw. | |
| 13. No "backstabbing" of any device shall be allowed. | |
| 14. All devices listed as GFI protected shall be permitted to be protected as slave devices on the load side of a GFI protection device listed for this purpose or by a listed GFCI circuit breakers. | |
| 15. All devices shall be commercial grade or better, no residential grade devices shall be used. All device wiring shall be terminated on the screws. | |
| 16. It shall be the responsibility of the electrical contractor to size all wire such that voltage drop to any light fixture, device or equipment shall be less than 4% when said item is operational. | |
| 17. Circuits to be connected to existing panels such that no panel is over loaded and such that loads are distributed evenly among panels. | |
| 18. Poles shall be leveled on their foundations. Fixtures shall be leveled on their roadway arms by adjusting the transition fitter. Fixture illumination pattern is Type 3 to be oriented parallel with the roadway. | |
| 19. Conduits shall be PVC schedule 80 under 109th Place, Schedule 40 PVC elsewhere, and galvanized steel where noted. | |
| 20. Telecom conduit stubs to be capped and marked with a 2x4 painted white. | |

| DATE: | REVISIONS AND NOTES: |
|-------|----------------------|
| | |
| | |
| | |
| | |
| | |

TORK[®] nsⁱ

SPECIFICATION SHEET

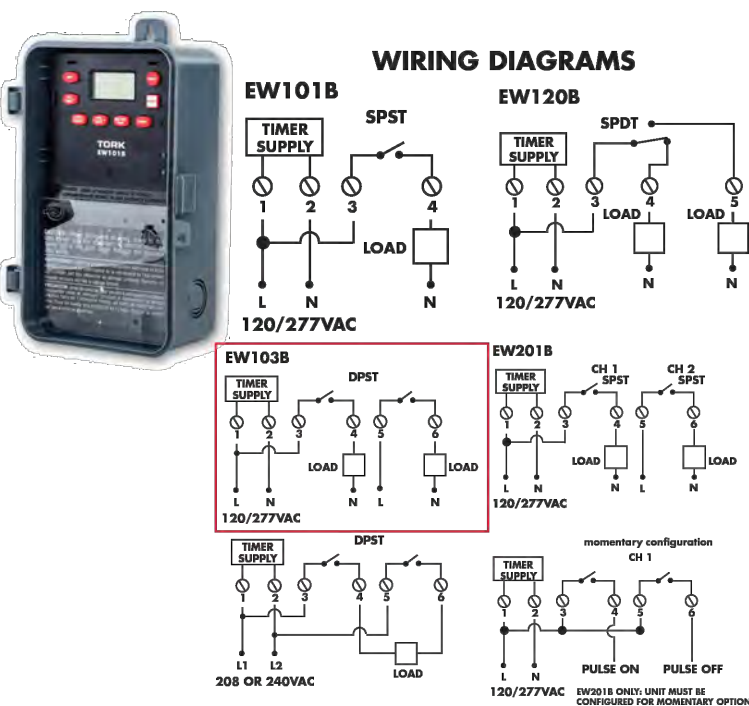
EW SERIES  **MULTIPURPOSE CONTROL**
1 OR 2 CHANNELS
24 DAY TIME SWITCH

APPLICATIONS

- Outdoor signs.
- Lighting security.
- Heating and air conditioning.

FEATURES
SCHEDULING:
20 ON & OFF set points for individual programs for each day of the week. Minimum setting is 1 minute.
DAYLIGHT SAVING:
Automatic (Can be omitted).
LEAP YEAR:
Automatic Compensation.
MANUAL OVERRIDE:
Until the next regularly scheduled ON or OFF, automatic operation then resumes.
CLOCK FORMAT:
AM/PM
POWER OUTAGE BACKUP:
Permanent schedule retention. Supercapacitor provides 4 days of real time backup.
MOMENTARY OPTION:
For mechanically held contractors: Model EW2018 only. Configure with simple jumper change for single-channel momentary operation.

SPECIFICATIONS
TIMING ACCURACY:
Line Frequency.
INPUT VOLTAGE:
120 - 277VAC, 50/60Hz (automatic detection).
TERMINAL RANGE:
#8 - #16AWG.
OPERATING TEMPERATURE:
-40 °F to 149 °F (-40 °C to 65 °C).
POWER CONSUMPTION:
6VA Max.
ENCLOSURE:
Polycarbonate Indoor/Outdoor NEMA 3R. Suffix -C plastic clear cover Indoor/Outdoor NEMA 3R. Suffix -Y metal Indoor enclosure NEMA 1. All with lockable hasp (see page 557 for enclosure dimensions).



ORDERING INFO

| CAT. NO. | UPC CODE | INPUT SUPPLY (VAC) 50/60Hz | NO. OF CHANNELS | OUTPUT DRY CONTACTS |
|-----------------|----------|----------------------------|-----------------|---------------------|
| EW101B | 82431 | 120-277 | 1 | SPST |
| EW103B | 82441 | 120-277 | 1 | DPT |
| EW120B | 82456 | 120-277 | 1 | SPDT |
| EW201B | 82467 | 120-277 | 2 | SPST |
| EW101B-Y | 82249 | 120-277 | 1 | SPST |
| EW103B-C | 82253 | 120-277 | 1 | DPT |
| EW103B-Y | 82255 | 120-277 | 1 | DPT |
| EW120B-C | 82457 | 120-277 | 1 | SPDT |
| EW120B-Y | 82261 | 120-277 | 1 | SPDT |
| EW201B-Y | 82299 | 120-277 | 2 | SPST |

CONTACT RATINGS

| TYPE | VOLTAGE (VAC) | RATING | NO | EW101B | EW103B | EW120B | RATING | NO | EW201B |
|-----------------|---------------|--------|---------|--------|--------|--------|--------|----|--------|
| General Purpose | 120-277 | 40A | 120-277 | 30A | 30A | | | | |
| Inductive | 120 | 30A | 120 | 30A | 15A | | | | |
| Ballast | 208-277 | 20A | 208-277 | 20A | 10A | | | | |
| Height | 120 | 15A | 120 | 15A | 5A | | | | |
| Motor Duty | 120-277 | 720VA | 120-277 | 720VA | 720VA | | | | |
| | 120 | 1HP | 120 | 1HP | 1HP | | | | |
| Motor | 208 | 1/2HP | 208 | 1/2HP | 1/2HP | | | | |
| | 240-277 | 2HP | 240-277 | 2HP | 2HP | | | | |
| Resistive | 280C | 30A | 280C | 30A | 30A | | | | |

9730 Northcross Center Court
Huntsville, NC 28078
P: 800.251.5847
www.centennialvillage.com

Product data sheet

Characteristics

8903LG60V02CP1
Contractor, Type L, multipole lighting, electrically held, 30A, 6 pole, 600 V, 110/120 VAC 50/60 Hz coil, NEMA 1, +option

Product availability : Non-Stock - Not normally stocked in distribution facility

SQUARE D

GreenSource



Price*: 1,562.00 USD

| | |
|---------------------------------------|--|
| Product or Component Type | Electrically Held Lighting Controller |
| Range of product | 8903L |
| Control Circuit | Separate control circuit |
| Complementary Control Circuit Voltage | 110 V AC 50 Hz 120 V AC 60 Hz 120 V AC 50 Hz |
| Inrush power in VA | 25 VA 60 Hz 120 VA 50 Hz |
| Hold-in power consumption in VA | 30 VA 60 Hz 30 VA 50 Hz |
| Current Rating | 20 A tungsten 30 A fluorescent 6P 6 NO |
| Number of Poles | 6 |
| Control Unit | Selector switch HAND-OFF-AUTO) |
| Pilot Light | Red indicator on incandescent |
| Electrical Connection | Screw-clamp terminals |
| Height | 11.89 in (302 mm) |
| Depth | 7.44 in (189 mm) |
| Width | 11.89 in (302 mm) |
| Environment | |
| Enclosure Type | NEMA 1 painted steel sheet surface |
| Product Certifications | UL Listed CSA |

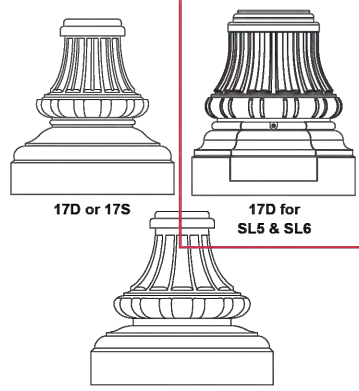
* Price is "List Price" and may be subject to a trade discount - check with your local distributor or retailer for actual price.
Q2 X 7381

HOLOPHANE[®]

LEADER IN LIGHTING SOLUTIONS

WDA

Wadsworth Aluminum Pole



| | |
|----------------|----------------------------------|
| Catalog Number | WDA18SL517DC12BKABG |
| Notes | Receptacle RP60AFUGISBKASSY14460 |
| | Top |

SPECIFICATIONS

General Description
The lighting pole shall be all aluminum, one-piece construction, with a classic tapered and fluted base design.

Materials

- The base and fluted tapered cast shaft shall be heavy wall, cast aluminum produced from certified ASTM 336.1 Ingot per ASTM B-179 or ASTM B26.
- The tapered shaft shall be extruded from aluminum, ASTM 6061 alloy.
- The tapered shaft shall be extruded from aluminum, ASTM 6061 alloy, open to a tapered shape.
- All hardware shall be tamper resistant stainless steel.
- Anchor bolts to be completely hot dip galvanized.

Construction

- The shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity.
- The shaft shall be welded inside the base casting at the top of the access door, and externally where the shaft exits the base.
- All welding shall be per AWS/AWS.

Dimensions

- The post height shall range from 6' to 22' with a 17' or 19' diameter base.
- At the top of the post, an integral brace with a transitional detail shall be provided for luminaire mounting.

Warranty
1-Year Limited. This is the only warranty provided and no other statements in this specification shall create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.austlbrands.com/support/warranty/terms-and-conditions

IMPORTANT INSTALLATION NOTES:

- Do not erect poles without training fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Acuity Brands Lighting will not accept claim for incorrect anchorage placement due to failure to use factory templates.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Acuity Brands Lighting is not responsible for the foundation design.

Note: Actual performance may differ as a result of end-user measurement and application.
Specifications subject to change without notice.

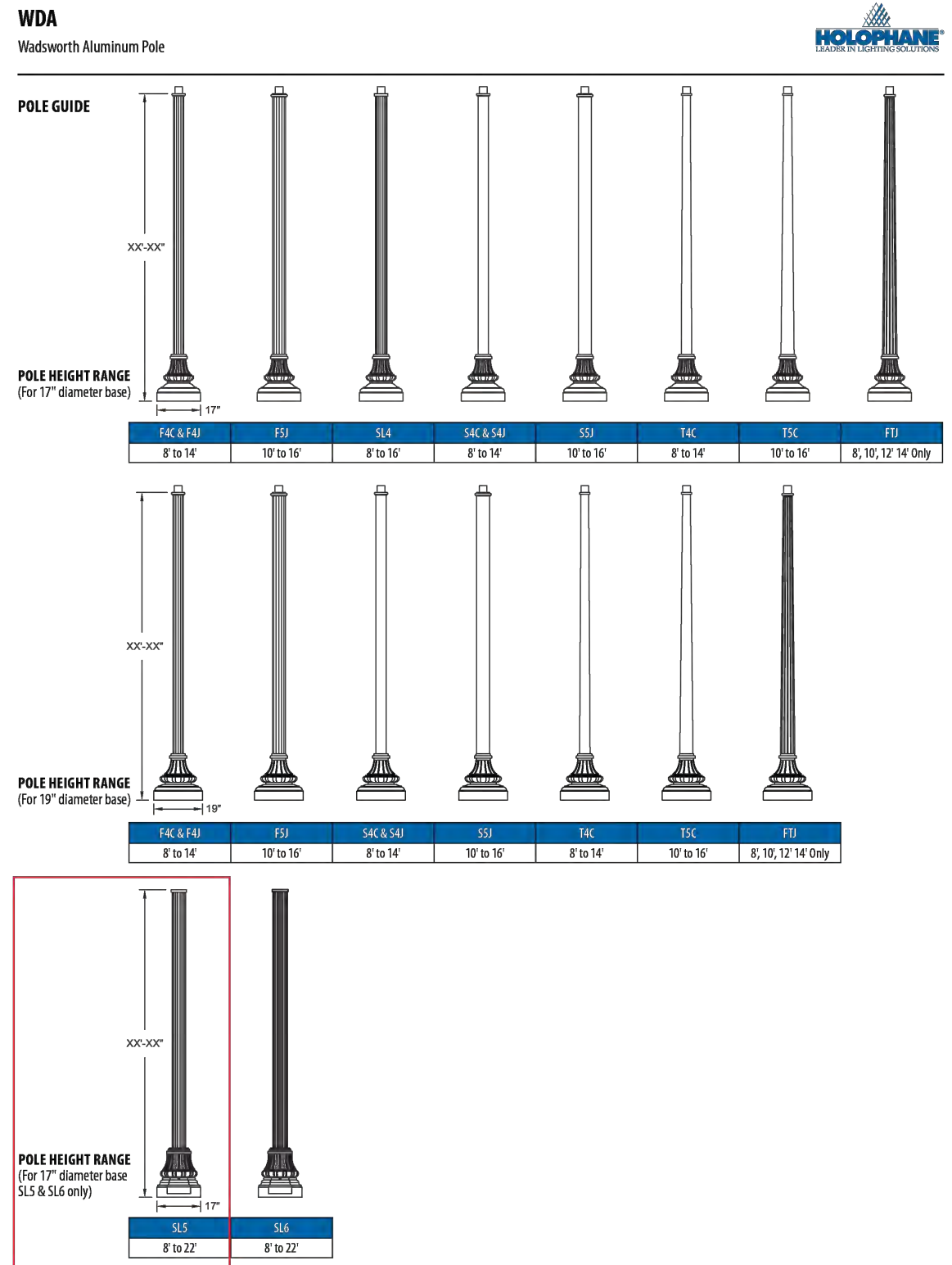
| | | |
|---------------|---|-------------|
| Acuity Brands | Holophane One Lithonia Way, Cumers, GA 30012 Phone: 866-HOLOPHANE www.holophane.com techsupport@acuitybrands.com | WDA |
| | © 2011-2022 Acuity Brands Lighting, Inc. All rights reserved. Rev. 12/2022 Specifications subject to change without notice. | Page 1 of 4 |

| | | |
|-----|-------------------------|------------------------|
| WDA | Wadsworth Aluminum Pole | HOLOPHANE [®] |
|-----|-------------------------|------------------------|

| ORDERING INFORMATION | | | | | Example: WDA 14 54C 17D C03 BK | |
|----------------------|---------|---|---|------------------------------------|------------------------------------|--|
| Pole | Height | Shaft Style | Base | Finish | | |
| WDA | 6 feet | Fluted Shaft F13 Fluted Tapered Cast, 25 | T170 17" Base, Standard Pattern Bolt Circle | 030 303 Brown, Pattern Bolt Circle | 030 303 Brown, Pattern Bolt Circle | |
| | 8 feet | | | 034 304 Brown, Pattern Bolt Circle | | |
| | 10 feet | | | 035 305 Brown, Pattern Bolt Circle | | |
| | 12 feet | | | 036 306 Brown, Pattern Bolt Circle | | |
| | 14 feet | | | 038 308 Brown, Pattern Bolt Circle | | |
| | 16 feet | | | 039 309 Brown, Pattern Bolt Circle | | |
| | 18 feet | Smooth Shaft S14 4" x 150 Wall | S16 5" x 25 Wall | 012 012 Brown, Pattern Bolt Circle | 012 012 Brown, Pattern Bolt Circle | |
| | 20 feet | | | 014 014 Brown, Pattern Bolt Circle | | |
| | 22 feet | | | 016 016 Brown, Pattern Bolt Circle | | |
| | 24 feet | | | 018 018 Brown, Pattern Bolt Circle | | |
| | 26 feet | | | 020 020 Brown, Pattern Bolt Circle | | |
| WDA | 28 feet | Smooth Shaft S14 4" x 150 Wall | S16 5" x 25 Wall | 022 022 Brown, Pattern Bolt Circle | 022 022 Brown, Pattern Bolt Circle | |
| | 30 feet | | | 024 024 Brown, Pattern Bolt Circle | | |
| | 32 feet | | | 026 026 Brown, Pattern Bolt Circle | | |
| | 34 feet | | | 028 028 Brown, Pattern Bolt Circle | | |
| | 36 feet | | | 030 030 Brown, Pattern Bolt Circle | | |
| | 38 feet | Smooth Shaft S14 4" x 150 Wall | S16 5" x 25 Wall | 032 032 Brown, Pattern Bolt Circle | 032 032 Brown, Pattern Bolt Circle | |
| | 40 feet | | | 034 034 Brown, Pattern Bolt Circle | | |
| | 42 feet | | | 036 036 Brown, Pattern Bolt Circle | | |
| | 44 feet | | | 038 038 Brown, Pattern Bolt Circle | | |
| | 46 feet | | | 040 040 Brown, Pattern Bolt Circle | | |

NOTE:
1. Available with SLS, SLS and SLS shaft styles only.
2. Available with SLS and SLS shaft styles only.

| | | |
|---------------|---|-------------|
| Acuity Brands | Holophane One Lithonia Way, Cumers, GA 30012 Phone: 866-HOLOPHANE www.holophane.com techsupport@acuitybrands.com | WDA |
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AcuityBrands | Holophane | One Lithenia Way, Conyers, GA 30012 | Phone: 866-800-HOLOPHANE | www.holophane.com | techsupport@acuitybrands.com | HUI/PF Page 2 of 2

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Schedule

| Symbol | Label | QTY | Manufacturer | Catalog | Description | Number Lamps | Lamp Output | LLF | Input Power |
|---|-------|-----|--------------|-------------------------|---|--------------|-------------|-----|-------------|
|  | L | 6 | Holophane | MPL3 P60S 40K XXXXX TG4 | Memphis style housings Standard housing, 4000 series CCT Auto-sensing voltage, Type IV, Medium, (Standard or Uplight) | 1 | 28204 | 0.9 | 214.54 |
|  | S | 12 | Holophane | HLWPC2 P50 40K XX TFTM | Wallpack Full Cutoff LED, LED Performance Package P20, 4000 series CCT, Voltage, Forward Throw Medium | 1 | 12125 | 0.9 | 115 |
|  | L | 7 | Holophane | MPL3 P60S 40K XXXXX TG4 | Memphis style housings Standard housing, 4000 series CCT Auto-sensing voltage, Type IV, Medium, (Standard or Uplight) | 1 | 28204 | 0.9 | 429.08 |

Statistics

| Description | Symbol | Avg | Max | Min | Max/Min | Avg/Min |
|-----------------------|--------|--------|---------|--------|---------|---------|
| Total including Spill | + | 3.0 fc | 21.2 fc | 0.0 fc | N/A | N/A |
| Lot Lighting Calcs. | X | 5.0 fc | 20.1 fc | 0.5 fc | 40.2:1 | 10.0:1 |

Note

1. Luminaires depreciated to 0.9 LLF
2. See Location Schedule for aiming and orientation.
3. Vist acuitybrands.com for full spec information.

DISCLAIMER

This architectural lighting submittal is provided only for informational purposes and to the help the customer or end-user (as applicable) understand how various sections of linear fixtures connect to each other and how they mount to the ceiling. This lighting submittal is strictly based on the information provided to Acuity Brands, and is provided without warranty as to accuracy, completeness, reliability or otherwise. If the information (including but not limited to floor-plans, reflected ceiling plans and specifications) provided to Acuity Brands is incomplete or not current (i.e., newer versions exist), the accuracy of proposed design may be adversely affected. Once this lighting submittal is received by the customer or end-user (as applicable), it is the obligation of the customer or end-user (as applicable) to consult with a professional engineering advisor to determine whether the proposed design meets the applicable project requirements for lighting system performance, code compliance, safety, suitability and effectiveness for use in a particular application. In no event will Acuity Brands be responsible for any loss resulting from any use of any information contained in this lighting submittal.

Luminaire Locations

| Location | | | | | | | | Aim | | |
|----------|-------|---------|----------|-------|-------|-------------|------|---------|----------|------|
| No. | Label | X | Y | Z | MH | Orientation | Tilt | X | Y | Z |
| 1 | L | 5657.92 | 10986.30 | 20.00 | 20.00 | 0.00 | 0.00 | 5657.92 | 10989.15 | 0.00 |
| 2 | L | 5796.08 | 11108.08 | 19.00 | 19.00 | 0.00 | 0.00 | | | |
| 2 | L | 5888.80 | 10985.07 | 20.00 | 20.00 | 0.00 | 0.00 | 5888.80 | 10987.92 | 0.00 |
| 3 | L | 5756.21 | 11034.52 | 19.00 | 19.00 | 0.00 | 0.00 | | | |
| 3 | L | 6102.69 | 11166.50 | 20.00 | 20.00 | 284.04 | 0.00 | 6099.92 | 11167.19 | 0.00 |
| 4 | L | 5967.00 | 11046.58 | 19.00 | 19.00 | 0.00 | 0.00 | | | |
| 4 | L | 6028.20 | 11287.04 | 20.00 | 20.00 | 180.00 | 0.00 | 6028.20 | 11284.19 | 0.00 |
| 5 | L | 6026.96 | 11098.32 | 19.00 | 19.00 | 0.00 | 0.00 | | | |
| 5 | L | 5953.71 | 11238.82 | 20.00 | 20.00 | 90.00 | 0.00 | 5956.56 | 11238.82 | 0.00 |
| 6 | L | 5784.64 | 11192.46 | 20.00 | 20.00 | 155.32 | 0.00 | 5785.83 | 11189.87 | 0.00 |
| 6 | L | 6000.07 | 11166.19 | 19.00 | 19.00 | 0.00 | 0.00 | | | |
| 7 | L | 6073.63 | 11233.26 | 19.00 | 19.00 | 0.00 | 0.00 | | | |
| 1 | S | 5896.08 | 11157.00 | 10.00 | 10.00 | 180.00 | 0.00 | 5896.08 | 11157.00 | 0.00 |
| 4 | S | 5896.43 | 11224.13 | 10.00 | 10.00 | 0.00 | 0.00 | 5896.43 | 11224.13 | 0.00 |
| 29 | S | 5861.99 | 11192.48 | 10.00 | 10.00 | 270.00 | 0.00 | 5861.99 | 11192.48 | 0.00 |
| 30 | S | 5929.47 | 11192.39 | 10.00 | 10.00 | 90.00 | 0.00 | 5929.47 | 11192.39 | 0.00 |
| 33 | S | 5861.99 | 11212.55 | 10.00 | 10.00 | 270.00 | 0.00 | 5861.99 | 11212.55 | 0.00 |
| 34 | S | 5929.47 | 11212.46 | 10.00 | 10.00 | 90.00 | 0.00 | 5929.47 | 11212.46 | 0.00 |
| 35 | S | 5861.99 | 11172.40 | 10.00 | 10.00 | 270.00 | 0.00 | 5861.99 | 11172.40 | 0.00 |
| 36 | S | 5929.47 | 11172.31 | 10.00 | 10.00 | 90.00 | 0.00 | 5929.47 | 11172.31 | 0.00 |
| 37 | S | 5916.15 | 11157.00 | 10.00 | 10.00 | 180.00 | 0.00 | 5916.15 | 11157.00 | 0.00 |
| 38 | S | 5916.50 | 11224.13 | 10.00 | 10.00 | 0.00 | 0.00 | 5916.50 | 11224.13 | 0.00 |
| 39 | S | 5876.01 | 11157.00 | 10.00 | 10.00 | 180.00 | 0.00 | 5876.01 | 11157.00 | 0.00 |
| 40 | S | 5876.36 | 11224.13 | 10.00 | 10.00 | 0.00 | 0.00 | 5876.36 | 11224.13 | 0.00 |
| 1 | L | 5899.31 | 11107.46 | 21.00 | 21.00 | 0.00 | 0.00 | | | |

Centennial BLDG M, 2392-A1

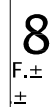
Designer
R/Morgan
Date
05/16/2023
Scale
Not to Scale
Drawing No.
A1
Summary

1 of 5

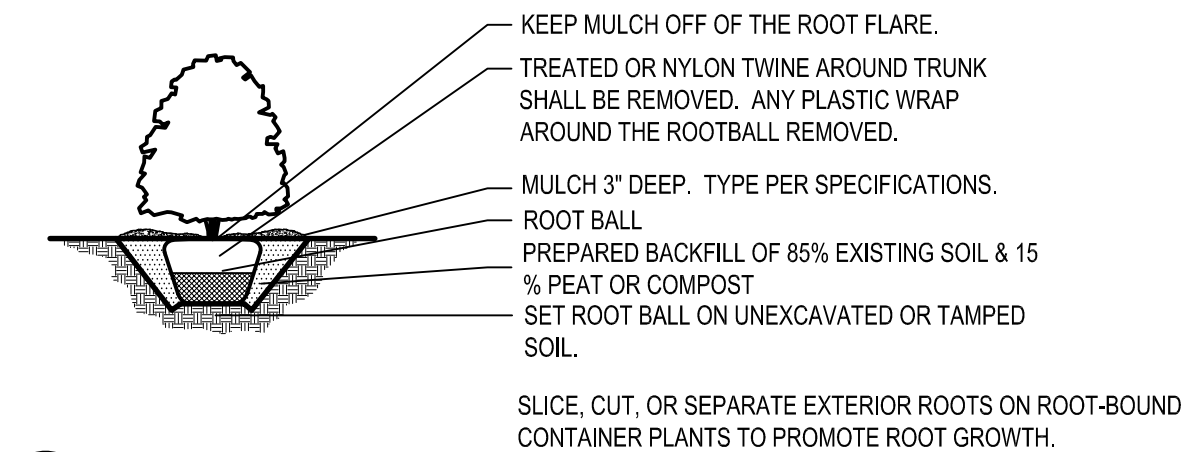
CENTENNIAL VILLAGE -
LOT 9 - BUILDING M
Photometrics Calculated by Ryan Morgan
- Holophane Designer

| DATE: | REVISIONS AND NOTES: |
|-------|----------------------|
| | |
| | |
| | |
| | |

CENTENNIAL VILLAGE
631 KILLARNEY DRIVE
DYER, INDIANA 46311



PLANT LIST



1 SHRUB PL
NOT TO SCALE

NOTE: STAKING OF DECIDUOUS TREES NOT REQUIRED UNLESS TREE WILL NOT STAY PLUMB

3 METAL STAKES INSERTED DOWN INTO EXISTING SOIL. TREE TO BE TIED WITH TREE TIE WEBBING (GREEN).

KEEP MULCH OFF OF THE ROOT FLARE OF TREE.

TREATED OR NYLON TWINE AROUND TRUNK SHALL BE REMOVED, ANY PLASTIC WRAP AROUND THE ROOTBALL REMOVED.

MULCH 3" DEEP. TYPE PER SPECIFICATIONS.

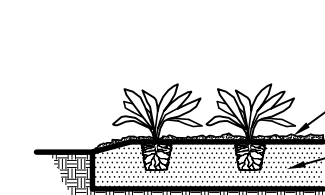
PREPARED BACKFILL OF 85% EXISTING SOIL & 15% PEAT OR COMPOST

FERTILIZER PELLETS – 2 YEAR RELEASE SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.

2 TIMES BALL WIDTH

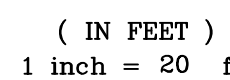
SUICE, CUT, OR SEPARATE EXTERIOR ROOTS ON ROOT-BOUND CONTAINER PLANTS TO PROMOTE ROOT GROWTH.

2 DECIDUOUS
NOT TO SCALE

PLAN VIEW

3) PERCENT

NOT TO SCALE



CALL TOLL FREE
PER INDIANA STATE LAW IC8-1-26,
IT IS AGAINST THE LAW TO EXCAVATE
WITHOUT NOTIFYING THE UNDERGROUND
LOCATION SERVICE TWO (2) WORKING
DAYS BEFORE COMMENCING WORK.

Revisions:

210 East 113th Avenue
Crown Point, Indiana
Phone: 219-662-9911
www.hubingers.com

Drawn By:

Date: 6/23/23
Scale: 1:20

10



Windy City Social – South View



Windy City Social – North View



Windy City Social – South East View