

**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION PUBLIC HEARING
MONDAY, APRIL 11, 2016
6:30 P.M.**

AGENDA

CALL TO ORDER:

PLEDGE OF ALLEGIANCE:

APPROVAL OF AGENDA:

CALL TO THE PUBLIC:

(Note: The Board reserves the right to not begin new business after 10:00 p.m.)

OPEN PUBLIC HEARING #1... Review of a site plan and impact assessment for a proposed medical center on vacant parcel #11-06-200-068 which is located on the north side of Grand River Ave, east of Meadowview Avenue, Howell. The request is petitioned by Kalambaka Properties, LLC.

Planning Commission disposition of petition:

- A. Recommendation of Environmental Impact Assessment (3-2-16)
- B. Disposition of Site Plan (3-23-16)

OPEN PUBLIC HEARING #2... Review of a site plan and impact assessment for a proposed Flagstar Bank on parcel #11-09-100-038 located on the east side of Latson Road, north of I-96, Howell. The project is within the Providence/Former Latson Elementary School Planned Unit Development and is petitioned by Flagstar Bank.

Planning Commission disposition of petition:

- A. Recommendation of Environmental Impact Assessment (3-23-16)
- B. Recommendation of Final PUD Site Plan (3-23-16)

OPEN PUBLIC HEARING #3... Review of a sketch plan for two proposed boat storage buildings. The property is located at 5796 E. Grand River, Howell. The request is petitioned by the Wonderland Marine.

Planning Commission disposition of petition:

- A. Disposition of Sketch Plan (3-17-16)

ADMINISTRATIVE BUSINESS:

- *Staff Report*
- *Approval of March 14^h, 2016 Planning Commission meeting minutes*
- *Member discussion*
- *Adjournment*



GENOA CHARTER TOWNSHIP
Application for Site Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS: KALAMBAKA PROPERTIES, LLC

If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: KALAMBAKA PROPERTIES, LLC 30880 PEAR RIDGE RD. FARMINGTON HILLS, MI 48334

SITE ADDRESS: 2765 E. GRAND RIVER PARCEL #(s): 4711-06-200-068

APPLICANT PHONE: () _____ OWNER PHONE: () _____

OWNER EMAIL: lista1973@aol.com

LOCATION AND BRIEF DESCRIPTION OF SITE: 2765 E. GRAND RIVER

BETWEEN HOWELL FAMILY DENTIST AND ADVANCE

AUTO. THE EXISTING PARCEL IS UNDEVELOPED

BRIEF STATEMENT OF PROPOSED USE: 01 STORY MEDICAL OFFICE

BUILDING W/ 1,500 BASEMENT FOR MEDICAL RECORDS

STORAGE

THE FOLLOWING BUILDINGS ARE PROPOSED: SEE ABOVE

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: Ernesto B. Sullivan

ADDRESS: 30880 PEAR RDIGE RD. FARMINGTON HILLS, MI 48334

517-372-8804

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

1.) DAVID LENZ of STUDIO [intrigue] ARCHITECTS at lenz@studiointrigue.com
Name Business Affiliation E-mail Address

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE: Evangelina Stilianos DATE: 3/2/16
PRINT NAME: Evangelina Stilianos PHONE: _____
ADDRESS: _____

REQUIRED SITE PLAN CONTENTS

Each site plan submitted to the Township Planning Commission shall be in accordance with the provisions of the Zoning Ordinance. No site plan shall be considered until reviewed by the Zoning Administrator. The following information shall be included in the site plan submittal packet:

<u>SUBMITTED</u>	<u>NOT APPLICABLE</u>	<u>ITEM</u>												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Application form and fee: A completed application form and payment of a non-refundable application fee. (A separate escrow fee may be required for administrative charges to review the site plan submittal.)												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Applicant information: The name and address of the property owner and applicant, interest of the applicant in the property, the name and address of the developer, and current proof of ownership of the land to be utilized or evidence of a contractual ability to acquire such land, such as an option or purchase agreement.												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Scale: The site plan should be drawn at an engineers scale on sheets measuring 24x36 inches at the scale noted below.												
		<table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;"><u>ACREAGE</u></th> <th style="text-align: left;"><u>SCALE</u></th> </tr> </thead> <tbody> <tr> <td>160 or more</td> <td>1" = 200'</td> </tr> <tr> <td>5- 159.9</td> <td>1" = 100'</td> </tr> <tr> <td>2- 4.99</td> <td>1" = 50'</td> </tr> <tr> <td>1- 1.99</td> <td>1" = 30'</td> </tr> <tr> <td>0- .99</td> <td>1" = 20'</td> </tr> </tbody> </table>	<u>ACREAGE</u>	<u>SCALE</u>	160 or more	1" = 200'	5- 159.9	1" = 100'	2- 4.99	1" = 50'	1- 1.99	1" = 30'	0- .99	1" = 20'
<u>ACREAGE</u>	<u>SCALE</u>													
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1- 1.99	1" = 30'													
0- .99	1" = 20'													
		<u>COVER SHEET CONTAINING</u>												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The name and address of the project.												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The name, address and professional seal of the architect, engineer, surveyor or landscape architect responsible for preparation of the site plan.												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A complete and current legal description and size of property in acres and square feet. Where a metes and bound description is used, lot line angles or bearings shall be indicated on the plan. Lot line dimensions and angles or angles or bearings shall be based upon a boundary survey and shall correlate with the legal description.												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A small location sketch of sufficient size and scale to locate the property within the Township.												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Title block with north arrow, date of preparation and any revisions.												
		<u>EXISTING CONDITION SHEETS ILLUSTRATING</u>												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	All existing lot lines and dimensions, including setback lines and existing or proposed easements.												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing topography (minimum contour interval of two feet)												
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Existing natural features such as streams, marshes, ponds; wetlands labeled with size and type (upland, emergent, etc)												
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing woodlands shall be shown by an approximate outline of the total canopy; individual deciduous trees of eight inch caliper or larger and individual evergreen trees six feet in height or higher, where not a part of a group of trees, shall be accurately located and identified by species and size (caliper for deciduous, height for evergreen).												

- | | | |
|--|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Soil characteristics of the parcel to at least the detail as provided by the Soil Conservation Service Soil Survey of Livingston County. A separate map or overlay at the same scale as the site plan map may be used. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Zoning and current land use of applicant's property and all abutting properties and of properties across any public or private street from the site. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Indication of existing drainage patterns, surface or water bodies. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | The limits of any wetland regulated by the MDEQ, including attachment of any MDEQ approved wetland determination or documentation that an application for an MDEQ review has been submitted. If an MDEQ regulated wetland is to be impacted, an indication of the status of application for an MDEQ wetland permit or copy of a permit including description of any wetland migration required attached. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Aerial photograph indicating the limits of the site, surrounding land uses and street system. |
| <u>PROPOSED PROJECT INFORMATION</u> | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Base information: The location of all existing buildings, structures, street names and existing right-of-way, utility poles, towers, drainage ditches, culverts, pavement, sidewalks, parking areas and driveways on the property and within one-hundred feet of the subject property (including driveways on the opposite side of any street). Notes shall be provided indicating those which will remain and those which are to be removed. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Building information: Footprints, dimensions, setbacks, typical floor plans, and a sketch of any rooftop or ground mounted equipment to scale. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Building elevations: Elevation drawings shall be submitted illustrating the building design and height, and describing construction materials for all proposed structures. Elevations shall be provided for all sides visible from an existing or proposed public street or visible to a residential district. The Planning Commission may require color renderings of the building. Proposed materials and colors shall be specified on the plan and color chips or samples shall also be provided at the time of site plan review. These elevations, colors, and materials shall be considered part of the approval site plan (as amended 4/15/95). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Building and lot coverage: Percentage of building coverage and impervious surface ratio (all paved areas and building v. total lot area) compared to the percentages specified in the Table of Dimensional Standards Article 4. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | For residential developments: Number of units for each project phase divided by acreage exclusive of any public right-of-way or private road access easement; lot area for each lot; and a description of the number of each unit by size and number of bedrooms; if a multi-phase development is proposed, identification of the areas included in each phase. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | For commercial and office uses: The Gross Floor Area and Useable Floor Area of each use or lease space. For industrial uses: The floor area devoted to industrial uses and the area intended for accessory office use. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Streets, driveways, and circulation: The layout and dimensions of proposed lots, streets and drives (including grades, existing or proposed right-of-way or easement and pavement width, number of lanes and typical cross section showing surface and sub base materials and dimensions, |

grades of all entrances and exits, location and typical detail of curbs, intersection radii), access points (including deceleration or passing lanes, distance from adjacent driveways or street intersection), sidewalks (width, pavement type and distance from street) and recreation areas. Written verification of any access easements or agreements for shared access or driveway curb return extending beyond the property line shall be required.

Utilities: Existing and proposed locations of utility services (with sizes), degrees of slope of sides of retention/detention ponds; calculations for size of storm drainage facilities; location of electricity and telephone poles and wires; location and size of surface mounted equipment for electricity and telephone services; location and size of underground tanks where applicable; location and size of outdoor incinerators; location and size of wells, septic tanks and drain fields; location of manholes, catch basins and fire hydrants; location, size, and inverts for storm and sanitary sewers, any public or private easements; notes shall be provided clearly indicating which existing services will remain and which will be removed.

Grading and drainage: A site grading plan for all developments where grading will occur, with existing and proposed topography at a minimum of two (2) foot contour intervals and with topography extending a minimum of twenty (20) feet beyond the site in all directions and a general description of grades within fifty (50) feet, and further where required to indicate stormwater runoff into an approved drain or detention/retention pond so as to clearly indicate cut and fill required. All finished contour lines are to be connected to existing contour lines at or before the property lines. A general description and location of the stormwater management system shall be shown on the grading plan. The Township Engineer may require detailed design information for any retention/detention ponds and stormwater outfall structures or basins. If MDEQ regulated wetlands are to be used, status of MDEQ permit application or copy of permit with attached conditions shall be provided.

Landscape and screening: A landscape plan indicating proposed ground cover and plant locations and with common plant name, number, and size at installation. For any trees over eight (8) inch caliper to be preserved. A detail shall be provided to illustrate protection around the tree's drip line. Berms, retaining walls or fences shall be shown with elevations or cross section from the surrounding average grade. The location, type and height of proposed fences shall be described.

Waste receptacles: Location of proposed outdoor trash container enclosures; size, typical elevation, and vertical section of enclosures; showing materials and dimensions in compliance with Zoning Ordinance Standards.

Signs: Locations of all signs including location, size, area type, height, and method of lighting. Note that all regulatory signs shall meet the standards from the Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

Lighting: Details of exterior lighting including location, height, method of shielding and style of fixtures.

Parking: Parking, storage and loading/unloading areas, including the dimensions of typical space, aisle, and angle of spaces. The total number of parking and loading/unloading spaces to be provided and the method by which the required parking was calculated shall be noted.

The applicant shall erect flagged stakes at the perimeter points of the property to assist Township officials and staff in reviewing the site.



PERMIT INFORMATION

The Department of Environmental Quality (DEQ) has prepared a list of key questions to help identify what departmental permits, licenses, or approvals of a permit-like nature may be needed for a project. By contacting the appropriate offices listed below, you will help reduce the possibility that your project or activity will be delayed due to the untimely discovery of additional permitting requirements later in the process. While this list covers the existence of permits and approvals required from the DEQ, it is not a comprehensive list of all legal responsibilities (i.e. planning requirements and chemical storage regulations may apply). A useful way to learn whether any other requirements will apply is to go through the Self Environmental Assessment in the Michigan Manufacturers Guide, online at http://www.michigan.gov/deq/0,1607,7-135-3310_4148-15820--,00.html.

KEY QUESTIONS: (DEQ Permit and Licensing Guidebook Chapter)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If "Yes," refer to the DEQ Permit and Licensing Guidebook Section(s), the Web Page, or Call the Program:
CONSTRUCTION PERMITS			
Permit to Install: Does the project involve installation, construction, reconstruction, relocation, or alteration of any process equipment (including air pollution control equipment) which has the potential to emit air contaminants? (Permit Guidebook Chapter 5.1.3)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , AQD, Permit Section, 517-373-7023
Asbestos Notification: Does the project involve renovating or demolishing all or portions of a building? (Notification is required for all renovations and demolitions, even if the structure never contained asbestos.)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , AQD Asbestos NESHAP Program 517-373-7064
Soil Erosion and Sedimentation Control (SESC): Does the project involve an earth change activity within 500 feet of a lake or stream, or will the project disturb an area greater than one acre in size? (Permit Guidebook Chapter 5.3.5)	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	Contact Your Local SESC Agency: http://www.deq.state.mi.us/sesca/ Web , WB, SESC Program, 517-335-3178
Does the project involve construction which will disturb one or more acre that comes into contact with storm water that enters a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	Web , WB, Permits Section, 517-241-8993 or appropriate DEQ District Office
Does the project involve construction or alteration of any sewage collection or treatment facility ? (Permit Guidebook Chapter 5.3.1)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , Appropriate District Office, WB, Part 41 Construction Permit Program
Does the project involve construction of a community water supply well or the extension of a water supply from an existing water system? (Permit Guidebook Chapter 5.3.2)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , Appropriate DEQ District Office, WB, Community Water Supply Program
Does the project involve construction of a water supply well (a private, irrigation, process, or public water well)?	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Contact a Registered Well Driller , Web , Local Health Department Contacts , Non Community Water Supply, Web
Does the project involve construction of a facility that landfills, transfers, or processes of any type of solid non-hazardous waste on-site, or places industrial residuals/sludge into or onto the ground? (Permit Guidebook Chapter 5.4.1)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , Appropriate DEQ District Office, WHMD 517-335-4035
Does the project involve the construction of an on-site treatment, storage, or disposal facility for hazardous waste ? (Permit Guidebook Chapter 5.4.2)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web 5.4.2 , WHMD, Hazardous Waste Section, 517-373-9875
CONSTRUCTION PERMITS (LAND/WATER FEATURE)			
Does the project involve filling, dredging, placement of structures, draining, or use of a wetland ? (Permit Guidebook Chapter 5.5.6)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	(Permit Application, Web), Web Land & Water Management Division (LWMD), Permit Consolidation Unit, 517-373-9244
Storm Water Discharge to Wetlands: Will storm water be collected, stored, or treated in a wetland area from a public road, industrial, commercial, or multi-unit residential development? (Permit Guidebook Chapter 5.5.6)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	(Permit Application, Web), Web LWMD, Permit Consolidation Unit, 517-373-9244

Great Lakes: Does the project involve construction, filling, or dredging below the Ordinary High Water Mark of one of the Great Lakes? (Permit Guidebook Chapter 5.5.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Inland Lakes and Streams: Does the project involve any dredging, filling, placement of structures, or the operation of a marina within an inland waterbody (e.g. lake, river, stream, drain, creek, ditch, or canal), enlargement of a waterbody, or excavation of a pond within 500 feet of a waterbody? (Permit Guidebook Chapter 5.5.7)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Storm Water Ponds and Discharges to Inland Lakes/Streams, or Great Lakes: Will storm water from any road or any other part of the development be discharged either directly or ultimately to an inland waterbody, or one of the Great Lakes; or will a storm water pond be constructed within 500 feet of an inland waterbody? (Permit Guidebook Chapters 5.5.7 & 5.5.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web5.5.7 , Web5.5.1 LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve placement of fill, earth moving, or placement of structures within the 100-year floodplain of a watercourse? (Permit Guidebook Chapter 5.5.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve construction of a building or septic system in a designated Great Lakes high risk erosion area? (Permit Guidebook Chapter 5.5.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve dredging, filling, grading, or other alteration of the soil, vegetation, or natural drainage, or placement of permanent structures in a designated environmental area? (Permit Guidebook Chapter 5.5.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web5.5.1 , Web5.5.4 , Web5.5.6 , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project propose any development, construction, silvicultural activities or contour alterations within a designated critical dune area? (Permit Guidebook Chapter 5.5.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve construction of a dam, weir or other structure to impound flow? (Permit Guidebook Chapters 5.5.7 & 5.5.8)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web5.5.7 , Web5.5.8 , LWMD, Dam Safety Program, 517-241-9862
CONSTRUCTION PERMITS (SECTOR SPECIFIC)		
Does the project involve a subdivision or site condominium project utilizing individual on-site subsurface disposal systems or individual wells? (Permit Guidebook Chapter 5.3.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, 517-241-1345
Does the project involve the construction or modification of a campground? (Permit Guidebook Chapter 5.3.6)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, 517-241-1340
Does the project involve the construction or modification of a public swimming pool? (Permit Guidebook Chapter 5.3.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web DEQ, WB, Drinking Water & Environmental Health Section (DWEHS), 517-241-1340
OPERATIONAL PERMITS		
Renewable Operating Permit: Does your facility have the potential to emit any of the following: 100 tons per year or more of any criteria pollutant; 10 tons per year or more of any hazardous air pollutant; or 25 tons per year or more of any combination of hazardous air pollutants? (Permit Guidebook Chapter 5.1.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , AQD, Permit Section, 517-373-7023
NPDES: Does the project involve the discharge of any type of wastewater to a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Appropriate District Office, or National Pollutant Discharge Elimination (NPDES) Permit Program 517-241-1346
Does the facility have industrial activity that comes into contact with storm water that enters a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Permits Section, 517-241-8993 or appropriate DEQ District Office

Does the project involve the discharge of wastewaters into or onto the ground (e.g. subsurface disposal or irrigation)? (Permit Guidebook Chapter 5.2.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Groundwater Permits Program, 517-373-8148
Does the project involve the drilling or deepening of wells for waste disposal? (Permit Guidebook Chapter 5.7.8)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve landfilling, transferring, or processing of any type of solid non-hazardous waste on-site, or placing industrial residuals/sludge into or onto the ground? (Permit Guidebook Chapter 4.4.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , Appropriate DEQ District Office, WHMD 517-335-4035
Does the project involve the on-site treatment, storage, or disposal of hazardous waste? (Permit Guidebook Chapters 4.4.3 , & 4.4.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Hazardous Waste Section, 517-373-9875
Does the project require a site identification number (EPA number) for regulated waste activities (used oil, liquid waste, hazardous waste, universal waste, PCBs)? (Web Site)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD, Appropriate DEQ District Office
Does the project involve the receipt, possession, manufacture, use, storage, transport, transfer, release, or disposal of radioactive material in any form?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Radioactive Material and Standards Unit, 517-241-1275
Do you desire to develop a withdrawal of over 2,000,000 gallons of water per day from any source other than the Great Lakes and their connecting waterways? Or, do you desire to develop a withdrawal of over 5,000,000 gallons of water per day from the Great Lakes or their connecting waterways? (Permit Guidebook Chapter 5.2.6)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, Source Water Protection Unit, 517-241-1318
CHEMICAL ADDITION PROJECTS		
Are you using chemicals or materials in, or in contact with, drinking water at any point in the water works system? (Permit Guidebook Chapter 5.2.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Appropriate District Office, Public Water Supply Program 517-241-1318
Are you applying a chemical treatment for the purpose of aquatic nuisance control (pesticide/herbicide etc) in a water body (i.e. lake, pond or river)? (Permit Guidebook Chapter 5.2.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Aquatic Nuisance Control and Remedial Action Unit 517-241-7734
Are you applying materials to a water body for a water resource management project (i.e. mosquito control treatments, dye testing, or fish reclamation projects)? (Permit Guidebook Chapter 5.2.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Surface Water Assessment Section 517-373-2190
OPERATIONAL PERMITS (SECTOR SPECIFIC)		
Does the project involve the transport of some other facility's non-hazardous liquid waste? (Permit Guidebook Chapter 4.2.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Transporter Program, 586-753-3850
Does the project involve the transport hazardous waste? (Permit Guidebook Chapter 4.2.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Transporter Program, 586-753-3850
Does your facility have an electric generating unit that sells electricity to the grid and burns a fossil fuel? (Permit Guidebook Chapter 5.1.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , AQD, Acid Rain Permit Program, 517-373-7023
Is the project a dry cleaning establishment utilizing perchloroethylene or a flammable solvent in the cleaning process? (Permit Guidebook Chapter 4.1.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , DEQ, Air Quality Division (AQD), 517-241-1324
Does your laboratory test potable water as required for compliance and monitoring purposes of the Safe Drinking Water Act? (Permit Guidebook Chapter 4.1.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , ESSD, Laboratory Services Section 517-335-9800

Does the project involve the generation of medical waste or a facility that treats medical waste prior to its disposal? (Permit Guidebook Chapter 4.1.5)	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Web , Waste and Hazardous Materials Division (WHMD), Medical Waste Regulatory Program 517-241-1320
Does the project involve transport of septic tank, cesspool, or dry well contents or the discharge of septage or sewage sludge into or onto the ground? (Permit Guidebook Chapter 4.2.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, Septage Program 517-241-1318
Do you store, haul, shred or process scrap tires? (Permit Guidebook Chapters 4.2.2 or 4.4.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Storage Tank and Solid Waste Section 517-241-2924
Does the project involve the operation of a public swimming pool? (Permit Guidebook Chapter 4.1.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web DEQ, WB, Drinking Water & Environmental Health Section (DWEHS), 517-241-1340
Does the project involve the operation of a campground? (Permit Guidebook Chapter 4.1.6)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, 517-241-1340
Do you engage in the business of hauling bulk water for drinking or household purposes (except for your own household use)? (Permit Guidebook Chapter 4.2.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, Noncommunity Unit, 517-241-1370
Does the project involve composting over 200 cubic yards of yard clippings? (Permit Guidebook Chapter 4.4.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Storage Tank and Solid Waste Section 517-241-2924
STORAGE TANKS (CONSTRUCTION AND OPERATION)		
Does the project involve the installation of an aboveground storage tank for a flammable or combustible liquid (under 200 degrees Fahrenheit)? (Permit Guidebook Chapter 4.3.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Storage Tank and Solid Waste Section (STSWS), 517-335-7211
Does the project involve the installation of a compressed natural gas dispensing station with storage? (Permit Guidebook Chapter 4.3.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, STSWS, 517-335-7211
Does the project involve the installation of a liquefied petroleum gas container filling location or storage location that has a tank with a capacity of more than 2,000 gallons or has two (2) or more tanks with an aggregate capacity of more than 4,000 gallons? (Permit Guidebook Chapter 4.3.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, STSWS, 517-335-7211
Does the project involve the installation, removal, or upgrade of an underground storage tank containing a petroleum product or a hazardous substance? (Permit Guidebook Chapter 4.3.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, STSWS, 517-335-7211
Does the project involve the installation of a hydrogen system?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD STSWS, 517-335-7211
PERSONAL LICENSES/CERTIFICATIONS		
Are you designated by your facility to be the Certified Operator to fulfill the requirements of a wastewater discharge permit (NPDES including Storm Water or Groundwater)? (Permit Guidebook Chapters 3.1 , 3.2 , & 3.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Hotlink to Program Web Page (Web) Web3.1 , Web3.2 , Environmental Science and Services Division (ESSD), Operator Training 517-373-4755 and, Web3.5 Water Bureau (WB), Storm Water Program 517-241-8993
Are you a drinking water operator in charge of a water treatment or water distribution system, back-up operator, or shift operator? (Permit Guidebook Chapter 3.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , ESSD, Operator Training 517-241-7199
Are you a water well drilling contractor, pump installer, dewatering well contractor or dewatering well pump installer? (Permit Guidebook Chapter 3.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Well Construction Unit 517-241-1377

OIL, GAS AND MINING

Do you want to operate a central production facility (applies to oil and gas production facilities where products of diverse ownership are commingled)? (Permit Guidebook Chapter 4.1.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , Office of Geological Survey (OGS), Petroleum Geology and Production Unit 517-241-1515
Does the project involve the removal of sand from a sand dune area within two (2) miles of a Great Lakes shoreline? (Permit Guidebook Chapter 5.6.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , Office of Geological Survey (OGS), Minerals and Mapping Unit, 517-241-1542
Does the project involve the diversion and control of water for the mining and processing of low-grade iron ore ? (Permit Guidebook Chapter 5.6.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve the surface or open-pit mining of metallic mineral deposits ? (Permit Guidebook Chapter 5.6.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve the mining of nonferrous mineral deposits at the surface or in underground mines? (Permit Guidebook Chapter 5.6.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve mining coal ? (Permit Guidebook Chapter 5.6.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1542
Do you want to change the status of an oil or gas well (i.e. plug the well)? (Permit Guidebook Chapter 5.7.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve drilling of oil, gas, brine disposal, secondary recovery, or hydrocarbon storage wells ? (Permit Guidebook Chapter 5.7.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve plugging or deepening of an oil or gas well , or conveying rights in the well as an owner to another person? (Permit Guidebook Chapter 5.7.3 , 5.7.4 & 5.7.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve changing the status or plugging of a mineral well ? (Permit Guidebook Chapter 5.7.6 & 5.7.7)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve the drilling or deepening of wells for brine production, solution mining, storage, or as test wells ? (5.7.8)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve decommissioning or decontamination of tanks, piping, and/or appurtenances that may have radioactive levels above background?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD Radioactive Material and Standards Unit, 517-241-1275

ENVIRONMENTAL ASSISTANCE CENTER: 1-800-662-9278



March 29, 2016

Planning Commission
 Genoa Township
 2911 Dorr Road
 Brighton, Michigan 48116

Attention:	Kelly Van Marter, AICP Assistant Township Manager and Planning Director
Subject:	Howell Medical Building – Site Plan Review #2
Location:	2765 E. Grand River Avenue – north side of Grand River, east of Meadowview Drive
Zoning:	GCD General Commercial District

Dear Commissioners:

At the Township’s request, we have reviewed the revised site plan (dated 3/23/16) for a new medical office building on a vacant 1.68-acre site. We have reviewed the proposal in accordance with the applicable provisions of the Genoa Township Zoning Ordinance.

A. Summary

1. Building design, materials and colors are subject to review and approval by the Planning Commission.
2. We suggest the number of barrier-free parking spaces be increased given the nature of the use.
3. The applicant may wish to provide a sidewalk connection from the building to the Grand River Avenue sidewalk.
4. Light intensity exceeds the 10-footcandle maximum in several locations.
5. Details of proposed light fixtures must be provided.

B. Proposal/Process

The applicant requests site plan review and approval for a new 12,882 square-foot medical office building. The site is currently undeveloped and is located between two developed parcels: an Advance Auto Parts to the east and a dentist office to the west.

Medical offices are permitted by-right in the GCD per Section 7.02.01. As such, the project requires site plan review and approval by the Planning Commission. As part of the review process, the Planning Commission is also to make a recommendation to the Township Board on the Environmental Impact Assessment.

C. Site Plan Review

1. **Dimensional Requirements.** As described in the table below, the proposed building meets the dimensional requirements in the GC zone district:

District	Lot Size		Minimum Setbacks (feet)			Parking Lot	Lot Coverage	Height (feet)
	Lot Area (acres)	Width (feet)	Front Yard	Side Yard	Rear Yard			
GC	1	150	35	15	50	20 front 10 side/rear	35% bldg. 75% imperv.	35'
Proposal	1.68	153	45	15 (W) 45 (E)	185	200 front 10 side 20 rear	17.6% bldg. 57.6% imperv.	22'



Aerial view of site and surroundings (looking north)

- 2. Building Design and Materials.** Building design, materials and colors are subject to review and approval by the Planning Commission in accordance with Article 12.

The proposed building is predominantly composed of brick veneer and precast stone with fiber cement shake siding and stone columns as accents.

All four sides of the building have similar design elements, massing and style. Color renderings of the building have been included with the elevation drawings; however, the applicant will need to present the Commission with material and color samples.

- 3. Parking.** The building is intended to be used as a medical office building, which requires one parking space for every 200 square feet of gross floor area. The main floor of the building measures 12,882 square feet. As such, the Ordinance requires 65 parking spaces, while 66 are provided.

Based on the amount of parking provided, 3 barrier-free spaces are required; however, given the nature of the use as medical office, we suggest the applicant consider providing additional such spaces.

Drive aisle and parking space dimensions meet or exceed Ordinance standards. All parking spaces are marked with double striping on the site plan, as required.

- 4. Pedestrian Circulation.** A 5' wide sidewalk exists along Grand River. Additional sidewalks are provided within the parking lot and in front of the main entrances to the building. The applicant may wish to provide a sidewalk connection from the building to the Grand River Avenue sidewalk.

- 5. Vehicular Circulation.** The developed site to the east has access to Grand River Avenue, and has granted access to the site through a cross-easement.

It is worth noting that Advance Auto, the adjacent property to the east, will lose 4 parking spaces by virtue of the cross access. The revised plan includes parking calculations for Advance Auto demonstrating that the parking provided will still meet Ordinance requirements.

Howell Medical Building

Site Plan Review #2

Page 3

6. Landscaping and Screening. The table below is a summary of the landscaping required by Section 12.02:

Location	Requirements	Proposed	Comments
Front yard greenbelt	20' width 4 canopy trees	25' width (minimum) 2 canopy trees 2 evergreen trees	The Planning Commission may allow ½ of the required trees to be evergreen
Detention pond (s)	South pond: 6 trees and 52 shrubs Mid pond: 2 trees and 14 shrubs North pond: 1 tree and 10 shrubs.	South pond: 7 trees and 52 + shrubs Mid pond: 2 trees and 14+ shrubs North pond: 1 tree and 10+ shrubs	Requirements met
Parking lot	7 canopy trees 670 SF landscaped area	9 canopy trees 696 SF landscaped area	Requirements met
Buffer Zone "B" (N)	20' width berm OR wall 8 canopy trees AND 8 evergreen trees AND 30 shrubs	20' width berm 8 canopy trees 8 evergreen trees 30 shrubs	Requirements met
Buffer Zone "B" (W)	20' width berm OR wall 5 canopy trees AND 5 evergreen trees AND 21 shrubs	20' width berm 5 canopy trees 6 evergreen trees 21 shrubs	Requirements met

7. Waste Receptacle and Enclosure. The site plan identifies a dumpster and enclosure in the northeast corner of the site. The proposed location, base pad and enclosure comply with Ordinance standards.

8. Exterior Lighting. The site plan proposes nine light poles for the parking lot and driveway. The photometric plan identifies several locations with light intensities well in excess of the 10-footcandle maximum. The applicant must revise the lighting plan to reduce light intensity. Light fixture details must also be provided.

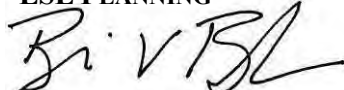
9. Signs. The site plan identifies a monument sign in the front yard setback 10' from the front property line. No wall or directional signs are proposed. The proposed dimensions, location and illumination method of the proposed ground sign comply with the Ordinance.

10. Impact Assessment. The submittal includes a Traffic Impact Study and an Impact Assessment (dated February 2016), which note that the proposed project is not expected to adversely impact natural features, public services/utilities, surrounding land uses or traffic.

Should you have any questions concerning this review, please do not hesitate to contact our office. We can be reached by phone at (248) 586-0505, or via e-mail at borden@lslplanning.com and gruba@lslplanning.com.

Sincerely,

LSL PLANNING



Brian V. Borden, AICP
Principal Planner



Christopher Gruba
Project Planner II



March 28, 2016

Ms. Kelly Van Marter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

**Re: Howell Medical Center
Site Plan Review #2**

Dear Ms. Van Marter:

We have reviewed the subject site plan documents prepared by KEBS Inc. dated March 2, 2016, which were delivered to the Township Engineer on that date. The applicant is proposing a 13,000 sft medical office on the north side of Grand River Avenue between Meadowview and Char-Ann Drives. Tetra Tech has reviewed the documents and site plan and offers the following comments.

SITE PLAN

1. There is a discrepancy between the specifications listed on the cover and sheet 2 of 6 for the material called out for the sanitary service lateral. The standard material for sewer laterals is SDR 23.5 PVC. This should be corrected on the construction drawings that will be reviewed for the public sanitary sewer extension.

The petitioner has satisfactorily addressed our previous comments; therefore, we have no further objections to approval of the site plan. The above comment relating to the sanitary sewer lateral can be addressed on the construction plans.

Please call if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Gary J. Markstrom'.

Gary J. Markstrom, P.E.
Unit Vice President

A handwritten signature in blue ink, appearing to read 'Joseph C. Siwek'.

Joseph C. Siwek, P.E.
Project Engineer

Copy: Greg Petru P.E. KEBS Inc.



BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

March 30, 2016

Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Howell Medical Center
2765 E. Grand River
Genoa Twp., MI

Dear Kelly:

The Brighton Area Fire Department has reviewed the above mentioned site plan. The plans were received for review on March 3, 2016 and the drawings are dated March 2, 2016. The project is for a proposed new 14,270 square foot building medical office building. The plan identifies 1,388 sq.ft. of the total building to be a basement storage area. This plan review is based on the requirements of the International Fire Code (IFC) 2012 edition.

1. It appears that the building will be provided with an automatic sprinkler system based upon the presence of a 6" fire protection water line. The FDC shall be installed on the street side (Grand River). **(Revised on Drawing, building and basement are exempt from Fire Suppression, MBC 903.2.11.1)**

IFC 903
2. The address to the building shall be a **minimum of 6"** high letters of contrasting colors and be clearly visible from the street (South Elevation). The location and size shall be verified prior to installation. **(Noted on Drawing)**

IFC 505.1
3. The access drive into the site shall be a minimum of 26' wide, and maintained at that width for circulation throughout the site. With a width of 26' wide the building side shall be marked as a fire lane. Include the location of the proposed fire lane signage and include a detail of the fire lane sign in the submittal. Access roads to site shall be provided and maintained during construction. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds. Provide an emergency vehicle circulation diagram on plan. **(Revised on Drawing)**

IFC D 103.6
IFC D 103.1
IFC D 102.1
IFC D 103.3
4. Access through the site shall provide emergency vehicles with a turning radius up to 50' outside and 30' inside while providing a minimum vertical clearance of 13 ½ feet. **(Noted on Drawing)**
5. The location of a key box (Knox Box) shall be indicated on future submittals. The Knox box will be located adjacent to the front door of the structure. There shall also be a Knox box placed at the basement door. **(Noted and Shown on Drawing)**

IFC 506.1



6. Provide names, addresses, phone numbers, emails of owner or owner's agent, contractor's, architect, on-site project supervisor. **(Noted on Drawing)**

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department. If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink, appearing to read "R. Boisvert".

Capt. Rick Boisvert, CFPS
Fire Inspector



2911 Dorr Road
 Brighton, MI 48116
 810.227.5225
 810.227.3420 fax
 genoa.org

MEMORANDUM

TO: David Lenz
FROM: Kelly VanMarter, Assistant Township Manager/Community Development Director
DATE: March 24, 2016
RE: **Howell Medical Offices - Sewer and Water Tap Fees (11-06-200-068)**

This memo will describe the connection fees required for a new 12,882 sq. ft. medical office building with 1,388 sq. ft. basement located on parcel at 11-06-200-068.

The REU Table provides the following relevant formulas:

- 0.6 REU per 1,000 sq. ft. for a Doctor's Office
- 1.3 REU per Dentist
- 0.05 REU per 1,000 sq. ft. for Warehouse and storage

Since I don't have information regarding the number of dentists this letter will be based on doctor's office space. Using the formulas above the following calculation applies:

12,882 sq. ft. office building @ 0.6 REU per 1,000 sq. ft.	=	7.73 REU
1,388 sq. ft. utility basement @ 0.05 REU per 1,000 sq. ft.	=	0.07 REU
TOTAL REU'S =		7.8 REU

PREVIOUSLY PAID/ASSESSED:

Water (Grand River Water)	-	3 REU
Sewer (GO #1)	-	0 REU

NEW CONNECTION CHARGE =

Water:	7.8 REU – 3 REU (assessed)	=	4.8 REU
Sewer:	7.8 REU		

Water	4.8 REU @ \$7,900 per REU	=	\$ 37,920.00
Sewer	7.8 REU @ \$7,200 per REU	=	\$ 56,160.00
TOTAL DUE:			\$ 94,080.00

Connection Fees must be paid at time of land use permit issuance.

A meter package may also need to be purchased including the appropriate sized meter and a MIU (meter interface unit). Should you have any questions please feel free to contact me at 810-227-5225.

SUPERVISOR

Gary T. McCririe

CLERK

Paulette A. Skolarus

TREASURER

Robin L. Hunt

MANAGER

Michael C. Archinal

TRUSTEES

H. James Mortensen

Jean W. Ledford

Todd W. Smith

Linda Rowell

IMPACT ASSESSMENT

- a. **Name(s) and address(es) of person(s) responsible for preparation of the impact assessment and a brief statement of their qualifications.**
- David Lenz, Architect, Studio [*intrigue*] Architects: Registered architect of the state of Michigan.
 - Dave Sonnenberg PE, Traffic Engineering Associates: Registered engineer of the state of Michigan.
 - Greg Petru PE, KEBS Inc: Registered engineer of the state of Michigan
- b. **Map(s) and written description/analysis of the project site** including all existing structures, manmade facilities, and natural features. The analysis shall also include information for areas within 10 feet of the property. An aerial photograph or drawing may be used to delineate these areas.
- The existing site is an undeveloped parcel.
 - There are no existing structures or facilities on the site.
 - The site is mostly covered in thick low lying brush.
 - There are a few small areas of paved walks and parking located within 10'-0" of the property line on the adjacent east and west parcels.
 - See attached site plan.
- c. **Impact on natural features:** A written description of the environmental characteristics of the site prior to development and following development, i.e., topography, soils, wildlife, woodlands, mature trees (eight-inch caliper or greater), wetlands, drainage, lakes, streams, creeks or ponds. Documentation by a qualified wetland specialist shall be required wherever the Township determines that there is a potential regulated wetland. Reduced copies of the Existing Conditions Map(s) or aerial photographs may accompany written material.
- The existing site is an undeveloped plot along the Grand River Ave commercial corridor. It is surrounded by commercially developed properties to the east and west; as well as residentially developed properties to the north. The south property line is located along the Grand River Ave right of way.
 - Starting in the southeast corner (roughly 30'-0" from the south property line) the site gently slopes down 4'-0" towards the northwest corner. The first 30'-0" of the property quickly slopes down 12'-0" as it approaches and meets Grand River Ave.
 - The majority of the site is covered in thick low lying brush.
 - The soils are shown as Miami Loam, 2-6% slopes on the N.R.C.S. web soil survey.
 - Wildlife is typical for an undeveloped urban site.
 - There are no wetlands on the site.

- The site naturally surface drains along the existing topography. The North 2/3 of the property drains off the property to the North and to the West. The South 1/3 or so drains South out to Grand River Avenue.
- There are no existing wetlands, drains or lakes on the site. There is existing storm sewer within Grand River Avenue.

d. **Impact on storm water management:** Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from the Livingston County Drain Commission at (517) 546-0040.

- The storm water management, soil erosion, and sedimentation during grading and construction shall be in conformance with standard construction techniques and the requirements of the Livingston County Drain Commission and MDOT.
- The site is proposing to small bio-retention areas to capture most of the parking lot runoff, and a larger detention basin at the South end of the site.
- Silt sacks, silt fencing and other soil erosion measures will be utilized on-site for Soil Erosion Control. During detention pond construction, temporary grading and mulch blankets may be utilized to help stabilize banks. The construction entrance and Grand River Avenue will be kept clean and swept as needed.

e. **Impact on surrounding land used:** Description of the types of proposed uses and other man-made facilities, including any project phasing, and an indication of how the proposed use conforms or conflicts with existing and potential development patterns. A description shall be provided of any increases of light, noise or air pollution which could negatively impact adjacent properties.

- The proposed use is a medical office building. This use is a use by right in the General Commercial District in which the property resides.
- The proposed medical office use is similar in nature, scope, and size to the surrounding developments.
- All parking, building, and site lighting will be 'dark sky' compliant.
- The proposed medical office use will not generate noise or air pollution.

f. **Impact on public facilities and services:** Describe the number of expected residents, employees, visitors, or patrons, and the anticipated impact on public schools, police protection and fire protection. Letters from the appropriate agencies may be provided, as appropriate.

- The proposed development is expected to employ and service existing Genoa Twp. residents.
- There will not be an increased impact on public schools.
- Impacts from Police and Fire Departments are not expected to change.

- g. **Impact on public utilities:** Describe the method to be used to service the development with water and sanitary sewer facilities, the method to be used to control drainage on the site and from the site, including runoff control during periods of construction. For sites serviced with sanitary sewer, calculations for pre- and post-development flows shall be provided in comparison with sewer line capacity. Expected sewage rates shall be provided in equivalents to a single family home. Where septic systems are proposed, documentation or permits from the Livingston County Health Department shall be provided.
- Sanitary systems will be designed to utilize the existing municipal sanitary collection system. The site is proposing to connect to an existing sewer on the West edge of the property.
 - Water systems will be designed to utilize the existing municipal water supply system. A connection is proposed within the Grand River Avenue ROW.
 - Storm water collection and discharge will utilize on-site bio-retention areas and a detention pond to collect and ultimately discharge an allowed rate to the existing MDOT storm drainage collection system within the ROW.
- h. **Storage and handling of any hazardous materials:** A description of any hazardous substances expected to be used, stored or disposed of on the site. The information shall describe the type of materials, location within the site and method of containment. Documentation of compliance with federal and state requirements, and a Pollution Incident Prevention Plan (PIPP) shall be submitted, as appropriate.
- The proposed development is expected to generate typical professional office related waste.
 - A family dentist office will be a part of this development. All medical waste will be disposed of in accordance with the State of Michigan DEQ requirements.
 - A dental amalgam system will be designed with the building sanitary systems in accordance with the State of Michigan DEQ requirements.
- i. **Impact on Traffic and Pedestrians:** A description of the traffic volumes to be generated based on national reference documents, such as the most recent edition of the Institute of Transportation Engineers Trip Generation Manual, other published studies or actual counts of similar uses in Michigan. A detailed traffic impact study shall be submitted for any site over ten (10) acres in size which would be expected to generate 100 directional vehicle trips (i.e. 100 inbound or 100 outbound trips) during the peak hour of traffic of the generator or on the adjacent streets. The contents of the detailed study shall include:
- See attached traffic analysis report.
- Description of existing daily and peak hour traffic on adjacent street(s) and a description of any sight distance limitations along the right-of-way frontage of the site.

- Forecasted trip generation of the proposed use for the a.m. and p.m. peak hour and average daily traffic generated.
 - For any project with a completion date beyond one year at the time of site plan approval, the analysis shall also include a scenario analyzing forecasted traffic at date of completion along the adjacent street network using a forecast based either on historic annual percentage increases and/or on expected development in the area.
 - Projected traffic generated shall be distributed (inbound v. outbound, left turn v. right turn) onto the existing street network to project turning movements at site driveways and nearby intersections. Rationale for the distribution shall be provided.
 - Capacity analysis at the proposed driveway(s) using the procedures outlined in the most recent edition of the Highway Capacity Manual published by the Transportation Research Board. Capacity analyses shall be provided for all street intersections where the expected traffic will comprise at least five-percent (5%) of the existing intersection capacity.
 - Accident data for the previous three (3) years for roadway sections and intersections experiencing congestion or a relatively high accident rate, as determined by the township or staff from the Livingston County Road Commission or Michigan Department of Transportation.
 - Analysis of any mitigation measures warranted by the anticipated traffic impacts. Where appropriate, documentation shall be provided from the appropriate road agency regarding time schedule for improvements and method of funding.
 - A map illustrating the location and design of proposed access, including any sight distance limitations, dimensions from adjacent driveways and intersections within 250 feet of the edge of the property frontage, and other data to demonstrate that the driveway(s) will provide safe and efficient traffic operation and be in accordance with Article 15.
- j. **Special Provisions:** General description of any deed restrictions, protective covenants, master deed or association bylaws.
- Not applicable
- k. A list of all sources shall be provided.



TRAFFIC IMPACT STUDY

For The Proposed

Howell Medical Building

Genoa Township, Livingston County, MI

February, 2016

Prepared by:

**Traffic Engineering
Associates, Inc.**

PO Box 100 • Saranac, Michigan 48881
517/627-6028 FAX: 517/627-6040

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EXECUTIVE SUMMARY

Traffic Engineering Associates, Inc. (TEA) conducted a traffic impact study to determine the distribution of new traffic generated by the Howell Medical Building development in Genoa Township, Livingston County, Michigan. The project site is located on the north side of Grand River Avenue (M-43) between Golf Club Drive and Char-Anne Drive, directly across from the Bob Maxey Ford Dealership. The proposed Howell Medical Building will be located on a vacant parcel just west of, and adjacent, to the Advanced Auto Parts Store. The proposed development will consist of a new 12,798 square foot building with three (3) separate suites; one (1) doctor's office, one (1) dentist office and one (1) urgent care facility. The new development is anticipated to be completed and open for business within twelve (12) months.

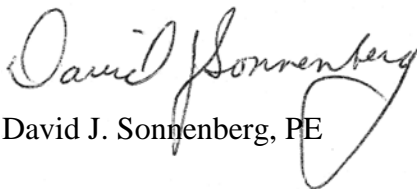
Access to the Howell Medical Building development will be provided by a shared driveway with the Advanced Auto Parts Store directly east of the proposed development. The Howell Medical Building development will not have its own access to Grand River Avenue (M-43).

Vehicle counts were conducted in the month of February, 2016, during the midweek, non-holiday time period at the intersection of Advanced Auto Parts Store driveway/Bob Maxey Ford Dealership driveway and Grand River Avenue (M-43). All existing turning movements at the studied intersection operate at an acceptable level of service (LOS D or better) during the AM and PM peak hours.

The ITE trip generation rates for Clinic (Land Use Code 630) were selected as representing the proposed 4,266 square foot suite (one-third of the total building), and trip generation rates for Medical-Dental Office Building (Land Use Code 720) were selected as representing the proposed two (2) suites which contain a total of 8,532 square feet (two-thirds of the total building). It is projected that the Howell Medical Building development will generate 20 vehicle trips in the AM peak hour, 54 vehicle trips in the PM peak hour, and 442 vehicle trips daily. All future turning movements at the studied intersection are anticipated to operate at an acceptable level of service (LOS D or better) during the AM and PM peak hours.

The future analysis shows that there is a very small increase in the vehicle delays with the level of service remaining the same for the shared Advanced Auto Parts driveway and Grand River Avenue (M-43) intersection. There are no recommended improvements.

Respectfully Submitted,


David J. Sonnenberg, PE



INTRODUCTION



PROJECT DESCRIPTION

The purpose of this study is to determine the distribution of the new traffic generated by the Howell Medical Building development in Genoa Township, Livingston County, Michigan. The project site is located on the north side of Grand River Avenue (M-43) between Golf Club Drive and Char-Anne Drive, directly across from the Bob Maxey Ford Dealership. The proposed Howell Medical Building will be located on a vacant parcel just west of, and adjacent, to the Advanced Auto Parts Store. The proposed development will consist of a new 12,798 square foot building with three (3) separate suites; one (1) doctor's office, one (1) dentist office and one (1) urgent care facility. The new development is anticipated to be completed and open for business within twelve (12) months.

Access to the Howell Medical Building development will be provided by a shared driveway with the Advanced Auto Parts Store directly east of the proposed development. The Howell Medical Building development will not have their own access to Grand River Avenue (M-43).

SCOPE OF WORK

The scope of work contained in this report is as follows:

- Analysis of existing traffic conditions on the adjoining street system, including the intersection of Advanced Auto Parts Store driveway/Bob Maxey Ford Dealership driveway and Grand River Avenue (M-43).
- Analysis of background traffic conditions for the future year (summer 2017) volumes without the proposed Howell Medical Building development.
- Projection of future traffic volumes to be generated by the proposed Howell Medical Building development.
- Evaluation of the impact of future traffic at the aforementioned intersections which will include the Howell Medical Building development traffic using the shared driveway.
- Determination of what roadway and traffic control improvements, if any, will be needed to accommodate future (summer 2017) traffic volumes.





Aerial Photo



EXISTING CONDITIONS



ROADWAYS AND INTERSECTIONS

Grand River Avenue (M-43) is an east-west, five-lane roadway, with concrete curb and gutter and sidewalks on both sides. The roadway has a center two-way left turn lane. Grand River Avenue (M-43) is under the jurisdiction of the Michigan Department of Transportation (MDOT) with a posted speed limit of 45 mph in the project area.

LAND USE

The proposed Howell Medical Building development will be located on the north side of Grand River Avenue (M-43) immediately west, and adjacent to, the Advanced Auto Parts Store. The proposed site is currently vacant property.

The land use to the east and west of the proposed site is commercial.

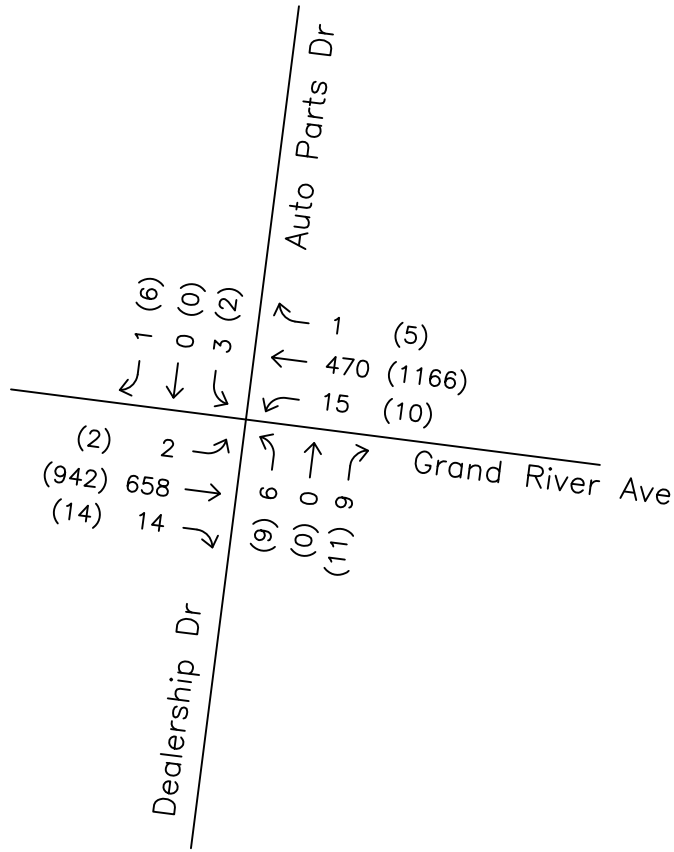



EXISTING TRAFFIC VOLUMES

TEA, Inc. conducted vehicle counts during the month of February, 2016, during the midweek, non-holiday time period at the intersection of Advanced Auto Parts Store driveway/Bob Maxey Ford Dealership driveway and Grand River Avenue (M-43).

The weekday AM and PM peak hours of existing traffic on the adjoining road system are 8:00 – 9:00 AM and 4:30 – 5:30 PM, respectively. The existing peak hour volumes are illustrated in **Figure 1**.





 <p>TRAFFIC ENGINEERING ASSOCIATES, INC. PO Box 100 Saranac, MI 48881 PHONE: (517) 627-6028 FAX: (517) 627-6040</p>	<p>LEGEND</p> <p>XXX AM Pk Hr (8:00-9:00 AM) Volumes (XXX) PM Pk Hr (4:30-5:30 PM) Volumes</p>	<p>FIGURE 1: Existing Traffic – Peak Hours</p> <p>DATE: February, 2016 SCALE: NTS</p> <p>PAGE: 7</p>
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LEVEL OF SERVICE ANALYSIS FOR EXISTING TRAFFIC

The critical intersections defined for this study were analyzed according to the methodologies published in the most recent edition of the *Highway Capacity Manual*. The analysis determines the “Level of Service” of the intersections and is based on factors such as the number and types of lanes, signal timing, traffic volumes, pedestrian activity, etc. The level of service (LOS) is defined by average vehicle delay in seconds created by a traffic control device for a given traffic movement or intersection approach.

Level of Service	Delay per Vehicle (seconds)	
	Non-Signalized	Signalized
A	< 10	<10
B	10 to 15	10 to 20
C	15 to 25	20 to 35
D	25 to 35	35 to 55
E	35 to 50	55 to 80
F	> 50	> 80

Levels of Service are expressed in a range from “A” to “F,” with “A” being the highest LOS and “F” representing the lowest LOS. Level of service “D” is considered the minimum acceptable LOS in an urban area.

The above table shows the thresholds for Levels of Service “A” through “F” for non-signalized and signalized intersections, respectively.

All Level of Service computations contained in this report were based upon the Synchro 8 software package which is approved by the Michigan Department of Transportation (MDOT). Delay per vehicle includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

The Level of Service analysis for existing traffic at the subject intersection during the AM and PM peak hours is summarized in **Table 1**. All existing turning movements at the studied intersection operate at an acceptable level of service (LOS D or better) during the AM and PM peak hours.



Table 1
Level of Service (LOS) Summary
Existing AM and PM Peak Hour Traffic

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Grand River Avenue (M-43) and the Advanced Auto Parts Store/Ford Dealership driveways	EB Left	8.7	A	11.7	B
	EB Thru-Right	0.0	A	0.0	A
	WB Left	9.9	A	10.5	B
	WB Thru-Right	0.0	A	0.0	A
	NB Left-Right	13.9	B	17.5	C
	SB Left	15.1	C	27.8	D
	SB Right	10.1	B	13.7	B
	Intersection	0.3	A	0.3	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service



BACKGROUND CONDITIONS



BACKGROUND TRAFFIC GROWTH VOLUMES

Background traffic represents future volumes without the traffic generated by the proposed Howell Medical Building development. The target year for completion is summer of 2017.

Population forecast tables obtained from the US Census Bureau estimates that Genoa Township grew at an approximate exponential growth rate of zero point two seven percent (0.27%) from 2010 to 2014. Livingston County grew at an approximate exponential growth rate of zero point six three percent (0.63%) during the same period.

This project is estimated to be completed and operational in approximately one (1) year. In accordance with Genoa Township's guidelines for a traffic impact study, no growth rate was applied to the existing traffic volumes.

BACKGROUND DEVELOPMENT TRAFFIC VOLUMES

There were no new developments in the immediate area that were identified by the Genoa Township Planning Department; therefore, background development traffic was not applied to this project.



FUTURE CONDITIONS



SITE TRAFFIC GENERATION

The trip generation rates for the Howell Medical Building development were derived from the ITE TRIP GENERATION MANUAL (9th edition). The ITE trip generation rates for Clinic (Land Use Code 630) were selected as representing the proposed 4,266 square foot suite (one-third of the total building). The ITE description of Clinic is as follows:

A clinic is any facility that provides limited diagnostic and outpatient care but is unable to provide prolonged in-house medical and surgical care. Clinics commonly have lab facilities, supporting pharmacies and a wide range of services (compared to the medical office, which may only have specialized or individual physicians).

The ITE trip generation rates for Medical-Dental Office Building (Land Use Code 720) were selected as representing the proposed two (2) suites which contain a total of 8,532 square feet (two-thirds of the total building). The ITE description of Medical-Dental Office Building is as follows:

A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility.

It is projected that the Howell Medical Building development will generate 20 vehicle trips in the AM peak hour, 54 vehicle trips in the PM peak hour, and 442 vehicle trips daily. The projected traffic to be generated by the proposed development is summarized in **Table 2**.



Table 2
Vehicle Trip Generation Summary
Proposed Howell Medical Building Development

Land Use	Size	AM Peak Hour			PM Peak Hour			Weekday 24-Hour
		In	Out	Total	In	Out	Total	
Clinic, Land Use Code 630	4,266 Sq. Ft.	N/A	N/A	N/A	9	13	22	134
Medical-Dental Office Building, Land Use Code 720	8,532 Sq. Ft.	16	4	20	9	23	32	308
Total Trips		16	4	20	18	36	54	442



FUTURE SITE TRAFFIC DISTRIBUTION

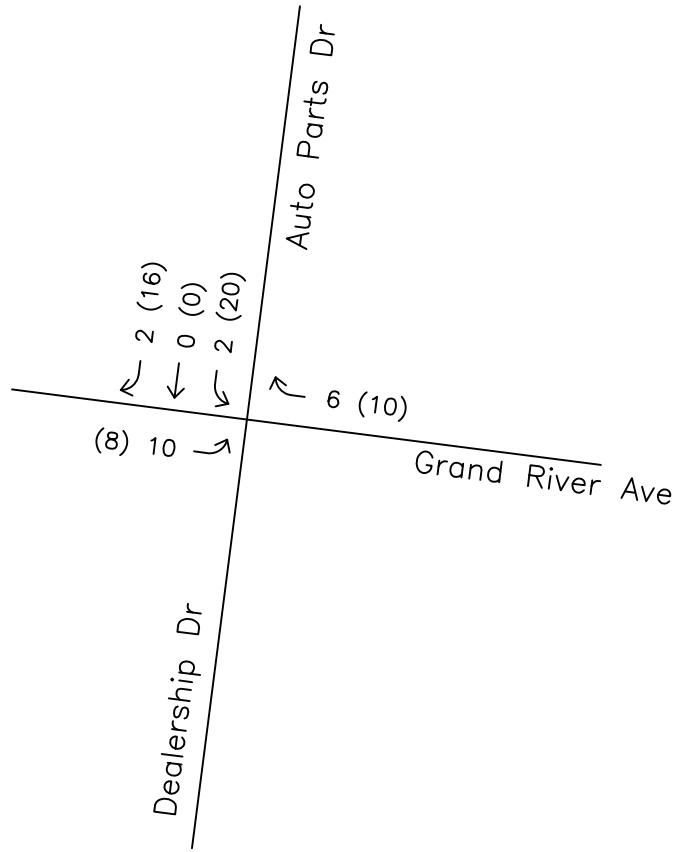
Traffic distribution was based on existing traffic patterns on Grand River Avenue (M-43), as outlined below.

Direction of Approach and Departure	AM Peak Hour Distribution	PM Peak Hour Distribution
To/From the WEST on Grand River Avenue (M-43)	40%	55%
To/From the EAST on Grand River Avenue (M-43)	60%	45%

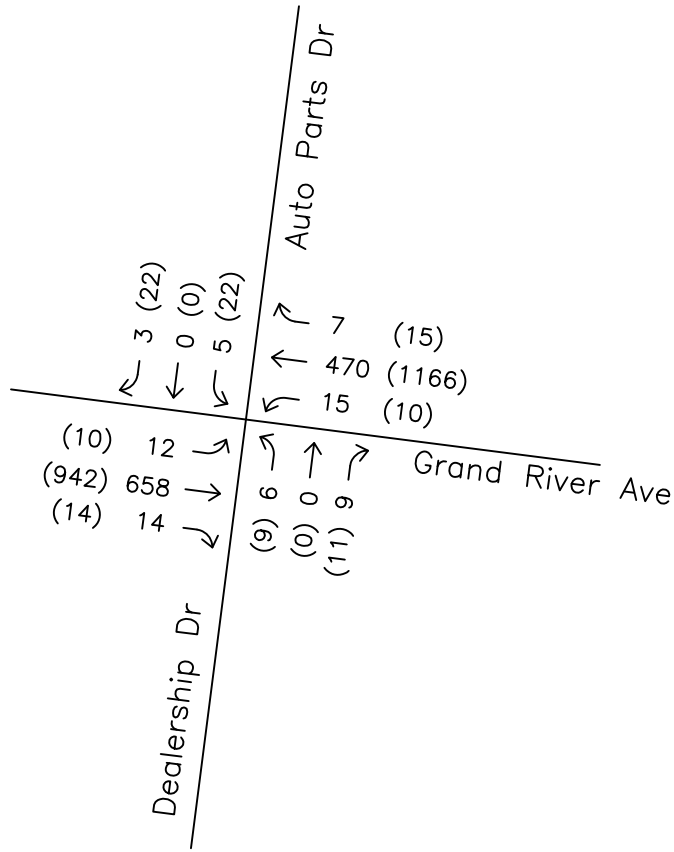
Traffic entering and exiting the proposed Howell Medical Building development was assigned to the Advanced Auto Parts driveway. The distribution of site generated traffic volumes for the future AM and PM peak hours for the Howell Medical Building development are illustrated in **Figure 2**.


Adding the site traffic (Figure 2) to the existing traffic (Figure 1) generates the total traffic volumes for the future weekday AM and PM peak hours, which are illustrated in **Figure 3**.





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	<p>DATE: February, 2016</p>	<p>SCALE: NTS</p>	<p>DATE: February, 2016</p>	<p>SCALE: NTS</p>



 <p>TRAFFIC ENGINEERING ASSOCIATES, INC. PO Box 100 Saranac, MI 48881 PHONE: (517) 627-6028 FAX: (517) 627-6040</p>	<p>LEGEND</p> <p>XXX AM Pk Hr (8:00-9:00 AM) Volumes (XXX) PM Pk Hr (4:30-5:30 PM) Volumes</p>	<p>FIGURE 3: Future Traffic - Peak Hours</p>
	<p>DATE: February, 2016</p> <p>SCALE: NTS</p>	<p>PAGE: 17</p>

LEVEL OF SERVICE ANALYSIS FOR FUTURE TRAFFIC

The level of service analysis for future AM and PM peak hour traffic is summarized in **Table 3**. For future traffic conditions, all existing geometrics and traffic control were used.

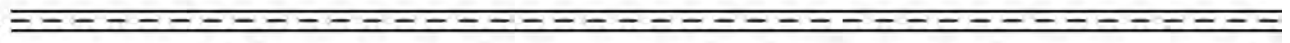
All future turning movements at the studied intersection are anticipated to operate at an acceptable level of service (LOS D or better) during the AM and PM peak hours.



Table 3
Level of Service (LOS) Summary
Existing AM and PM Peak Hour Traffic

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Grand River Avenue (M-43) and the Advanced Auto Parts Store/Ford Dealership driveways	EB Left	8.8	A	11.9	B
	EB Thru-Right	0.0	A	0.0	A
	WB Left	9.9	A	10.5	B
	WB Thru-Right	0.0	A	0.0	A
	NB Left-Right	14.2	B	18.1	C
	SB Left	15.4	C	33.7	D
	SB Right	10.2	B	14.3	B
	Intersection	0.4	A	0.9	A

Note: Delay = Average control delay per vehicle in seconds.
 LOS = Level of Service



SIGNIFICANT FINDINGS



ROAD IMPROVEMENT CONSIDERATIONS

By adding the Howell Medical Building development traffic to the Advanced Auto Parts Store driveway/Bob Maxey Ford Dealership driveway and Grand River Avenue (M-43), the future analysis shows that there is a very small increase in the vehicle delays at the intersection, with the level of service remaining the same, when comparing the existing LOS Summary to the future LOS Summary. There are no recommended improvements for this intersection.



CONCLUSIONS

The findings of this study conclude that there are no recommendations for improvements at the shared Advance Auto Parts Store driveway.



SUPPLEMENTAL INFORMATION



Supplemental Information

Site Plan
Census Population Estimates
Vehicle Volume Counts
LOS Computations





<http://www.census.gov/en.html>

Topics

Population, Economy

Geography

Maps, Products

Library

Infographics, Publications

Data

Tools, Developers

Surveys/Programs

Respond, Survey Data

Newsroom

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U.S. Census Quick Facts

QuickFacts

Genoa township, Livingston County, Michigan

QuickFacts provides statistics for all states and counties, and for cities and towns with a population of 5,000 or more.

ALL TOPICS	GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN	UNITED STATES
People		
Population		
Population estimates, July 1, 2015, (V2015)	NA	321,418,820
Population estimates, July 1, 2014, (V2014)	20,281	318,857,056
Population estimates base, April 1, 2010, (V2015)	NA	308,758,105
Population estimates base, April 1, 2010, (V2014)	19,791	308,758,105
Population, percent change - April 1, 2010 (estimates base) to July 1, 2015, (V2015)	NA	4.1%
Population, percent change - April 1, 2010 (estimates base) to July 1, 2014, (V2014)	2.5%	3.3%
Population, Census, April 1, 2010	19,821	308,745,538
Age and Sex		
Persons under 5 years, percent, July 1, 2014, (V2014)	X	6.2%
Persons under 5 years, percent, April 1, 2010	5.0%	6.5%
Persons under 18 years, percent, July 1, 2014, (V2014)	X	23.1%
Persons under 18 years, percent, April 1, 2010	24.2%	24.0%
Persons 65 years and over, percent, July 1, 2014, (V2014)	X	14.5%
Persons 65 years and over, percent, April 1, 2010	14.4%	13.0%
Female persons, percent, July 1, 2014, (V2014)	X	50.8%
Female persons, percent, April 1, 2010	51.0%	50.8%
Race and Hispanic Origin		
White alone, percent, July 1, 2014, (V2014) (a)	X	77.4%
White alone, percent, April 1, 2010 (a)	96.1%	72.4%
Black or African American alone, percent, July 1, 2014, (V2014) (a)	X	13.2%
Black or African American alone, percent, April 1, 2010 (a)	0.6%	12.6%
American Indian and Alaska Native alone, percent, July 1, 2014, (V2014) (a)	X	1.2%
American Indian and Alaska Native alone, percent, April 1, 2010 (a)	0.4%	0.9%
Asian alone, percent, July 1, 2014, (V2014) (a)	X	5.4%
Asian alone, percent, April 1, 2010 (a)	1.0%	4.8%
Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2014, (V2014) (a)	X	0.2%
Native Hawaiian and Other Pacific Islander alone, percent, April 1, 2010 (a)	Z	0.2%
Two or More Races, percent, July 1, 2014, (V2014)	X	2.5%
Two or More Races, percent, April 1, 2010	1.4%	2.9%
Hispanic or Latino, percent, July 1, 2014, (V2014) (b)	X	17.4%
Hispanic or Latino, percent, April 1, 2010 (b)	2.1%	16.3%
White alone, not Hispanic or Latino, percent, July 1, 2014, (V2014)	X	62.1%
White alone, not Hispanic or Latino, percent, April 1, 2010	94.6%	63.7%
Population Characteristics		
Veterans, 2010-2014	1,436	20,700,711
Foreign born persons, percent, 2010-2014	4.2%	13.1%
Housing		
Housing units, July 1, 2014, (V2014)	X	133,957,180
Housing units, April 1, 2010	8,418	131,704,730
Owner-occupied housing unit rate, 2010-2014	82.9%	64.4%
Median value of owner-occupied housing units, 2010-2014	\$200,700	\$175,700
Median selected monthly owner costs -with a mortgage, 2010-2014	\$1,768	\$1,522
Median selected monthly owner costs -without a mortgage, 2010-2014	\$559	\$457
Median gross rent, 2010-2014	\$986	\$920
Building permits, 2014	X	1,046,363
Families and Living Arrangements		
Households, 2010-2014	7,868	116,211,092

Traffic Engineering Associates, Inc.

PO Box 100, Saranac, MI 48881

517-627-6028

Location: Grand River at Advance Auto Dr
 City/County: Genoa Twp, Livingston Co
 Weather: Cold
 Counted By: JJ

File Name : Grand River at Advance Auto Dr - AM
 Site Code : 02031602
 Start Date : 2/3/2016
 Page No : 1

Groups Printed- Passenger - Heavy Vehicle

Start Time	Advance Auto Parts Dr From North					Grand River Avenue From East					Car Dealership Dr From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	115	0	0	115	0	0	0	0	0	0	102	0	0	102	217
07:15 AM	1	0	0	0	1	0	116	2	0	118	0	0	1	0	1	0	122	0	0	122	242
07:30 AM	0	0	0	0	0	1	85	1	0	87	1	0	0	0	1	0	170	4	0	174	262
07:45 AM	0	0	0	0	0	1	110	1	0	112	1	0	4	0	5	1	158	0	0	159	276
Total	1	0	0	0	1	2	426	4	0	432	2	0	5	0	7	1	552	4	0	557	997
08:00 AM	1	0	0	0	1	7	87	0	1	95	2	0	2	0	4	0	121	2	0	123	223
08:15 AM	0	0	1	0	1	3	92	0	0	95	1	0	2	0	3	1	170	4	0	175	274
08:30 AM	1	0	0	0	1	4	138	0	0	142	2	0	2	0	4	1	156	4	0	161	308
08:45 AM	1	0	0	0	1	1	153	1	0	155	1	0	3	0	4	0	211	4	0	215	375
Total	3	0	1	0	4	15	470	1	1	487	6	0	9	0	15	2	658	14	0	674	1180
Grand Total	4	0	1	0	5	17	896	5	1	919	8	0	14	0	22	3	1210	18	0	1231	2177
Apprch %	80	0	20	0		1.8	97.5	0.5	0.1		36.4	0	63.6	0		0.2	98.3	1.5	0		
Total %	0.2	0	0	0	0.2	0.8	41.2	0.2	0	42.2	0.4	0	0.6	0	1	0.1	55.6	0.8	0	56.5	
Passenger	3	0	1	0	4	17	845	4	1	867	8	0	14	0	22	3	1168	17	0	1188	2081
% Passenger	75	0	100	0	80	100	94.3	80	100	94.3	100	0	100	0	100	100	96.5	94.4	0	96.5	95.6
Heavy Vehicle	1	0	0	0	1	0	51	1	0	52	0	0	0	0	0	0	42	1	0	43	96
% Heavy Vehicle	25	0	0	0	20	0	5.7	20	0	5.7	0	0	0	0	0	0	3.5	5.6	0	3.5	4.4

Start Time	Advance Auto Parts Dr From North					Grand River Avenue From East					Car Dealership Dr From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	1	0	0	0	1	7	87	0	1	95	2	0	2	0	4	0	121	2	0	123	223
08:15 AM	0	0	1	0	1	3	92	0	0	95	1	0	2	0	3	1	170	4	0	175	274
08:30 AM	1	0	0	0	1	4	138	0	0	142	2	0	2	0	4	1	156	4	0	161	308
08:45 AM	1	0	0	0	1	1	153	1	0	155	1	0	3	0	4	0	211	4	0	215	375
Total Volume	3	0	1	0	4	15	470	1	1	487	6	0	9	0	15	2	658	14	0	674	1180
% App. Total	75	0	25	0		3.1	96.5	0.2	0.2		40	0	60	0		0.3	97.6	2.1	0		
PHF	.750	.000	.250	.000	1.00	.536	.768	.250	.250	.785	.750	.000	.750	.000	.938	.500	.780	.875	.000	.784	.787

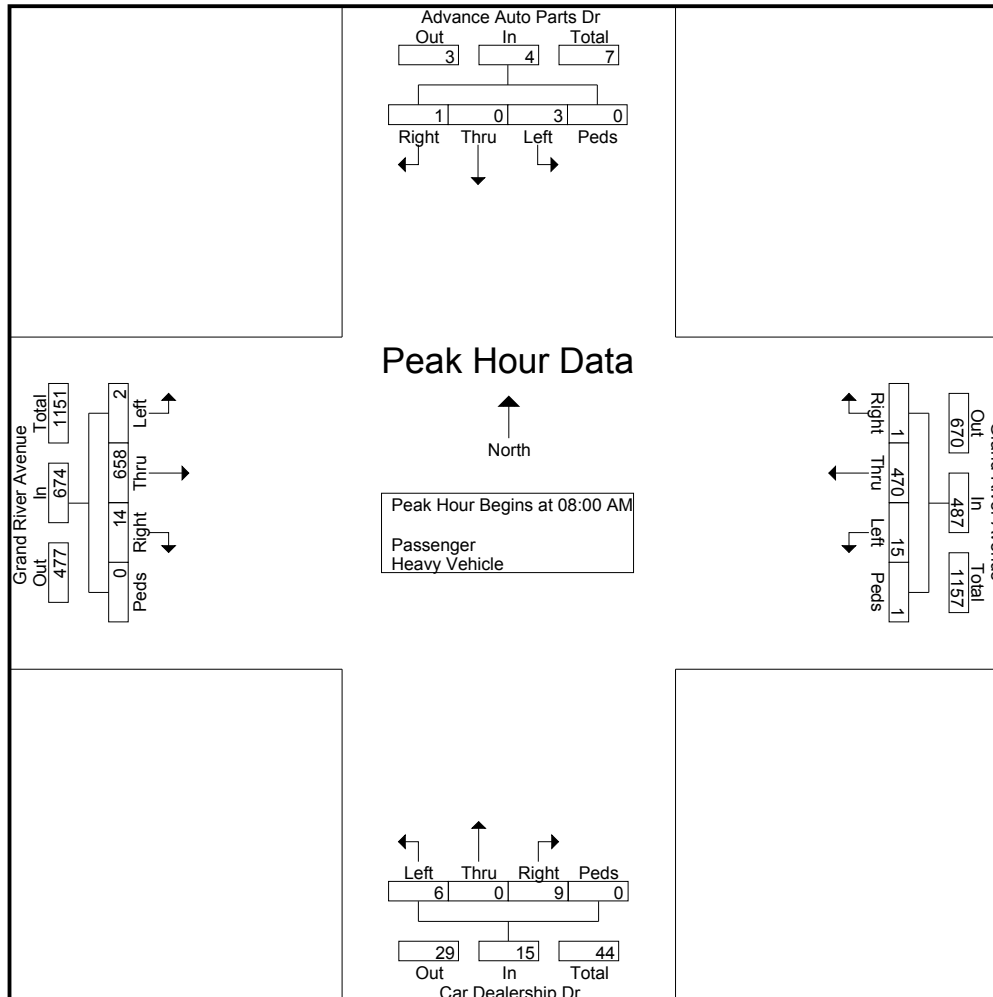
Traffic Engineering Associates, Inc.

PO Box 100, Saranac, MI 48881

517-627-6028

Location: Grand River at Advance Auto Dr
 City/County: Genoa Twp, Livingston Co
 Weather: Cold
 Counted By: JJ

File Name : Grand River at Advance Auto Dr - AM
 Site Code : 02031602
 Start Date : 2/3/2016
 Page No : 2



Traffic Engineering Associates, Inc.

PO Box 100, Saranac, MI 48881

517-627-6028

Location: Grand River at Advance Auto Dr
 City/County: Genoa Twp, Livingston Co
 Weather: Cold
 Counted By: JJ

File Name : Grand River at Advance Auto Dr - PM
 Site Code : 02021601
 Start Date : 2/2/2016
 Page No : 1

Groups Printed- Passenger - Heavy Vehicle

Start Time	Advance Auto Parts Dr From North					Grand River Avenue From East					Car Dealership Dr From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
04:00 PM	2	0	4	0	6	2	281	2	0	285	2	0	1	0	3	1	259	1	0	261	555
04:15 PM	1	0	2	0	3	2	287	3	0	292	1	0	3	0	4	1	223	3	0	227	526
04:30 PM	1	0	0	0	1	4	317	0	0	321	1	0	4	0	5	1	211	6	0	218	545
04:45 PM	0	0	4	0	4	0	284	2	0	286	2	0	3	0	5	1	212	1	0	214	509
Total	4	0	10	0	14	8	1169	7	0	1184	6	0	11	0	17	4	905	11	0	920	2135
05:00 PM	0	0	2	0	2	4	296	3	0	303	3	0	2	0	5	0	243	5	0	248	558
05:15 PM	1	0	0	0	1	2	269	0	0	271	3	0	2	0	5	0	258	2	0	260	537
05:30 PM	0	0	0	0	0	2	287	0	0	289	1	0	1	0	2	0	198	0	0	198	489
05:45 PM	0	0	0	0	0	1	271	0	0	272	1	0	0	0	1	0	192	3	0	195	468
Total	1	0	2	0	3	9	1123	3	0	1135	8	0	5	0	13	0	891	10	0	901	2052
Grand Total	5	0	12	0	17	17	2292	10	0	2319	14	0	16	0	30	4	1796	21	0	1821	4187
Apprch %	29.4	0	70.6	0		0.7	98.8	0.4	0		46.7	0	53.3	0		0.2	98.6	1.2	0		
Total %	0.1	0	0.3	0	0.4	0.4	54.7	0.2	0	55.4	0.3	0	0.4	0	0.7	0.1	42.9	0.5	0	43.5	
Passenger	5	0	12	0	17	17	2253	10	0	2280	14	0	15	0	29	4	1763	21	0	1788	4114
% Passenger	100	0	100	0	100	100	98.3	100	0	98.3	100	0	93.8	0	96.7	100	98.2	100	0	98.2	98.3
Heavy Vehicle	0	0	0	0	0	0	39	0	0	39	0	0	1	0	1	0	33	0	0	33	73
% Heavy Vehicle	0	0	0	0	0	0	1.7	0	0	1.7	0	0	6.2	0	3.3	0	1.8	0	0	1.8	1.7

Start Time	Advance Auto Parts Dr From North					Grand River Avenue From East					Car Dealership Dr From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	0	0	0	1	4	317	0	0	321	1	0	4	0	5	1	211	6	0	218	545
04:45 PM	0	0	4	0	4	0	284	2	0	286	2	0	3	0	5	1	212	1	0	214	509
05:00 PM	0	0	2	0	2	4	296	3	0	303	3	0	2	0	5	0	243	5	0	248	558
05:15 PM	1	0	0	0	1	2	269	0	0	271	3	0	2	0	5	0	258	2	0	260	537
Total Volume	2	0	6	0	8	10	1166	5	0	1181	9	0	11	0	20	2	924	14	0	940	2149
% App. Total	25	0	75	0		0.8	98.7	0.4	0		45	0	55	0		0.2	98.3	1.5	0		
PHF	.500	.000	.375	.000	.500	.625	.920	.417	.000	.920	.750	.000	.688	.000	1.00	.500	.895	.583	.000	.904	.963

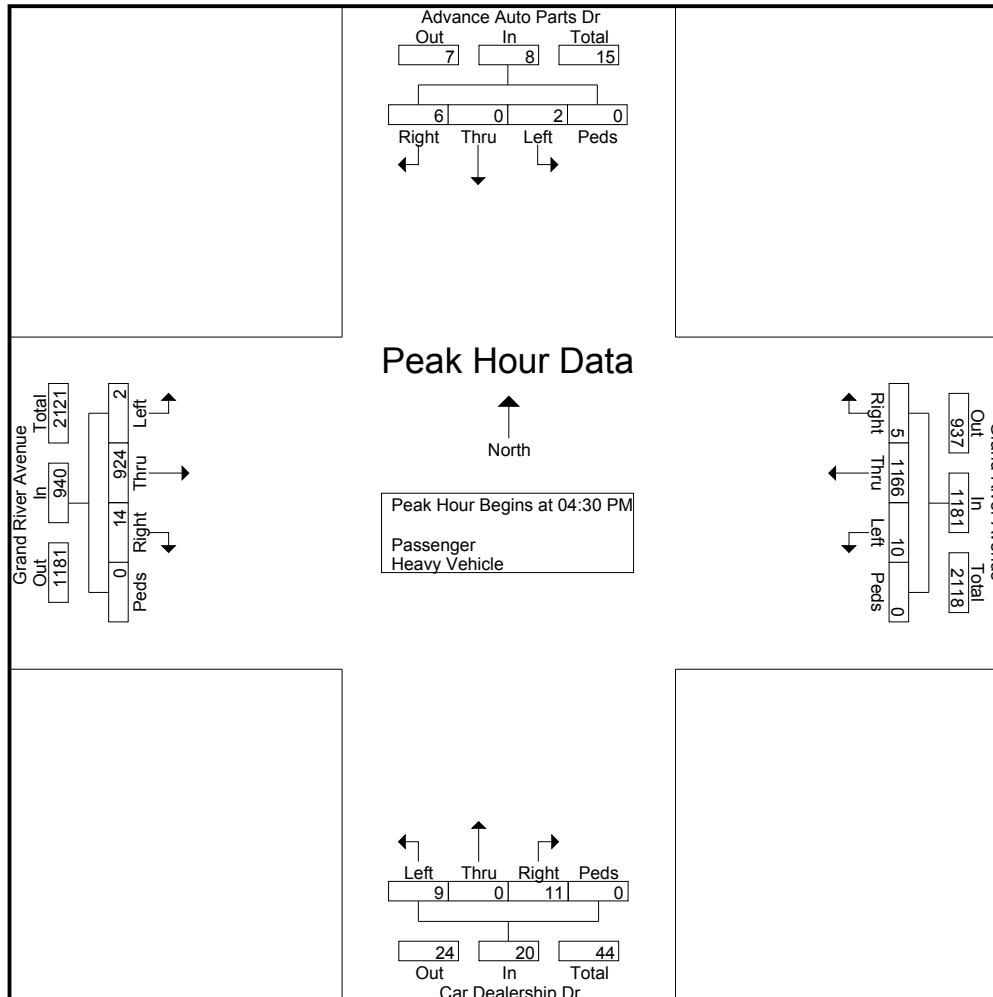
Traffic Engineering Associates, Inc.

PO Box 100, Saranac, MI 48881

517-627-6028

Location: Grand River at Advance Auto Dr
 City/County: Genoa Twp, Livingston Co
 Weather: Cold
 Counted By: JJ

File Name : Grand River at Advance Auto Dr - PM
 Site Code : 02021601
 Start Date : 2/2/2016
 Page No : 2



HCM Unsignalized Intersection Capacity Analysis

9000: Private Dr/Advanced Auto Parts Dr & Grand River Avenue

2/12/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕		↗	↖	
Volume (veh/h)	2	658	14	15	470	1	6	0	9	3	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.79	0.79	0.79	0.94	0.94	0.94	0.95	0.95	0.95
Hourly flow rate (vph)	3	844	18	19	595	1	6	0	10	3	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	596			862			1194	1492	431	1070	1500	298
vC1, stage 1 conf vol							858	858		634	634	
vC2, stage 2 conf vol							336	634		436	867	
vCu, unblocked vol	596			862			1194	1492	431	1070	1500	298
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			98	100	98	99	100	100
cM capacity (veh/h)	963			751			298	306	578	361	294	701

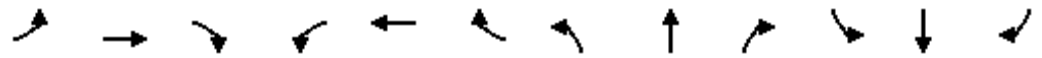
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	3	562	299	19	397	200	16	3	1
Volume Left	3	0	0	19	0	0	6	3	0
Volume Right	0	0	18	0	0	1	10	0	1
cSH	963	1700	1700	751	1700	1700	420	361	701
Volume to Capacity	0.00	0.33	0.18	0.03	0.23	0.12	0.04	0.01	0.00
Queue Length 95th (ft)	0	0	0	2	0	0	3	1	0
Control Delay (s)	8.7	0.0	0.0	9.9	0.0	0.0	13.9	15.1	10.1
Lane LOS	A			A			B	C	B
Approach Delay (s)	0.0			0.3			13.9	13.8	
Approach LOS							B	B	

Intersection Summary

Average Delay	0.3
Intersection Capacity Utilization	31.7%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 9000: Private Dr/Advanced Auto Parts Dr & Grand River Avenue

2/12/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	924	14	10	1166	5	9	0	11	2	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.95	0.95	0.95	0.65	0.65	0.65
Hourly flow rate (vph)	2	1027	16	11	1267	5	9	0	12	3	0	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1273			1042			1704	2333	521	1821	2339	636
vC1, stage 1 conf vol							1039	1039		1292	1292	
vC2, stage 2 conf vol							665	1295		529	1047	
vCu, unblocked vol	1273			1042			1704	2333	521	1821	2339	636
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			96	100	98	98	100	98
cM capacity (veh/h)	542			663			211	179	503	161	180	425

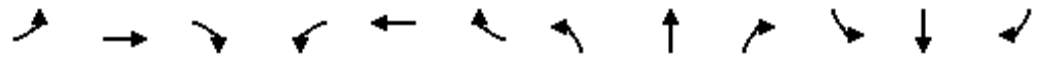
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	2	684	358	11	845	428	21	3	9
Volume Left	2	0	0	11	0	0	9	3	0
Volume Right	0	0	16	0	0	5	12	0	9
cSH	542	1700	1700	663	1700	1700	310	161	425
Volume to Capacity	0.00	0.40	0.21	0.02	0.50	0.25	0.07	0.02	0.02
Queue Length 95th (ft)	0	0	0	1	0	0	5	1	2
Control Delay (s)	11.7	0.0	0.0	10.5	0.0	0.0	17.5	27.8	13.7
Lane LOS	B			B			C	D	B
Approach Delay (s)	0.0			0.1			17.5	17.2	
Approach LOS							C	C	

Intersection Summary

Average Delay	0.3
Intersection Capacity Utilization	46.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 9000: Private Dr/Advanced Auto Parts Dr & Grand River Avenue

2/12/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	658	14	15	470	7	6	0	9	5	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.79	0.79	0.79	0.94	0.94	0.94	0.95	0.95	0.95
Hourly flow rate (vph)	15	844	18	19	595	9	6	0	10	5	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	604			862			1222	1525	431	1099	1530	302
vC1, stage 1 conf vol							883	883		637	637	
vC2, stage 2 conf vol							339	642		462	892	
vCu, unblocked vol	604			862			1222	1525	431	1099	1530	302
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			97			98	100	98	99	100	100
cM capacity (veh/h)	956			751			284	294	578	352	284	697

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	15	562	299	19	397	207	16	5	3
Volume Left	15	0	0	19	0	0	6	5	0
Volume Right	0	0	18	0	0	9	10	0	3
cSH	956	1700	1700	751	1700	1700	409	352	697
Volume to Capacity	0.02	0.33	0.18	0.03	0.23	0.12	0.04	0.01	0.00
Queue Length 95th (ft)	1	0	0	2	0	0	3	1	0
Control Delay (s)	8.8	0.0	0.0	9.9	0.0	0.0	14.2	15.4	10.2
Lane LOS	A			A			B	C	B
Approach Delay (s)	0.2			0.3			14.2	13.4	
Approach LOS							B	B	

Intersection Summary		
Average Delay		0.4
Intersection Capacity Utilization	31.7%	ICU Level of Service
Analysis Period (min)		15
		A

HCM Unsignalized Intersection Capacity Analysis

9000: Private Dr/Advanced Auto Parts Dr & Grand River Avenue

2/12/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	924	14	10	1166	15	9	0	11	22	0	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.95	0.95	0.95	0.65	0.65	0.65
Hourly flow rate (vph)	11	1027	16	11	1267	16	9	0	12	34	0	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1284			1042			1746	2362	521	1844	2362	642
vC1, stage 1 conf vol							1057	1057		1297	1297	
vC2, stage 2 conf vol							689	1305		547	1064	
vCu, unblocked vol	1284			1042			1746	2362	521	1844	2362	642
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			95	100	98	79	100	92
cM capacity (veh/h)	536			663			197	171	503	159	176	422

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	11	684	358	11	845	439	21	34	34
Volume Left	11	0	0	11	0	0	9	34	0
Volume Right	0	0	16	0	0	16	12	0	34
cSH	536	1700	1700	663	1700	1700	296	159	422
Volume to Capacity	0.02	0.40	0.21	0.02	0.50	0.26	0.07	0.21	0.08
Queue Length 95th (ft)	2	0	0	1	0	0	6	19	7
Control Delay (s)	11.9	0.0	0.0	10.5	0.0	0.0	18.1	33.7	14.3
Lane LOS	B			B			C	D	B
Approach Delay (s)	0.1			0.1			18.1	24.0	
Approach LOS							C	C	

Intersection Summary

Average Delay	0.9
Intersection Capacity Utilization	47.2%
ICU Level of Service	A
Analysis Period (min)	15

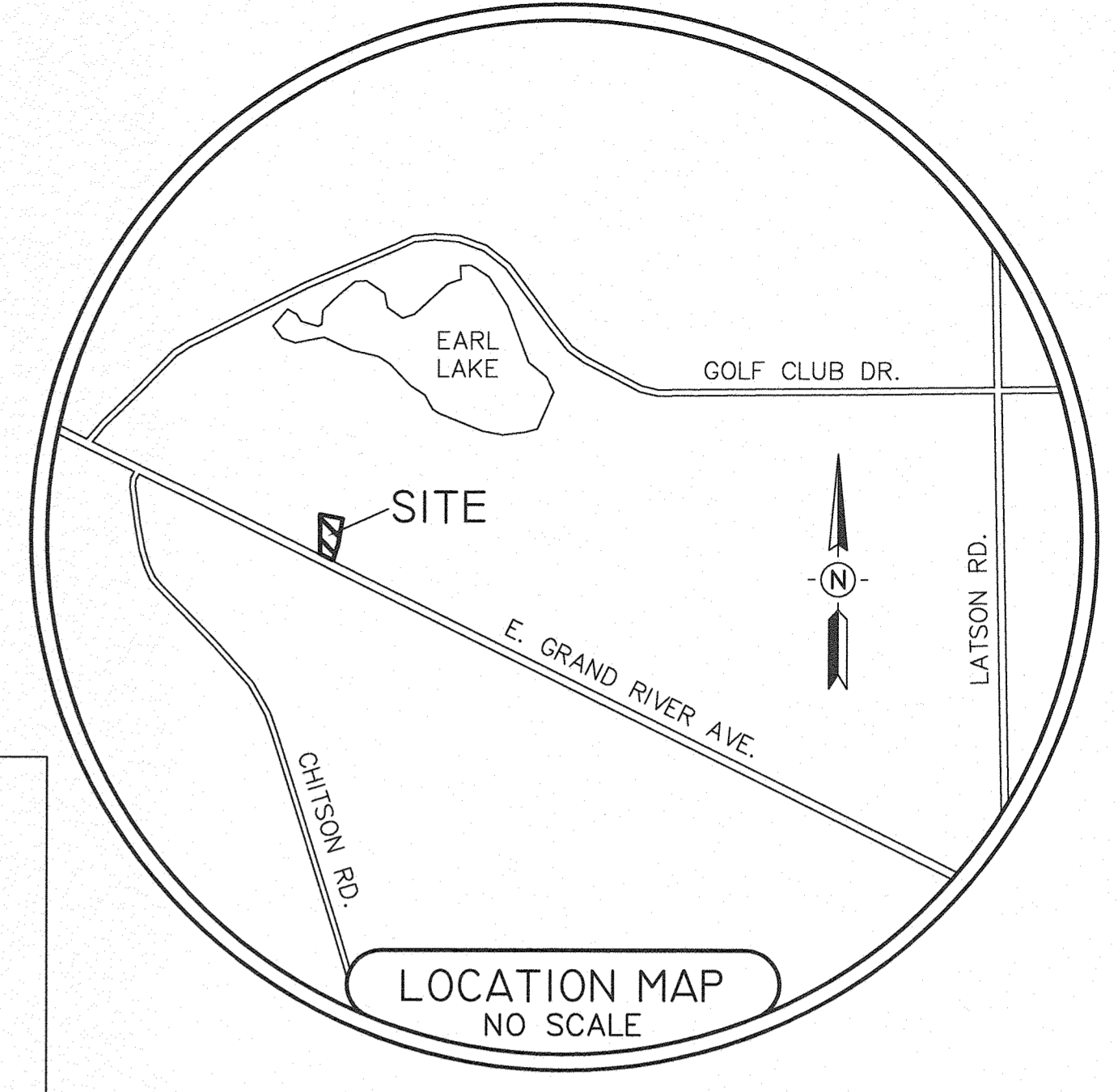
Howell Medical Building

COUNTY OF LIVINGSTON, TOWNSHIP OF GENOA, MICHIGAN

ARCHITECT/CLIENT:
 Studio Intrigue Architects, LLC
 114 S. WASHINGTON AVE., STE 100
 LANSING, MICHIGAN 48910-1649
 PH: (517) 372-8804

APPLICANT/OWNER:
 Howell Family Dentist
 2765 E. GRAND RIVER
 HOWELL, MICHIGAN
 PH: (517) 546-3440

ENGINEER/SURVEYOR:
 KEBS, Inc.
 2116 HASLETT RD.
 HASLETT, MI. 48840
 PH: (517) 339-1014



Legal Description (as provided):
 Land in the County of Livingston, Township of Genoa, State of Michigan is described as follows: A part of the Northeast fractional quarter of Section 6, Town 2 North, Range 5 East, Michigan, described as follows: Commencing at the East 1/4 corner of said Section 6; thence North 1 degrees 17 minutes 20 seconds East 673.30 feet along the East Section line to the Northerly right-of-way line of Grand River Avenue (70 1/2 feet wide); thence North 61 degrees 40 minutes 16 seconds West 1686.45 Feet along said right-of-way line to the westerly right-of-way line of a 66 foot wide private road easement for ingress and egress as recorded in Liber 582, Page 33, Livingston County Records and the point of beginning of this parcel to be described; thence continuing North 61 degrees 40 minutes 16 seconds West 141.06 feet along said Northerly right-of-way line of Grand River Avenue to the Southeast corner of "Earl Lake Heights No. 1", a subdivision as duly laid out, platted and recorded in Liber 7 of Plats, Page 8, Livingston County Records; thence North 2 degrees 25 minutes 39 seconds East 226.04 feet along said subdivision line; thence continuing along said subdivision line North 7 degrees 38 minutes 16 seconds East 156.70 feet; thence South 76 degrees 45 minutes 35 seconds East 224.91 feet; thence South 12 degrees 11 minutes 55 seconds West 277.29 feet to the Northerly right-of-way line of said private road easement; thence North 73 degrees 59 minutes 53 seconds West 4.75 feet along said right-of-way line to the Westerly right-of-way line of said private road easement; thence South 19 degrees 36 minutes 21 seconds West 136.07 feet along said right-of-way line to the point of beginning.

SPECIFICATIONS

SANITARY SEWERS

- All sanitary sewer construction and testing shall comply with the Construction Standards of Genoa Township and MHOG standards and shall be subject to the inspection and approval of the Township.
- All sanitary sewer pipe shall be PVC SDR 26 with "0" ring joints.
- All pipe to be laid with the aid of laser equipment.
- All sanitary sewer manholes shall be in accordance with Construction Standards of Genoa Township and MHOG.
- Trench width shall be maintained to a point at least 12" above the top of the pipe to ensure bedding conditions.
- All sanitary sewer leads shall be 6" PVC SDR 35 at a minimum of 1%.

STORM SEWER

- All on site storm sewer shall be HDPE N-12 or equal, storm sewer in public road R.O.W. shall be RCP C-76 CL III or Higher
- All pipe to be laid with the aid of laser equipment.
- All storm sewer manholes and catch basins shall be in accordance with the Livingston County Drain Commission Standards. Structures shall be precast ASTM C478 with the reinforced precast concrete adjusting rings for final grade adjustments.
- Curb castings shall be Neenah R-3236 or EJW 7040.
- All catch basins and yard drains shall have a three foot deep sump.

WATER SYSTEM

- All water system construction and testing shall comply with the Construction Standards of Genoa Township and shall be subject to the inspection and approval of the Township Engineer
- All water main shall be Ductile Iron Cl. 52, cement lined, push joint pipe, laid with a minimum of 5.5' of cover.
- All gate valves shall be in accordance with the requirements of Genoa Township.
- All fire hydrants shall meet Genoa Township standards.
- All water main shall have a minimum of 10 feet of horizontal separation from sewers and a minimum of 18 inches of vertical separation where water main and sewer lines cross.
- Retainer glands shall be used at all fitting connections. MEGA-Lug or equal retainer glands are to be used.
- All water main shall be encased in Polyethylene wrap.
- Watermain deflections @ joints are not to exceed the manufacturers recommended deflection limits.
- Contractor must have 5.5' of cover on watermain before approval to use.
- If the water service taps are made before the water main has been accepted by the Twp, the taps and service lines need to be included in the pressure testing process.
- All water service lines are to be a minimum of 1" type 'K' copper.

STREETS

- All construction within an existing or proposed public R.O.W. (Grand River) shall comply with the requirements of MDOT and be subject to their inspection and approval.
- All disturbed areas between the curb and the road right of way shall be covered with 3" of top soil, seeded and mulched unless otherwise noted.
- All Radii shall be 25' unless noted.
- All roadway subgrade is to be compacted to 95% max. density and the base and subbase materials to 98% max. density.

SIDEWALK

- All side walk construction shall be in accordance with the requirements of Genoa Township.

GENERALS

- Information on depth, size, etc., of all other underground utilities shown herein is plan information only, obtained from the utility company involved. Prior to any final designing or construction. It is recommended that all utility companies, agencies, departments, etc., involved be contacted for verification of such locations.
- The locations, size and elevation of sewers and related structures shown herein, were obtained through field observation. Kebs, Inc., is not responsible for information on any other sewers, drains or related structures not found and not shown hereon, that may cross, parallel, lie contiguous to or service this site.
- For protection of underground utilities, the contractor shall dial 800-482-7171 a minimum of 72 hours prior to excavating in the vicinity of utility lines. All "MISS DIG" participating members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "MISS DIG" alert system.
- All existing roads, driveways and yards disturbed during construction shall be restored by the contractor to its original condition.
- All sewer pipe shall be bedded with CL II granular material. Class II material shall be used in backfilling all sewer trenches to 1' above the sewer pipe.
- All backfill of trenches within the influence of roadways and sidewalks shall be MDOT CL II sand, compacted to 95% density. Equipment such as a small dozer in the trenches and a hoe-pack around the structures will be required, or equipment capable of reaching 95% density and all required trenches.
- Contractor shall be responsible for obtaining all permits required for construction.
- "Contractor shall be responsible for maintaining as-built drawings for the entire project including all utility locations and elevations and surface locations and elevations. These will be provided to the City on a CD in Acad release 14 or newer prior to acceptance of the project."
- All work to be performed in a workmanlike manner.

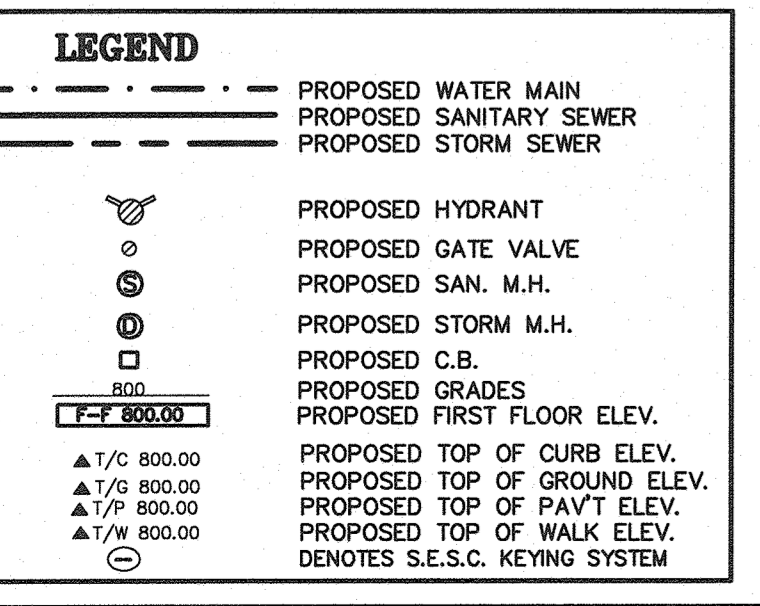
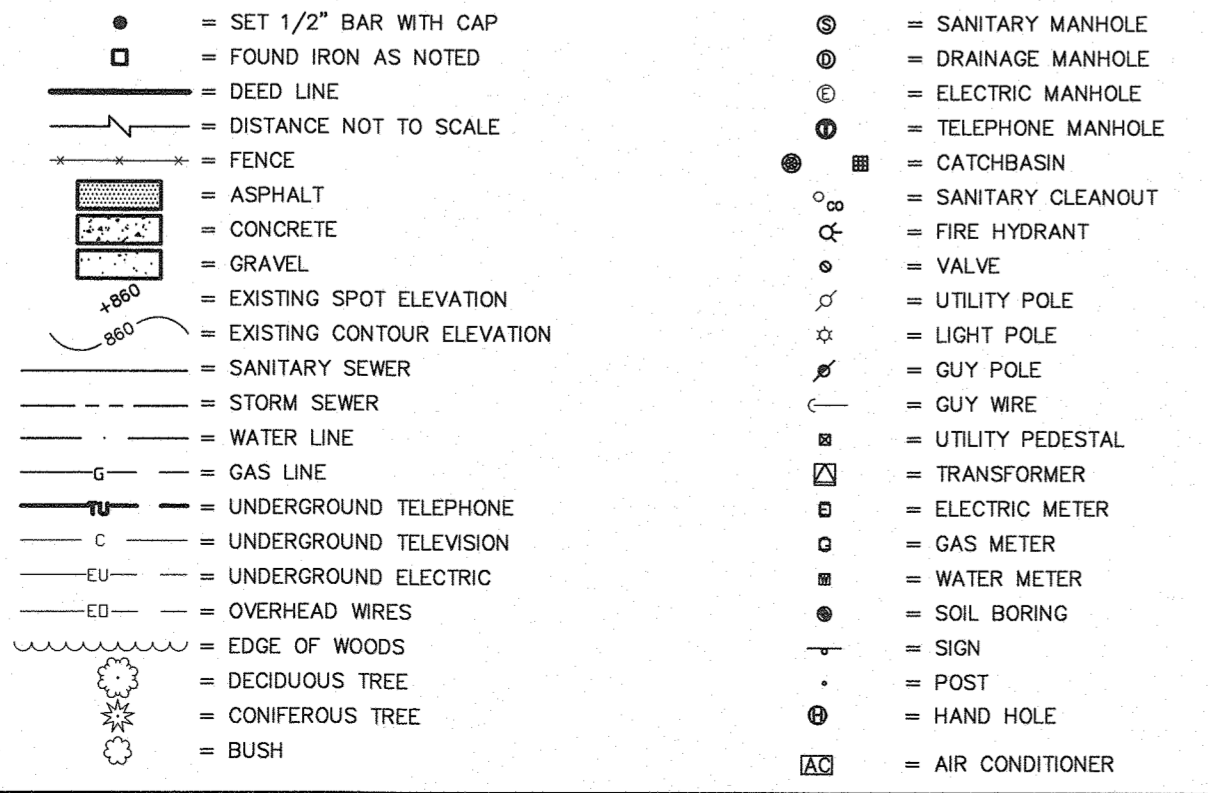
ABBREVIATION CONVERSION CHART

& - AND	LF - LINEAR FEET
@ - AT	L.P. - LOW POINT
BM - BENCHMARK	M.H. - MANHOLE
BIT - BITUMINOUS	MIN - MINIMUM
C.B. - CATCH BASIN	N - NORTH
C.H. - CHORD	# - NUMBER
C/L - CENTERLINE	NO. - NUMBER
CL - CLASS	PAV'T - PAVEMENT
C.O. - CLEAN OUT	PERP - PERPENDICULAR
CONC. - CONCRETE	± - PLUS OR MINUS
CMP - CORRUGATED METAL PIPE	PC - POINT OF CURVE
CULV'T - CULVERT	PT - POINT OF TANGENT
DIA - DIAMETER	PROP - PROPOSED
E - EAST	RT - RIGHT
ELEV - ELEVATION	R.O.W. - RIGHT OF WAY
EX - EXISTING	SA - SANITARY
EXT. - EXISTING	SAN - SANITARY
EXIST. - EXISTING	S - SOUTH
F-F - FACE TO FACE	SY - SQUARE YARD
F-F - FIRST FLOOR ELEV.	SQ. FT. - SQUARE FEET
G.V. - GATE VALVE	STA - STATION
GA - GAUGE	ST. - STORM
HYD - HYDRANT	STM. - STORM
I.E. - INVERT	T/CAS - TOP OF CASTING
LN - LANE	T/C - TOP OF CURB
LT - LEFT	T/G - TOP OF GROUND
	T/P - TOP OF PAVEMENT
	T/W - TOP OF WALK
	TYP - TYPICAL
	W - WEST
	W/ - WITH

EX. INVENTORY:

- CATCH BASIN #196
RIM ELEV. = 973.19
12" CONC. SE INV. = 968.69
- CATCH BASIN #197
RIM ELEV. = 974.63
12" CONC. SE INV. = 971.33
- CATCH BASIN #207
RIM ELEV. = 977.74
12" CONC. NE INV. = 972.44
12" CONC. SE INV. = 972.34
- CATCH BASIN #280
RIM ELEV. = 979.23
12" CONC. NE INV. = 973.51
12" CONC. SW INV. = 973.43
- SANITARY MANHOLE #425
RIM ELEV. = 879.95
12" PVC SE INV. = 869.45
12" PVC NW INV. = 866.25
- CATCH BASIN #440
RIM ELEV. = 967.61
12" CONC. NE INV. = 963.11
12" CONC. SW INV. = 963.26
12" CONC. NW INV. = 963.21

EX. LEGEND



BENCHMARK #1 ELEV. = 976.21
 NORTHEAST FLANGE BOLT OF HYDRANT
 APPROXIMATELY 30 FEET SOUTHWEST OF
 SOUTHWEST PROPERTY CORNER AND
 APPROXIMATELY 13' NORTHEAST OF NORTHEAST
 BACK OF CURB OF GRAND RIVER AVENUE.

BENCHMARK #2 ELEV. = 981.03
 SOUTHEAST FLANGE BOLT OF FIRE HYDRANT
 APPROXIMATELY 68 FEET SOUTHEAST OF
 PROPERTY AND APPROXIMATELY 120' NORTHEAST
 OF NORTHEAST CURBLINE OF GRAND RIVER
 AVENUE.



SHEET INDEX

- COVER SHEET
- SITE & UTILITY PLAN
- STORM & GRADING PLAN
- SOIL EROSION PLAN
- EXISTING CONDITIONS PLAN
- DETAILS

ATTACHMENTS:
 MHOG DETAILS
 LANDSCAPING PLANS (BY OTHERS)
 STORM SEWER CALCULATIONS

TAX ID# 11-06-200-068
 ADDRESS: 2765 E. GRAND RIVER., HOWELL, MICHIGAN

	KEBS, INC. KYES ENGINEERING BRYAN LAND SURVEYS 2116 HASLETT ROAD, HASLETT, MI 48840 PH. 517-339-1014 FAX. 517-339-8047 Marshall Office Ph. 269-781-8800
	Howell Medical Building COVER SHEET SCALE: 1" = 30' DATE: 10-30-15 AUTHORIZED BY: Studio Intrigue Architects, LLC
REVISIONS 2-15-16 CLIENT REVIEW 3-2-16 SITE PLAN REVIEW 3-23-16 SITE PLAN REVISIONS	DESIGNER: GAP PROJECT MGR: GAP APPROVED BY: GAP SHEET 1 OF 6 JOB #: 89814

SITE DATA

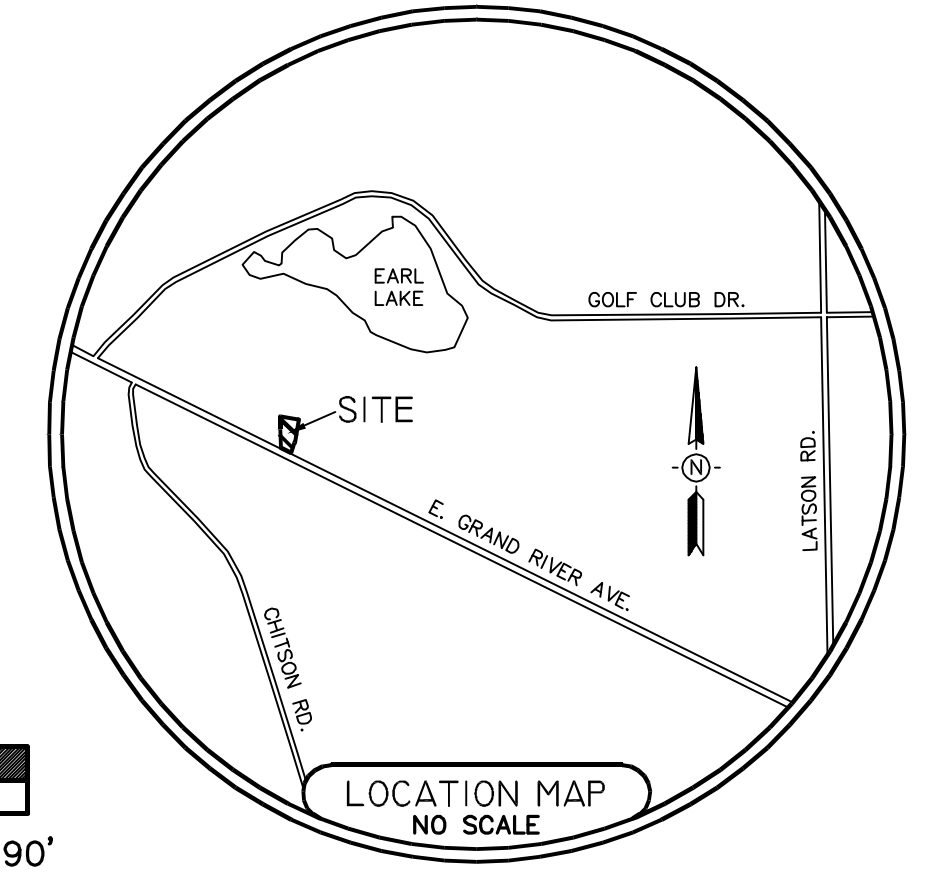
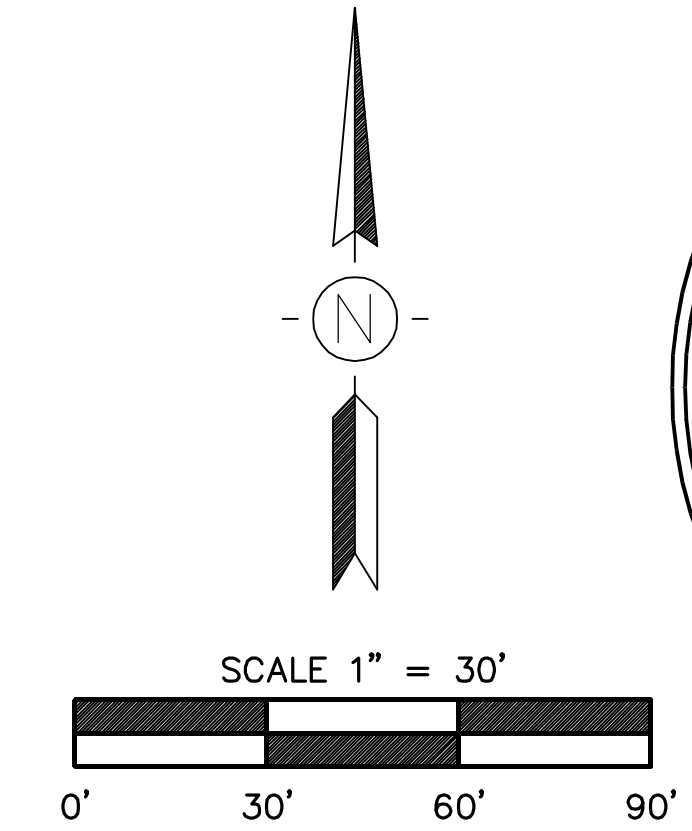
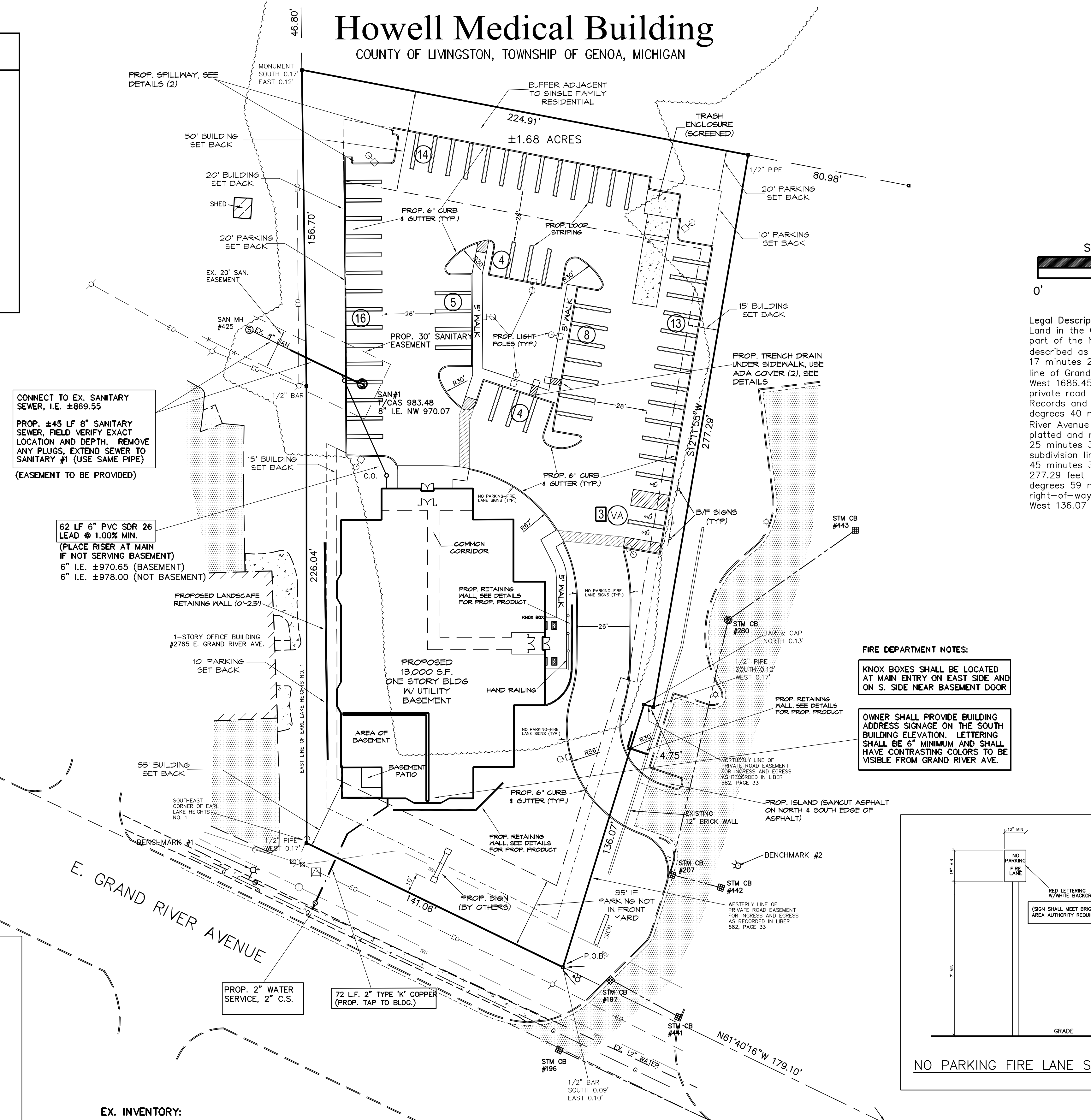
ZONING: GENERAL COMMERCIAL
 ADJACENT ZONING:
 NORTH: LOW DENSITY RESIDENTIAL (LDR)
 SOUTH: GENERAL COMMERCIAL (GC)
 EAST: GENERAL COMMERCIAL (GC)
 WEST: SUBURBAN RESIDENTIAL (SR), GENERAL COMMERCIAL (GC)
 BUILDING COVERAGE
 MAX ALLOWED: 55%
 PROPOSED: 12,798.25 SF/73,097.42 SF = 17.54%
 IMPERVIOUS COVERAGE
 MAX ALLOWED: 75%
 PROPOSED: 43,705 SF/73,097.42 SF = 59.79%

PARKING DATA

GENOA TWP. PARKING REQUIREMENTS:
 MEDICAL OFFICES OF DOCTORS/DENTIST:
 1 SPACE : 200 SF (GROSS)
 13,000 SF (GROSS) / 200 SF (GROSS) = 65 SPACES
 65 SPACES REQUIRED
 66 SPACES PROVIDED
 BARRIER FREE PARKING:
 51-75 SPACES = 3 REQUIRED B.F. SPACES
 3 BARRIER FREE SPACES REQUIRED
 3 BARRIER FREE SPACES PROVIDED

Howell Medical Building

COUNTY OF LIVINGSTON, TOWNSHIP OF GENOA, MICHIGAN



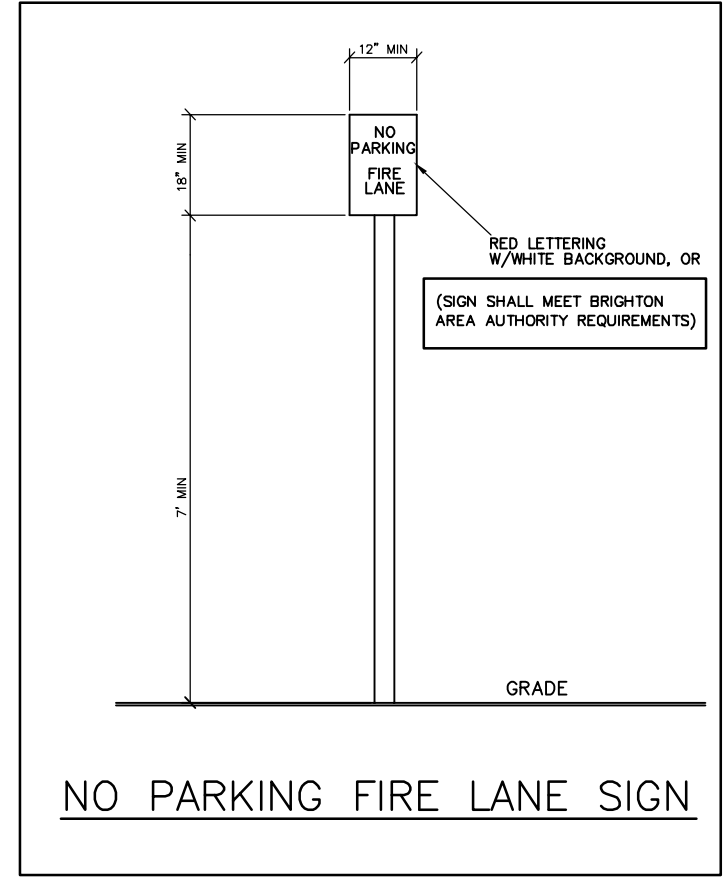
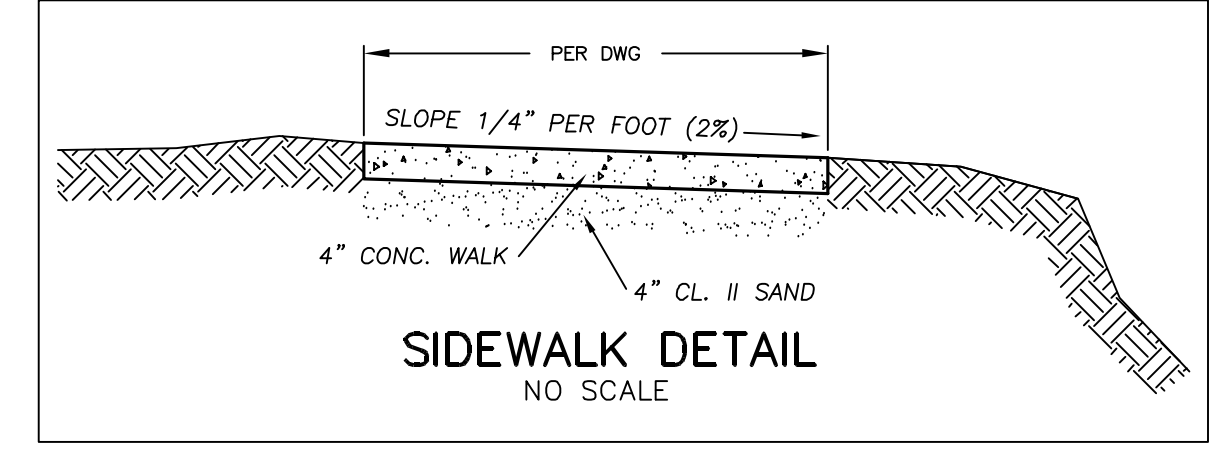
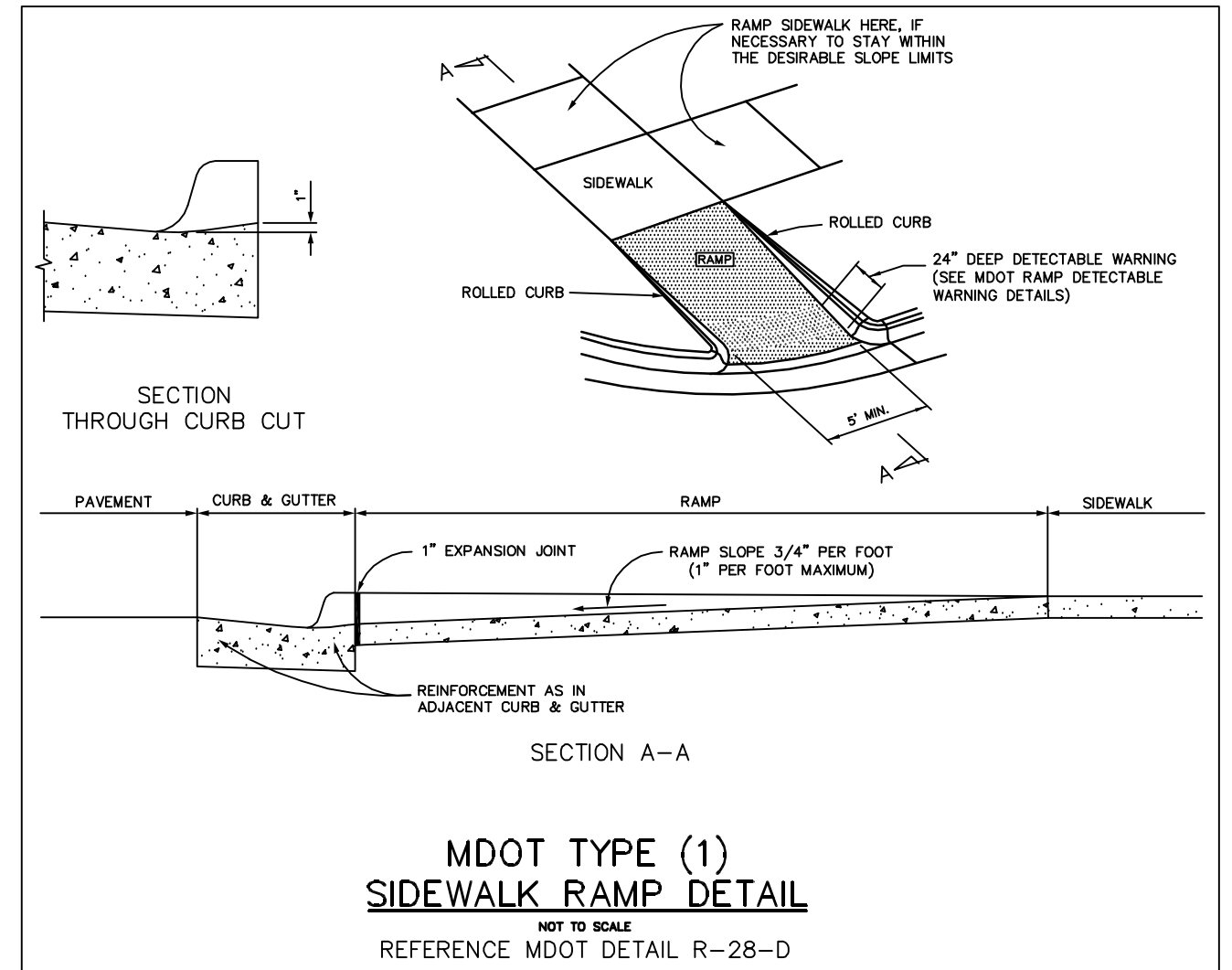
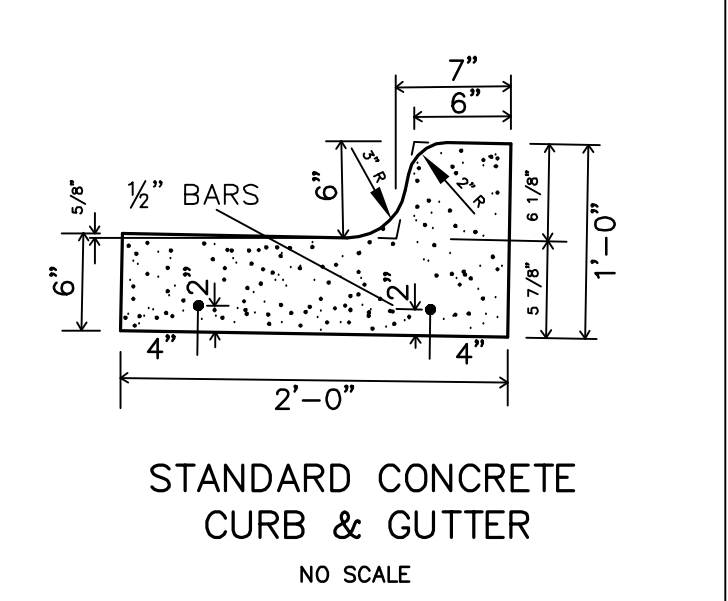
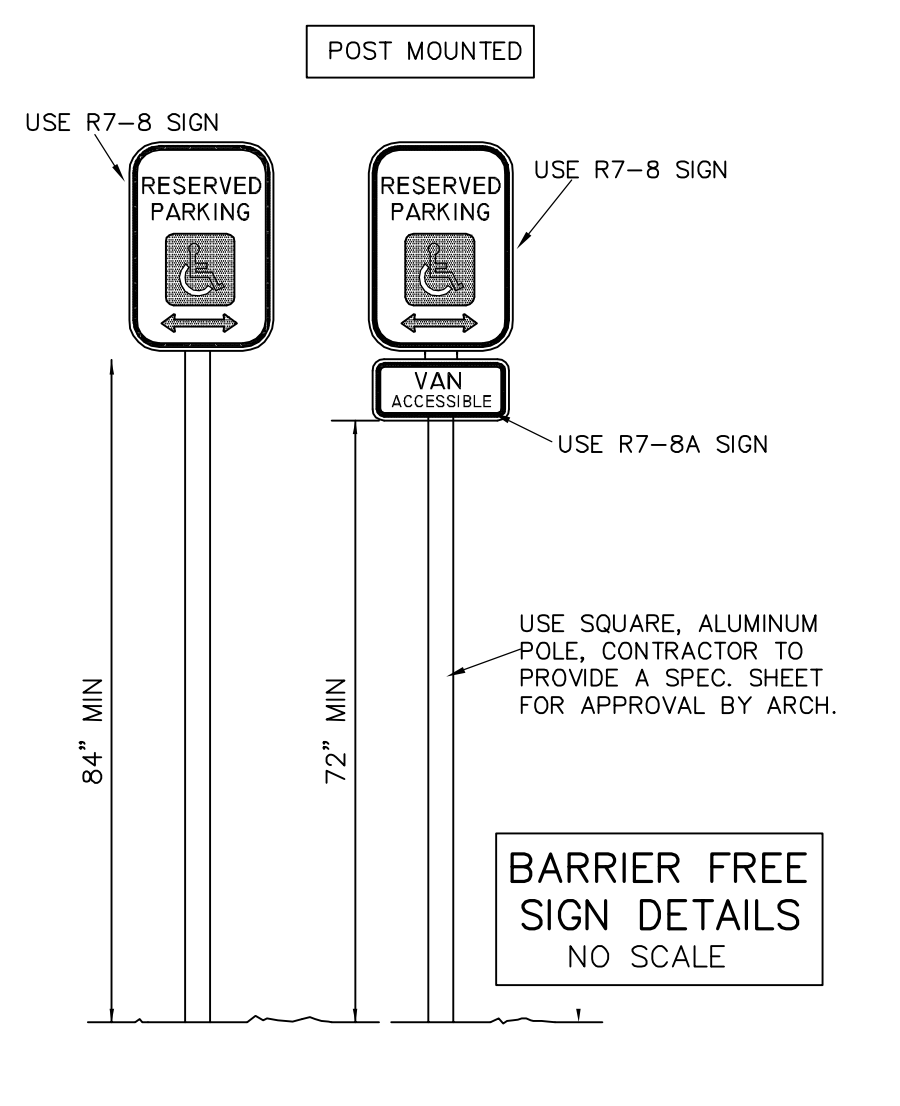
Legal Description (as provided):
 Land in the County of Livingston, Township of Genoa, State of Michigan is described as follows: A part of the Northeast fractional quarter of Section 6, Town 2 North, Range 5 East, Michigan, described as follows: Commencing at the East 1/4 corner of said Section 6; thence North 1 degree 17 minutes 20 seconds East 673.30 feet along the East Section line to the Northerly right-of-way line of Grand River Avenue (70 1/2 feet wide); thence North 61 degrees 40 minutes 16 seconds West 1686.45 feet along said right-of-way line to the westerly right-of-way line of a 66 foot wide private road easement for ingress and egress as recorded in Liber 582, Page 33, Livingston County Records and the point of beginning of this parcel to be described; thence continuing North 61 degrees 40 minutes 16 seconds West 141.06 feet along said Northerly right-of-way line of Grand River Avenue to the Southeast corner of "Earl Lake Heights No. 1", a subdivision as duly laid out, plotted and recorded in Liber 7 of Plats, Page 8, Livingston County Records; thence North 2 degrees 25 minutes 39 seconds East 226.04 feet along said subdivision line; thence continuing along said subdivision line North 7 degrees 38 minutes 16 seconds East 156.70 feet; thence South 76 degrees 45 minutes 35 seconds East 224.91 feet; thence South 12 degrees 11 minutes 55 seconds West 277.29 feet to the Northerly right-of-way line of said private road easement; thence North 73 degrees 59 minutes 53 seconds West 4.75 feet along said right-of-way line to the Westerly right-of-way line of said private road easement; thence South 19 degrees 36 minutes 21 seconds West 136.07 feet along said right-of-way line to the point of beginning.

CONNECT TO EX. SANITARY SEWER, I.E. ±869.55
 PROP. ±45 LF 8" SANITARY SEWER, FIELD VERIFY EXACT LOCATION AND DEPTH. REMOVE ANY PLUGS, EXTEND SEWER TO SANITARY #1 (USE SAME PIPE) (EASEMENT TO BE PROVIDED)

62 LF 6" PVC SDR 26 LEAD @ 1.00% MIN. (PLACE RISER AT MAIN IF NOT SERVING BASEMENT)
 6" I.E. ±970.65 (BASEMENT)
 6" I.E. ±978.00 (NOT BASEMENT)

FIRE DEPARTMENT NOTES:
 KNOX BOXES SHALL BE LOCATED AT MAIN ENTRY ON EAST SIDE AND ON S. SIDE NEAR BASEMENT DOOR

OWNER SHALL PROVIDE BUILDING ADDRESS SIGNAGE ON THE SOUTH BUILDING ELEVATION. LETTERING SHALL BE 6" MINIMUM AND SHALL HAVE CONTRASTING COLORS TO BE VISIBLE FROM GRAND RIVER AVE.



NOTE: WATER SHALL HAVE 10' HORIZONTAL SEPARATION & 18" VERTICAL SEPARATION FROM ALL SEWERS.

LEGEND

—	PROPOSED WATER MAIN
—	PROPOSED SANITARY SEWER
—	PROPOSED STORM SEWER
⊙	PROPOSED HYDRANT
⊙	PROPOSED GATE VALVE
⊙	PROPOSED SAN. M.H.
⊙	PROPOSED STORM M.H.
⊙	PROPOSED C.B.
⊙	PROPOSED GRADES
⊙	PROPOSED FIRST FLOOR ELEV.
▲	PROPOSED TOP OF CURB ELEV.
▲	PROPOSED TOP OF GROUND ELEV.
▲	PROPOSED TOP OF PAVT ELEV.
▲	PROPOSED TOP OF WALK ELEV.
⊙	DENOTES S.E.S.C. KEYING SYSTEM

EX. LEGEND

⊙	SET 1/2" BAR WITH CAP	⊙	SANITARY MANHOLE
⊙	FOUND IRON AS NOTED	⊙	DRAINAGE MANHOLE
—	DEED LINE	⊙	TELEPHONE MANHOLE
—	DISTANCE NOT TO SCALE	⊙	CATCHBASIN
—	FENCE	⊙	FIRE HYDRANT
—	ASPHALT	⊙	VALVE
—	CONCRETE	⊙	UTILITY POLE
—	EXISTING CONTOUR ELEVATION	⊙	LIGHT POLE
—	SANITARY SEWER	⊙	GUY WIRE
—	STORM SEWER	⊙	UTILITY PEDESTAL
—	UNDERGROUND TELEPHONE	⊙	TRANSFORMER
—	OVERHEAD WIRES		
—	EDGE OF WOODS		

EX. INVENTORY:

CATCH BASIN #196	RIM ELEV. = 973.19	12" CONC. SE INV. = 968.69
CATCH BASIN #197	RIM ELEV. = 974.63	12" CONC. SE INV. = 971.33
CATCH BASIN #207	RIM ELEV. = 977.74	12" CONC. NE INV. = 972.44
CATCH BASIN #280	RIM ELEV. = 979.23	12" CONC. SW INV. = 973.43
SANITARY MANHOLE #425	RIM ELEV. = 879.95	12" PVC SE INV. = 869.45
CATCH BASIN #440	RIM ELEV. = 967.61	12" CONC. NE INV. = 963.11
		12" CONC. SW INV. = 963.26
		12" CONC. NW INV. = 963.21

BENCHMARK #1 ELEV. = 976.21
 NORTHEAST FLANGE BOLT OF HYDRANT APPROXIMATELY 30 FEET SOUTHWEST OF SOUTHWEST PROPERTY CORNER AND APPROXIMATELY 13' NORTHEAST OF NORTHEAST BACK OF CURB OF GRAND RIVER AVENUE.

BENCHMARK #2 ELEV. = 981.03
 SOUTHEAST FLANGE BOLT OF FIRE HYDRANT APPROXIMATELY 68 FEET SOUTHWEST OF PROPERTY AND APPROXIMATELY 120' NORTHEAST OF NORTHEAST CURBLINE OF GRAND RIVER AVENUE.

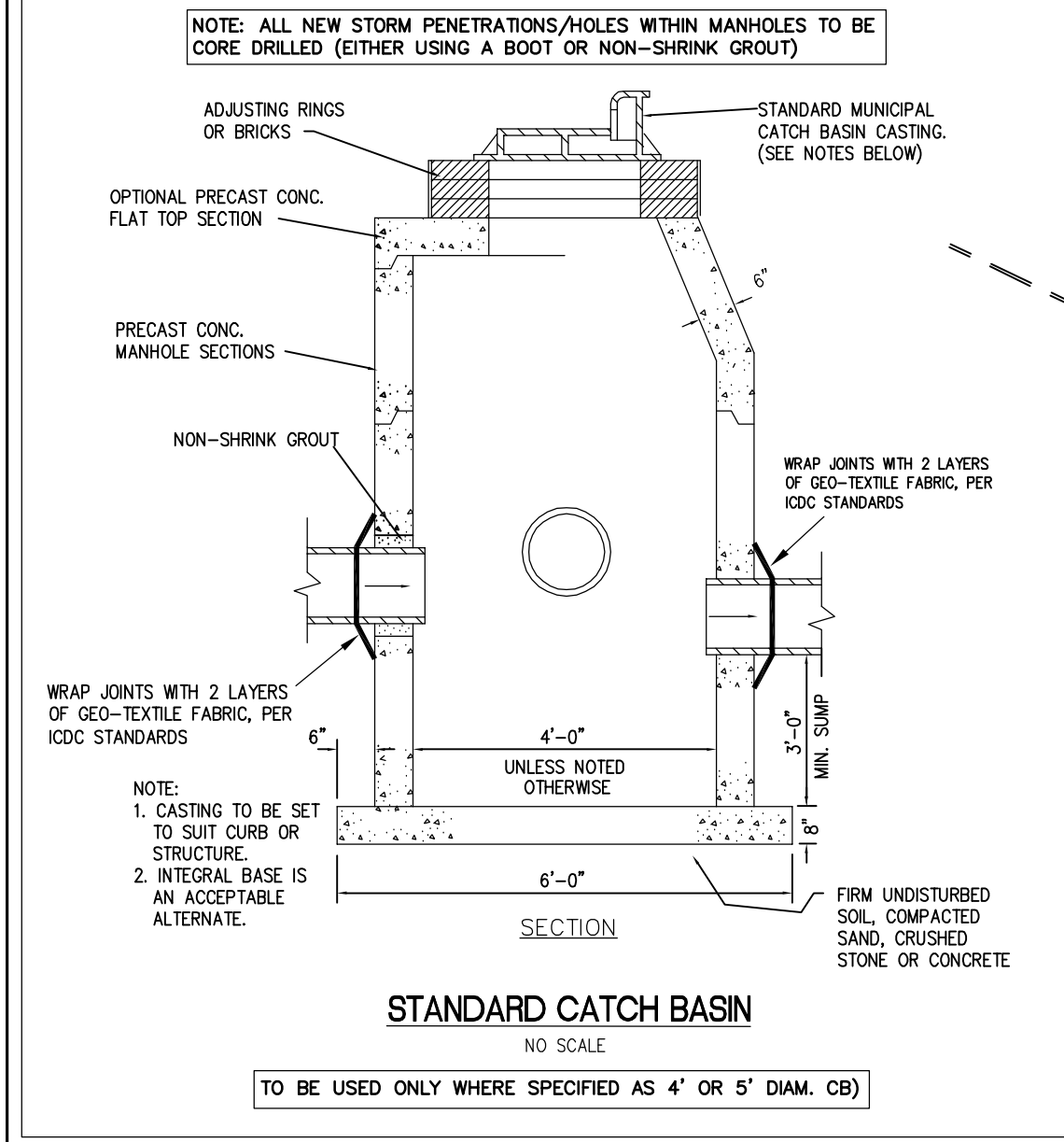
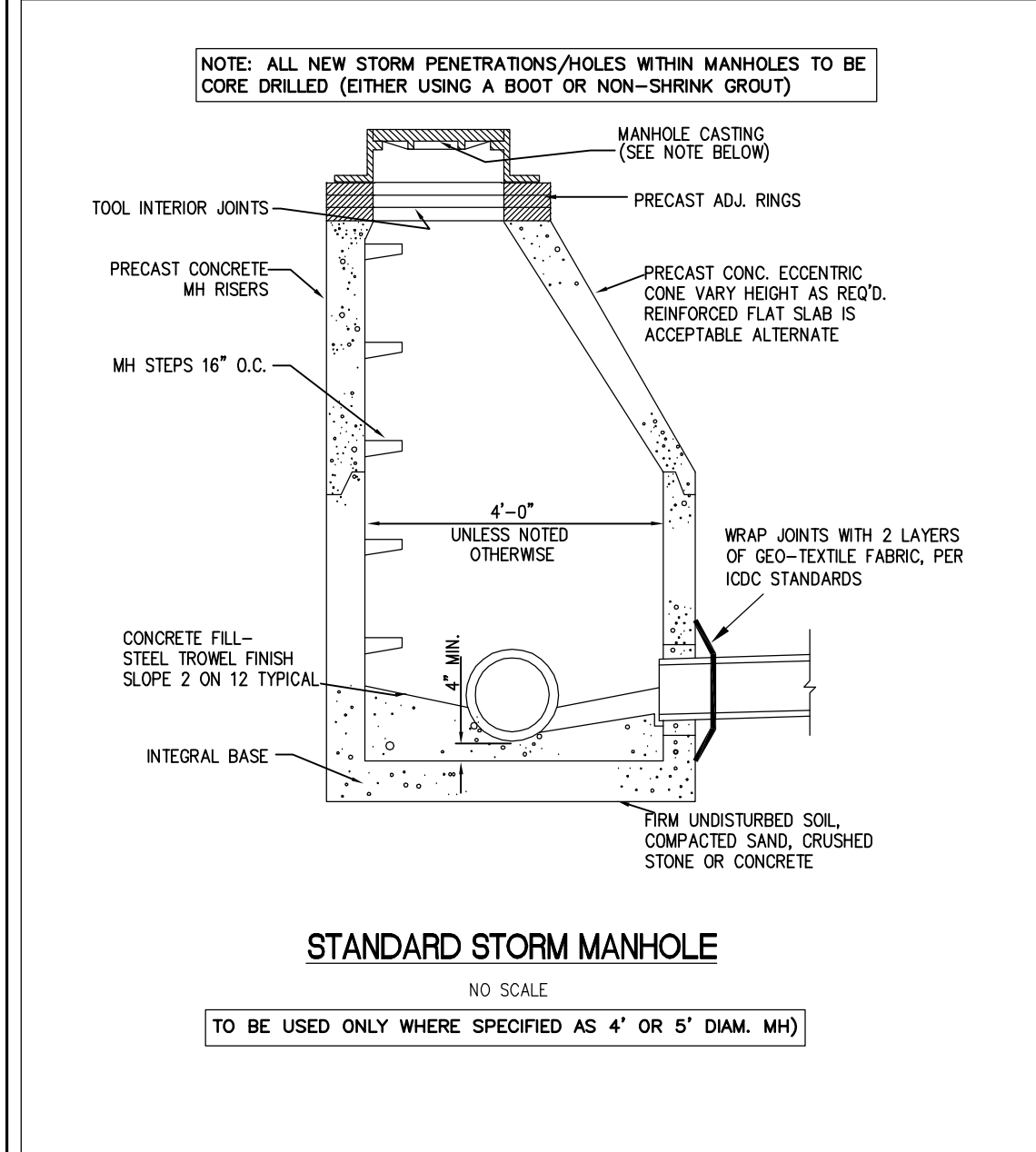
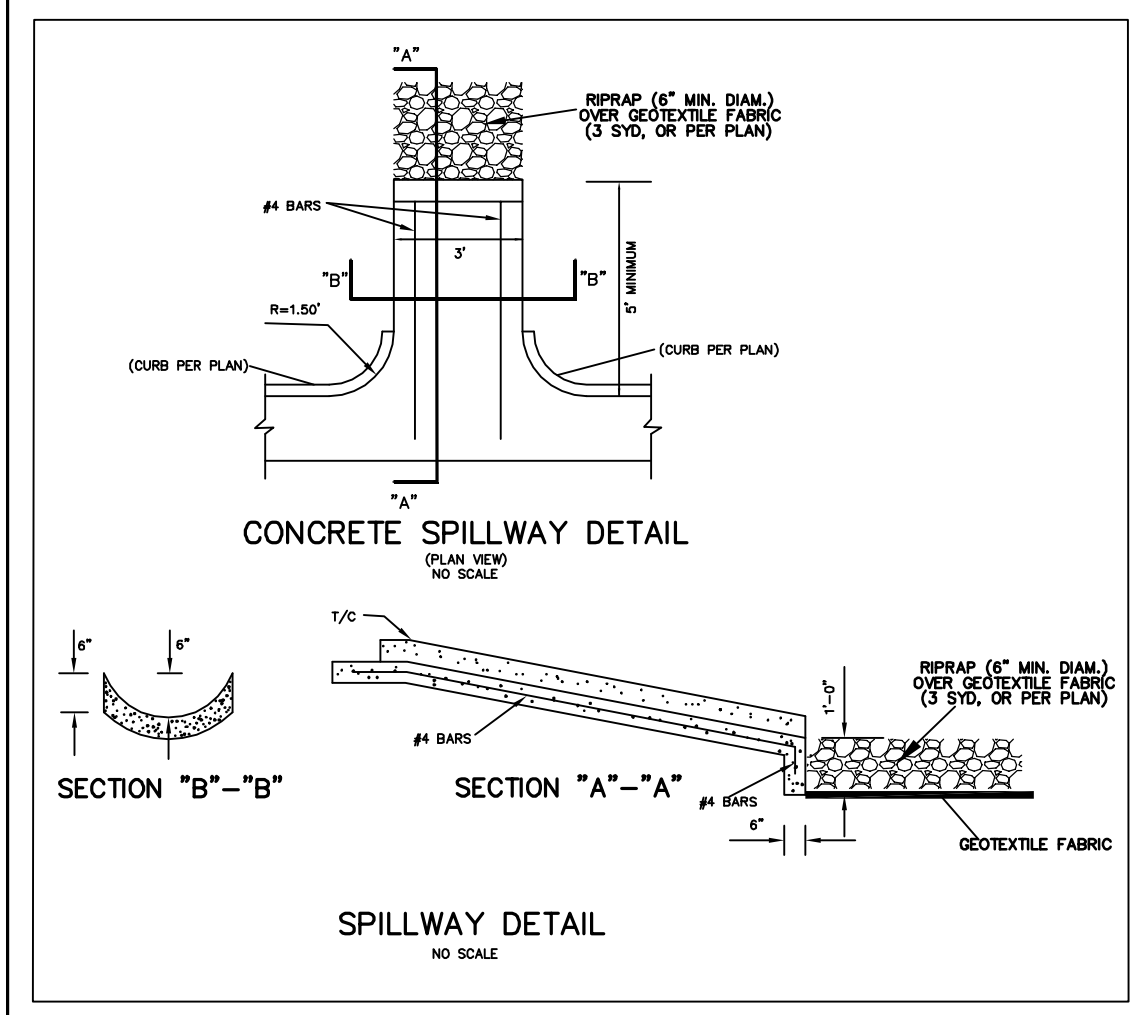


- 1 DENOTES NUMBER OF B/F SPACES
- VA DENOTES VAN ACCESS B/F SPACES
- 0 DENOTES PROPOSED NUMBER OF 9' x 18' PARKING SPACES

REVISIONS	2-15-16 CLIENT REVIEW	3-2-16 SITE PLAN REVIEW	3-23-16 SITE PLAN REVISIONS
DESIGNER:	APPROVED BY:		
SCALE: 1" = 30'	GAP		
DATE: 10-30-15	PROJECT MGR.:	SHEET 2 OF 6	
AUTHORIZED BY:	JOB #:		
Studio Intrigue Architects, LLC	89814		

SURVEY#89814.BND

KEBS, INC. KYES ENGINEERING
 BRYAN LAND SURVEYS
 2116 HASLETT ROAD, HASLETT, MI 48840
 PH. 517-339-1014 FAX. 517-339-8047
 Marshall Office
 Ph. 269-781-9800
Howell Medical Building
 SITE & UTILITY PLAN

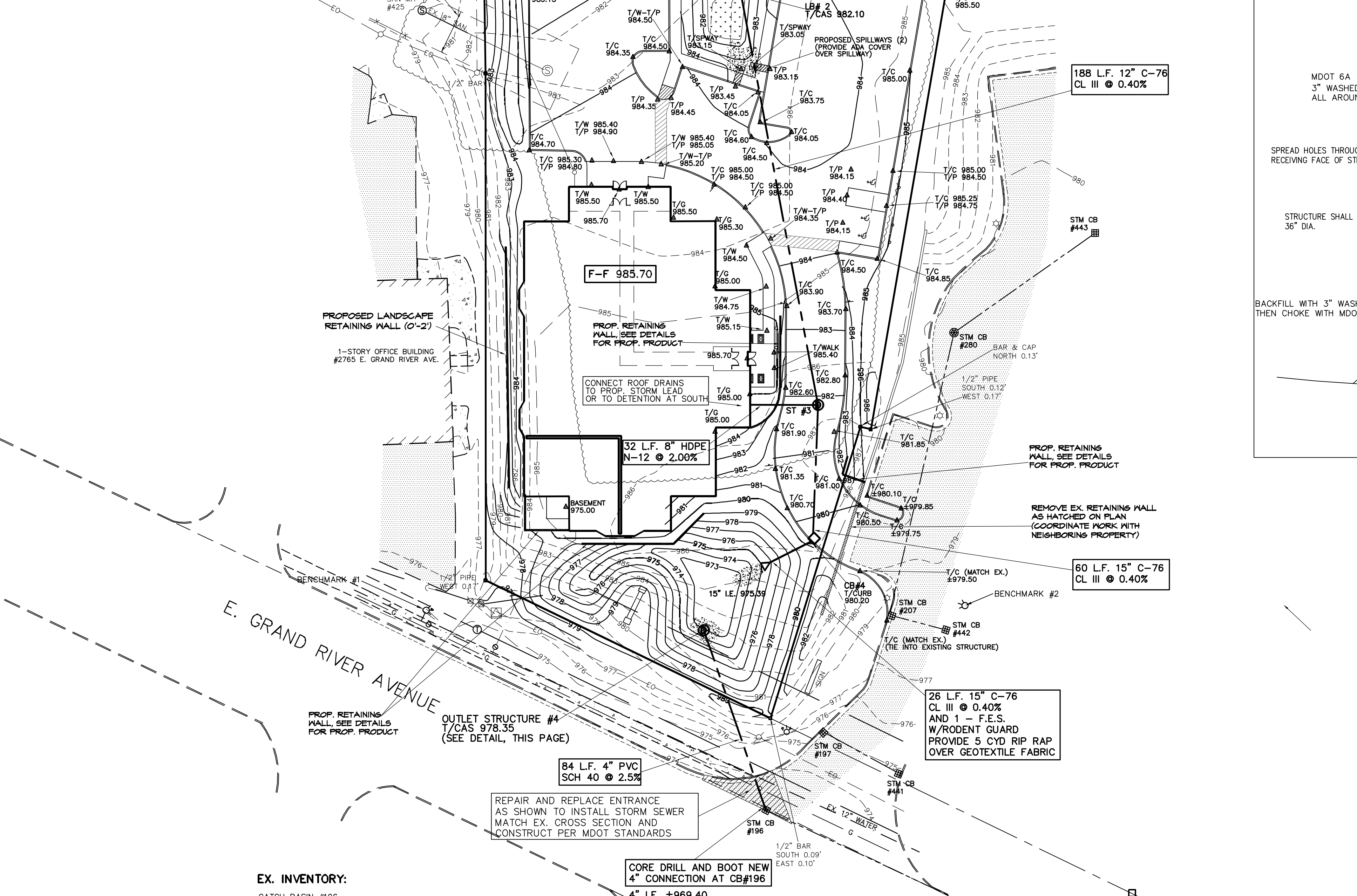


NOTE: WATER SHALL HAVE 10' HORIZONTAL SEPARATION & 18" VERTICAL SEPARATION FROM ALL SEWERS.

LEGEND	
	PROPOSED WATER MAIN
	PROPOSED SANITARY SEWER
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	PROPOSED GATE VALVE
	PROPOSED SAN. M.H.
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	PROPOSED FIRST FLOOR ELEV.
	PROPOSED TOP OF CURB ELEV.
	PROPOSED TOP OF PAVYT ELEV.
	PROPOSED TOP OF WALK ELEV.
	DENOTES S.E.S.C. KEYING SYSTEM

STORM INVENTORY:

LB#1	T/CAS 981.10
	T/TRENCH 980.80
	12" I.E. SE 977.06
	6" UNDERDRAIN(S) 978.71
LB#2	T/CAS 982.10
	T/TRENCH 981.85
	12" I.E. NW/SE 976.60
	6" UNDERDRAIN(S) 979.76
ST#3	T/CAS 981.85
	8" I.E. W. 977.35
	12" I.E. NW/SE 975.84
	15" I.E. S 975.74
CB#4	T/CURB 980.20
	15" I.E. W. 975.50
	15" I.E. SW 975.50



EX. INVENTORY:

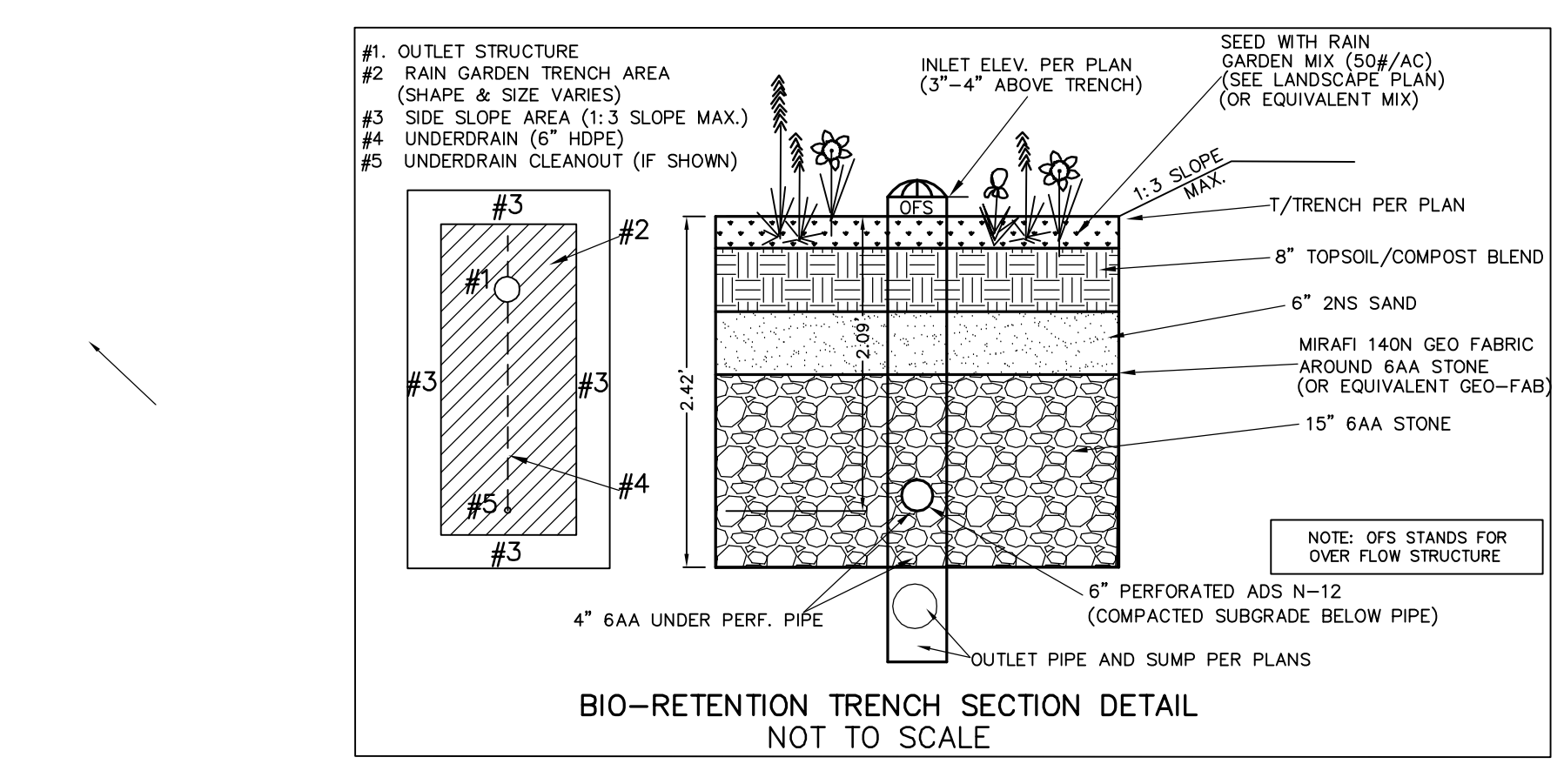
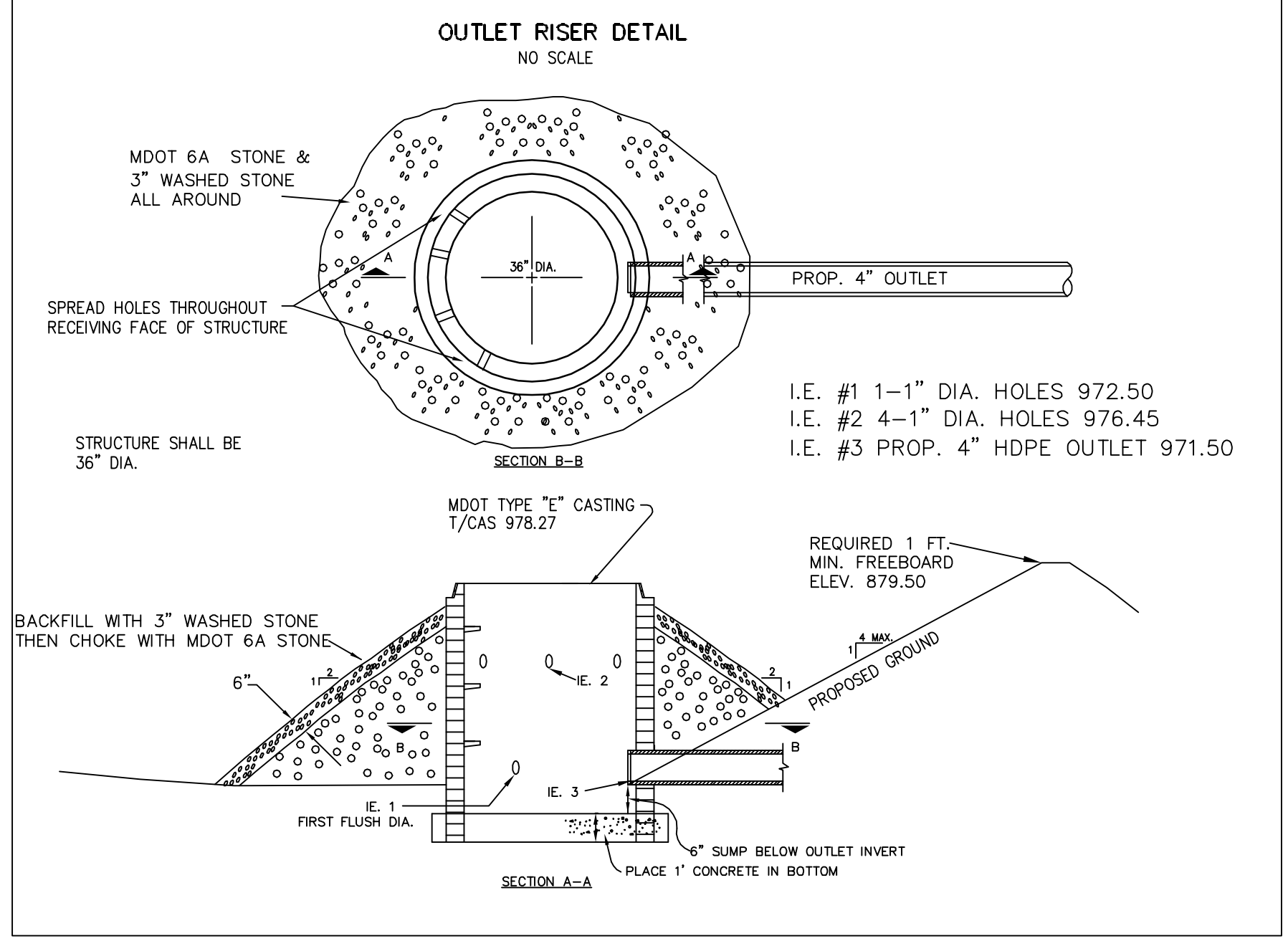
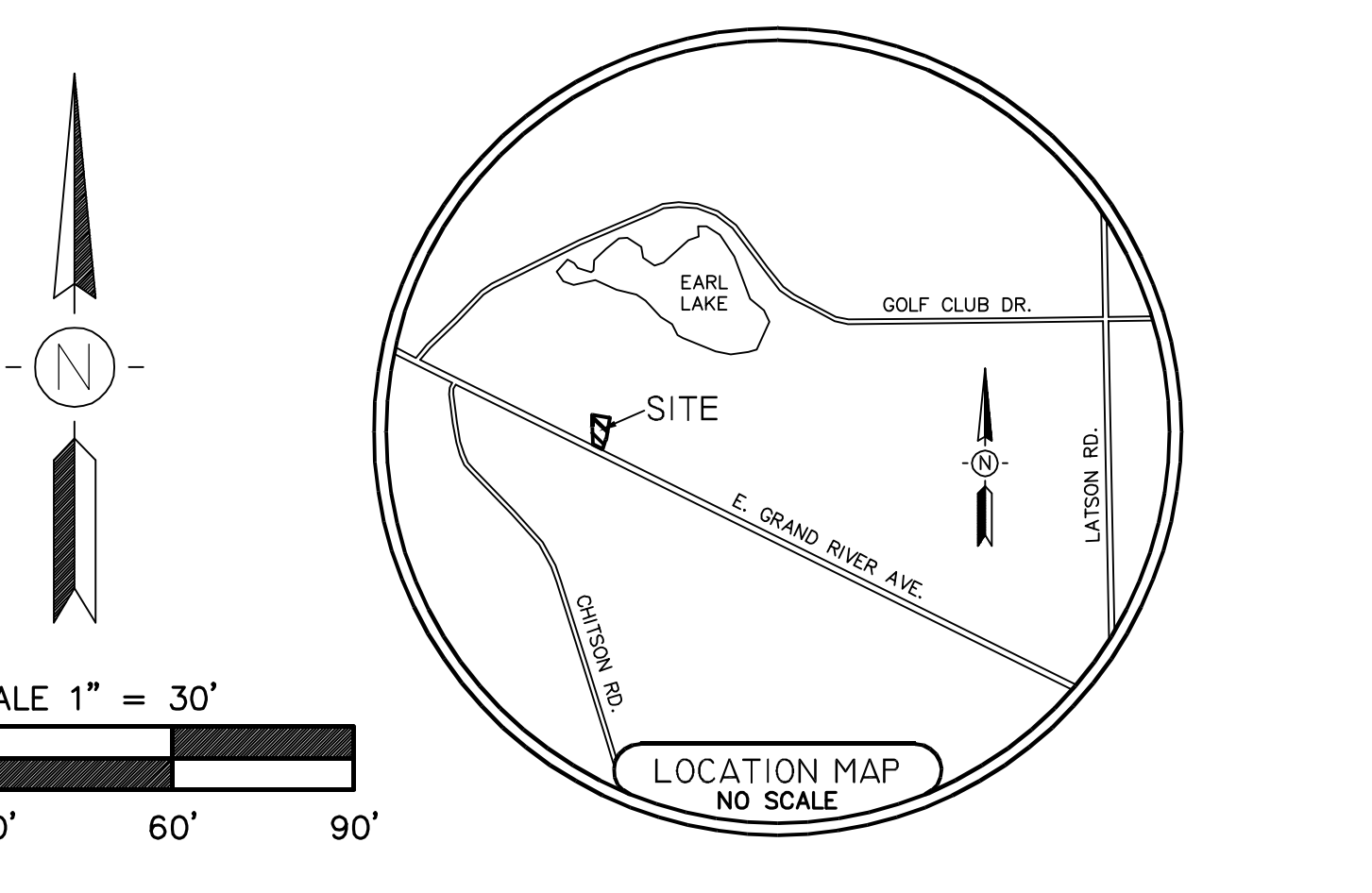
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	CATCH BASIN #207	RIM ELEV. = 977.74
	CATCH BASIN #280	RIM ELEV. = 979.23
	SANITARY MANHOLE #425	RIM ELEV. = 879.95
	CATCH BASIN #440	RIM ELEV. = 967.61
	CATCH BASIN #441	RIM ELEV. = 963.11
	CATCH BASIN #442	RIM ELEV. = 963.26
	CATCH BASIN #443	RIM ELEV. = 963.21

EX. LEGEND

	SET 1/2" BAR WITH CAP
	FOUND IRON AS NOTED
	DEED LINE
	DISTANCE NOT TO SCALE
	FENCE
	ASPHALT
	CONCRETE
	EXISTING CONTOUR ELEVATION
	SANITARY SEWER
	STORM SEWER
	UNDERGROUND TELEPHONE
	OVERHEAD WIRES
	EDGE OF WOODS
	SANITARY MANHOLE
	DRAINAGE MANHOLE
	TELEPHONE MANHOLE
	CATCHBASIN
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	LIGHT POLE
	GUY WIRE
	UTILITY PEDESTAL
	TRANSFORMER

BENCHMARK #1 ELEV. = 976.21
NORTHEAST FLANGE BOLT OF HYDRANT APPROXIMATELY 30 FEET SOUTHWEST OF SOUTHWEST PROPERTY CORNER AND APPROXIMATELY 13' NORTHEAST OF NORTHEAST BACK OF CURB OF GRAND RIVER AVENUE.

BENCHMARK #2 ELEV. = 981.03
SOUTHEAST FLANGE BOLT OF FIRE HYDRANT APPROXIMATELY 68 FEET SOUTHEAST OF PROPERTY AND APPROXIMATELY 120' NORTHEAST OF NORTHEAST CURBLINE OF GRAND RIVER AVENUE.



SURVEY#89814.BND

REVISIONS	
2-15-16	CLIENT REVIEW
3-2-16	SITE PLAN REVIEW
3-23-16	SITE PLAN REVISIONS

KEBS, INC. KYES ENGINEERING
BRYAN LAND SURVEYS

2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX. 517-339-8047

Marshall Office
Ph. 269-781-9800

Howell Medical Building
STORM AND GRADING PLAN

SCALE: 1" = 30'	DESIGNER: GAP	APPROVED BY: GAP
DATE: 10-30-15	PROJECT MGR: GAP	SHEET 3 OF 6
AUTHORIZED BY: Studio Intrigue Architects, LLC	JOB #: 89814	

SOIL EROSION CONTROL NOTES:

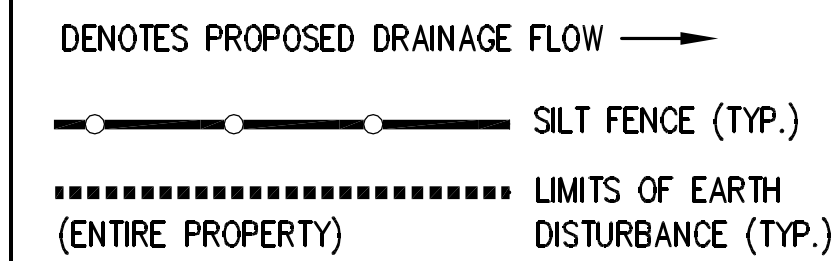
- ALL SOIL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE LIVINGSTON COUNTY DRAIN COMMISSION REQUIREMENTS AND PROJECT SPECIFICATIONS.
- ANY EROSION OR SEDIMENT FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, OR IN WATERWAYS; WATERWAYS INCLUDE BOTH NATURAL AND MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
- CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED AND AS DIRECTED ON THESE PLANS. ALL TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO OR AT COMMENCEMENT OF CONSTRUCTION ACTIVITY. HE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES AND OTHER EARTH CHANGES HAVE BEEN ESTABLISHED.
- A MINIMUM 50' BY 20' WIDE, 6" DEEP CLEAN STONE EXIT SHALL BE PROVIDED AT ALL CONSTRUCTION ENTRANCES. SHOULD THE STONE BECOME LESS EFFICIENT IT SHALL BE REPLACED. ALL CONSTRUCTION TRAFFIC WILL USE THE CLEAN STONE EXITS.
- DUST CONTROL WILL BE EXERCISED AT ALL TIMES WITHIN THE PROJECT BY THE CONTRACTORS. SPRINKLING TANK TRUCKS SHALL BE AVAILABLE AT ALL TIMES TO BE USED ON HAUL ROUTES OR OTHER PLACES WHERE DUST BECOMES A PROBLEM.
- SEDIMENT @ C.B.'s SHALL BE REMOVED AFTER EVERY STORM. SEEDING OF EXPOSED AREAS SHALL BE COMPLETED WITHIN 5 DAYS OF FINAL GRADING.
- ALL DISTURBED AREAS WILL RECEIVE PERMANENT EROSION CONTROL WITHIN 5 DAYS OF FINAL GRADING. AREAS NOT STABILIZED SHALL BE DIVERTED TOWARD RETENTION/SEDIMENT BASINS.
- ANY CONSTRUCTION ACCESS ROAD WILL BE PROTECTED WITH CRUSHED STONE OR CRUSHED CONCRETE, AGGREGATE SIZE 1"-2".
- WEATHER AND UNFORESEEN DELAYS MAY RESULT IN EXTENSION OF CONSTRUCTION SCHEDULE.
- SITE DEVELOPMENT CONTRACTOR SHALL INSPECT SOIL EROSION CONTROL MEASURES ON A DAILY BASIS, MORE OFTEN IF NECESSARY. ANY NEEDED REPAIRS SHALL BE PROMPTLY MADE.
- SITE DEVELOPMENT CONTRACTOR SHALL MEET WITH SOIL EROSION ENFORCEMENT OFFICER PRIOR TO START OF WORK.
- ALL DISTURBANCE SHALL BE KEPT AT LEAST 25' FROM WATER FEATURES LEAVING AN UNDISTURBED VEGETATION BUFFER, UNLESS ADDITIONAL SECO MEASURES ARE PROPOSED AND APPROVED BY L.C.D.C.
- EACH DISTURBANCE ADJACENT TO WETLANDS, INLAND STREAMS & LAKES, OR ADJACENT TO SLOPES GREATER THAN 5% SHALL BE TOPSOILED, SEEDED, AND EROSION CONTROL MATTING APPROPRIATE FOR THE SLOPE CONDITIONS INSTALLED, WITHIN 3 DAYS OF FINAL GRADING OR FINAL ACTIVITY OF THOSE AREAS.
- STOCK PILE AREAS SHALL BE LOCATED GREATER THAN 25' FROM WETLANDS & INLAND STREAMS & LAKES, AND AT LEAST 25' FROM PROPERTY LINES.

SEQUENCE OF CONSTRUCTION

- INSTALL ALL TEMPORARY SILT FENCE PER PLAN AND AS SHOWN ON DETAIL.
- CONSTRUCT THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT PER DETAIL THIS SHEET OFF OF ADJACENT PARKING LOT
- INSTALL INLET PROTECTION FABRIC DROPS BETWEEN THE FRAME AND COVER OF ALL EXISTING YARD BASINS OR INLETS WHICH MAY BE SUSCEPTIBLE TO SEDIMENT EROSION FROM THE PROPOSED CONSTRUCTION AS SHOWN IN THESE PLANS.
- WHILE MAINTAINING A VEGETATIVE BUFFER WHENEVER POSSIBLE STRIP AND STOCKPILE TOPSOIL ABOVE AREAS OF PROPOSED EXCAVATION OR GRADING FOR LATER USE ON SITE. PLACE STOCKPILED TOPSOIL IN AREAS WHICH ARE NEITHER SUBJECT TO HIGH RUNOFF NOR ALONG STEEP SLOPES. SEED AND MULCH STOCKPILES IMMEDIATELY TO PREVENT WIND BLOWN SEDIMENT POLLUTION AND EXCESSIVE DUST.
- EXCAVATE FOR PROPOSED ROAD AND UTILITY CONSTRUCTION AS NECESSARY. DO NOT EXPOSE AREAS FAR IN ADVANCE OF THE PROPOSED CONSTRUCTION FOR THAT AREA. ROUGHEN AND SCARIFY EXPOSED SURFACES TO REDUCE RUNOFF VELOCITY AND SEDIMENTATION. MAINTAIN VEGETATION WHENEVER POSSIBLE TO PROVIDE A NATURAL BUFFER.
- AFTER COMPLETION OF THE PROPOSED UTILITIES, INSTALL INLET PROTECTION FABRIC DROPS IN ALL INLETS. PLACE INLET PROTECTION FENCE AROUND ALL INLETS.
- INSTALL TEMPORARY STONE FILTER BERMS PERPENDICULAR TO EXPOSED STEEP SLOPES AS NECESSARY ALONG THE PROPOSED STREETS TO REDUCE RUNOFF VELOCITY AND SEDIMENTATION.
- TOPSOIL, SEED, FERTILIZE AND MULCH ALL EXPOSED AREAS AS SOON AS FEASIBLE TO PROTECT AND RESTORE PERMANENT VEGETATION.
- WATER EXPOSED GROUND REGULARLY TO CONTROL AIRBORNE PARTICULATE MATTER.
- THE SOIL EROSION PERMITEE IS RESPONSIBLE FOR ENSURING THAT ALL PERMANENT AND TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS ARE INSTALLED CORRECTLY AND MAINTAINED UNTIL PERMANENT VEGETATION IS REESTABLISHED IN ALL EXPOSED AREAS.
- THE SITE WILL BE PERIODICALLY INSPECTED BY THE LIVINGSTON COUNTY DRAIN OFFICE. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE RULES AND REGULATIONS OF THAT OFFICE
- UPON FINAL APPROVED INSPECTION OF THE COMPLETED CONSTRUCTION BY ALL REVIEWING AGENCIES, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.

TOTAL ACRES = 1.68 ACRES

AREA DISTURBED = 1.68 ACRES



SOIL TYPE:
MoB: Miami Loam, 2-6% slopes. The entire site according to NRCS Web soil survey

NOTE: STORM WATER RUNOFF FROM THIS SITE WILL NOT ADVERSELY AFFECT ADJACENT PROPERTIES.

NOTE: ANY STOCKPIILING OF SOIL SHALL BE SURROUNDED BY SILT FENCE. SEEDED IF LEFT OVER 30 DAYS.

NOTE: WATER SHALL HAVE 10' HORIZONTAL SEPARATION & 18" VERTICAL SEPARATION FROM ALL SEWERS.

LEGEND

	PROPOSED WATER MAIN		PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER		PROPOSED HYDRANT
	PROPOSED GATE VALVE		PROPOSED SAN. M.H.
	PROPOSED STORM M.H.		PROPOSED C.B.
	PROPOSED GRADES		PROPOSED FIRST FLOOR ELEV.
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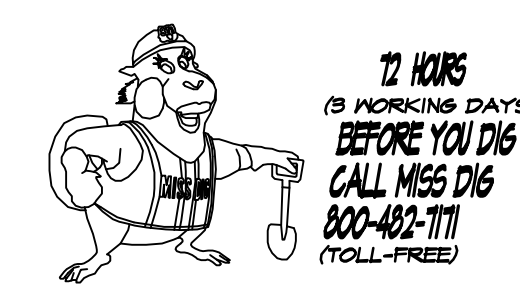
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	FOUND IRON AS NOTED		DRAINAGE MANHOLE
	DEED LINE		TELEPHONE MANHOLE
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	FENCE		FIRE HYDRANT
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	CONCRETE		UTILITY POLE
	EXISTING CONTOUR ELEVATION		LIGHT POLE
	SANITARY SEWER		GUY WIRE
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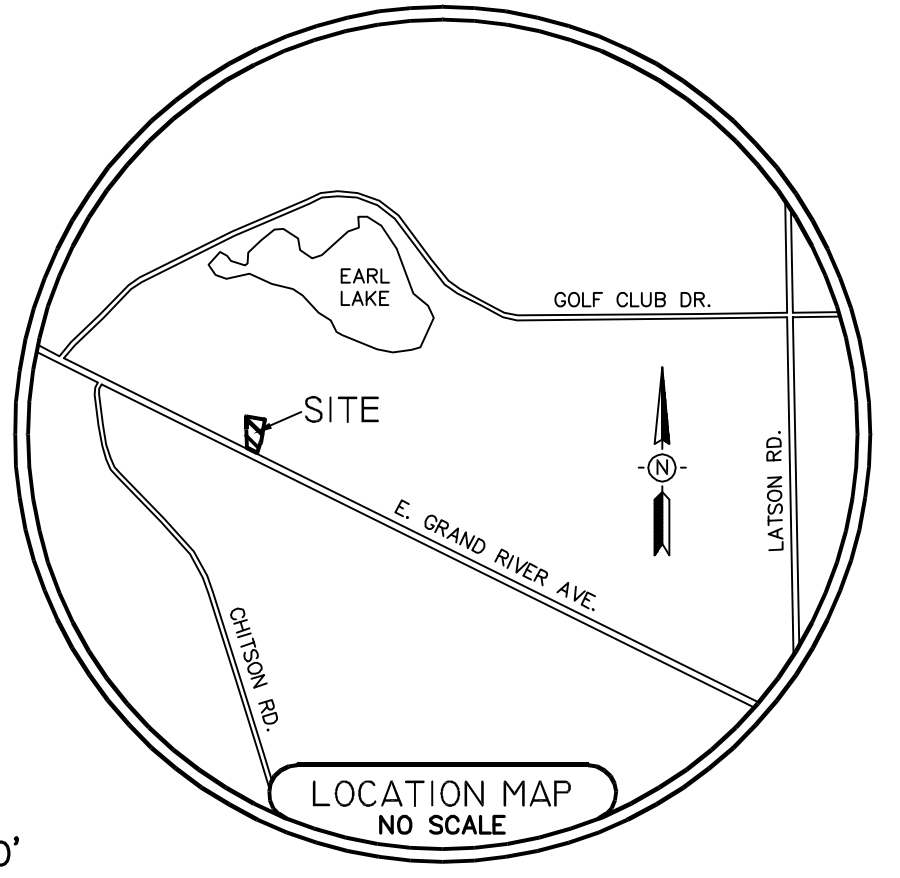
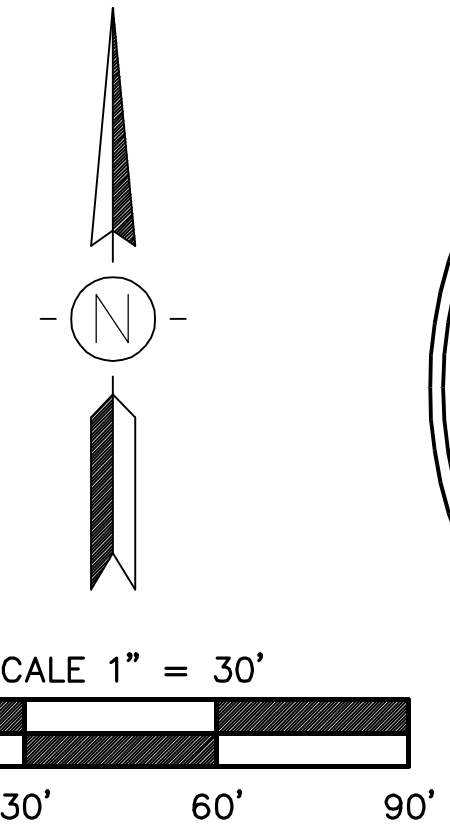
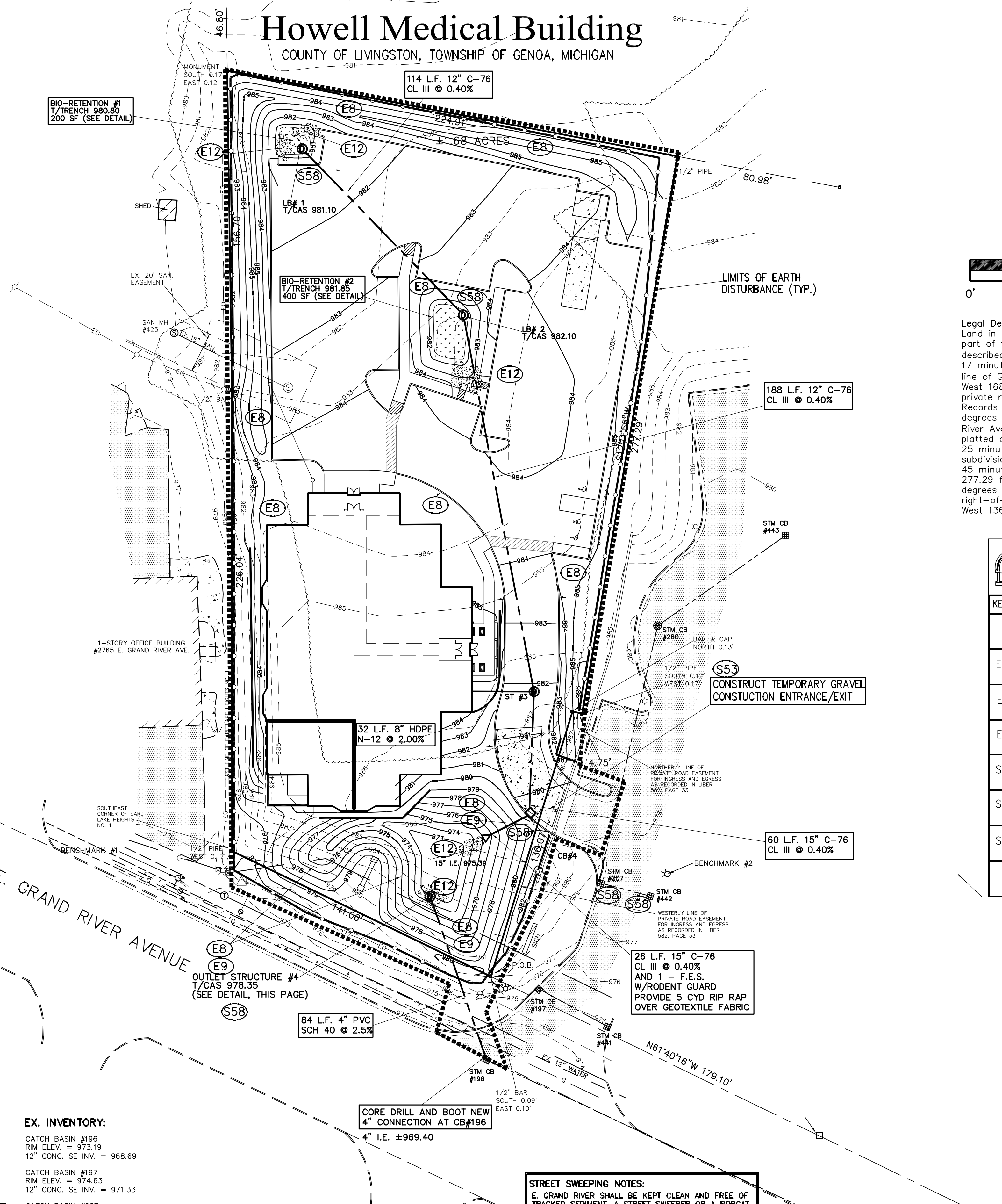
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- SANITARY MANHOLE #425 RIM ELEV. = 879.95 12" PVC SE INV. = 869.45 12" PVC NW INV. = 866.25
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STREET SWEEPING NOTES:
E. GRAND RIVER SHALL BE KEPT CLEAN AND FREE OF TRACKED SEDIMENT. A STREET SWEEPER OR A BOBCAT WITH A BROOM ATTACHMENT SHOULD BE KEPT ON SITE TO DEAL WITH ANY OFF-SITE TRACKING AS IT OCCURS.



Howell Medical Building

COUNTY OF LIVINGSTON, TOWNSHIP OF GENOA, MICHIGAN



Legal Description (as provided):
Land in the County of Livingston, Township of Genoa, State of Michigan is described as follows: A part of the Northeast fractional quarter of Section 6, Town 2 North, Range 5 East, Michigan, described as follows: Commencing at the East 1/4 corner of said Section 6; thence North 1 degrees 17 minutes 20 seconds East 673.30 feet along the East Section line to the Northerly right-of-way line of Grand River Avenue (70 1/2 feet wide); thence North 61 degrees 40 minutes 16 seconds West 1686.45 feet along said right-of-way line to the westerly right-of-way line of a 66 foot wide private road easement for ingress and egress as recorded in Liber 582, Page 33, Livingston County Records and the point of beginning of this parcel to be described; thence continuing North 61 degrees 40 minutes 16 seconds West 141.06 feet along said Northerly right-of-way line of Grand River Avenue to the Southeast corner of "Earl Lake Heights No. 1", a subdivision as duly laid out, plotted and recorded in Liber 7 of Plats, Page 8, Livingston County Records; thence North 2 degrees 25 minutes 39 seconds East 226.04 feet along said subdivision line; thence continuing along said subdivision line North 7 degrees 38 minutes 16 seconds East 156.70 feet; thence South 76 degrees 45 minutes 35 seconds East 224.91 feet; thence South 12 degrees 11 minutes 55 seconds West 277.29 feet to the Northerly right-of-way line of said private road easement; thence North 73 degrees 59 minutes 53 seconds West 4.75 feet along said right-of-way line to the Westerly right-of-way line of said private road easement; thence South 19 degrees 36 minutes 21 seconds West 136.07 feet along said right-of-way line to the point of beginning.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET
S-E-S-C KEYING SYSTEM

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
EROSION CONTROLS			
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).
E9	MULCH BLANKET		On exposed slopes, newly seeded areas, new ditch bottoms, or areas subject to erosion.
E12	RIPRAP		Use along shorelines, waterways, or where concentrated flows occur. Slows velocity, reduces sediment load, and reduces erosion.
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites.

CONSTRUCTION SCHEDULE & SEQUENCING: 2016

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
PLACE AND MAINTAIN TEMPORARY EROSION CONTROLS												
TOPSOIL STRIPPING & STOCKPIILING												
ON-SITE UTILITIES CONSTRUCTION												
SITE GRADING & EARTHWORK												
ROAD/DRIVE CONSTRUCTION												
BUILDING CONSTRUCTION												
TOPSOIL SPREADING, PERMANENT SEEDING												
FINAL INSPECTIONS & REMOVE TEMPORARY EROSION CONTROLS												

REVISIONS

2-15-16 CLIENT REVIEW	
3-2-16 SITE PLAN REVIEW	
3-23-16 SITE PLAN REVISIONS	

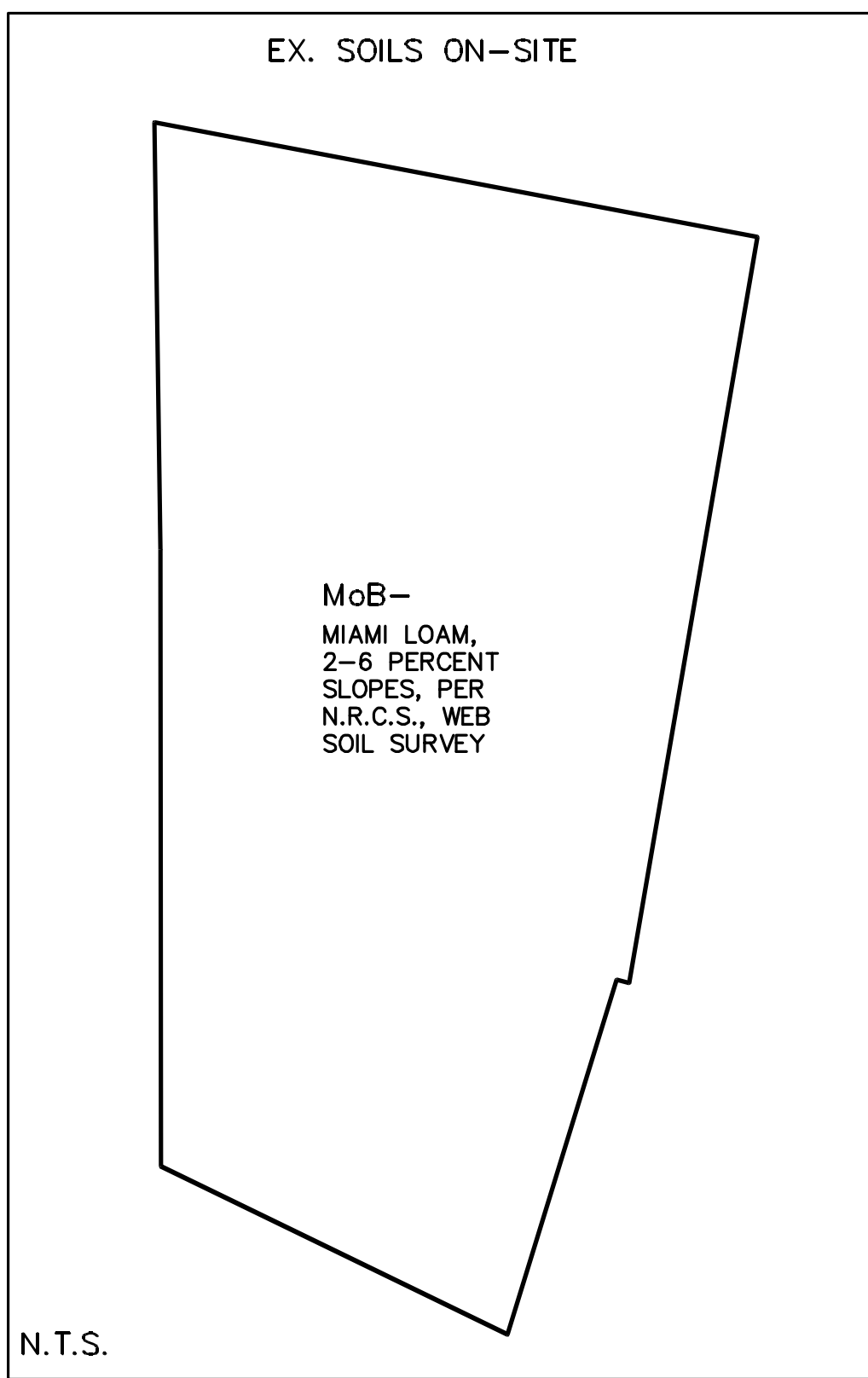
KEBS, INC. KYES ENGINEERING
BRYAN LAND SURVEYS
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX. 517-339-8047
Marshall Office
Ph. 269-781-9800

Howell Medical Building
SOIL EROSION CONTROL PLAN

SCALE: 1" = 30'	DESIGNER:	APPROVED BY:
DATE: 10-30-15	PROJECT MGR.:	GAP
AUTHORIZED BY:	GAP	SHEET 4 OF 6
Studio Intrigue Architects, LLC		JOB #: 89814

BENCHMARK #1 ELEV. = 976.21
 NORTHEAST FLANGE BOLT OF HYDRANT
 APPROXIMATELY 30 FEET SOUTHWEST OF
 SOUTHWEST PROPERTY CORNER AND
 APPROXIMATELY 13' NORTHEAST OF NORTHEAST
 BACK OF CURB OF GRAND RIVER AVENUE.

BENCHMARK #2 ELEV. = 981.03
 SOUTHEAST FLANGE BOLT OF FIRE HYDRANT
 APPROXIMATELY 68 FEET SOUTHEAST OF
 PROPERTY AND APPROXIMATELY 120' NORTHEAST
 OF NORTHEAST CURBLINE OF GRAND RIVER
 AVENUE.



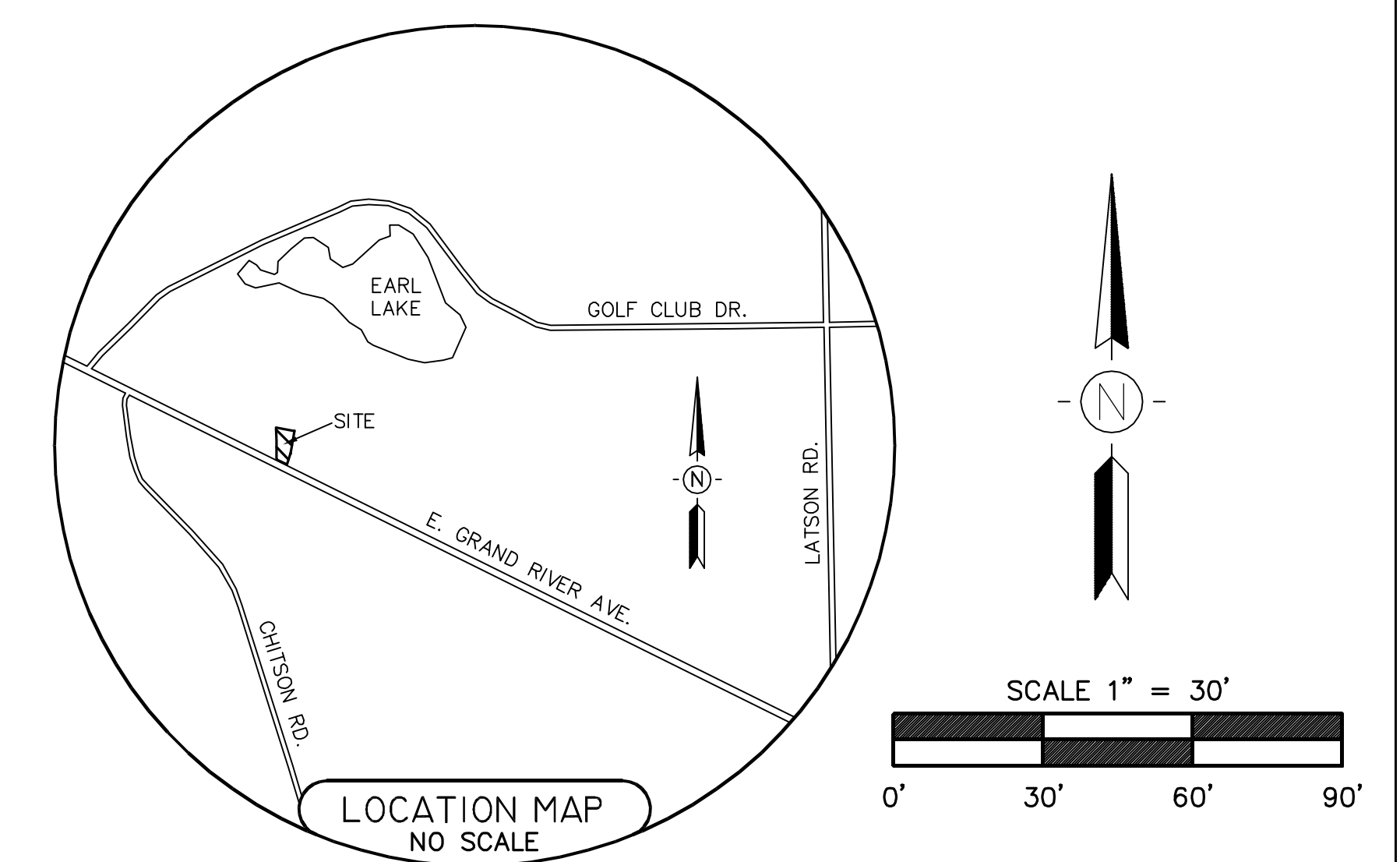
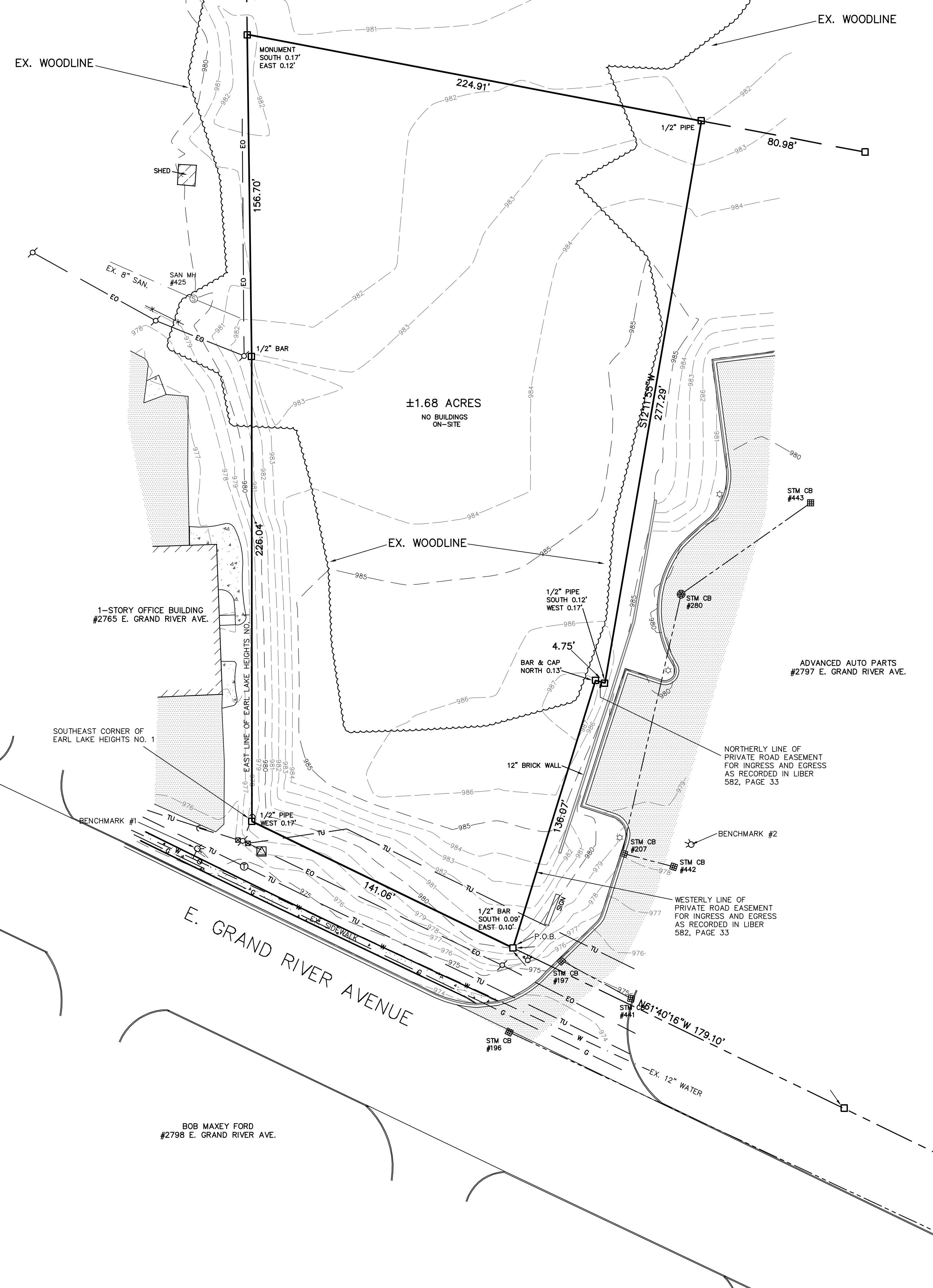
- CATCH BASIN #196
RIM ELEV. = 973.19
12" CONC. SE INV. = 968.69
- CATCH BASIN #197
RIM ELEV. = 974.63
12" CONC. SE INV. = 971.33
- CATCH BASIN #207
RIM ELEV. = 977.74
12" CONC. NE INV. = 972.44
12" CONC. SE INV. = 972.34
- CATCH BASIN #280
RIM ELEV. = 979.23
12" CONC. NE INV. = 973.51
12" CONC. SW INV. = 973.43
- SANITARY MANHOLE #425
RIM ELEV. = 879.95
12" PVC SE INV. = 869.45
12" PVC NW INV. = 866.25
- CATCH BASIN #440
RIM ELEV. = 967.61
12" CONC. NE INV. = 963.11
12" CONC. SW INV. = 963.26
12" CONC. NW INV. = 963.21

LEGEND

● = SET 1/2" BAR WITH CAP	⊙ = SANITARY MANHOLE
□ = FOUND IRON AS NOTED	⊕ = DRAINAGE MANHOLE
— = DEED LINE	⊖ = TELEPHONE MANHOLE
— = DISTANCE NOT TO SCALE	⊗ = CATCHBASIN
— = FENCE	⊘ = FIRE HYDRANT
▨ = ASPHALT	⊙ = VALVE
▩ = CONCRETE	⊕ = UTILITY POLE
— = EXISTING CONTOUR ELEVATION	☆ = LIGHT POLE
— = SANITARY SEWER	— = GUY WIRE
— = STORM SEWER	— = UTILITY PEDESTAL
— = UNDERGROUND TELEPHONE	⊠ = TRANSFORMER
— = OVERHEAD WIRES	— = WATER MAIN
— = EDGE OF WOODS	

Howell Medical Building

COUNTY OF LIVINGSTON, TOWNSHIP OF GENOA, MICHIGAN



Legal Description (as provided):
 Land in the County of Livingston, Township of Genoa, State of Michigan is described as follows: A part of the Northeast fractional quarter of Section 6, Town 2 North, Range 5 East, Michigan, described as follows: Commencing at the East 1/4 corner of said Section 6; thence North 1 degrees 17 minutes 20 seconds East 673.30 feet along the East Section line to the Northerly right-of-way line of Grand River Avenue (70 1/2 feet wide); thence North 61 degrees 40 minutes 16 seconds West 1686.45 Feet along said right-of-way line to the westerly right-of-way line of a 66 foot wide private road easement for ingress and egress as recorded in Liber 582, Page 33, Livingston County Records and the point of beginning of this parcel to be described; thence continuing North 61 degrees 40 minutes 16 seconds West 141.06 feet along said Northerly right-of-way line of Grand River Avenue to the Southeast corner of "Earl Lake Heights No. 1", a subdivision as duly laid out, platted and recorded in Liber 7 of Plats, Page 8, Livingston County Records; thence North 2 degrees 25 minutes 39 seconds East 226.04 feet along said subdivision line; thence continuing along said subdivision line North 7 degrees 38 minutes 16 seconds East 156.70 feet; thence South 76 degrees 45 minutes 35 seconds East 224.91 feet; thence South 12 degrees 11 minutes 55 seconds West 277.29 feet to the Northerly right-of-way line of said private road easement; thence North 73 degrees 59 minutes 53 seconds West 4.75 feet along said right-of-way line to the Westerly right-of-way line of said private road easement; thence South 19 degrees 36 minutes 21 seconds West 136.07 feet along said right-of-way line to the point of beginning.

REVISIONS 2-15-16 CLIENT REVIEW 3-2-16 SITE PLAN REVIEW 3-23-16 SITE PLAN REVISIONS		 KEBS, INC. KYES ENGINEERING BRYAN LAND SURVEYS 2116 HASLETT ROAD, HASLETT, MI 48840 PH. 517-339-1014 FAX. 517-339-8047 Marshall Office Ph. 269-781-9800	DESIGNER: GAP PROJECT MGR. GAP APPROVED BY: GAP SHEET 5 OF 6
SCALE: 1" = 30' DATE: 10-30-15 AUTHORIZED BY: Studio Intrigue Architects, LLC			

E8 PERMANENT SEEDING SPECIFICATIONS

When

- To finalize stabilization of temporary seeding areas or when an area needs permanent stabilization following completion of construction. Also used when vegetative establishment can correct existing soil erosion or sedimentation problem.
- Within 5 days of final grade.

Why

- To stabilize soil and prevent or reduce soil erosion/sedimentation problems from developing.

Where

- Used on construction and earth change sites which require permanent vegetative stabilization.

How

- Review SESC plan and construction phasing to identify areas in need of permanent vegetative stabilization.
- Select perennial grass and ground cover for permanent cover.
- Seed mixes vary. However, they should contain native species.
- Seed mixes should be selected through consultation with a certified seed provider and with consideration of soil type, light, moisture, soil applications, and native species content.
- Soil tests should be performed to determine the nutrient and pH levels in the soil. The pH may need to be adjusted to between 6.5 and 7.0.
- Prepare a 3-5" deep seedbed, with the top 3-4" consisting of topsoil.
- Slopes steeper than 1:3 should be roughened.
- Apply seed as soon as possible after seedbed preparation. Seed may be broadcast by hand, hydroseeding, or by using mechanical grids.
- Mulch immediately after seeding.
- Dormant seed mixes are for use after the growing season, using seed which lies dormant in the winter and begins growing as soon as site conditions become favorable.



PERMANENT SEEDING SPECIFICATIONS E8

How (cont.)

- Protect seeded areas from pedestrian or vehicular traffic.
- Divert concentrated flows away from the seeded area until vegetation is established.

Maintenance

- Inspect weekly and within 24 hours following each rain event in the first few months following installation to be sure seed has germinated and permanent vegetative cover is being established.
- Add supplemental seed as necessary.

Limitations

- Seeds need adequate time to establish.
- May not be appropriate in areas with frequent traffic.
- Seeded areas may require irrigation during dry periods.
- Seeding success is site specific, consider mulching or sodding when necessary.

PERMANENT SEEDING SPECIFICATION

SEED ALL DISTURBED AREAS WITH THE FOLLOWING SEED MIXTURE OR APPROVED EQUIVALENT: 50% BLUEGRASS, 40% FESCUE, 45% RYEGRASS. APPLY AT A RATE OF 5 LBS./1000 SF.

APPLY SILT STOP OR APPROVED TACKIFIER TO SEED MIX.



E8 PERMANENT SEEDING

Planting Zones:	Lower Peninsula Zone 1	Lower Peninsula Zone 2	Upper Peninsula Zone 3
	Seeding Window Permanent Seeding	4/15 - 10/10	5/1 - 10/1
Seeding Window Dormant Seeding	11/15 - Freeze	11/15 - Freeze	11/01 - Freeze

Seeding Dates (with irrigation or mulch)	Zone 1 (South of U.S. 10)	Zone 2 (North of U.S. 10)	Zone 3 (Upper Peninsula)
	4/1 - 8/1	5/1 - 9/20	5/1 - 9/10
8/15 - 10/1	9/1 - 9/20	8/1 - 9/20	

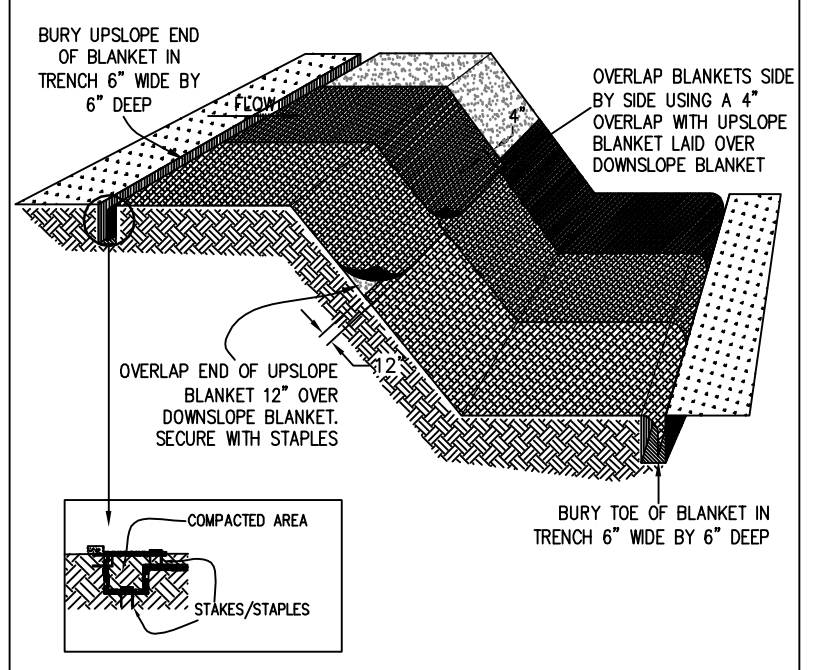
PERMANENT SEEDING SPECIFICATION

Dormant seeding is for use in the late fall after the soil temperature remains consistently below 50°F, prior to the ground freezing. This practice is appropriate if construction on a site is completed in the fall but the seed was not planted prior to recommended seeding dates. No seed germination will take place until spring. A cool season annual grass may be added in an attempt to have some fall growth.

- Mulch must be used with dormant seed.
- Do not seed when the ground is frozen or snow covered.
- Do not use a dormant seed mix on grassed waterways.



E9 MULCH BLANKETS



NOTES:

- PLACE MULCH BLANKET PARALLEL TO FLOW AND ANCHOR SECURELY.
- WHEN BLANKETS ARE USED IN FLOWING DITCH, BLANKETS SHOULD NOT OVERLAP IN DITCH CENTER PARALLEL TO FLOW.
- STAPLES INSTALLED/SECURED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- WHERE POSSIBLE, CONSTRUCT WITH BIODEGRADABLE MATERIAL.



E9 MULCH BLANKETS SPECIFICATIONS

When

- When seeded areas are subject to erosive surface flows, severe wind, or to protect non-vegetated slopes or areas during the winter.

Why

- Protects seeded areas and slopes against erosion from rain or wind. Holds soil moisture to allow for seed germination and reduces wind desiccation of germinated seeds.

Where

- Use on exposed slopes, newly seeded areas, new ditch bottoms, and other areas subject to erosion.

How

- Prepare subgrade to proper grade and compaction requirements.
- Remove ruts, roots, soil clods, or other debris from surface subject to mulch blanket installation.
- Spread or drill seed.
- Consult with erosion control material supplier to select mulch blanket based on slope gradient, expected surface run-off, and protection term necessary (long or short term).
- Position selected mulch blanket as close as possible to intended use location.
- Install blanket at top of slope, first anchoring toe in trench 6" wide X 6" deep, progressing down-slope or down-gradient with approximately 12" of blanket extended beyond the up-slope portion of the trench.
- Anchor the blanket with stakes/staples placed approximately 12" apart in the bottom of the trench. Backfill and compact the trench after securing.
- Apply seed to compacted soil and secure with a row of staples/staples placed 12" apart across the width of the blanket.
- Unroll the blankets down or horizontally across the slope.



E9 MULCH BLANKETS SPECIFICATIONS

How (cont.)

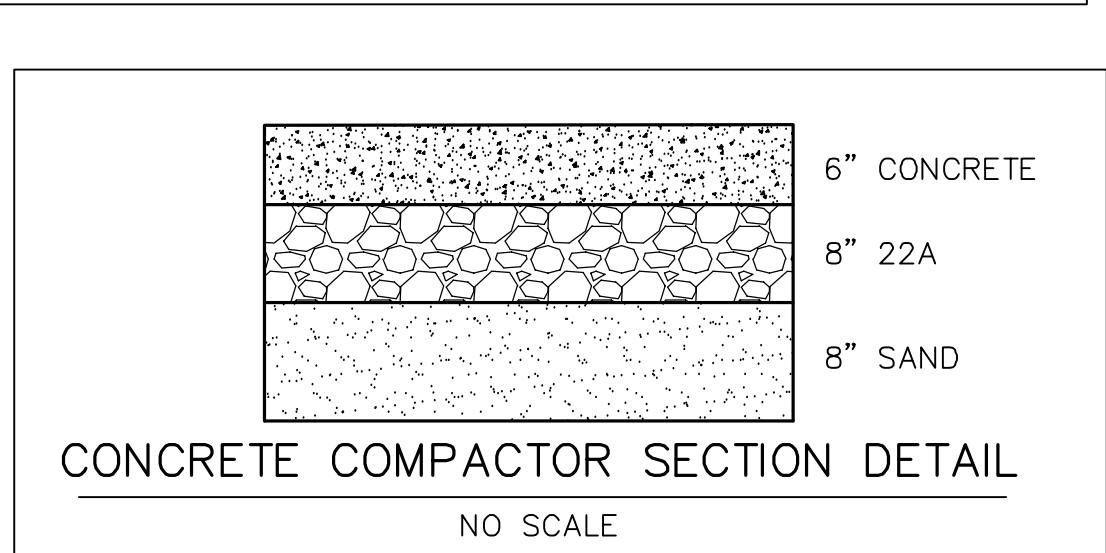
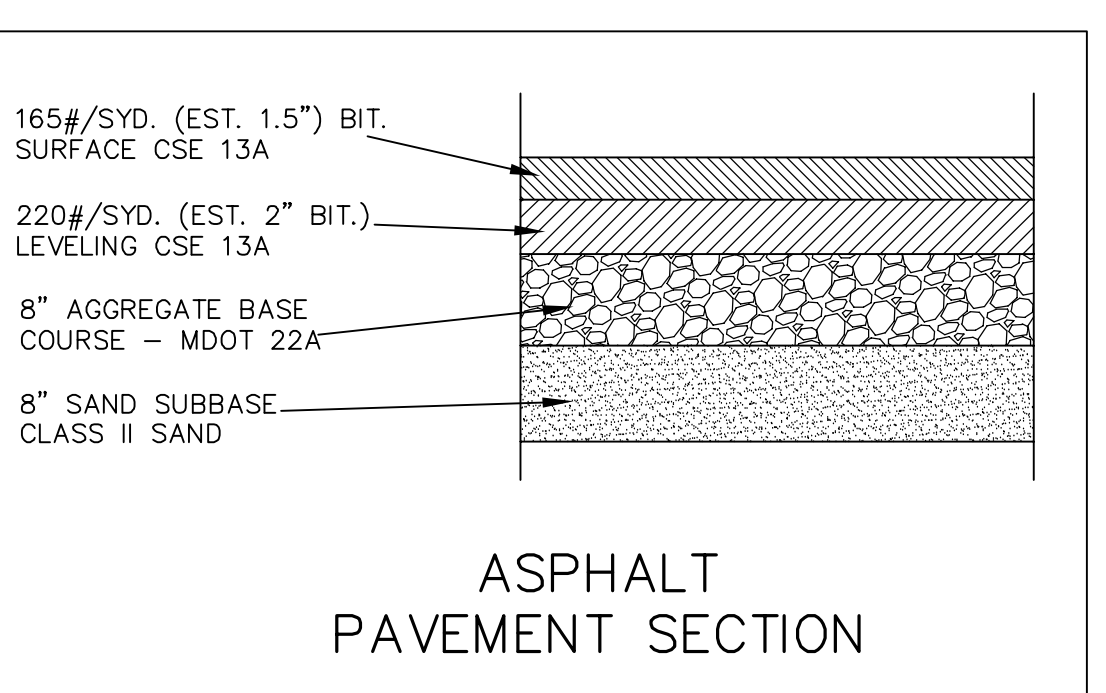
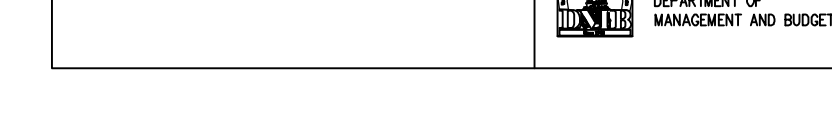
- Overlap blanket edges by a minimum of 4" and blanket ends by a minimum of 12". Overlaps should be in the direction of expected flow with the up-slope blanket placed over the down-slope blanket edge.
- Secure down-slope end of blanket with staples/stakes and trench in.

Maintenance

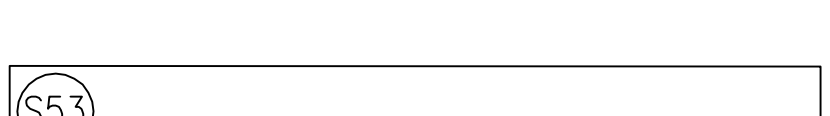
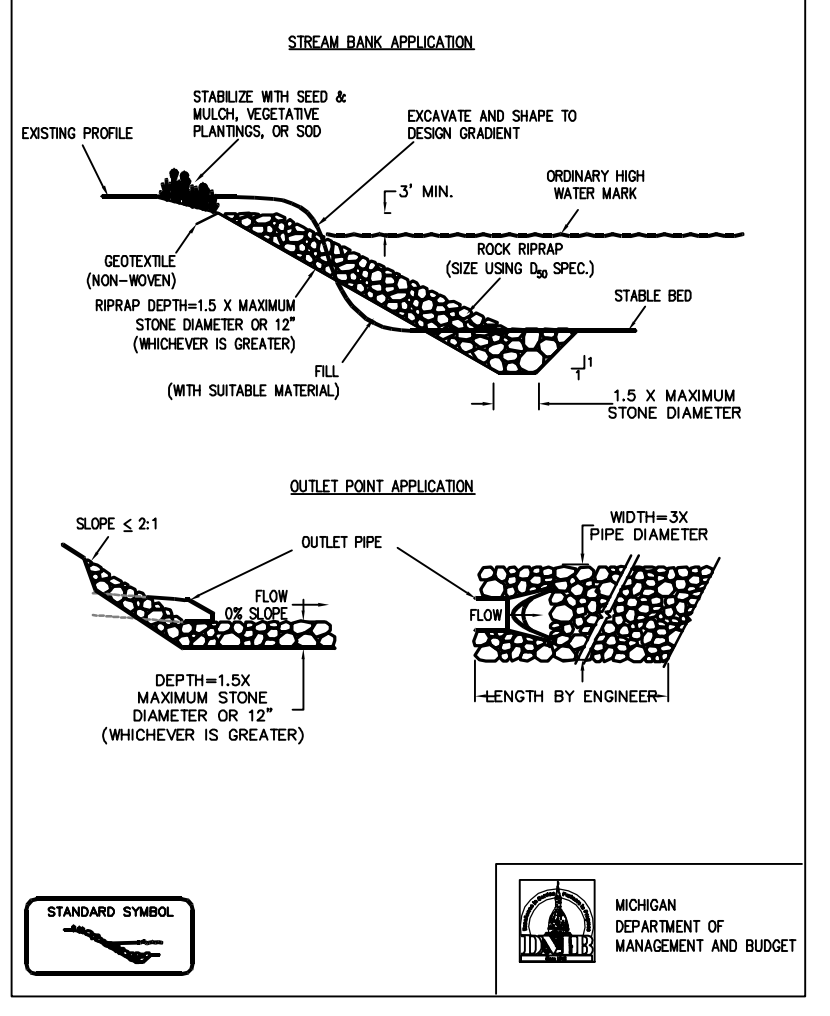
- Check after a rain event to ensure the blanket is still in place.
- Keep eroded soil, vehicular and pedestrian traffic, and concentrated runoff away from the blanketed area.

Limitations

- Mulch blankets and anchors may inhibit mowing.



E12 RIPRAP



E12 RIPRAP SPECIFICATIONS

When

- When concentrated water flows have the potential to create scour, down-cutting, or lateral cutting.

Why

- To prevent loss of land or damage to utilities or structures. In aquatic applications, riprap is used to control channel meander and maintain capacity, protect against wave attack, and reduce sediment load.

Where

- In natural or constructed channels with areas susceptible to erosion from the action of water, ice, or debris, or to damage by livestock or vehicular traffic.
- In shoreline areas where the erosion problem may be solved through simple structural measures.
- On slopes with profiles measuring 1:1.5 or less.

How

- Review subject site to identify areas subject to concentrated flows or wave/current attack.
- The appropriateness and extent of riprap placement is site specific and should be determined in the field.
- The area under review for riprap placement must be shaped and contoured appropriately by grading prior to material placement.
- Non-woven geotextile fabric should be installed prior to riprap placement, with upper end and toe end of fabric buried or anchored to prevent movement.
- Riprap placement should be started at a stabilized location and ended at a stabilized or contoured point.
- Material selected for riprap should be hard, angular, and resistant to weathering. Appropriate material size depends on expected water energy and intended function of the material.



E12 RIPRAP SPECIFICATIONS

How (cont.)

- Riprap mixture should be an even mixture of stone sizes based on the average, or U_s. This means 50% of the stone, by size, will be larger than the diameter specified, and 50% will be smaller than the size specified. The diameter of the largest stone should not be more than 1.5 times the U_s stone size.
- See table on the following page for typical riprap stone sizes.
- Rock shall be placed so that larger rocks are uniformly distributed and in contact with one another. Smaller rocks should fill the voids.
- When in contact with moving water, riprap will lie into a stable bank at the downstream end and will be keyed into the bank at the upstream end. Riprap should extend 3 ft. above the ordinary high water mark or to the top of the bank on short slopes. Extend riprap a minimum 10 ft. beyond active erosion area.
- All installations should be inspected immediately after the first rainfall to confirm the stability of the placed material. Follow-up inspections should occur regularly and provisions made for prompt repair if needed.
- Area is cleared prior to the addition of riprap, therefore no areas are preserved with native vegetation.

Height (ft)	Area (sq ft)	Typical Riprap Size (inches)	Typical Riprap Weight (lb)
1.0	1.0	1.5	15
1.5	2.25	2.0	30
2.0	4.0	2.5	45
2.5	6.25	3.0	60
3.0	9.0	3.5	75
3.5	12.25	4.0	90
4.0	16.0	4.5	105
4.5	20.25	5.0	120
5.0	25.0	5.5	135
5.5	30.25	6.0	150
6.0	36.0	6.5	165
6.5	42.25	7.0	180
7.0	49.0	7.5	195
7.5	56.25	8.0	210
8.0	64.0	8.5	225
8.5	72.25	9.0	240
9.0	81.0	9.5	255
9.5	90.25	10.0	270
10.0	100.0	10.5	285



S51 SILT FENCE SPECIFICATIONS

When

- A temporary measure for preventing sediment movement.

Why

- Used to prevent sediment suspended in runoff from leaving an earth change area.

Where

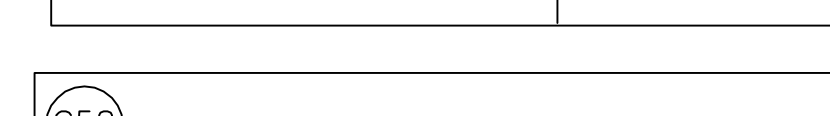
- Use adjacent to critical areas, wetlands, base of slopes, and watercourses.

How

- Install parallel to a contour.
- The silt fence should be made of woven geotextile fabric.
- Silt fence should accommodate no more than 1/2 to 1 acre of drainage per 100' of fence and on slopes less than 1:2 (v:h).
- Dig a 6" trench along the area where the fence is to be installed.
- Place 6" of the silt fence bottom flap into the trench.
- Backfill the trench with soil and compact the soil on both sides. Create a small ridge on the up-slope side of the fence.
- Install wooden stakes 6 - 10' apart and drive into the ground a minimum of 12".
- Staple the geotextile fabric to the wooden stakes.
- Join sections of silt fence by wrapping ends together (See drawing).

Maintenance

- Inspect frequently and immediately after each storm event. Check several times during prolonged storm events. If necessary, repair immediately.
- If the sediment has reached 1/3 the height of the fence, the soil should be removed and disposed of in a stable upland site.
- The fence should be re-installed if water is seeping underneath it or if the fence has become ineffective.
- Silt fence should be removed once vegetation is established and up-slope area has stabilized.



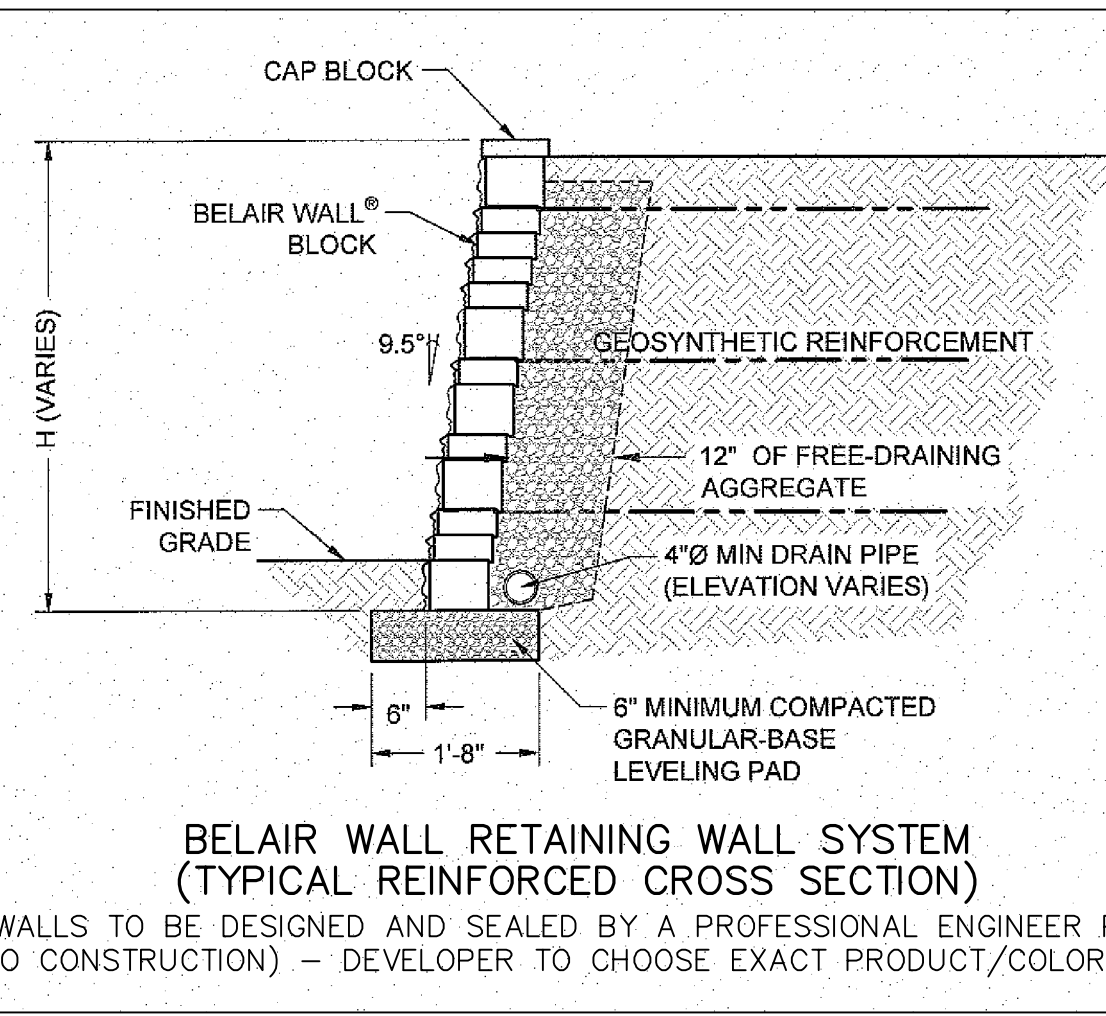
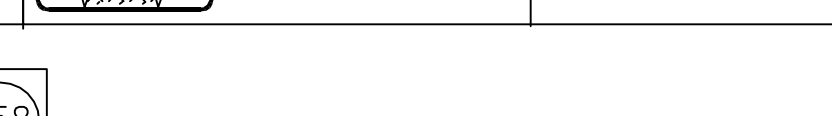
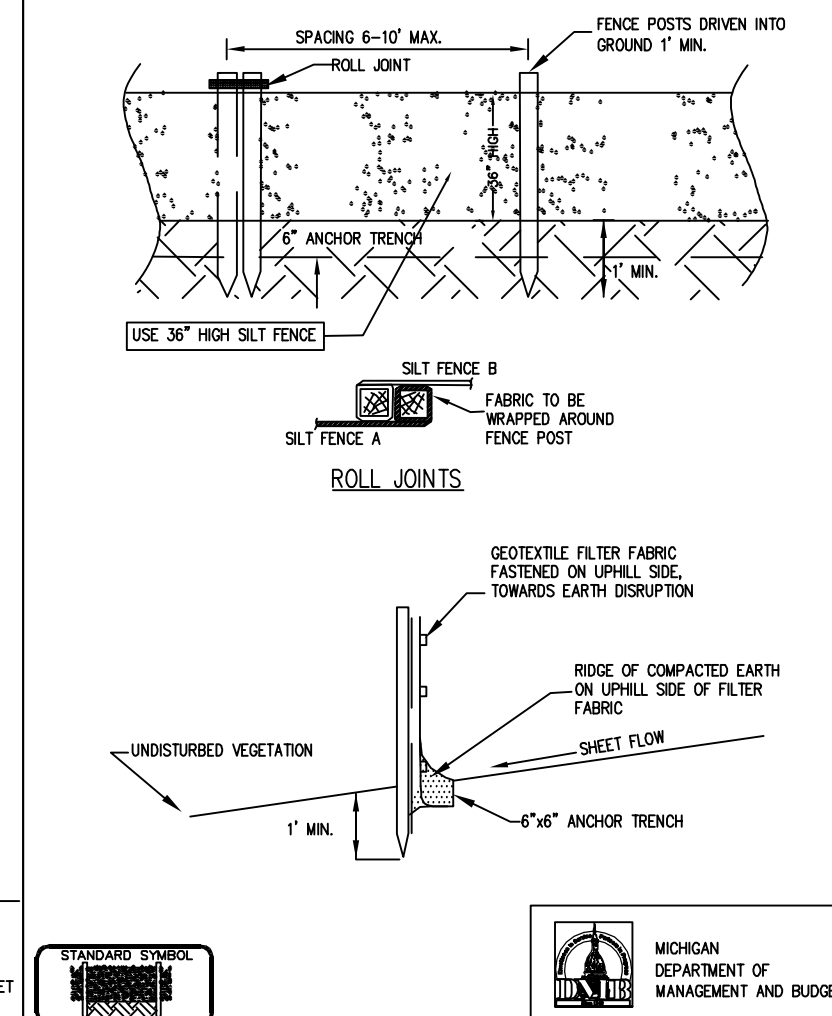
S51 SILT FENCE SPECIFICATIONS

Limitations

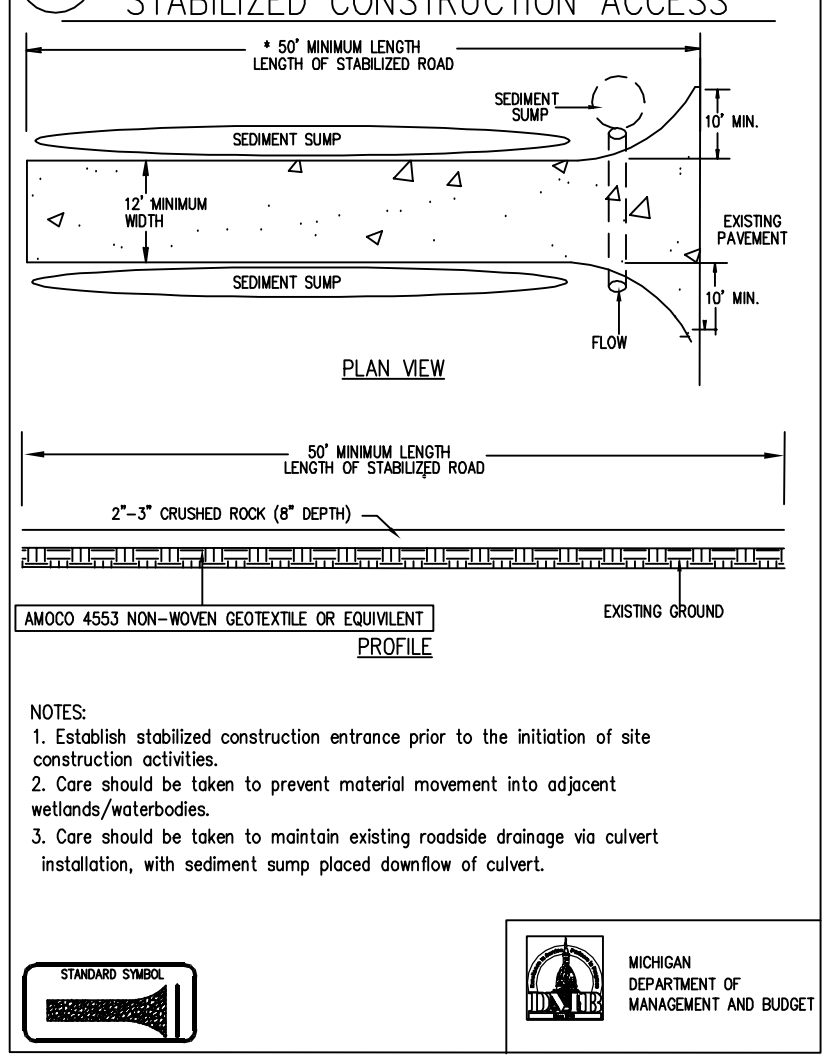
- Silt fence may cause temporary ponding and could fail if too much water flows through the area.
- Do not use in areas with concentrated flows.
- Chance of failure increases if fence is installed incorrectly or if sediment accumulation is not removed.



S51 SILT FENCE



S53 STABILIZED CONSTRUCTION ACCESS



S53 STABILIZED CONSTRUCTION ACCESS SPECIFICATIONS

Maintenance (cont.)

- Sediment deposited on public rights-of-way shall be removed immediately and returned to the construction site.
- If soils are such that washing of tires is required, it shall be done in a wash rack area, stabilized with stone, immediately prior to the construction access stabilized corridor.
- At the project completion, rock access road should be removed and disposed of unless utilized as subgrade for final road.
- Effectiveness limited, sediment may be tracked onto roads requiring additional action.

Limitations

- Stabilized construction access road should be established at the onset of the construction activities and maintained in place for the duration of the construction project.
- Access location should be cleared of woody vegetation.
- Non-woven geotextile fabric shall be placed over the existing ground prior to placing stone.
- Access size should be a minimum of 50'. (30' for single residence lots).
- Access width should be 12' minimum, flared at the existing road to provide a turning radius.
- Crushed aggregate (2" to 3"), or reclaimed or recycled concrete equivalent, shall be placed at least 8" deep over the length and width of the ingress/egress corridor.
- Periodic inspection and needed maintenance shall be provided after each rain event.
- Stabilized entrances shall be repaired and rock added as necessary.



S53 STABILIZED CONSTRUCTION ACCESS SPECIFICATIONS

When

- Construction traffic is expected to leave a construction site.
- Stabilization of interior construction roads is desired.

Why

- To minimize tracking of sediment onto public roadways and to minimize disturbance of vegetation.

Where

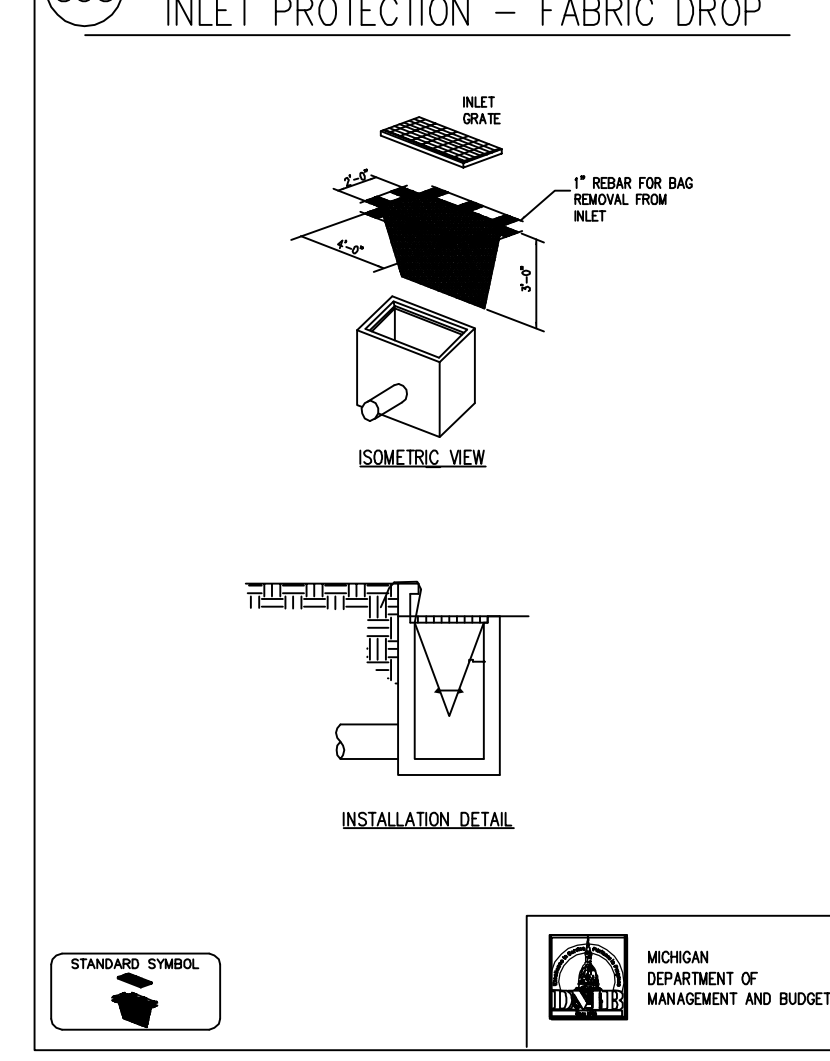
- Stabilized construction entrances shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must be routed over the rock ingress/egress corridor.

How

- Stabilized construction access road should be established at the onset of the construction activities and maintained in place for the duration of the construction project.
- Access location should be cleared of woody vegetation.
- Non-woven geotextile fabric shall be placed over the existing ground prior to placing stone.
- Access size should be a minimum of 50'. (30' for single residence lots).
- Access width should be 12' minimum, flared at the existing road to provide a turning radius.
- Crushed aggregate (2" to 3"), or reclaimed or recycled concrete equivalent, shall be placed at least 8" deep over the length and width of the ingress/egress corridor.
- Periodic inspection and needed maintenance shall be provided after each rain event.
- Stabilized entrances shall be repaired and rock added as necessary.



S58 INLET PROTECTION - FABRIC DROP



S58 INLET PROTECTION - FABRIC DROP SPECIFICATIONS

When

- When sediment laden stormwater requires treatment before entering a stormwater drainage system.

Why

- To prevent sediment from entering stormwater systems.

Where

- Use in or of stormwater inlets, especially at construction sites or in streets.

How

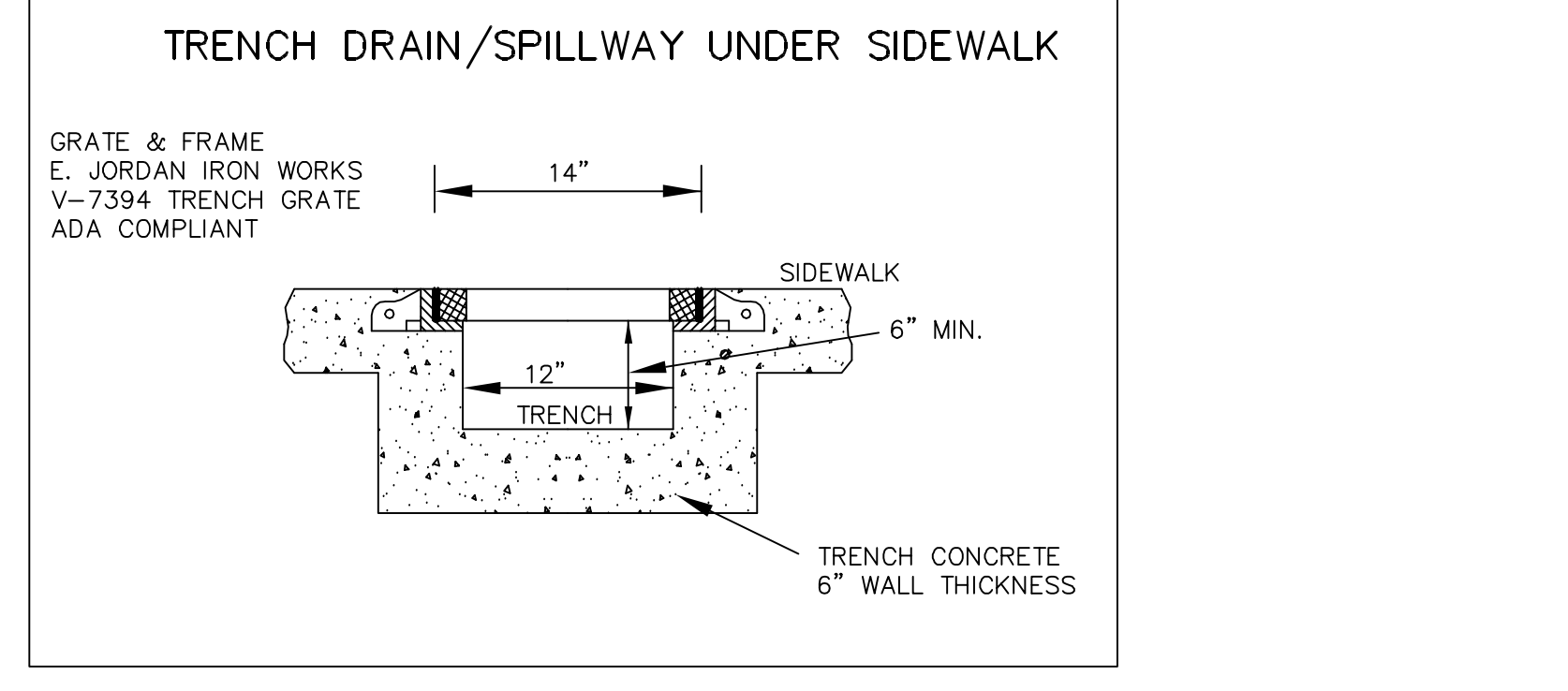
- A filter fabric bag is hung inside the inlet, beneath the grate.
- Replace grate, which will hold bag in place.
- Anchor filter bag with 1" rebar for removal from inlet.
- Flaps of bag that extend beyond the bag can be buried in soil in earth areas.

Maintenance

- Drop inlet filters should be inspected routinely and after each major rain event.
- Damaged filter bags should be replaced.
- Clean and/or replace filter bag when 1/2 full.
- Replace clogged fabric immediately.
- If needed, initiate repairs immediately upon inspection.
- Remove entire protective mechanism when upgradient areas are stabilized and streets have been swept.

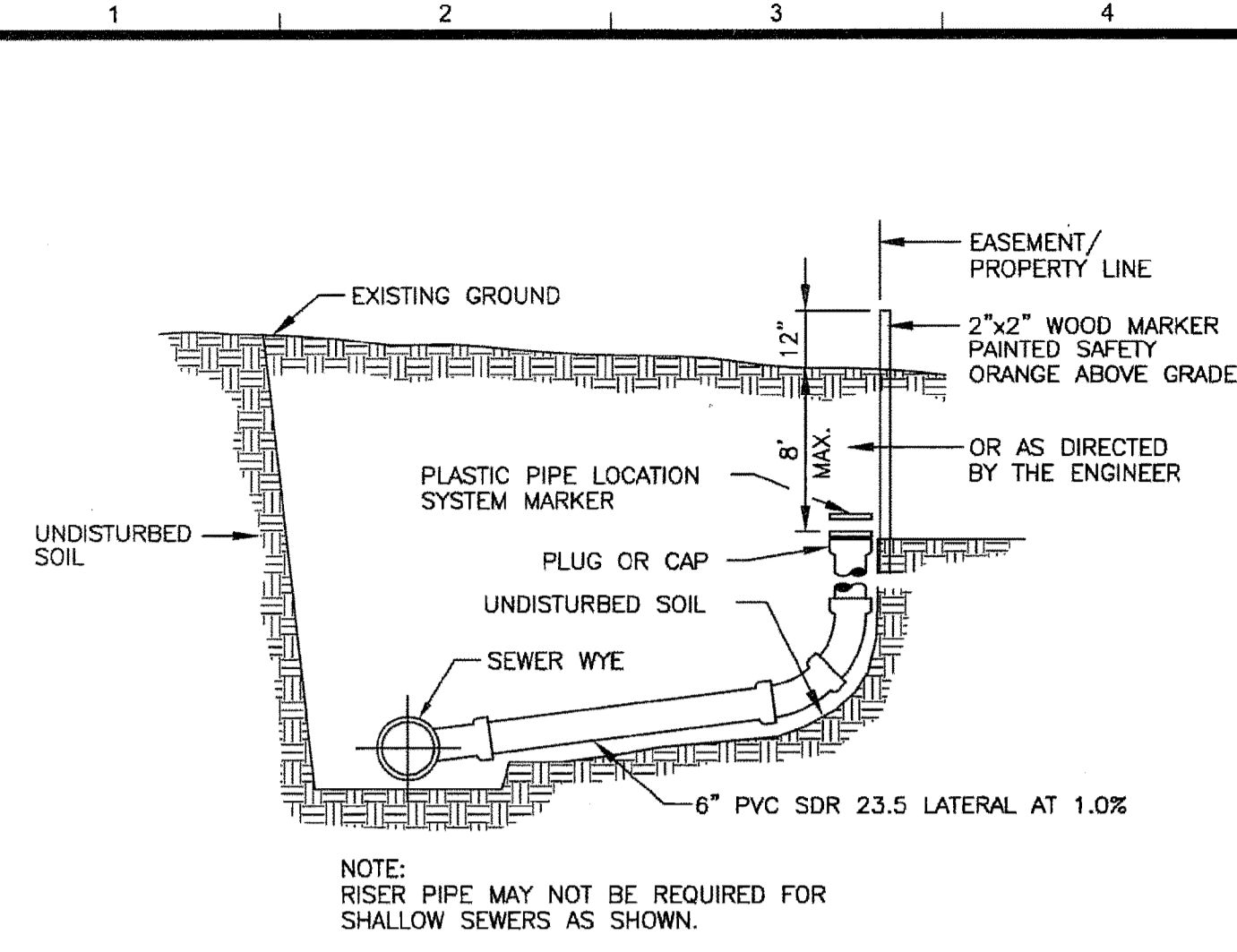
Limitations

- Can only accommodate small flow quantities.
- Requires frequent maintenance.
- Ponding may occur around storm drains if filter is clogged.

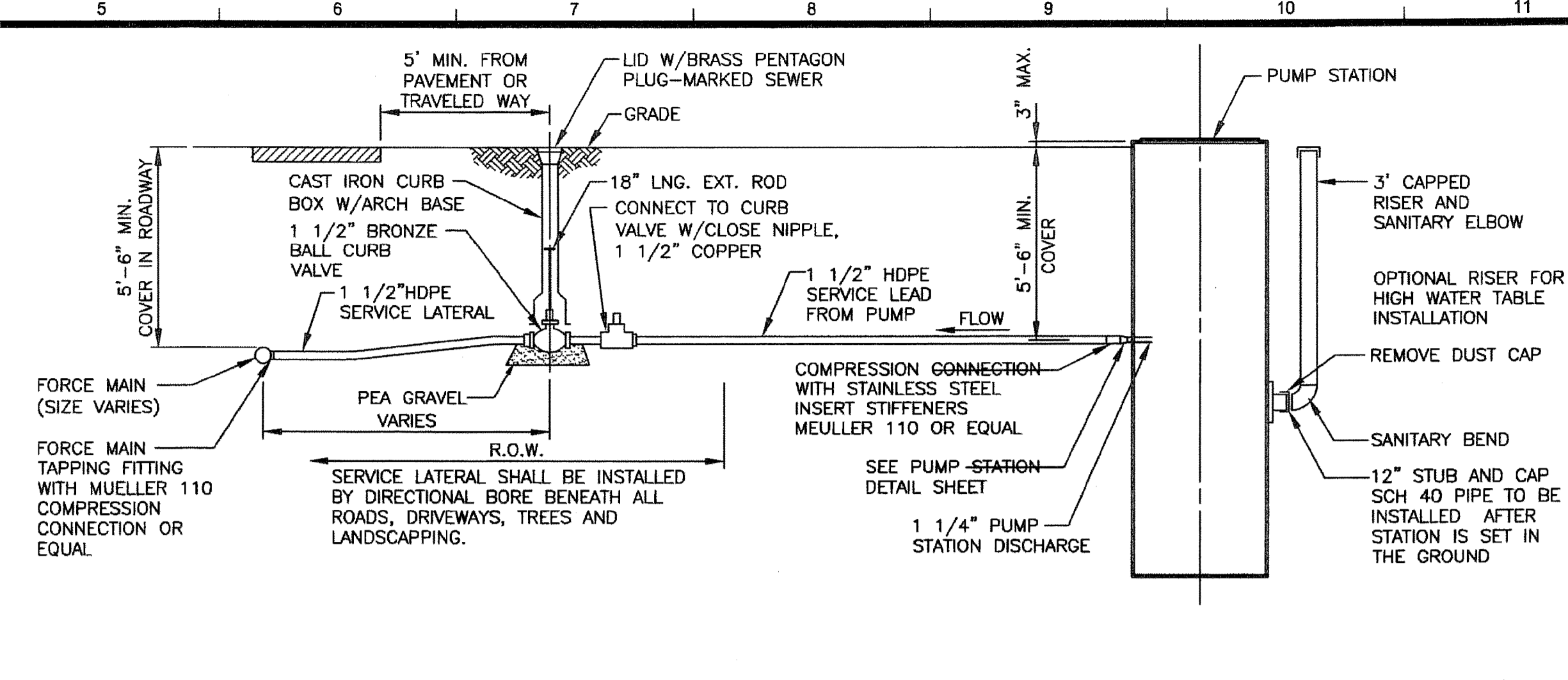



SURVEY#89814.BND

REVISIONS		DESIGNER:		APPROVED BY:	
3-2-16 SITE PLAN REVIEW	GAP	KEBS, INC.		GAP	
3-23-16 SITE PLAN REVISIONS	GAP	KYES ENGINEERING BRYAN LAND SURVEYS		GAP	
		2116 HASLETT ROAD, HASLETT, MI 48840		PH. 517-339-1014 FAX. 517-339-8047	
		Marshall Office Ph. 269-781-9800			
Howell Medical Building					
SESC/DETAIL SHEET					
SCALE: NONE	DESIGNER: GAP	PROJECT MGR: GAP	SHEET 6 OF 6		
DATE: 10-30-15	AUTHORIZED BY: Studio Intrigue Architects, LLC		JOB #: 89814		

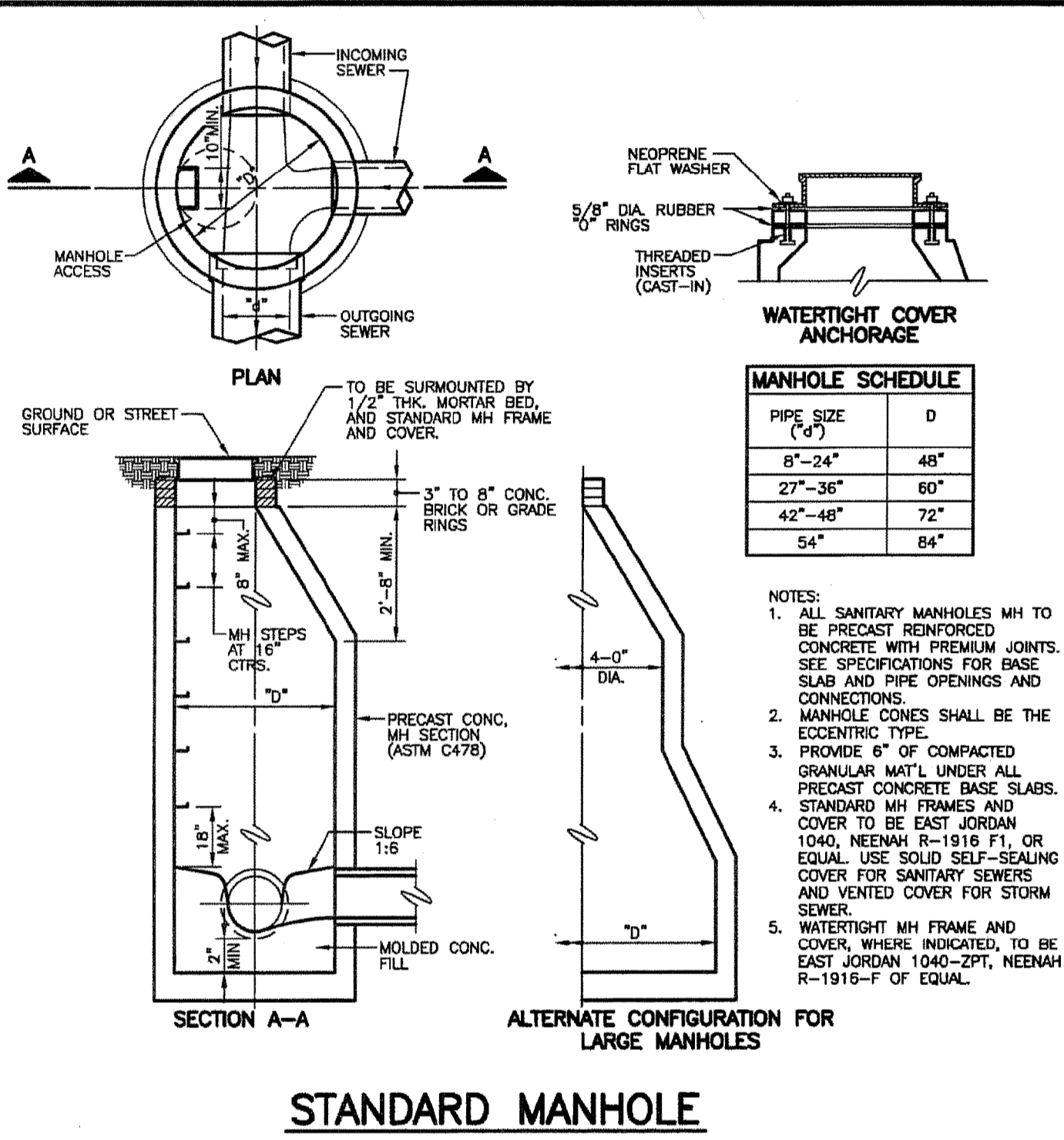


SANITARY SEWER LATERAL

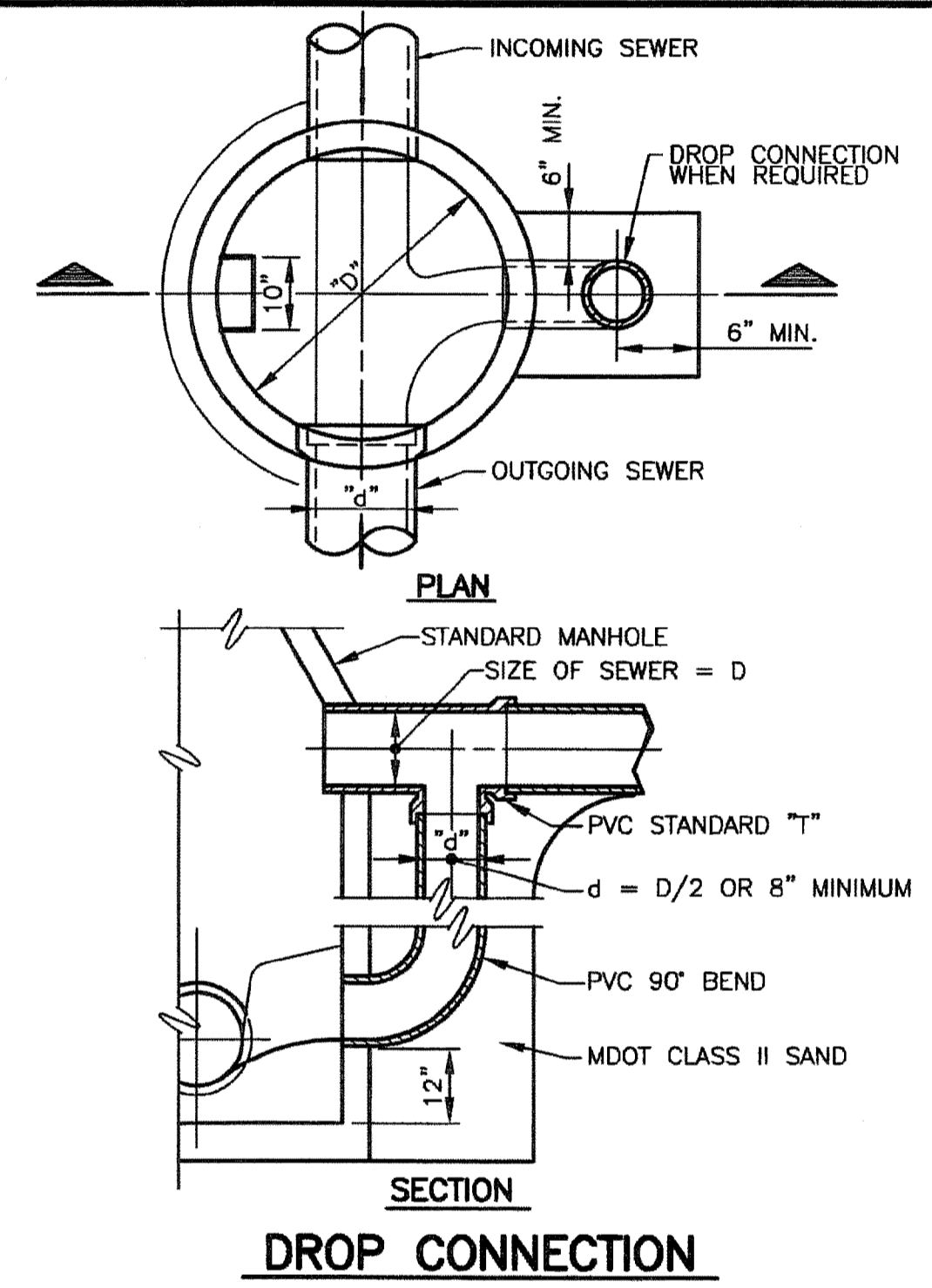


TYPICAL SERVICE LATERAL

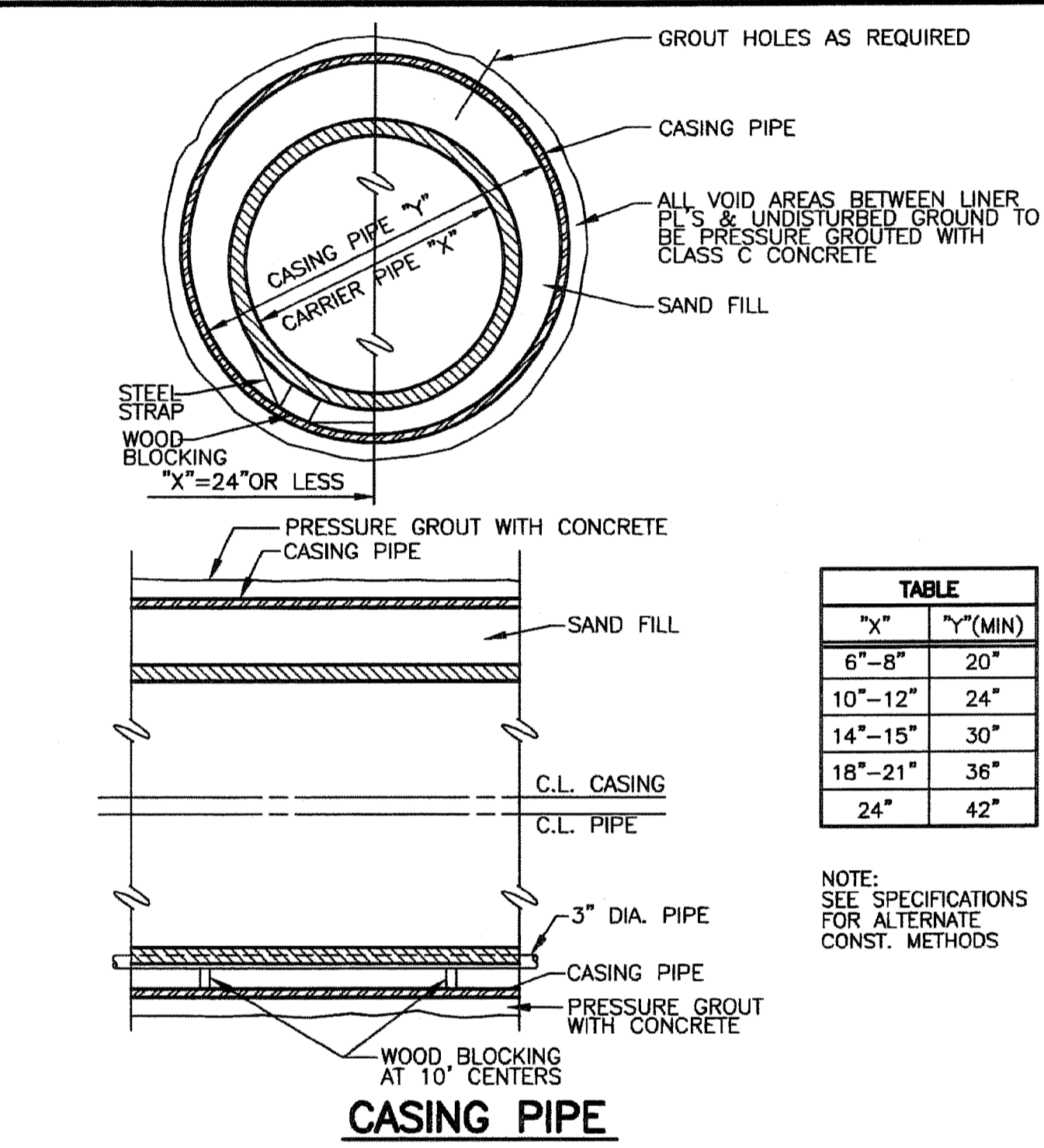
- NOTE:
 1. PROVIDE ADAPTORS BETWEEN DISSIMILAR PIPE MATERIALS AND SIZES TO MAKE PRESSURE TIGHT CONNECTION. MATERIALS SHALL BE BRONZE OR COPPER.
 2. PROVIDE OPTIONAL "INLET RISER" ONLY WHERE DETERMINED BY ENGINEER DURING CONSTRUCTION.
 3. 1 1/2" HDPE SERVICE LEAD SHALL BE INSTALLED WITH TRACER WIRE. REFER TO SECTION 15070, PRESSURE PROCESS PIPING FOR DETAILS.



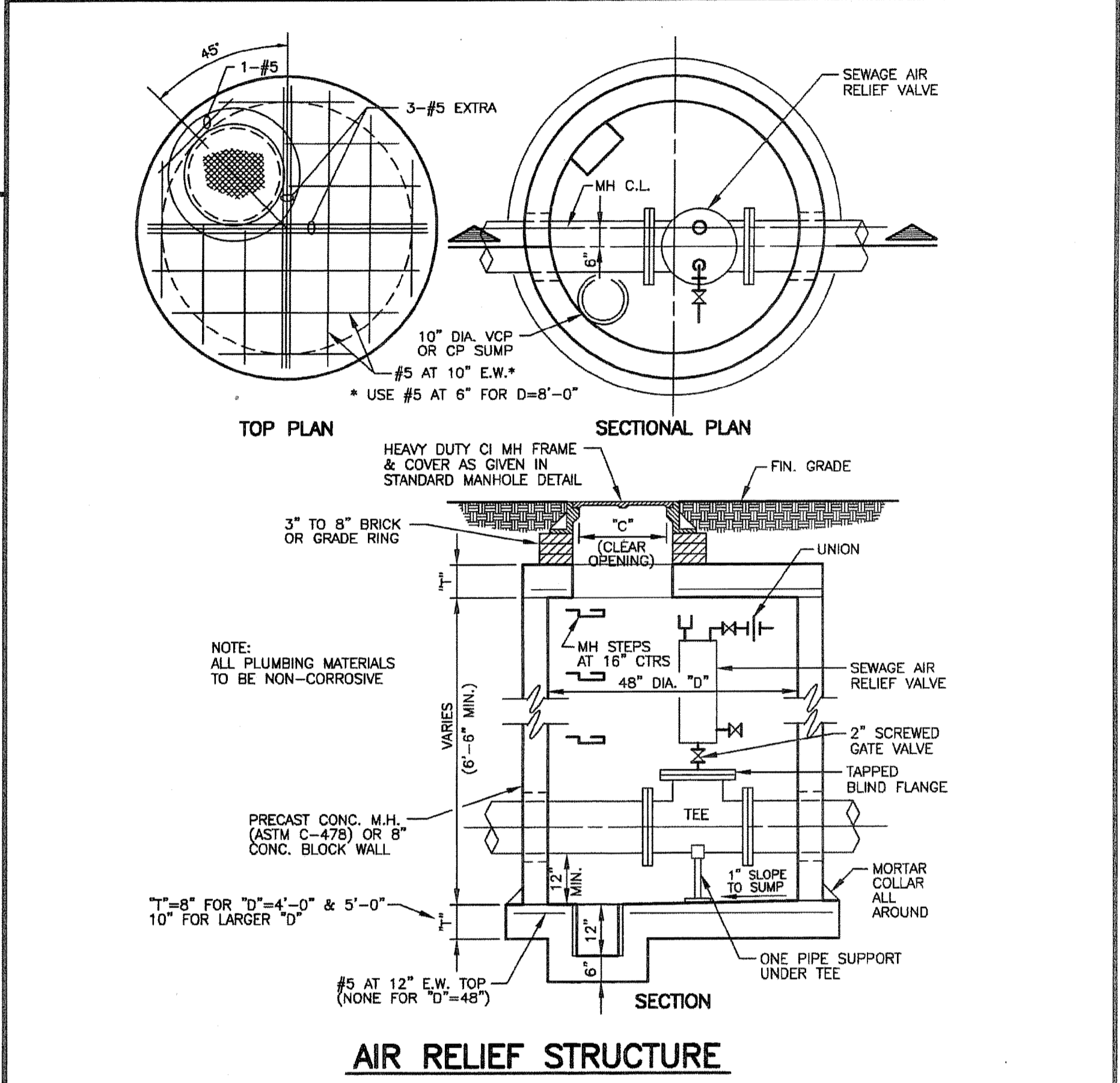
STANDARD MANHOLE



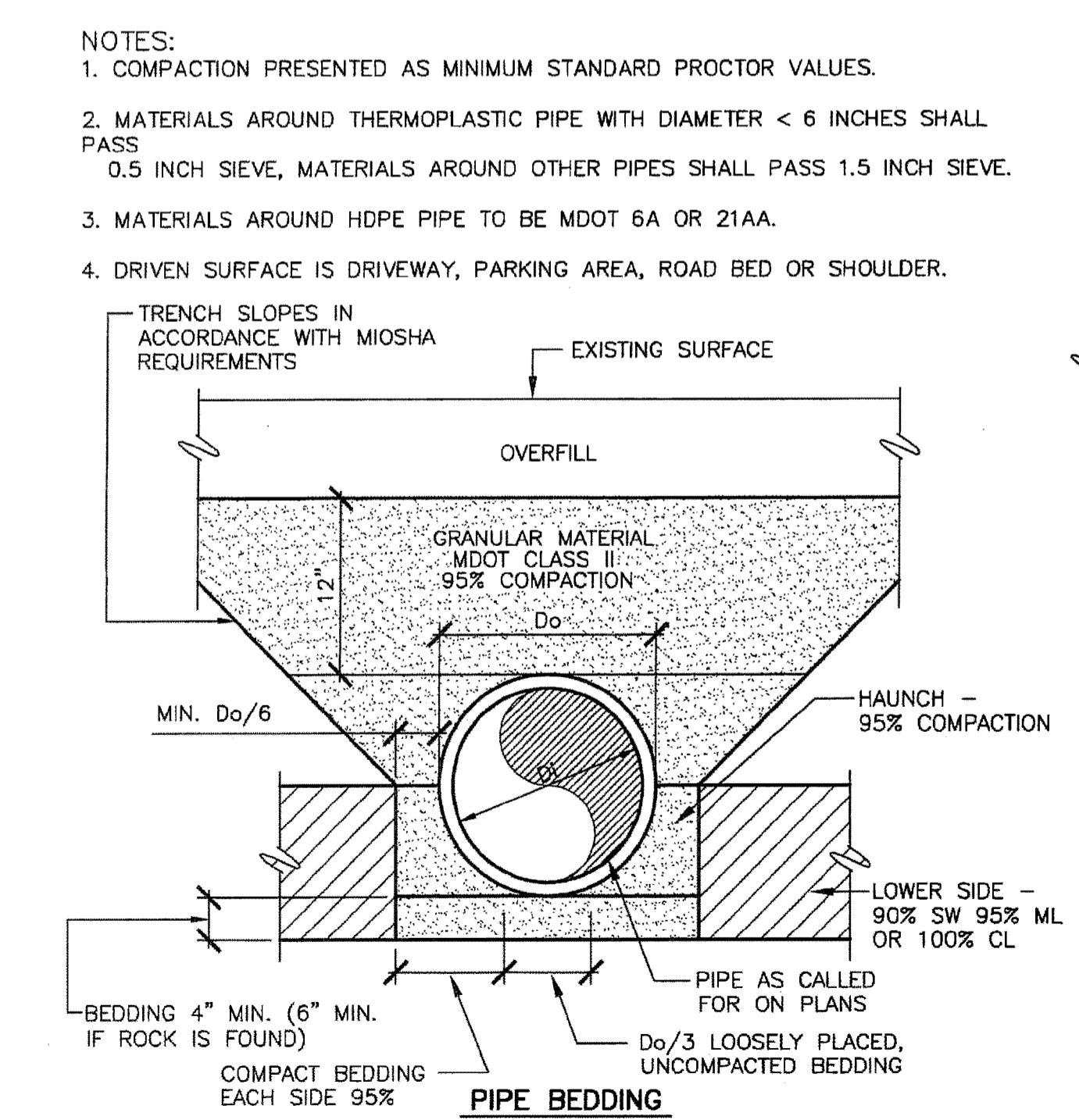
DROP CONNECTION



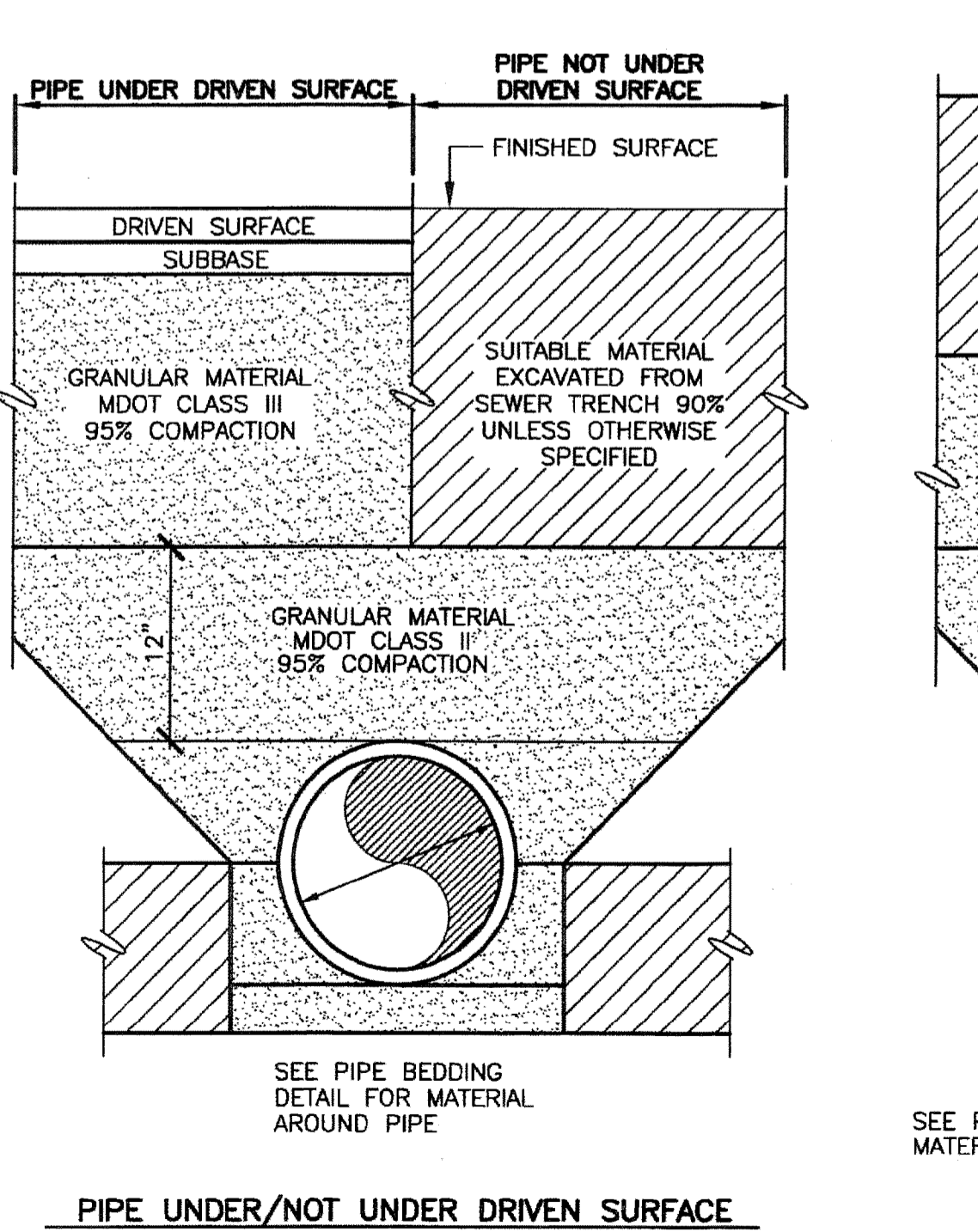
CASING PIPE



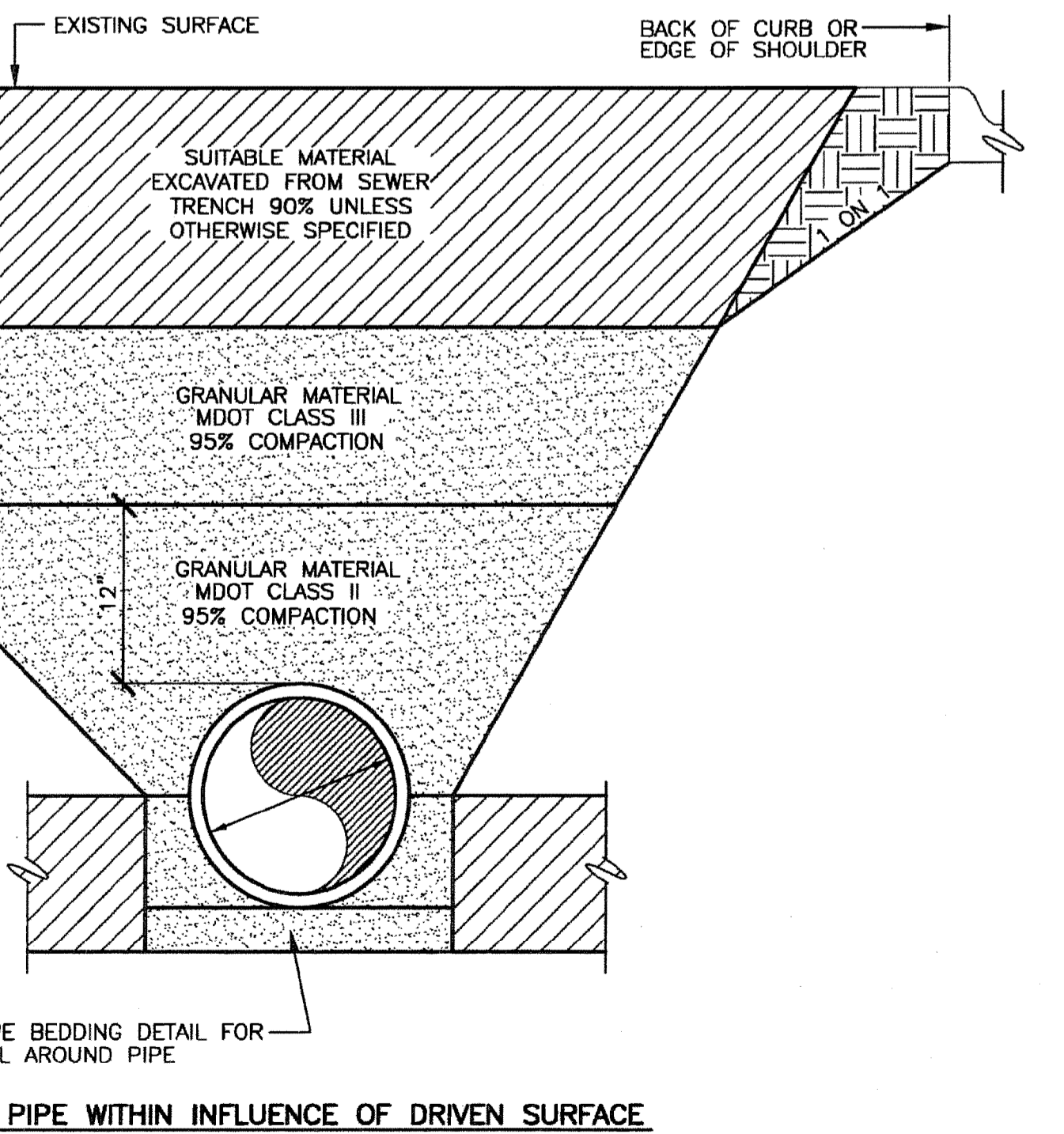
AIR RELIEF STRUCTURE



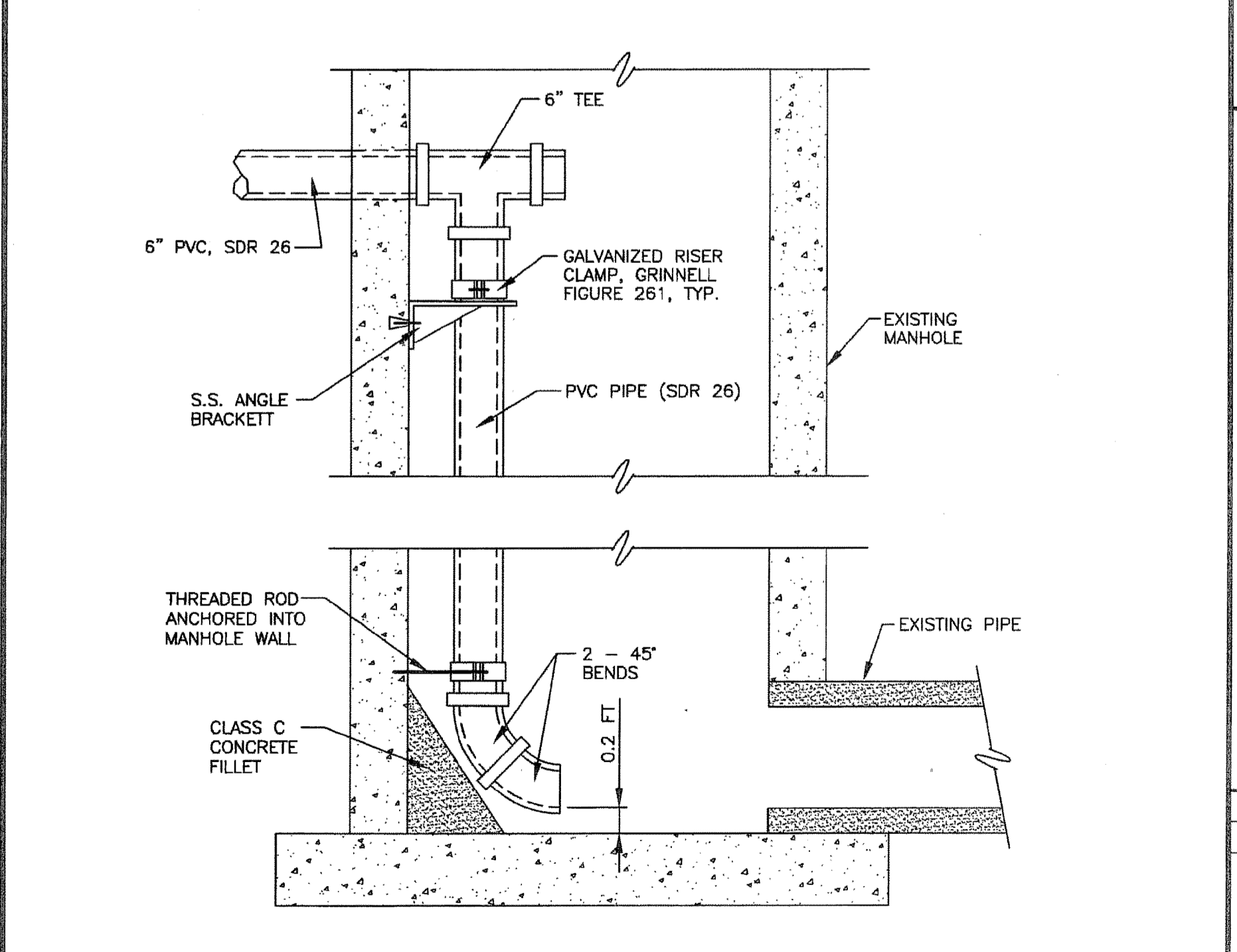
TRENCH EXCAVATION & PIPE BEDDING



PIPE UNDER/NOT UNDER DRIVEN SURFACE



PIPE WITHIN INFLUENCE OF DRIVEN SURFACE



INTERIOR SEWER LATERAL DROP CONNECTION

Wednesday, July 16, 2008 11:30:05 AM DRAWING: L:\Cadd\LD\HCH\mg-atc.dwg

GENOA OCEOLA
Sewer and Water Authority

SANITARY SEWER
STANDARD DETAILS

Scale: NONE
 Issued Date: 10-22-2007

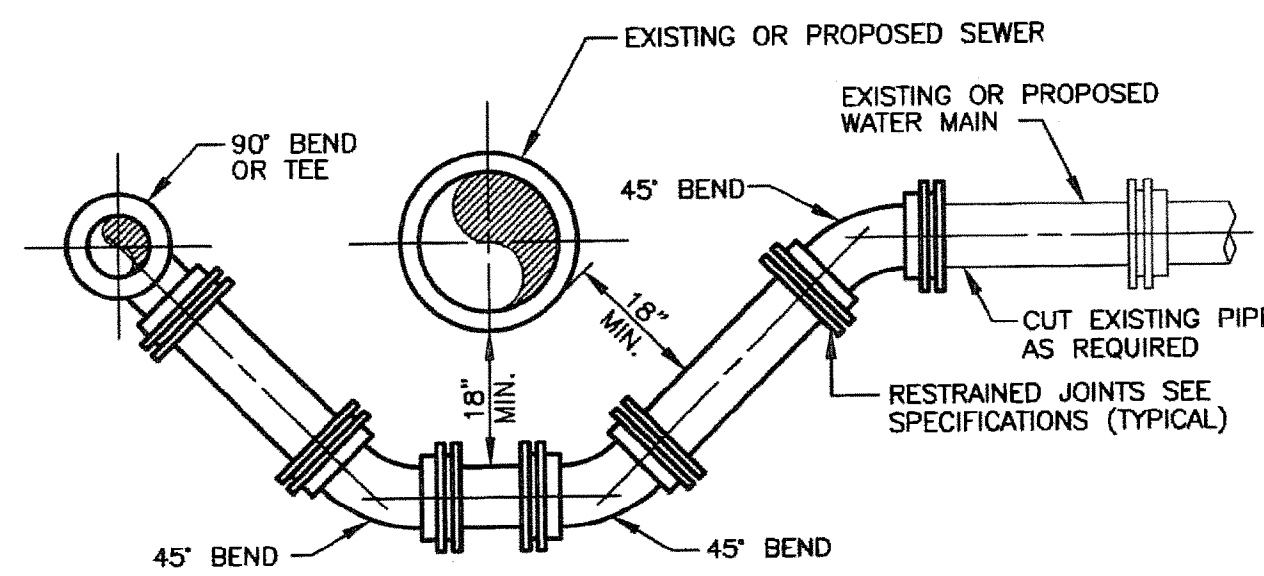
SHEET D1

PIPE RESTRAINT SCHEDULE
GROUND BURIED PRESSURE PIPE - POLYETHYLENE ENCASED DUCTILE IRON PIPE

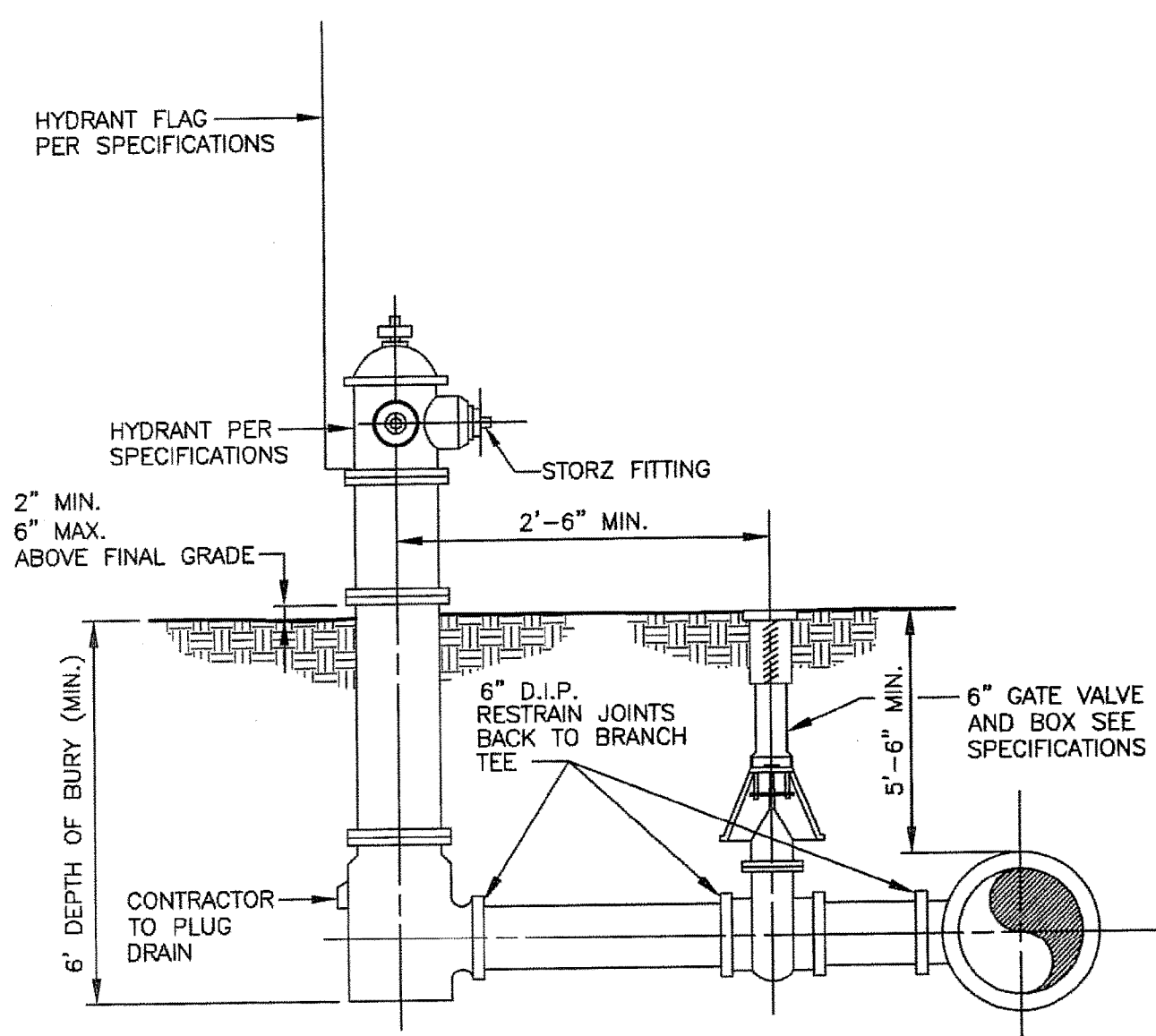
PIPE DIAMETER	TEES, 90° BENDS	45° BENDS	22-1/2° BENDS	11-1/4° BENDS	DEAD ENDS	REDUCERS (ONE SIZE REDUCTION)*	REDUCERS (TWO SIZE REDUCTION)*
4	13	5	3	1	40	--	--
6	19	8	4	2	58	31	--
8	24	10	5	2	75	30	70
12	34	14	7	3	107	57	116
16	43	18	9	4	139	59	137
20	52	22	10	5	169	59	134
24	61	25	12	6	199	60	132
30	73	30	15	7	242	85	168
36	84	35	17	8	281	84	188

- LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.
- IF REQUIRED PIPE DIAMETER IS NOT LISTED IN THIS TABLE, THE NEXT LARGEST PIPE DIAMETER SHALL BE USED.
- THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER. FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY.
- THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
- IF TIE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8-INCH TO BAR DIAMETER AS CORROSION ALLOWANCE.

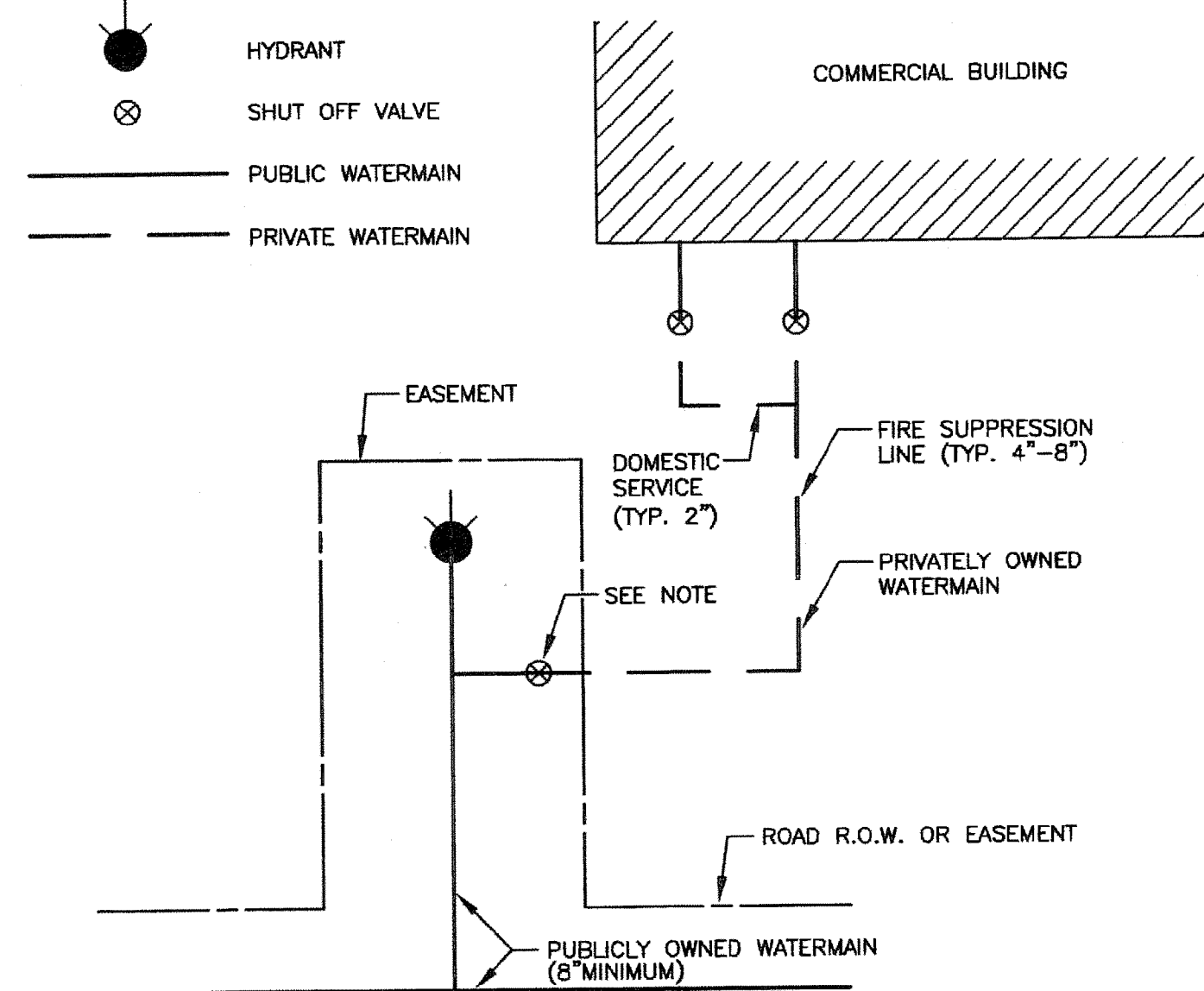
* SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.
BASED UPON:
INTERNAL PRESSURE: 180
PIPE DEPTH: 5
BEDDING CLASS: TYPE 4
SOIL TYPE: GOOD SAND
SAFETY FACTOR: 2



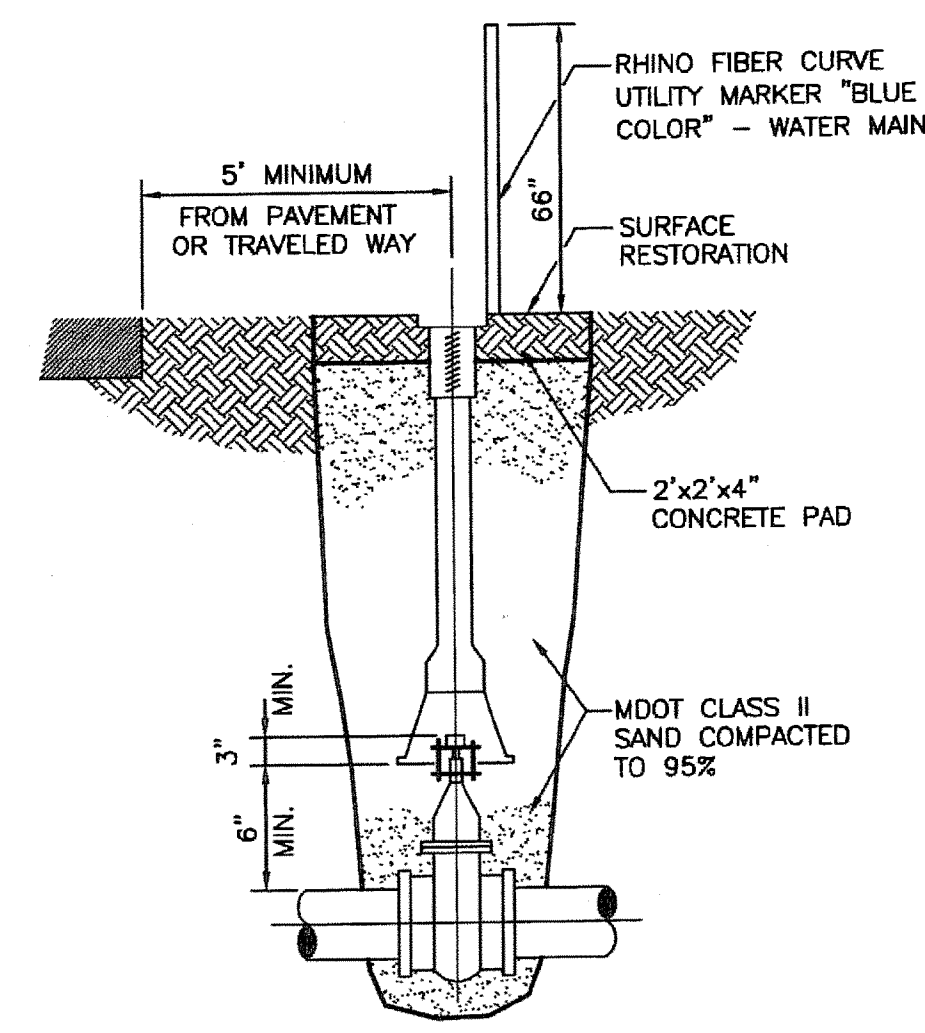
WATER MAIN RELOCATION



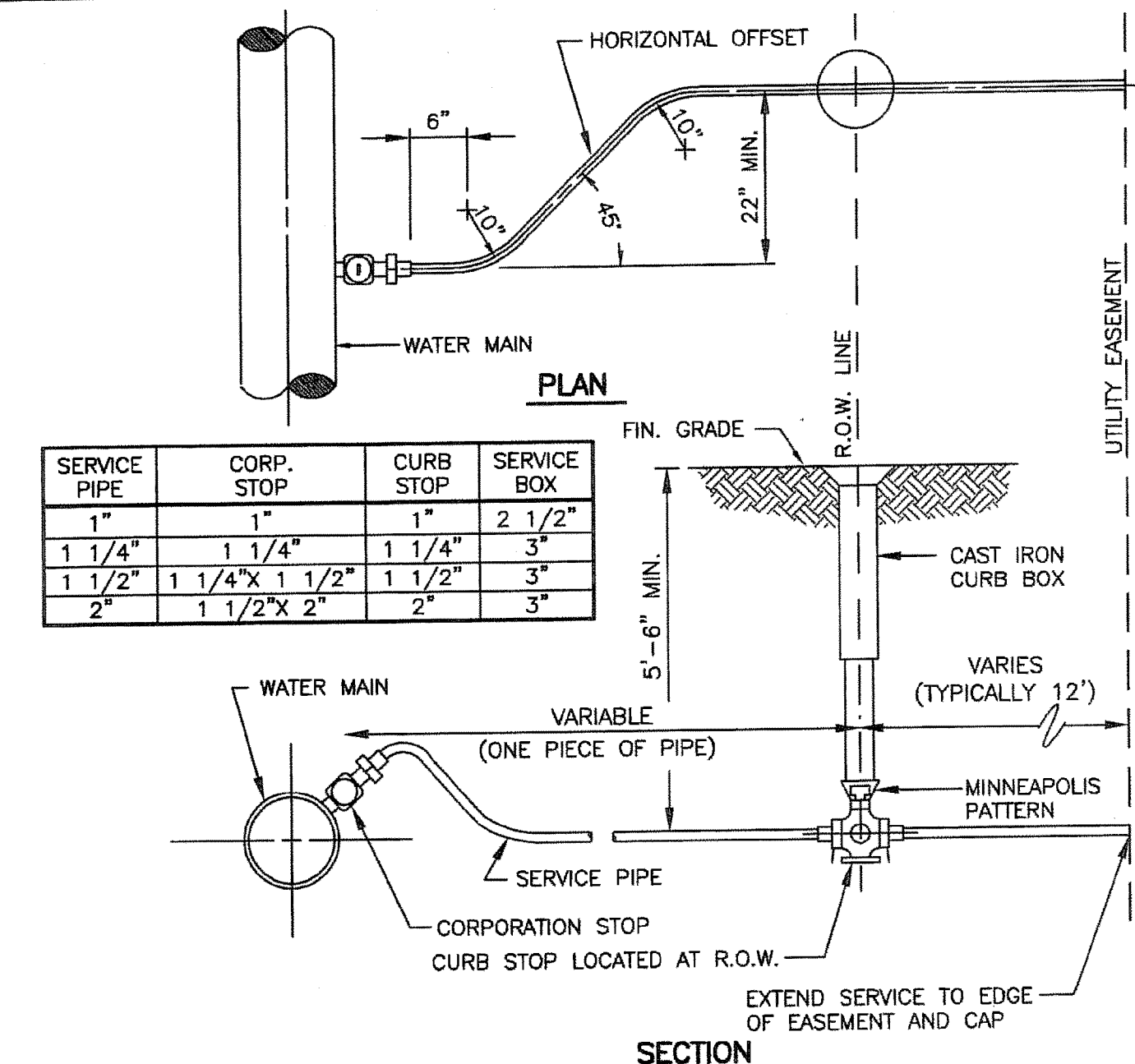
FIRE HYDRANT ASSEMBLY



COMMERCIAL BUILDING WATER SERVICE LAYOUT

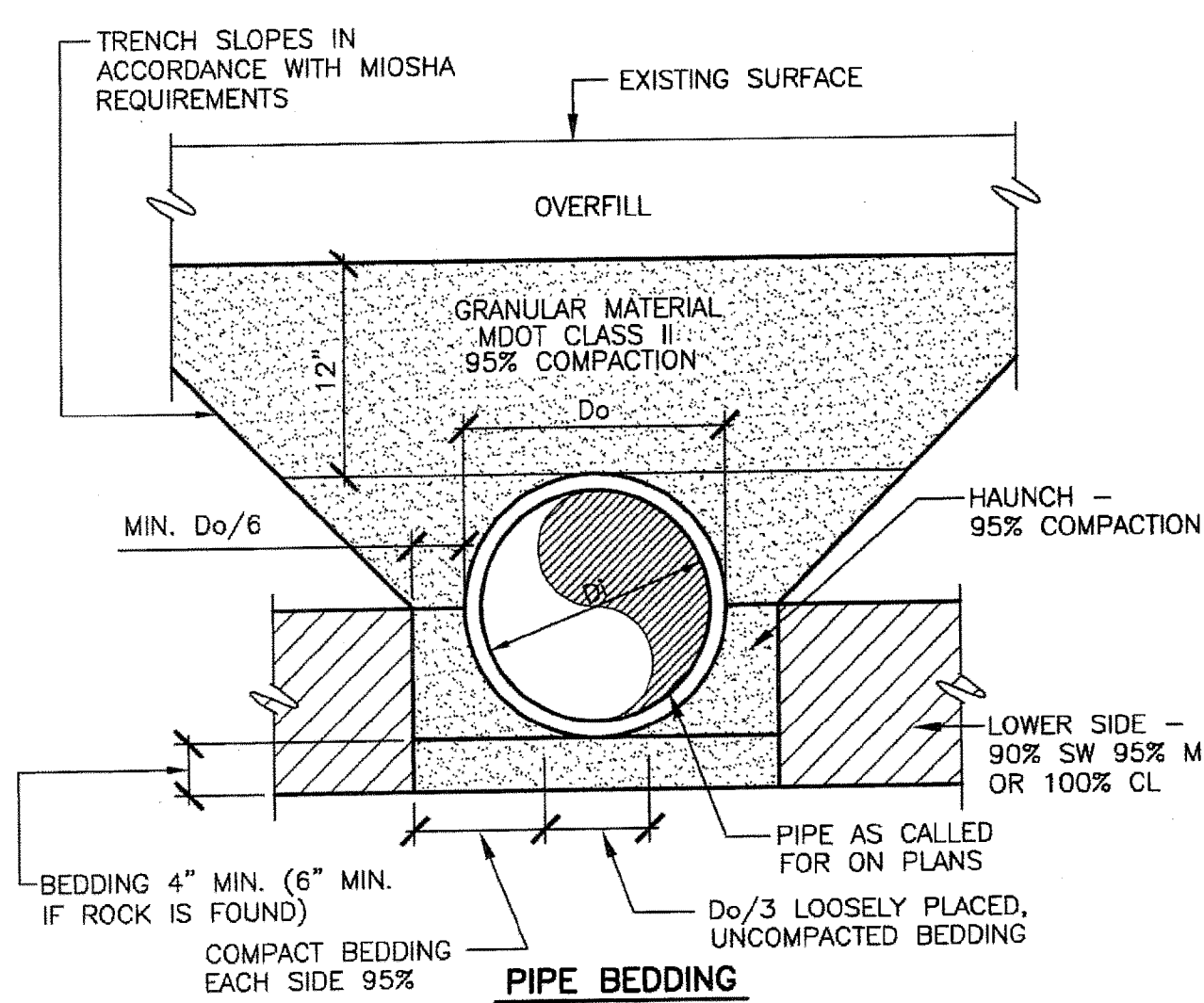


GATE VALVE AND BOX

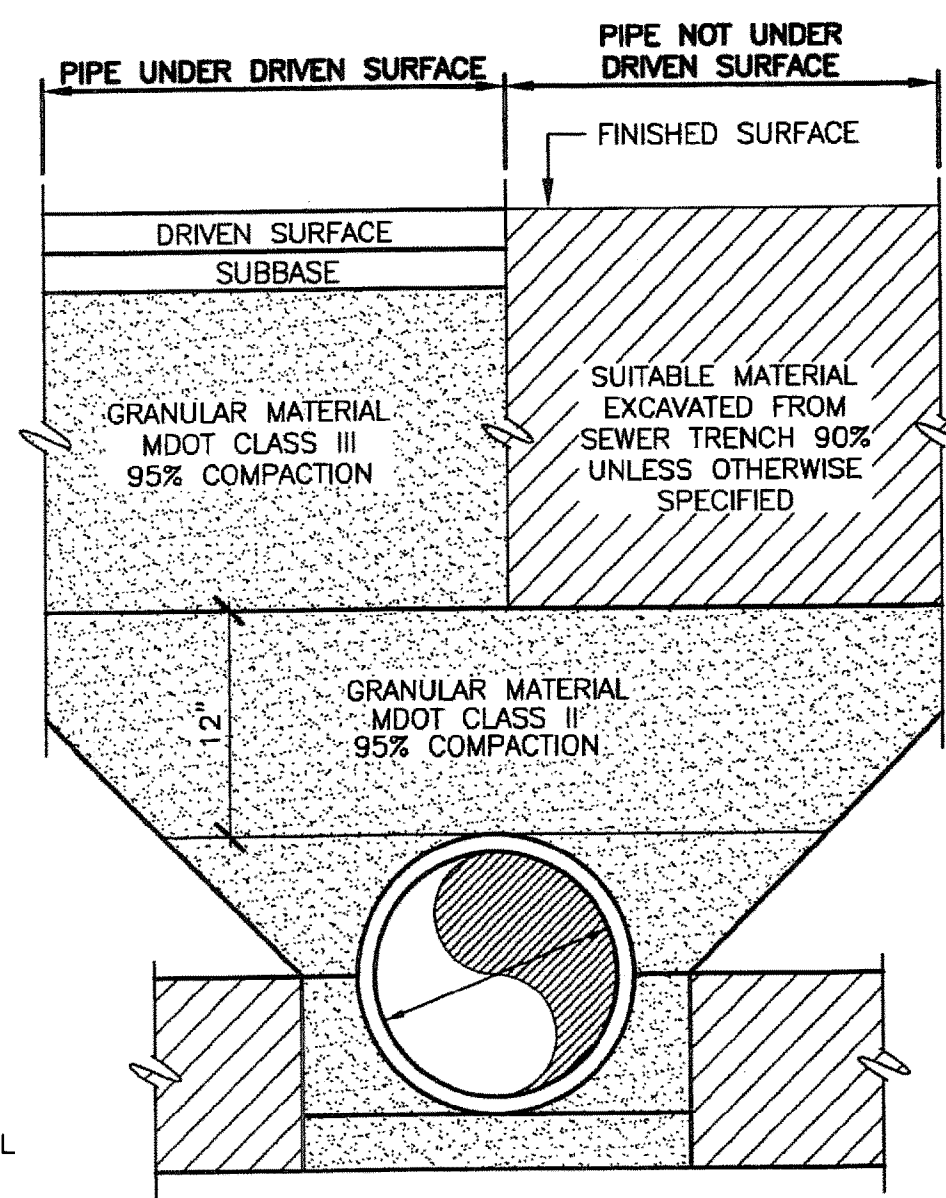


WATER SERVICE LATERAL

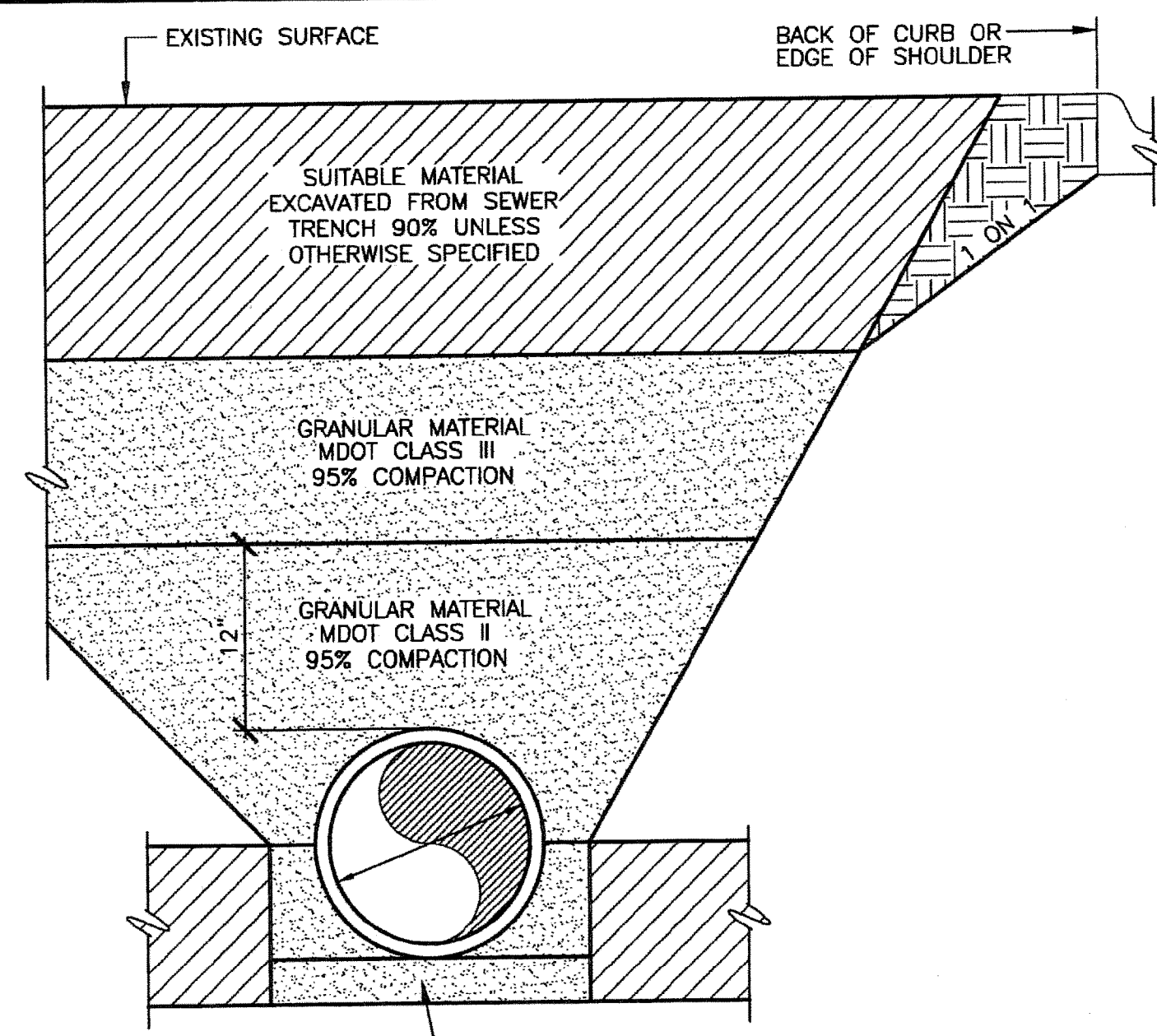
- NOTES:
- COMPACTION PRESENTED AS MINIMUM STANDARD PROCTOR VALUES.
 - MATERIALS AROUND THERMOPLASTIC PIPE WITH DIAMETER < 6 INCHES SHALL PASS 0.5 INCH SIEVE, MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SIEVE.
 - MATERIALS AROUND HDPE PIPE TO BE MDOT 6A OR 21AA.
 - DRIVEN SURFACE IS DRIVEWAY, PARKING AREA, ROAD BED OR SHOULDER.



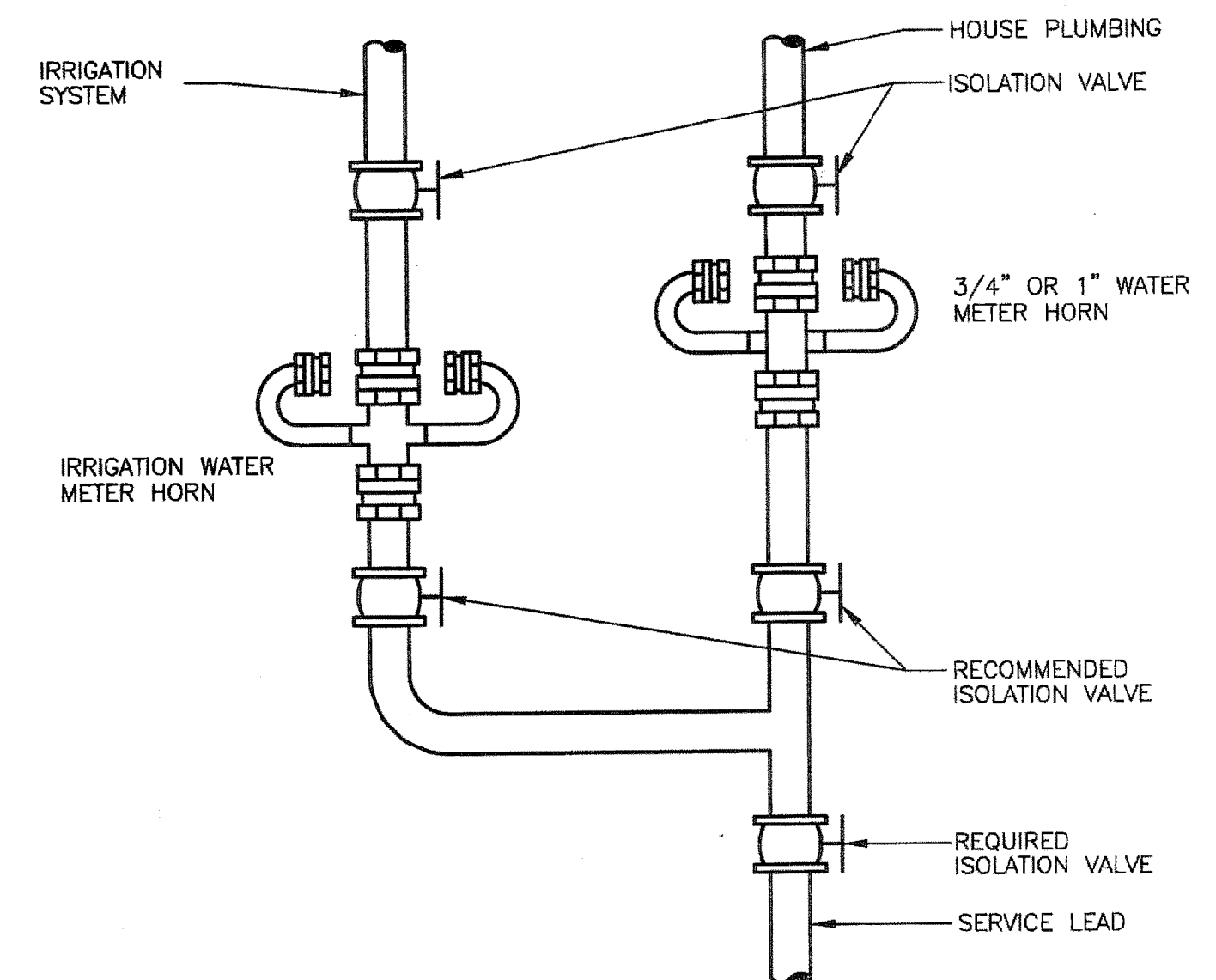
PIPE BEDDING



**PIPE UNDER/NOT UNDER DRIVEN SURFACE
TRENCH EXCAVATION & PIPE BEDDING**



PIPE WITHIN INFLUENCE OF DRIVEN SURFACE



NOTE:
ALL METERS ARE TO BE INSTALLED HORIZONTALLY IN A DRY, CLEAN, SANITARY LOCATION THAT IS READILY ACCESSIBLE. THIS DRAWING IS NOT TO SCALE & IS ONLY A REPRESENTATION OF HOW THE METERS SHOULD BE INSTALLED. THE SECOND METER IS OPTIONAL FOR IRRIGATION USAGE. METERS SHOULD NOT BE INSTALLED IN LINE (ONE RIGHT AFTER THE OTHER).

TYPICAL METER HORN INSTALLATION

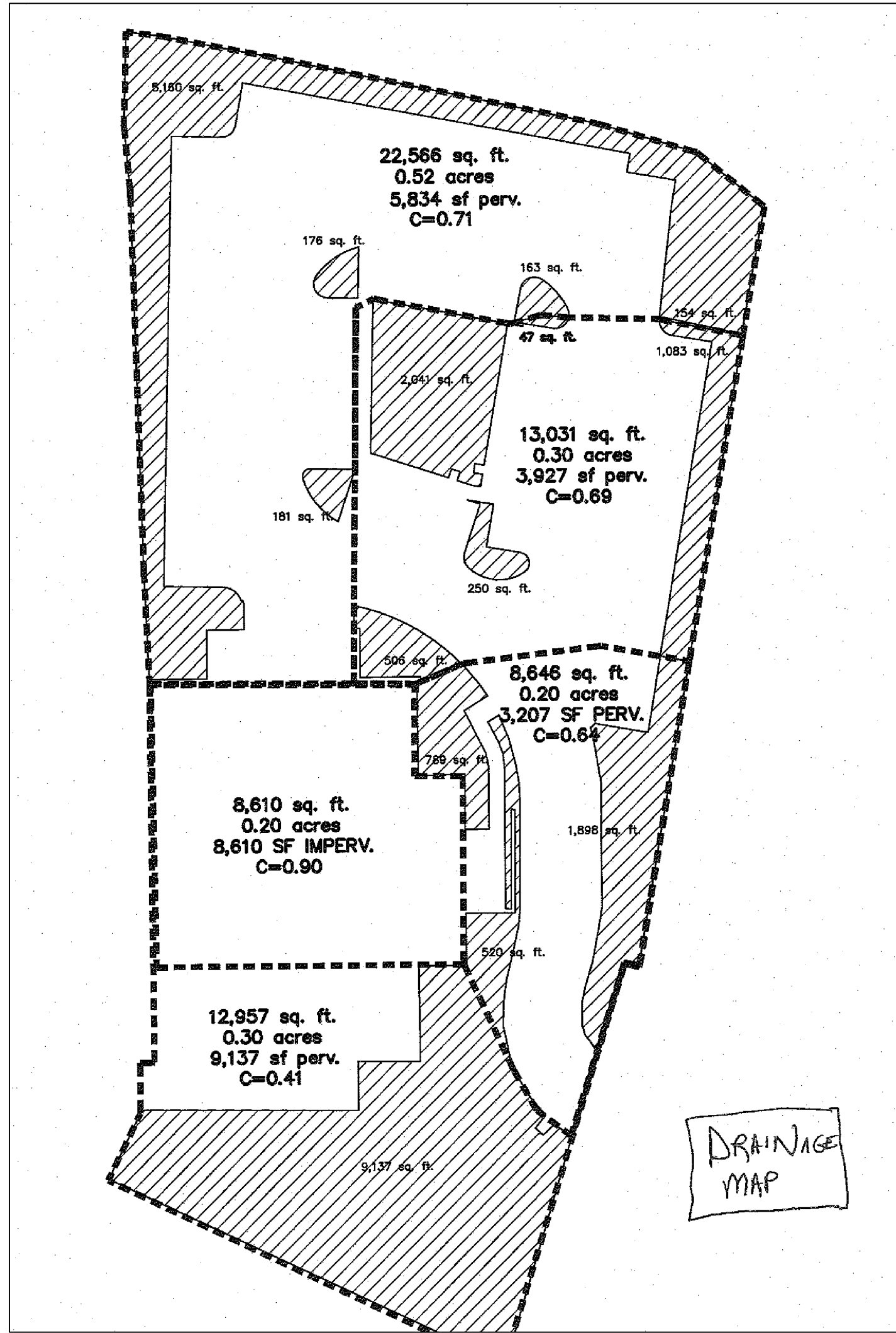
Wednesday, July 16, 2008 11:30:22 AM DRAWING: L:\C:\d\h\HOGMing-stl.dwg

MARION HOWELL GENOA OCEOLA
Sewer and Water Authority

**WATER MAIN
STANDARD DETAILS**

Scale: NONE
Issued Date: 10-22-2007

SHEET 02



STORM DRAINAGE COMPUTATIONS BY: PROJECT: Howell Medical

KEBS, INC. 2116 Haslett Road, Haslett, MI 48840 (517) 339-1014 SHEET # 1 OF 1

CALCULATED BY: GP DATE: 3/2/2016

CHECKED BY: DATE:

10 YEAR STORM

STR #	LB#1	TO STR#	LB#2	INCREMENT AC. =	"C" =
				0.52	0.71
INCREMENT "CA"	0.37	TOT AC. =	0.52	TOT "CA" =	0.37
Q10	1.76	SIZE	12	"V" =	2.88
INV. UP =	977.06	INV. DOWN =	976.60	HYD. %	0.24%
HYD EL UP =	978.26	HYD EL DOWN =	977.99	REMARKS	
RIM EL					

STR #	LB#2	TO STR#	ST#3	INCREMENT AC. =	"C" =
				0.30	0.69
INCREMENT "CA"	0.21	TOT AC. =	0.82	TOT "CA" =	0.58
Q10	2.69	SIZE	12	"V" =	3.43
INV. UP =	976.60	INV. DOWN =	975.84	HYD. %	0.57%
HYD EL UP =	977.99	HYD EL DOWN =	976.92	REMARKS	
RIM EL					

STR #	ST#3	TO STR#	CB#4	INCREMENT AC. =	"C" =
				0.20	0.90
INCREMENT "CA"	0.18	TOT AC. =	1.02	TOT "CA" =	0.76
Q10	3.40	SIZE	15	"V" =	3.33
INV. UP =	975.74	INV. DOWN =	975.50	HYD. %	0.28%
HYD EL UP =	976.92	HYD EL DOWN =	976.75	REMARKS	Includes portion of roof
RIM EL					

STR #	CB#4	TO STR#	POND	INCREMENT AC. =	"C" =
				0.20	0.64
INCREMENT "CA"	0.13	TOT AC. =	1.22	TOT "CA" =	0.89
Q10	3.94	SIZE	15	"V" =	3.33
INV. UP =	975.50	INV. DOWN =	975.39	HYD. %	0.37%
HYD EL UP =	976.74	HYD EL DOWN =	976.64	REMARKS	
RIM EL					

STR #	OS#4	TO STR#	MDOT	INCREMENT AC. =	"C" =
				0.05	0.80
INCREMENT "CA"	0.04	TOT AC. =	0.05	TOT "CA" =	0.04
Q10	0.21	SIZE	4	"V" =	3.63
INV. UP =	971.50	INV. DOWN =	969.40	HYD. %	1.10%
HYD EL UP =	970.65	HYD EL DOWN =	969.73	REMARKS	
RIM EL					

STORAGE COMPUTATIONS FOR: PROJECT: HOWELL MEDICAL - DETENTION

KEBS, INC. 504 Lansing Road, Charlotte, MI 48813 Ph: 517-543-7076 Fax: 517-543-7023 SHEET # OF

CALCULATED BY: GP DATE: 02/10/16

CHECKED BY: DATE:

ALLOWABLE OUTFLOW (CFS) = 0.21
DEVELOPED "CA" = 1.00

STORAGE CALCULATIONS FOR A 100yr STORM

$I = \frac{275}{25 + T}$

$Q_p (cfs) = \frac{\text{Allowable outflow}}{\text{Area} \times \text{Runoff coef.}} = 0.211$

$Peak \text{ Time} = T_{(min)} = 25 + \sqrt{Q_p} = 196.27$

$V_1 (cfs/Acre) = \frac{18500 \times T}{25 + T} \times (40 \times Q_p \times T) = 12982$

$V_1 (cft) = V_1 \times \text{Acres} \times \text{Runoff} = 12943$

STORAGE CALCULATIONS FOR A 50yr STORM

$I = \frac{200}{33 + T}$

$Q_p (cfs) = \frac{\text{Allowable outflow}}{\text{Area} \times \text{Runoff coef.}} = 0.211$

$Peak \text{ Time} = T_{(min)} = 25 + \sqrt{Q_p} = 183.85$

$V_1 (cfs/Acre) = \frac{14700 \times T}{25 + T} \times (40 \times Q_p \times T) = 9015$

$V_1 (cft) = V_1 \times \text{Acres} \times \text{Runoff} = 8988$

Standpipe Dimensions for Detention Pond (First Flush, Bank Full, 100 yr Flood)

Storm Outlet: MDOT CB AT GRAND RIVER AVE. Existing "C" Value: 0.20
Job Name: HOWELL MEDICAL BUILDING Proposed "C" Value: 0.48
Job Number: E-89814 Maximum Allowable Outflow (CFS): 0.21
Drainage Area (Acres): 1.51 Required Detention Volume (ft³): 12943

STORAGE PROVIDED

Elevation (ft)	Area (ft²)	Incremental Volume (ft³)	Detention Pond Volume (ft³)
979.0	5588.000	3035	16623
978.0	4482.000	3995	11588
977.0	3508.000	3049	7593
976.0	2590.000	2171	4544
975.00	1752.000	1407	2373
974.0	1062.000	821	966
973.0	580.000	145	145
972.5	0.000		

Detention Pond Storage Capacity (ft³) = 16623

100 yr Flood Storage Requirement (ft³) = 12943 Storage Elevation (ft) = 978.27

Area = $Q / (0.62 \times \sqrt{Q} \times 2.48 \times h)$
 $Q_{FF} + Q_{BF}$ (CFS) = 0.06 A 1.0" diameter hole has an area of 0.0055 ft²
 $Q_{100} - (Q_{FF} + Q_{BF})$ (CFS) = 0.15 Use 4 1.00" holes at 976.45

Bank Full Storage Requirement (ft³) = 5922 Storage Elevation (ft) = 976.45

$(V_{BF} - 8170 \times (A_0) \times (C))$ The bank full storm is the 24 hour, 2 year storm event:
Check first flush holes:
 $V_1 (ft³) = -3986$ A 1" diameter hole has an area of 0.0055 ft²
 Q_{FF} (CFS) = 0.04
 T_{FF} (hrs) = 37.0
Flash orifices are sufficient

First Flush Storage Requirement (ft³) = 2631 Storage Elevation (ft) = 975.12

$(V_{FF} - 1815 \times (A_0) \times (C))$ The first flush storm is the first 1" of rain over the entire watershed:
Allowable Q_{FF} (CFS) = 0.030 A 1.00" diameter hole has an area of 0.0055 ft²
 $(Q_{FF} = 23 \text{ H})$ h_{FF} (ft) = 1.46
Discharge Area (ft²) = 0.005 T_{FF} (hrs) = 22.1 Use 1 1.00" holes at 972.50
(Area = $Q / (0.62 \times \sqrt{Q} \times 2.48 \times h)$)

KEBS INC. 2116 Haslett Road, Haslett, MI 48840 (517) 339-1014
Runoff Detention Required: 2631 CFT Bank Full 5922 CFT 100 Year 12943 CFT
By: BRUCE PORTER Date: 2/25/2016

BIO-RETENTION TRENCH # 1 Job Name: HOWELL MEDICAL Job Number: 89814 Date:

CALCULATED C VALUE Area: 0.52 ac.

Calculated C_{avg} = 0.71

REQUIRED FIRST FLUSH VOLUME: 671 cft

BIO-RETENTION TRENCH CAPACITY: 672 cft

T / BIO-RETENTION TRENCH: 981.00 ft.

ASSUME TRENCH WIDTH: 18 ft.

SIZE OF UNDERDRAIN: 6 in.

AREAS:

6 in topsoil/compost	9 cft/ft	e = 1
8 in 2ns sand	12 cft/ft	e = 0.75
18 in 6AA stone	42.00 sf	### cft/ft e = 1
6 in Pipe Dia.	0.20 cft/ft	
4 in. Pipe Bedding		

VOLUME (SOLIDS):

topsoil/compost	4.5 cft/ft
2ns Sand	6.86 cft/ft
6AA Stone	20.9 cft/ft

TOTAL VOLUME OF SOLIDS: 32.3 cft/ft

TOTAL VOLUME: 62.80 cft/ft

VOLUME OF VOIDS: 30.54 cft/ft

LENGTH OF BIO-RETENTION TRENCH: 21.971 ft

LENGTH USED IN DESIGN: 22 ft

REQUIRED FIRST FLUSH VOLUME:

WIDTH	18 ft.
LENGTH	22 ft.

SQUARE FEET NEEDED: 396 sq.ft.

IE. OF UNDERDRAIN: 977.83 ft

BIO-RETENTION TRENCH # 2 Job Name: HOWELL MEDICAL Job Number: 89814 Date:

CALCULATED C VALUE Area: 0.30 ac.

Calculated C_{avg} = 0.69

REQUIRED FIRST FLUSH VOLUME: 376 cft

BIO-RETENTION TRENCH CAPACITY: 413 cft

T / BIO-RETENTION TRENCH: 981.80 ft.

ASSUME TRENCH WIDTH: 30 ft.

SIZE OF UNDERDRAIN: 6 in.

AREAS:

6 in topsoil/compost	15 cft/ft	e = 1
6 in 2ns sand	15 cft/ft	e = 0.75
12 in 6AA stone	55.00 sf	### cft/ft e = 1
6 in Pipe Dia.	0.20 cft/ft	
4 in. Pipe Bedding		

VOLUME (SOLIDS):

topsoil/compost	7.5 cft/ft
2ns Sand	8.58 cft/ft
6AA Stone	27.4 cft/ft

TOTAL VOLUME OF SOLIDS: 43.5 cft/ft

TOTAL VOLUME: 84.80 cft/ft

VOLUME OF VOIDS: 41.32 cft/ft

LENGTH OF BIO-RETENTION TRENCH: 9.0997 ft

LENGTH USED IN DESIGN: 10 ft

REQUIRED FIRST FLUSH VOLUME:

WIDTH	30 ft.
LENGTH	10 ft.

SQUARE FEET NEEDED: 300 sq.ft.

IE. OF UNDERDRAIN: 979.30 ft

Michigan Department of Transportation 2484 (06/07)

DRAINAGE DESIGN CHECKLIST FOR ACCESSING STATE TRUNKLINES

ALL FIELDS SHALL BE COMPLETED!

Data Summary

Frequency	Existing flow to MDOT ROW		Proposed flow to MDOT ROW				Water Surface Elevation (ft)
	Discharge (cfs)	Run off Volume (cft)	Discharge (cfs)	Velocity* (ft/s)	Run off Volume (cft)	Discharge (cfs)	
10-year Storm Event	0.21	126	4.38	N/A	2628		250.2
50-year Storm Event	0.27	162	5.52	N/A	3312		315.0
100-year Storm Event Harmful Interference Evaluated	0.29	174	5.98	N/A	3588		344.4
Design Storage Volume (cft)	0.24		1.51				13,943

* Not applicable (N/A) if "sheet flow" into MDOT right of Way, or detention is proposed.
** Difference in volume between the proposed and existing conditions.
i.e. Required Storage Volume = Proposed Volume - Existing Volume.
or (N/A) if Proposed Volume < Existing Volume
*** Not required, i.e. Proposed discharge is less than or equal to the existing discharge.

Certification: I, _____, P.E., have prepared the attached plans and specifications for the proposed drainage system. The proposed outlet control from this drainage system is discharged at a flow rate equal to or less than the existing flow rate conditions into the MDOT storm water conveyance system; the velocity discharged is properly dissipated; there exists sufficient storage on the permit applicant's property for all the range of flows summarized above, so that no harmful interference to MDOT ROW or adjacent properties will be caused as a result of utilizing this facility. This discharge to MDOT's stormwater system will not cause a violation of MDOT's National Pollution Discharge Elimination System storm water discharge permit.

Michigan Professional Engineer License Number: _____

This document shall be sealed in the space provided to the left and submitted with the permit package.

REVISIONS

3-2-16 SITE PLAN REVIEW
3-23-16 SITE PLAN REVISIONS

KEBS, INC. KYES ENGINEERING BRYAN LAND SURVEYS
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX. 517-339-8047
Marshall Office Ph. 269-781-9800

Howell Medical Building

STORM CALCULATIONS

SCALE: NONE	DESIGNER: GAP	APPROVED BY: GAP
DATE: 10-30-15	PROJECT MGR: GAP	SHEET D3
AUTHORIZED BY: Studio Intrigue Architects, LLC		JOB # 89814

PLANT SCHEDULE

Shade Trees	Key	Quantity	Botanical Name	Common Name	Size	Remarks
	AR	7	Acer rubrum 'Frank Jr.'	Redpointe Maple	2.5" Cal.	Min. 6' Branch Height
	AB	5	Acer rubrum 'Bowhall'	Bowhall Maple	2.5" Cal.	Min. 6' Branch Height
	CO	2	Celtis occidentalis	Hackberry	2.5" Cal.	Min. 6' Branch Height
	GT	4	Gleditsia triacanthos var. inermis	Thornless Honeylocust	2.5" Cal.	Min. 6' Branch Height
	LT	3	Liriodendron tulipifera	Tulip Tree	2.5" Cal.	Min. 6' Branch Height
	TD	5	Taxodium distichum 'Mickelson'	Shawnee Brave Bald Cypress	2.5" Cal.	Min. 6' Branch Height
	TT	5	Tilia tomentosa 'Sterling'	Sterling Silver Linden	2.5" Cal.	Min. 6' Branch Height

Evergreen Trees	Key	Quantity	Botanical Name	Common Name	Size	Remarks
	AC	3	Abies concolor	Concolor Fir	6' Tall	Non-sheared
	JV	8	Juniperus virginiana 'Hetz Columnaris'	Hetz Columnaris Juniper	6' Tall	Non-sheared
	PI	1	Pinus flexilis 'VanderWolf's Pyramid'	VanderWolf's Pyramid Limber Pine	6' Tall	Non-sheared, Specimen
	PO	8	Picea omorika	Serbian Spruce	6' Tall	Non-sheared

Ornamental Trees	Key	Quantity	Botanical Name	Common Name	Size	Remarks
	AG	3	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	6' Tall	Multi-stem
	AP	1	Acer palmatum dissectum 'Crimson Queen'	Crimson Queen Japanese Maple	4' Tall	Specimen
	CF	2	Cercis canadensis 'Forest Pansy'	Forest Pansy Redbud	2" Cal.	Specimen
	SR	1	Syringa reticulata 'Ivory Silk'	Japanese Tree Lilac	2" Cal.	Specimen

Evergreen Shrubs	Key	Quantity	Botanical Name	Common Name	Size	Remarks
	BG	22	Buxus 'Green Velvet'	Green Velvet Boxwood	18" Tall	3' O.C.
	BM	7	Buxus 'Green Mountain'	Green Mountain Boxwood	24" Tall	3.5' O.C.
	PA	10	Picea abies 'Nidiformis'	Bird's Nest Spruce	24" Spread	3.5' O.C.

Deciduous Shrubs	Key	Quantity	Botanical Name	Common Name	Size	Remarks
	CE	4	Cephalanthus occidentalis 'Sugar Shack'	Sugar Shack Buttonbush	24" Tall	5' O.C.
	CR	12	Cornus sericea 'Kelsey'	Dwarf Red-osier Dogwood	24" Tall	4' O.C.
	CN	3	Cornus sericea 'Isanti'	Isanti Dogwood	24" Tall	6' O.C.
	HS	15	Hydrangea serrata 'Tuff Stuff'	Tuff Stuff Hydrangea	24" Tall	3' O.C.
	HA	8	Hydrangea arborescens 'Annabelle'	Annabelle Hydrangea	24" Tall	4' O.C.
	HP	18	Hydrangea paniculata 'Pinky Winky'	Pinky Winky Hydrangea	36" Tall	6' O.C.
	PF	73	Potentilla fruticosa 'Lundy'	Happy Face Potentilla	18" Spread	3' O.C.
	PO	8	Physocarpus opulifolius 'Summer Wine'	Summer Wine Ninebark	36" Tall	6' O.C.
	RK	49	Rosa 'KnockOut'	Knock Out Rose	18" Tall	3' O.C.
	SP	22	Syringa x 'Penda'	Blooming Purple Lilac	24" Tall	4.5' O.C.
	SJ	15	Spiraea japonica 'Double Play Red'	Double Play Red Spirea	24" Spread	3' O.C.
	SW	26	Spiraea japonica 'Walburna'	Magic Carpet Spirea	18" Spread	3' O.C.
	WF	37	Weigela florida 'Alexandra'	Wine and Roses Weigela	24" Tall	4' O.C.

Perennials & Ornamental Grasses	Key	Quantity	Botanical Name	Common Name	Size	Remarks
	CK	5	Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	1 Gallon	3' O.C.
	CV	28	Coreopsis verticillata 'Zagreb'	Zagreb Coreopsis	1 Gallon	18" O.C.
	GR	26	Geranium x 'Rozanne'	Rozanne Geranium	1 Gallon	2.5' O.C.
	HH	53	Hemerocallis 'Happy Returns'	Happy Returns Daylily	1 Gallon	18" O.C.
	HL	34	Hemerocallis 'Little Business'	Little Business Daylily	1 Gallon	18" O.C.
	LK	15	Liatris spicata 'Kobold'	Kobold Liatris	1 Gallon	18" O.C.
	NF	28	Nepeta x faassenii 'Purrsian Blue'	Purrsian Blue Catmint	1 Gallon	2' O.C.
	PH	22	Pennisetum alopecuroides 'Hameln'	Hameln Dwarf Fountain Grass	1 Gallon	3' O.C.
	PR	8	Perovskia atriplicifolia 'Filigran'	Filigran Russian Sage	1 Gallon	3' O.C.
	SV	12	Salvia verticillata 'Endless Love'	Endless Love Sage	1 Gallon	2' O.C.

Native Deciduous Shrubs	Key	Quantity	Botanical Name	Common Name	Size	Remarks
	CS	4	Cornus sericea	Red-osier Dogwood	1 Gallon	6' O.C.
	MP	3	Myrica pensylvanica	Bayberry	1 Gallon	6' O.C.

Native Forbs	Key	Quantity	Botanical Name	Common Name	Size	Remarks
	AN	6	Anemone canadensis	Canada Anemone	Quart	
	HM	38	Hibiscus moscheutos	Rose Mallow	Plug	18" O.C.
	SI	38	Silphium perfoliatum	Cup Plant	Plug	18" O.C.

Native Shrub and Forb Supplier:
Wilby design, native plants, & seed, ltd.
Mason, MI
Telephone: 517-244-1140

Miscellaneous Materials	Quantity	Material Type	Quantity	Material Type
	532 L.F.	Aluminum Edging	63.5 C.Y.	Shredded Hardwood Mulch (3" Depth)
	20.5 C.Y.	Finished Compost for Planting Beds (1" Depth)	2,275 S.Y.	Sod

SEDGE & FORB SEED MIX

Seed Mix Suppliers:
Michigan Wildflower Farm
Portland, MI
Telephone: 517-647-6010

Cardno
Walkerton, IN
Telephone: 574-586-2412

Total Area for seed mix to be applied to: 3,200 S.F. After seeding is completed, install DS75 Erosion Control Blanket by North American Green over entire seed mix area. Install native deciduous shrubs and forbs in soil by cutting slits in erosion control blanket.

Botanical Name	Common Name	PLS (Ounces)
Carex vulpinoidea	Brown Fox Sedge	1.75
Carex muskingumensis	Palm Sedge	1.25
Total		3.00
Forbs:		
Iris virginica	Blue Flag	1.25
Rudbeckia triloba	Brown-Eyed Susan	1.25
Solidago riddellii	Riddell's Goldenrod	0.75
Zizia aurea	Golden Alexander	1.25
Total		4.50

GENERAL NOTES

- Quantities shown are for the convenience of the contractor only. Contractor is responsible for verifying quantities, and for providing sufficient materials to complete the job per plan.
- Contractor shall secure and pay for all permits, fees, and inspections necessary for the proper execution of this work and comply with all codes applicable to this work.
- Contractor shall call MISS DIG System, Inc. (800) 482-7171 three full working days before work commences to locate underground utility locations. Contractor shall avoid all existing utilities, underground and overhead where applicable, and is responsible for any damage.
- Contractor shall verify all existing conditions in the field prior to construction and shall notify Landscape Architect of any variance.
- Some field adjustments may be necessary to ensure that there are no conflicts between existing and proposed plants.
- The contractor is responsible for protecting all existing vegetation to be preserved.
- Material quality and measurement shall conform to the most recent edition of the American Standard for Nursery Stock, ANSIZ60.1 by AmericanHort.
- All plants shall be installed per the landscape plan. Plantings not found to be in compliance shall be replanted correctly at no additional expense to the owner.
- An approved pre-emergent herbicide shall be applied in all proposed planting beds at a rate specified by manufacturer for each plant variety.
- Where planting area meets turf area and edging is not specified, the contractor shall provide a trench edge. Mulch all planting areas to the bedline shown.
- Ensure positive drainage away from all structures.
- Fine grade, fertilize and sod/seed all disturbed areas resulting from construction. All areas shall drain completely and shall not pond or puddle.
- Aerate existing turf where it has been compacted by equipment.

REFERENCE SYMBOLS



ABBREVIATIONS

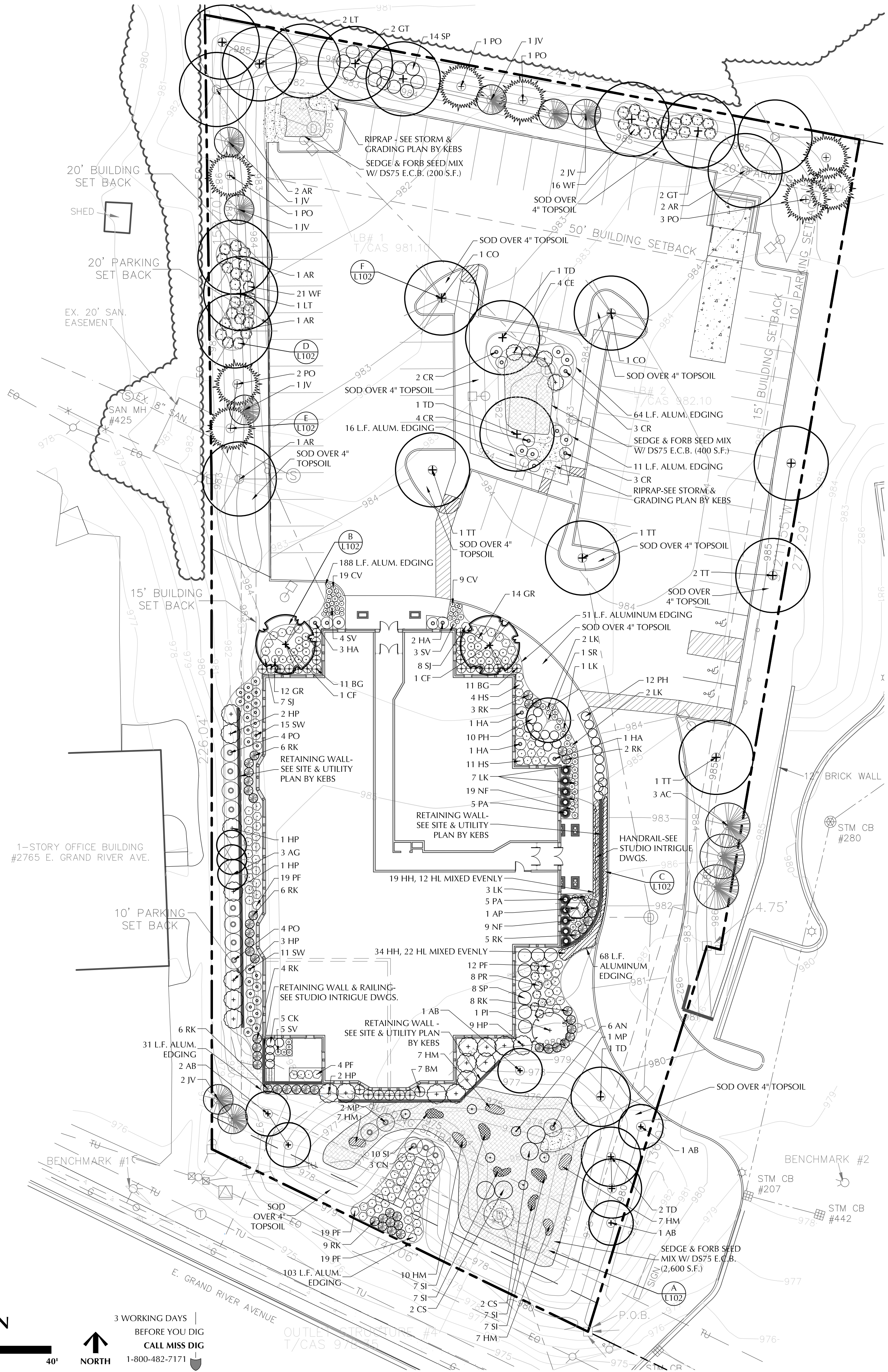
TYPE	DESCRIPTION
ALUM.	ALUMINUM
CAL.	CALIPER
C.Y.	CUBIC YARD
DWGS.	DRAWINGS
E.C.B.	EROSION CONTROL BLANKET
EX.	EXISTING
GAL.	GALLON
L.F.	LINEAR FEET
MAX.	MAXIMUM
MIN.	MINIMUM
O.C.	ON CENTER
S.F.	SQUARE FEET
S.Y.	SQUARE YARD

LANDSCAPE PLAN

SCALE: 1" = 20'
SCALE IN FEET: 0' 10' 20' 40'



3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171



CLIENT:
SDS Property, LLC
30880 Pear Ridge Rd.
Farmington Hills, MI 48334

HOWELL MEDICAL OFFICES
COUNTY OF LIVINGSTON, TOWNSHIP OF GENOA, MICHIGAN
LANDSCAPE PLAN



REVISIONS:	REVISION #	DATE
Rev. Site Plan Rvw		3/23/16

DATE:
3/2/16 - Site Plan Review

PROJECT NUMBER:
HF1601

DRAWN BY:
JF

CHECKED BY:
JF

SCALE:
AS INDICATED

SHEET NUMBER:

L101

FILE PATH: E:\2016\HF1601\AU\DOC\ADHF1601_A03_011P - COPYRIGHT ©2016 ELEMENTS STUDIO, INC.

LANDSCAPE WORK PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The work shall consist of furnishing, transporting and installing all seeds, plants and other materials required for:
- The establishment of trees, shrubs, groundcover, perennial, annual, and lawn areas as shown on Landscape Plan;
 - The provision of post-planting management as specified herein;
 - Any remedial operations necessary in conformance with the plans as specified in this document;
 - The design, furnishing and installation of a complete underground irrigation system.

1.2 QUALITY ASSURANCE

- A. Do not make substitutions. If specified landscape material is not obtainable, submit to Landscape Architect proof of non-availability and proposal for use of equivalent material.

1.3 SUBMITTALS

A. Maintenance Instructions

- Submit two (2) copies of typewritten instructions recommending procedures to be established by the Owner for the maintenance of landscape work for one full year after final acceptance.
- Instructions shall include: watering, fertilizing, spraying, mulching, pruning for plant material, and mowing of lawn. Instructions shall be submitted prior to request for inspection for final acceptance.

1.4 JOB CONDITIONS

- A. Examine and evaluate grades, soils and water levels. Observe the conditions under which work is to be performed and notify Landscape Architect of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Utilities: Review underground utility location maps and plans; notify local utility location service; demonstrate an awareness of utility locations; and certify acceptance of liability for the protection of utilities during course of work. Contractor shall be responsible for any damage to utilities or property.
- C. Excavation: When conditions detrimental to plant growth are encountered such as rubble fill, adverse drainage conditions or obstructions, notify Landscape Architect before planting.

1.5 GUARANTEES

- A. Seed and sod lawn areas: Guarantee seeded and sodded lawn areas until final acceptance.
- B. Trees, shrubs, groundcover, and perennials: Guarantee trees, shrubs, groundcover and perennials for a period of one year after date of final acceptance against defects including death and unsatisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others or unusual phenomena or incidents which are beyond Contractor's control.

LANDSCAPE WORK PART 2 - PLANT MATERIALS

2.1 LAWN SOD

- A. Sod: Provide strongly rooted sod, not less than two (2) years old and free of weeds and undesirable native grasses. Provide only sod capable of growth and development when planted (viable, not dormant) and in strips not more than 18" wide x 4" long. Provide sod composed of a 5-way blend of Kentucky Bluegrass such as: Midnight, Allure, Viva, Washington, Liberty.

2.2 PLANTINGS

- A. Inspection: All plants shall be subject to inspection and review at the place of growth or upon delivery for conformity to specification requirements and quality. Rejected plants shall be removed immediately from the site.

2.3 PLANTING SOIL MIXTURE

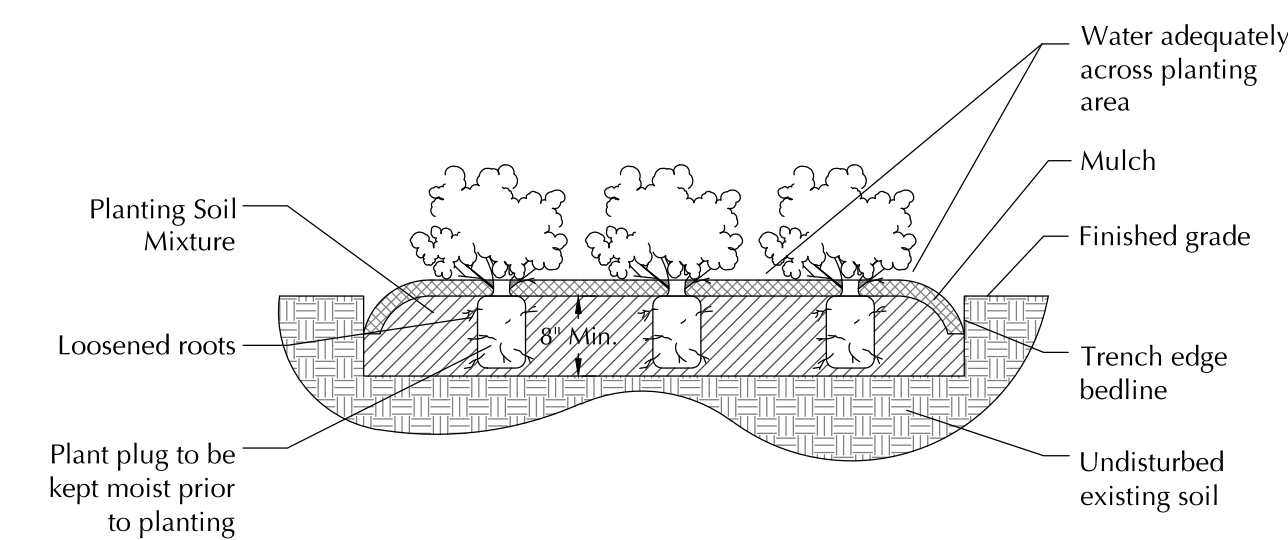
- A. Tree and shrub planting pits, groundcover, perennial, and annual areas: Provide planting soil mixture consisting of three (3) parts friable topsoil (stockpiled at site) and one part finished compost. Finished compost to have a C:N ratio in the range of 15:1 to 20:1.

2.4 EROSION CONTROL

- A. Erosion Control Blanket: North American Green D575 or equivalent. The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with a lightweight photodegradable polypropylene netting having an approximate 0.50 x 0.50 inch mesh and be sewn together on 1.50 inch centers (50 stitches per roll width) with degradable thread. The blanket shall be secured to the soil surface with a minimum of 0.7 staples per square yard using manufacturer's staple pattern "A". Staple to be North American Green 4" BioSTAKE. Installation staple patterns shall be clearly marked on the erosion control blanket with environmentally safe paint. All mats shall be manufactured with a colored thread stitched along both outer edges (approximately 2 - 5 inches from the edge) as an overlap guide for adjacent mats. Install per manufacturer's recommendations. Roll size is 6.67' x 108' @ 40 lbs. per roll. Contact: CSI Geotri (248) 887-6767.

2.5 PLANTING BED MULCH

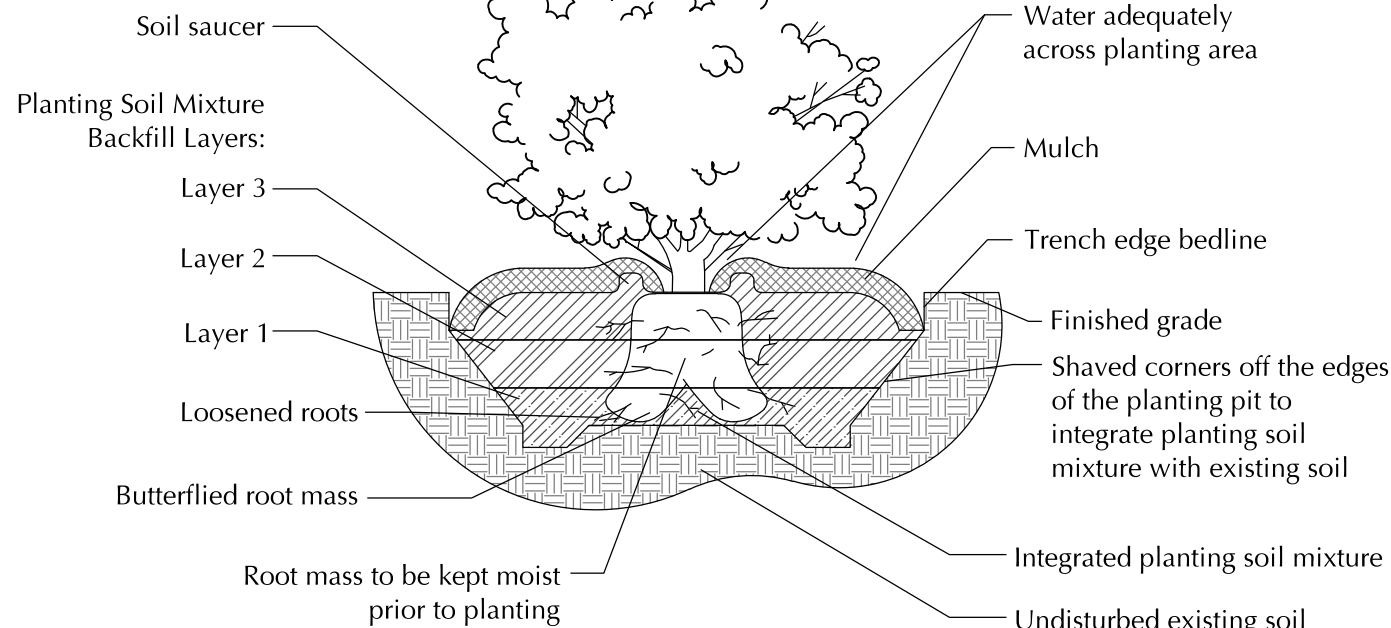
- A. Provide mulch consisting of shredded hardwood. Do not use color enriched mulch.



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PERENNIAL & GROUNDCOVER PLANTING DETAIL

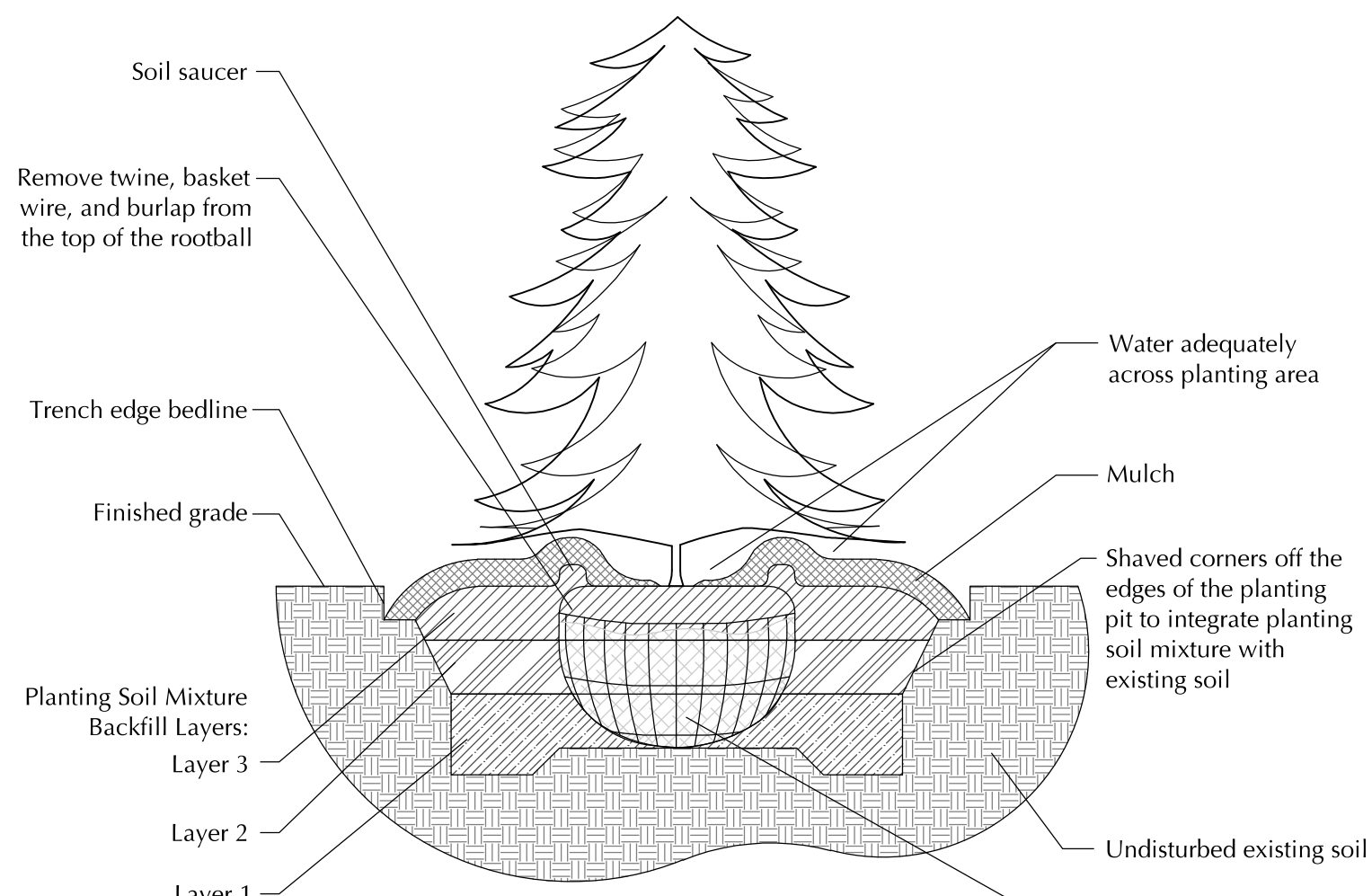
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SHRUB PLANTING DETAIL

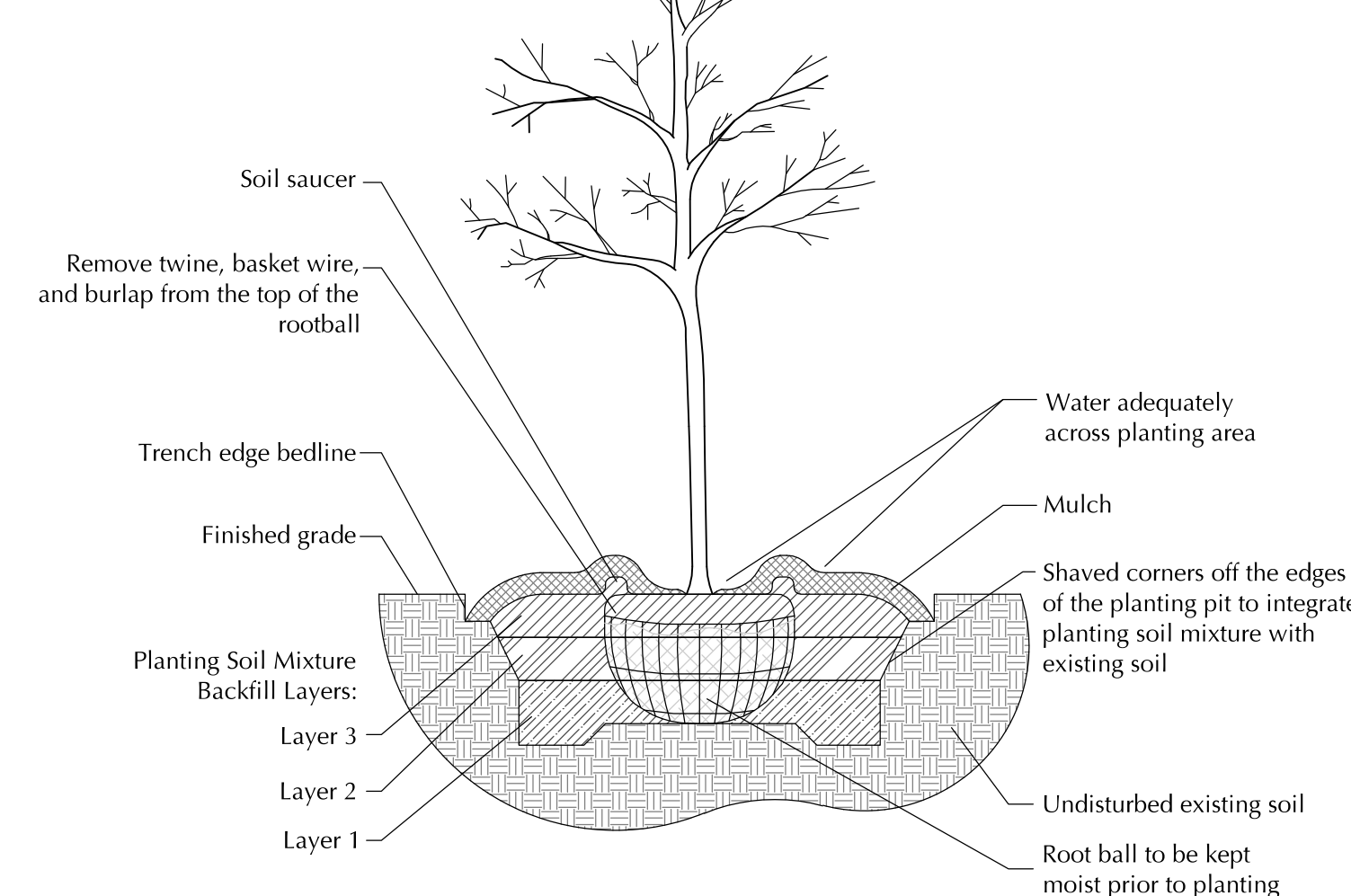
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EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE



F
L102

DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

LANDSCAPE WORK PART 3 - EXECUTION

3.1 PLANTINGS

A. Sodding New Lawns

- Remove existing grass, vegetation and turf. Dispose of such material legally off-site, do not turn over into soil being prepared for lawns.
- Till to a depth of not less than 6"; apply soil amendments based on soil test; remove high areas and fill in depressions; till soil to a homogenous mixture of fine texture, remove lumps, clods, stones over 1" diameter, roots and other extraneous matter. Dispose of such material legally off-site.
- Sodded areas shall receive an application of slow-release fertilizer at the rate of ½ pound of actual nitrogen per 1,000 s.f. Apply phosphate and potash at rates per soil test results.
- Lay sod within 24 hours from time of stripping.
- Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Tamp or roll lightly to ensure contact with subgrade. Work sifted soil into minor cracks between pieces of sod; remove excess sod to avoid smothering of adjacent grass.
- Water sod thoroughly with a fine spray immediately after planting.

B. Trees

- The Contractor shall be wholly responsible for assuring that all trees are planted in a vertical and plumb position and remain so throughout the life of this contract and guarantee period. Deciduous trees may or may not be staked and guyed depending upon the individual preference of the Contractor; however, any bracing procedure(s) must be approved by the Owner prior to its installation.

3.2 INITIAL MAINTENANCE

- A. Begin maintenance immediately after planting, continuing until final acceptance. A minimum of thirty (30) days.
- B. Maintain planted and seeded areas by watering, rolling/regrading, replanting and implementing erosion control as required to establish vegetation free of eroded or bare areas.

C. DO NOT MOW SEDGE AND FORB SEED MIXTURE.

3.3 CLEAN UP AND PROTECTION

- A. During landscape work, store materials and equipment where directed. Keep pavements clean and work areas and adjoining areas in an orderly condition.
- B. Protect landscape work and materials from damage due to landscape operations, operations by other trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed by Owner.

3.4 INSPECTION AND ACCEPTANCE

- A. When the landscape work is completed, including initial maintenance, the Landscape Architect will, upon request, make a final inspection to determine acceptability. After final acceptance is complete, the Owner will be responsible for maintenance.

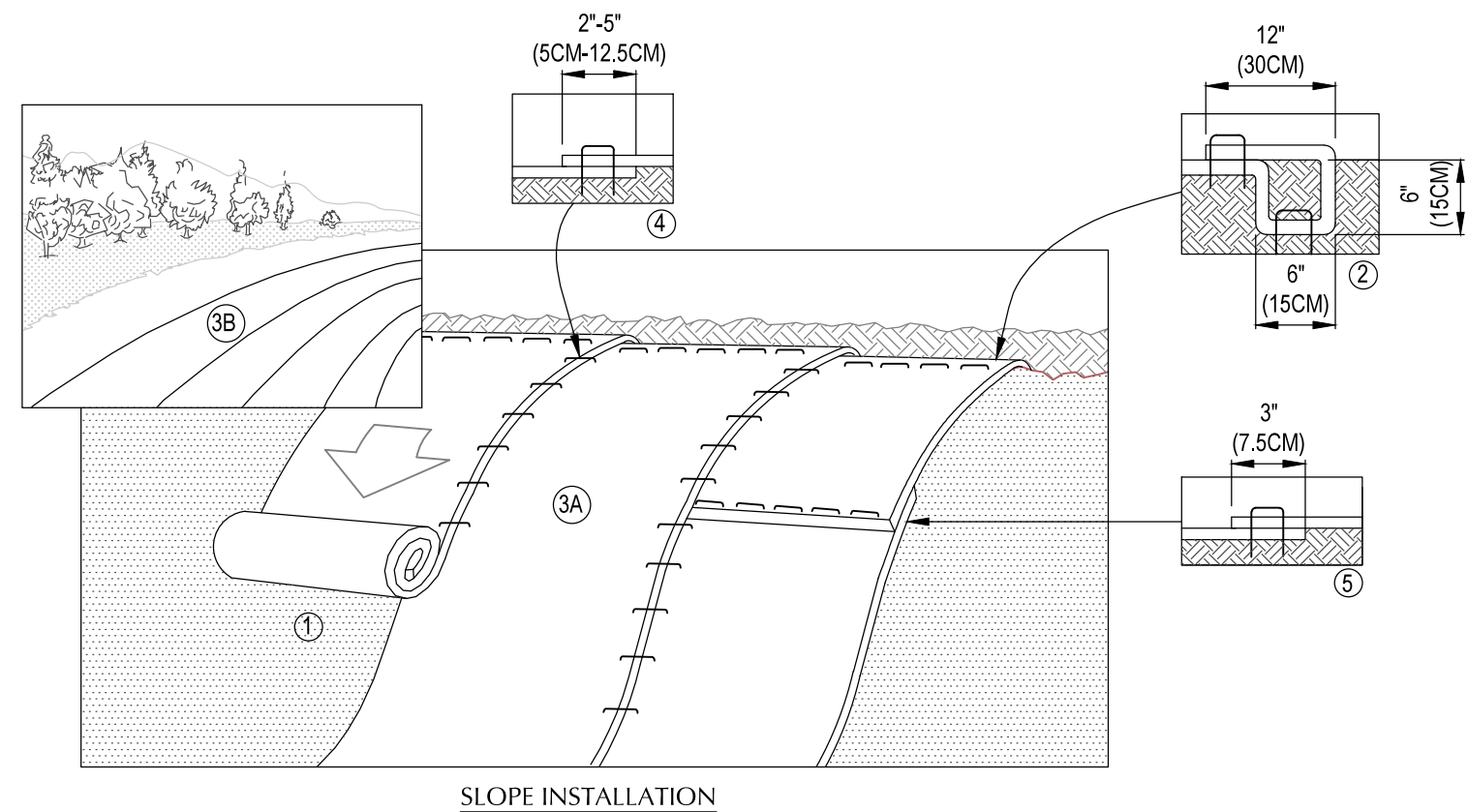
UNDERGROUND IRRIGATION SYSTEM

4.1 DESCRIPTION OF WORK

- A. This subcontractor shall design, furnish and install a complete underground lawn and planted area irrigation system including all necessary underground sleeves, fully automatic weather-based control systems, water pump, water meter, backflow preventer if required per code, and electrical wiring for system. Design shall be in accordance with good engineering practice.
- B. Provide separate irrigation zones for lawn and planting beds with minimal overspray onto hard surfaces.
- C. DO NOT IRRIGATE SEDGE AND FORB SEED MIX AREAS.
- D. Provide quick coupler valves as directed by Owner.

4.2 QUALITY ASSURANCE

- A. All materials shall be new, first class, especially designed for intended use.
- B. All work shall be installed with best workmanship in accordance with best practice of the trade, in accordance with all local codes, ordinances, rules and regulations, in accordance with approved design shop drawings and in accordance with the system manufacturer's recommendations.
- C. Special provisions shall be made to adequately and properly protect the system from damage due to weather and frost conditions.



- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15CM) DEEP X 6" (15CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30CM) APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2'-5" (75CM) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTES:

- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- IN LOOSE SOIL CONDITIONS THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

MANUFACTURER: NORTH AMERICAN GREEN, POSEVILLE, IN
(800) 522-5011
www.nagreen.com

DS75 EROSION CONTROL BLANKET DETAIL

A
L102

NOT TO SCALE

GENOA TOWNSHIP LANDSCAPE REQUIREMENT CHART

REQUIRED GREENBELT ALONG STREET FRONTAGE

	REQUIREMENT	PROVIDED
	1 TREE / 40 L.F.	
STREET FRONTAGE DISTANCE: 142 L.F.	3.6 TREES	2 CANOPY TREES 2 EVERGREEN TREES

REQUIRED BUFFER ZONE B

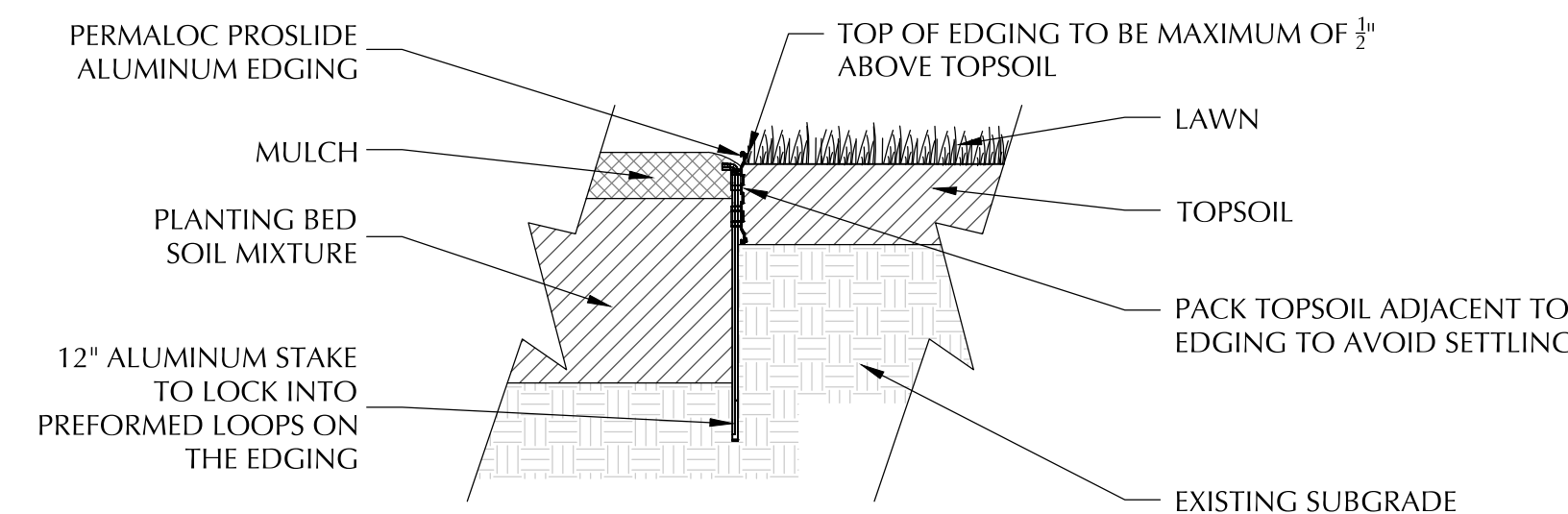
	REQUIREMENT	PROVIDED
	1 CANOPY TREE / 30 L.F. 1 EVERGREEN TREE / 30 L.F. 4 SHRUBS / 30 L.F.	
WEST BUFFER DISTANCE: 157 L.F.	5.2 CANOPY TREES 5.2 EVERGREEN TREES 20.9 SHRUBS	6 CANOPY TREES 6 EVERGREEN TREES 21 SHRUBS
NORTH BUFFER DISTANCE: 225 L.F.	7.5 CANOPY TREES 7.5 EVERGREEN TREES 30 SHRUBS	8 CANOPY TREES 8 EVERGREEN TREES 30 SHRUBS

REQUIRED PARKING AREA LANDSCAPING

	REQUIREMENT	PROVIDED
	1 TREE / 10 SPACES 100 S.F. LANDSCAPE/10 SPACES	
PARKING SPACES: 67 SPACES	6.7 TREES 670 S.F. LANDSCAPE AREA	7 CANOPY TREES 696 S.F. LANDSCAPE AREA

REQUIRED DETENTION/RETENTION POND LANDSCAPING

	REQUIREMENT	PROVIDED
	1 TREE / 50 L.F. POND BANK 10 SHRUBS / 50 L.F. POND BANK	
NORTH DETENTION BASIN POND BANK (981.85) DISTANCE: 77 L.F.	1.5 TREES 15.4 SHRUBS	2 CANOPY TREES 16 SHRUBS
SOUTH DETENTION BASIN POND BANK (976) DISTANCE: 260 L.F.	5.2 TREES 52 SHRUBS	6 CANOPY TREES 52 SHRUBS



NOTES:

- INSTALL PER MANUFACTURER'S "INSTALLATION GUIDELINES."
- 8'-0" SECTIONS TO INCLUDE (3) 12" ALUMINUM STAKES.
- 16'-0" SECTIONS TO INCLUDE (5) 12" ALUMINUM STAKES.
- CORNERS - CUT BASE OF EDGING UP HALFWAY AND FORM A CONTINUOUS CORNER.

MANUFACTURER: PERMALOC CORPORATION, HOLLAND, MI
(800) 356-9660
WWW.PERMALOC.COM

PROSLIDE ALUMINUM EDGING - 1/8" THICK x 4" TALL,
COLOR - MILL FINISH

B
L102

ALUMINUM EDGING DETAIL

NOT TO SCALE

KEY	
	RESIDENTIAL BUFFER ZONE
	COMMERCIAL BUFFER ZONE

SITE DATA	
HOWELL MEDICAL OFFICES	
ZONING: GENERAL COMMERCIAL	
ADJACENT ZONING:	
NORTH: LOW DENSITY RESIDENTIAL (LDR)	
SOUTH: GENERAL COMMERCIAL (GC)	
EAST: GENERAL COMMERCIAL (GC)	
WEST: SUBURBAN RESIDENTIAL (SR), GENERAL COMMERCIAL (GC)	
LOT AREA: 73,097.42	
BUILDING COVERAGE	
MAX ALLOWED: 35%	
PROPOSED: 12,882.47 / 73,097.42 = 0.1762 (17.62%)	
IMPERVIOUS COVERAGE	
MAX ALLOWED: 75%	
PROPOSED: 42,128.86 / 73,097.42 = 0.5763 (57.63%)	

PRELIMINARY REVISION	
07/23/15	07/31/15
07/23/15	03/02/16
07/23/15	03/23/16

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PARKING DATA	
GENOA TWP. PARKING REQUIREMENTS:	
MEDICAL OFFICES OF DOCTORS/DENTIST:	
01 SPACE : 200 SF (GROSS)	
12,882 SF (GROSS) / 200SF (GROSS) = 64 SPACES	
64 SPACES REQUIRED	
66 SPACES PROVIDED	
BARRIER FREE PARKING:	
51-75 SPACES = 3 REQUIRED B.F. SPACES	
3 BARRIER FREE SPACES REQUIRED	
3 BARRIER FREE SPACES PROVIDED	
ADVANCE AUTO SITE:	
6781 SF (GROSS) / 250SF (GROSS) = 27.1 SPACES	
EXISTING PARKING: 31 SPACES	
PROPOSED PARKING: 27 SPACES	
REQUIRED PARKING: 27 SPACES	
*NET LOSS OF 04 SPACES DUES TO CROSS ACCESS EASEMENT	

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Project Type
MEDICAL OFFICE DEVELOPMENT

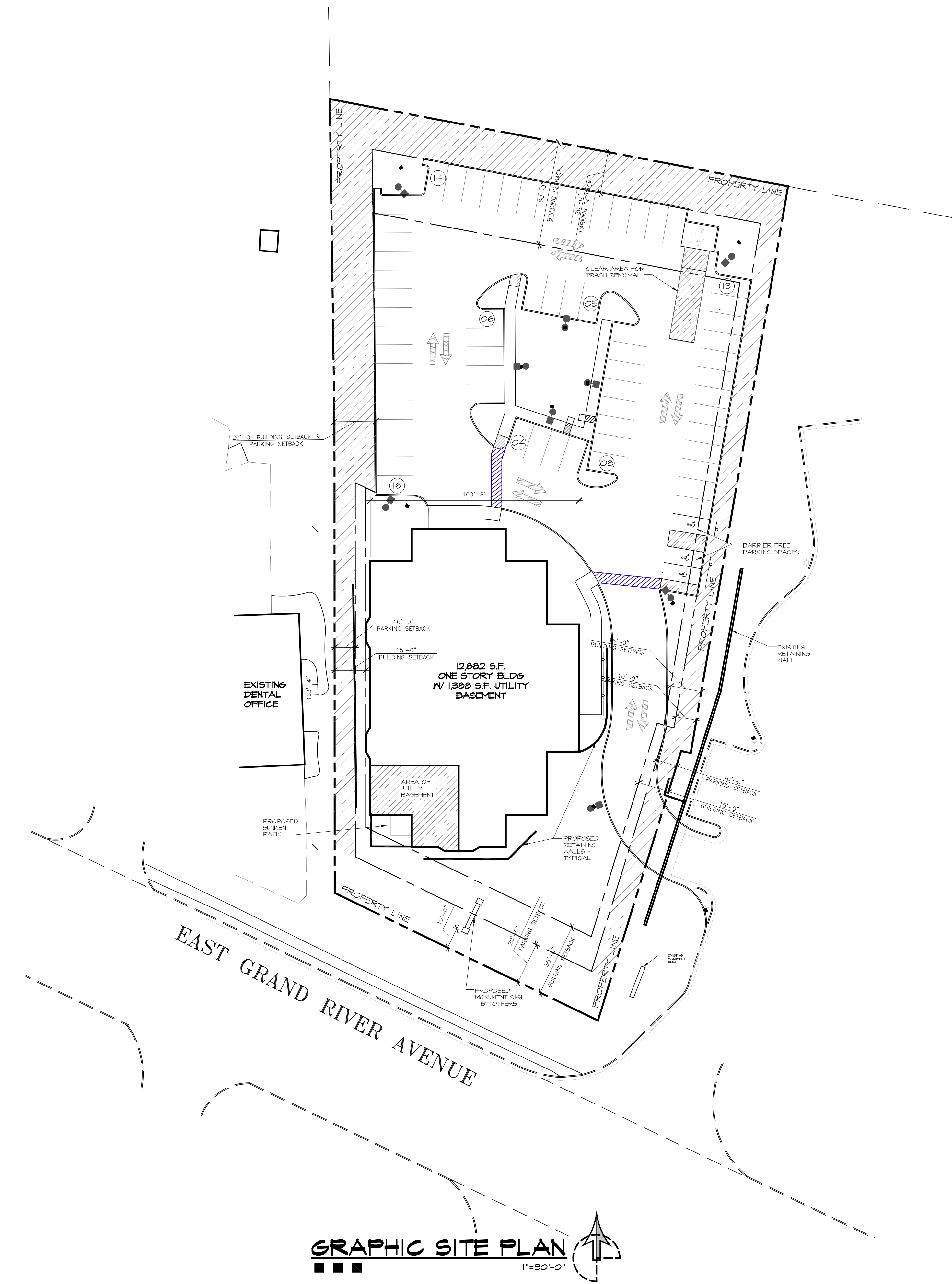
Project
HOWELL MEDICAL OFFICES
2765 EAST GRAND RIVER
HOWELL, MICHIGAN 48843

Client
SDS PROPERTIES LLC
30880 PEAR RIDGE RD
FARMINGTON HILLS, MI 48334

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GRAPHIC SITE PLAN
1"=30'-0"

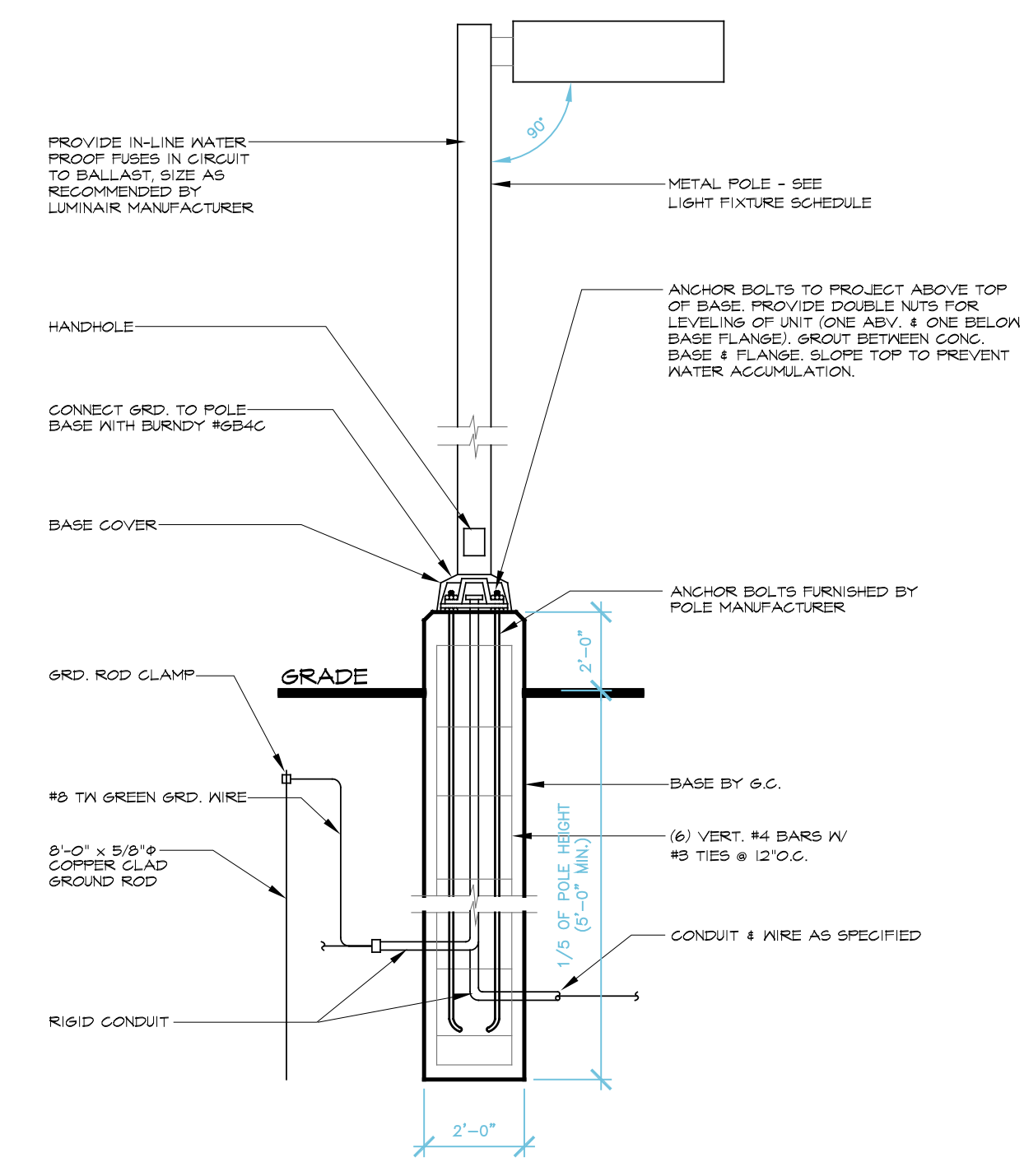
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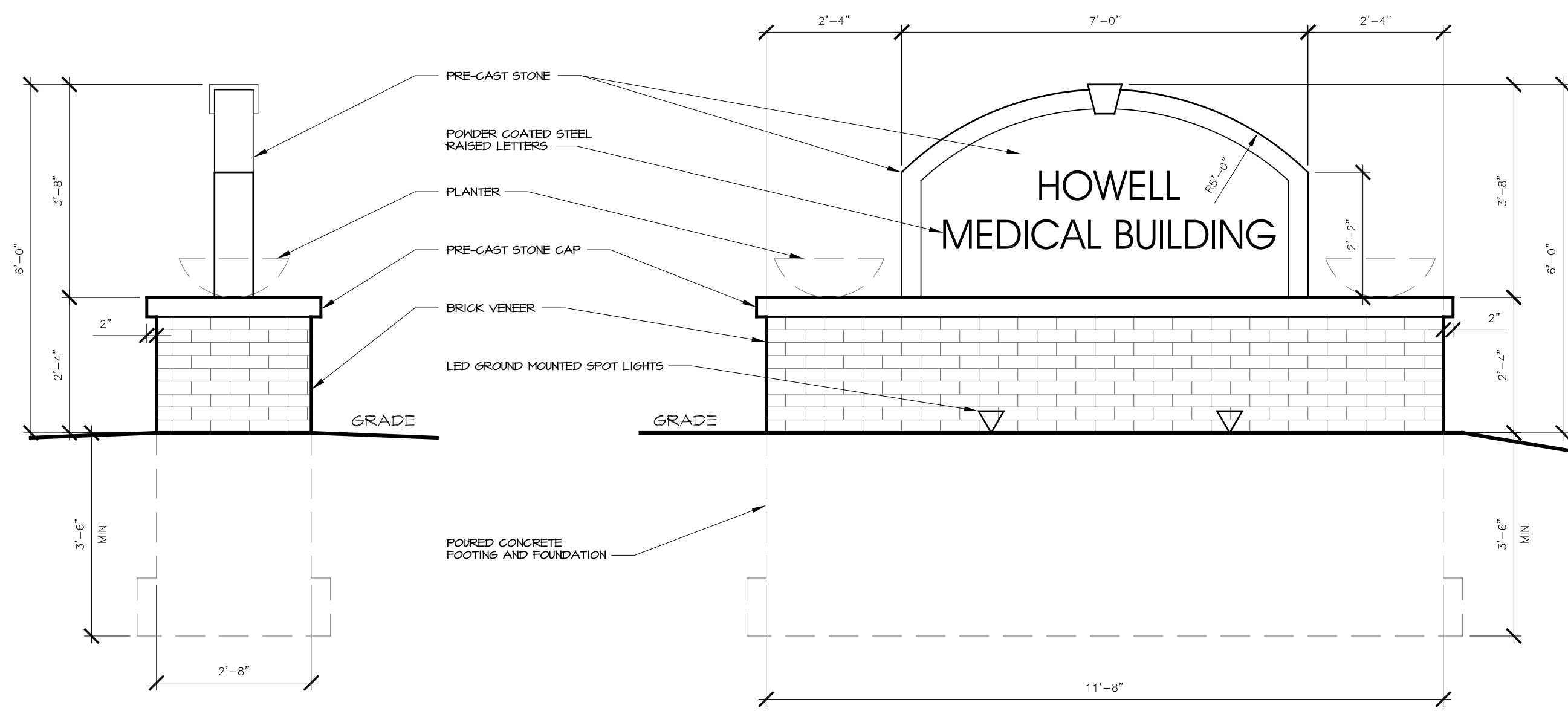
SITE PLAN REVISIONS
03/23/16

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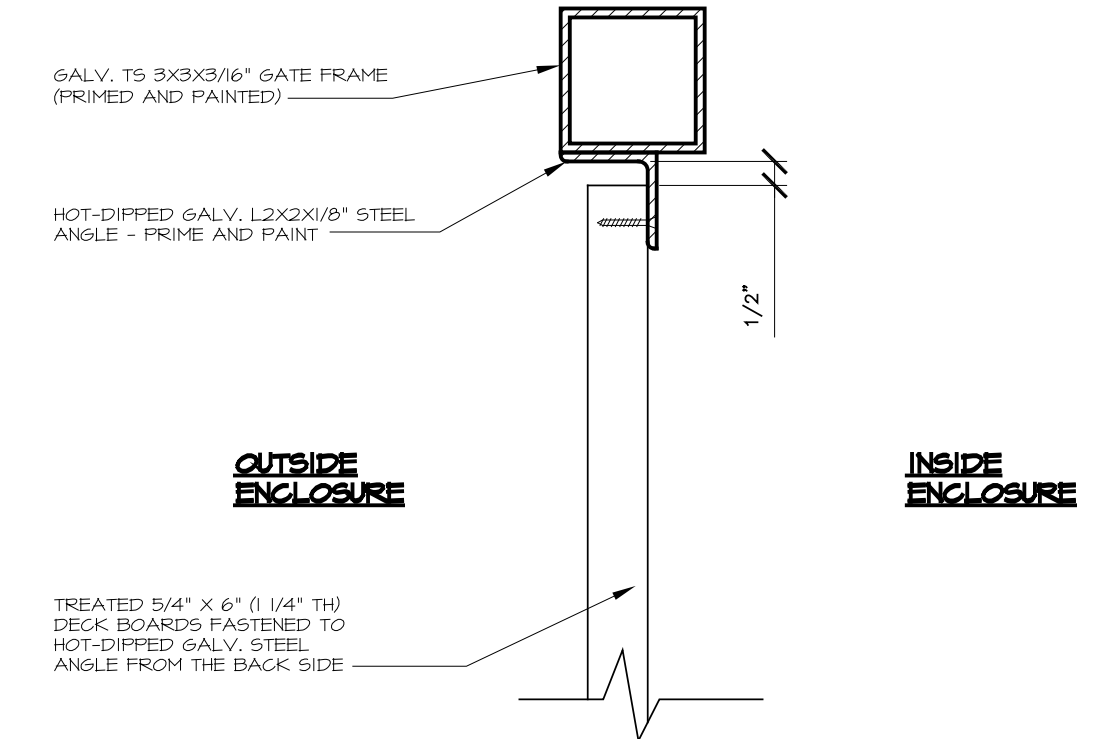


SIGN POST DETAIL (8)
 1/4" = 1'-0" C-101

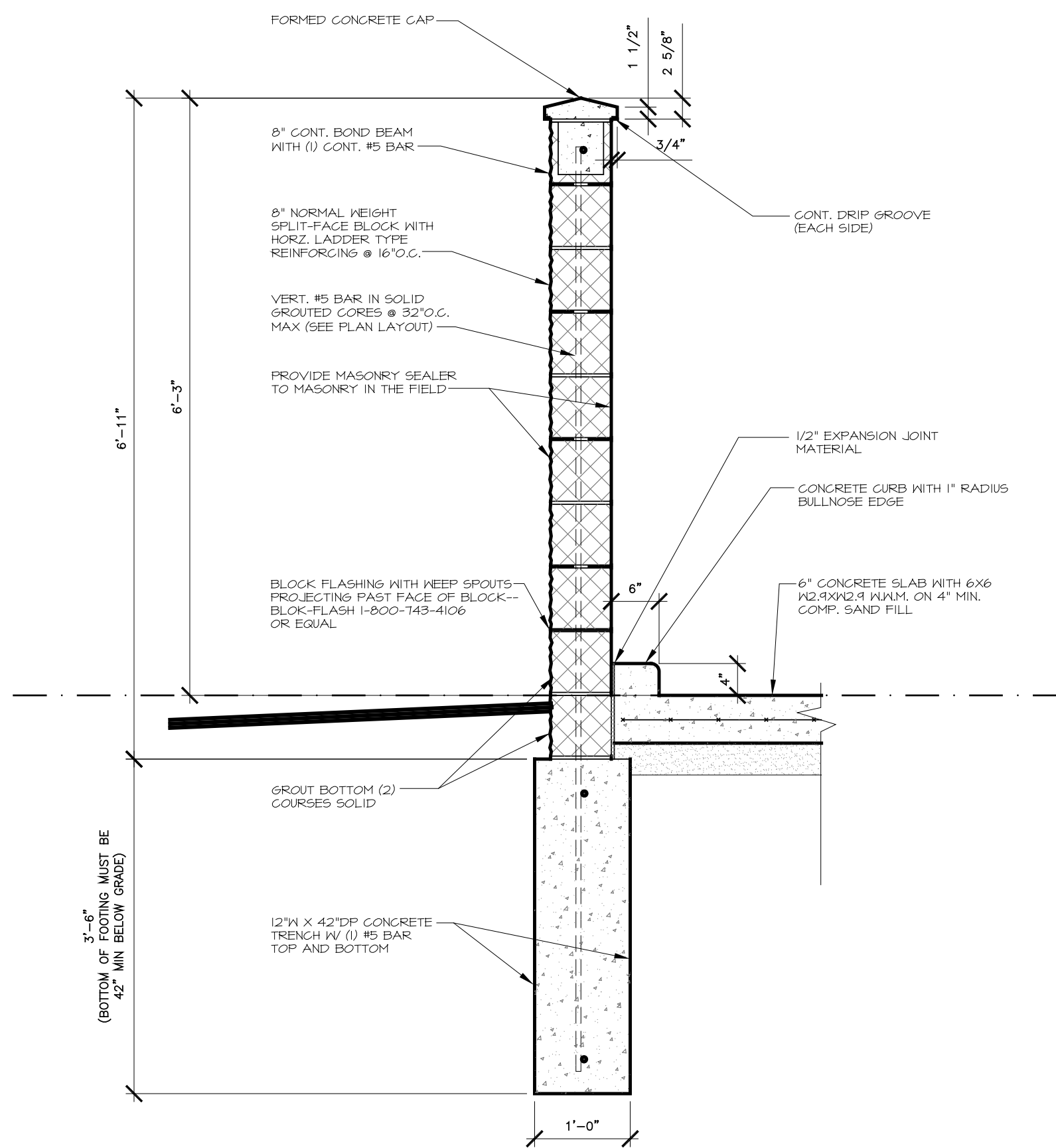


SIGN EAST/WEST ELEVATION (7)
 1/2" = 1'-0" C-101

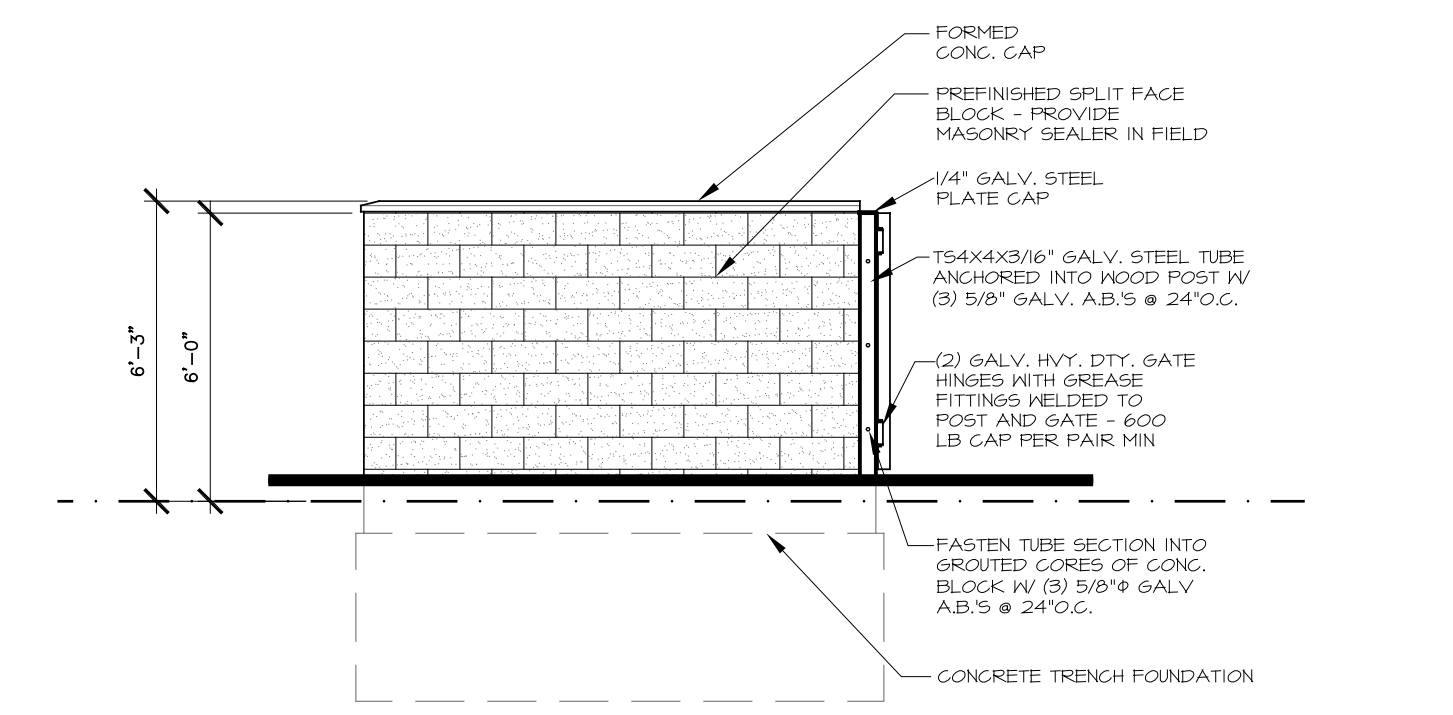
SIGN SOUTH ELEVATION (6)
 1/2" = 1'-0" C-101



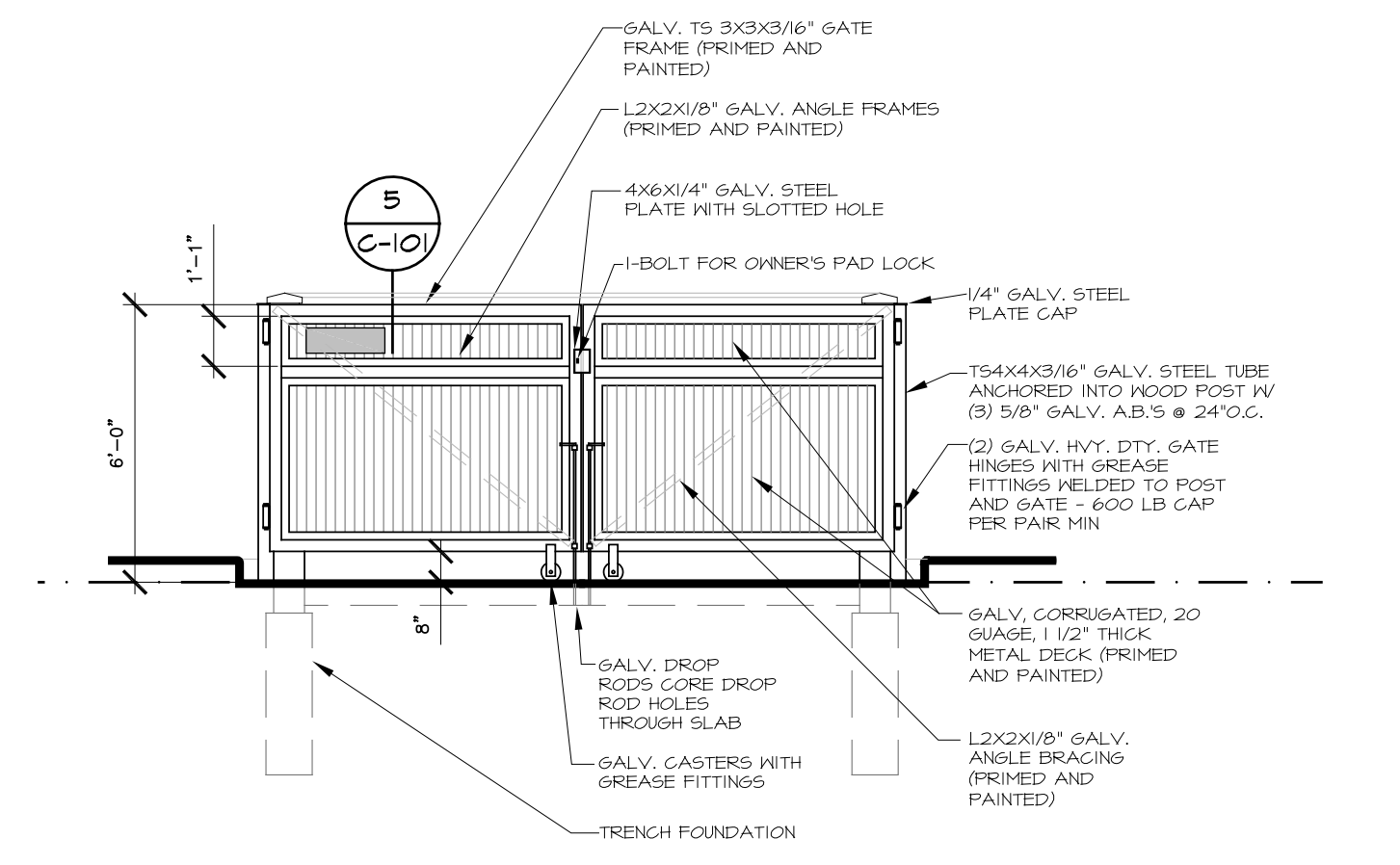
TRASH ENCLOSURE DETAIL (5)
 3/4" = 1'-0" C-101



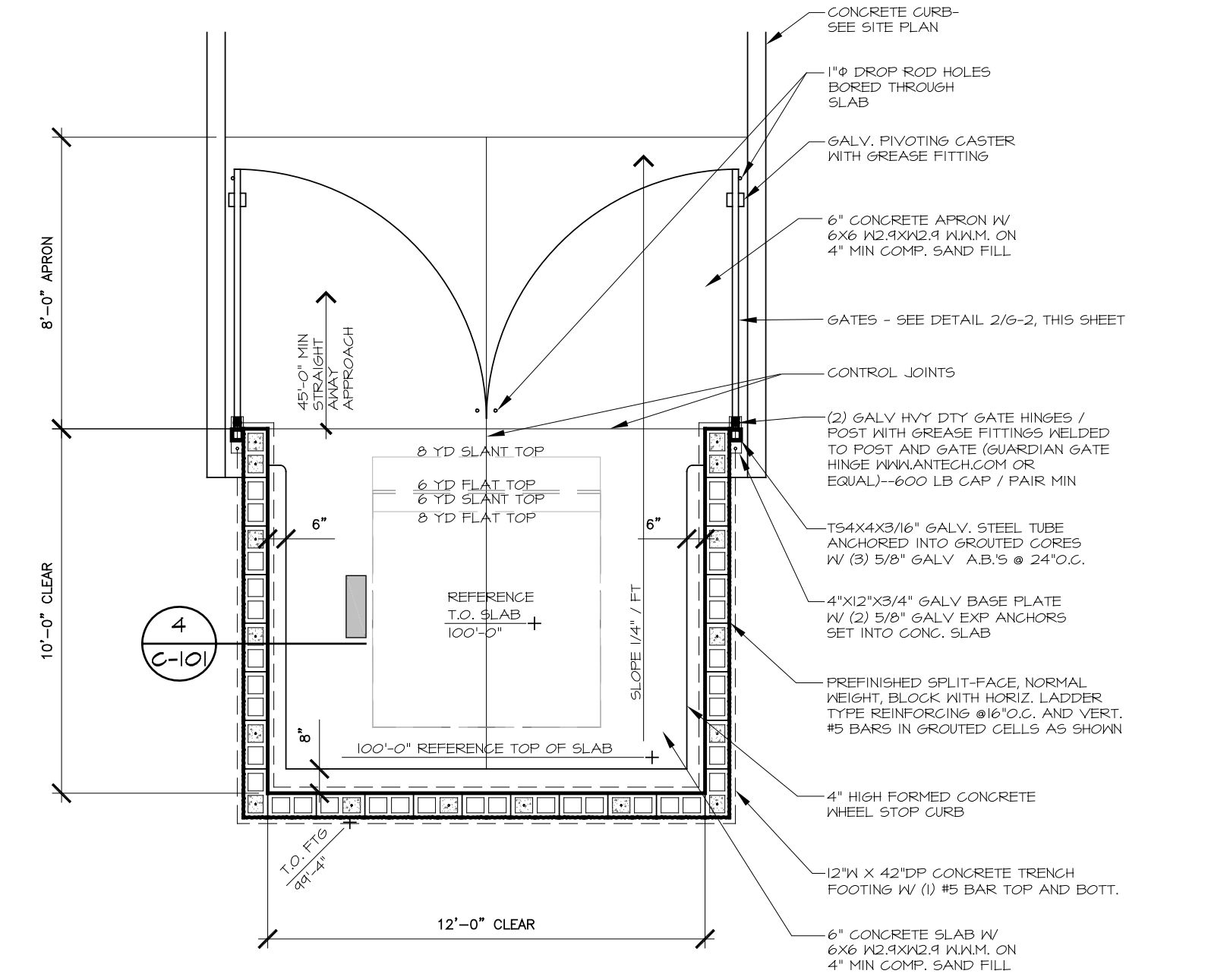
TRASH ENCLOSURE SECTION (4)
 3/4" = 1'-0" C-101



TRASH ENCLOSURE ELEVATION (3)
 1/4" = 1'-0" C-101



TRASH ENCLOSURE ELEVATION (2)
 1/4" = 1'-0" C-101



TRASH ENCLOSURE PLAN (1)
 1/4" = 1'-0" C-101

Project Type
MEDICAL OFFICE DEVELOPMENT

Project
HOWELL MEDICAL OFFICES
 2765 EAST GRAND RIVER
 HOWELL, MICHIGAN 48843

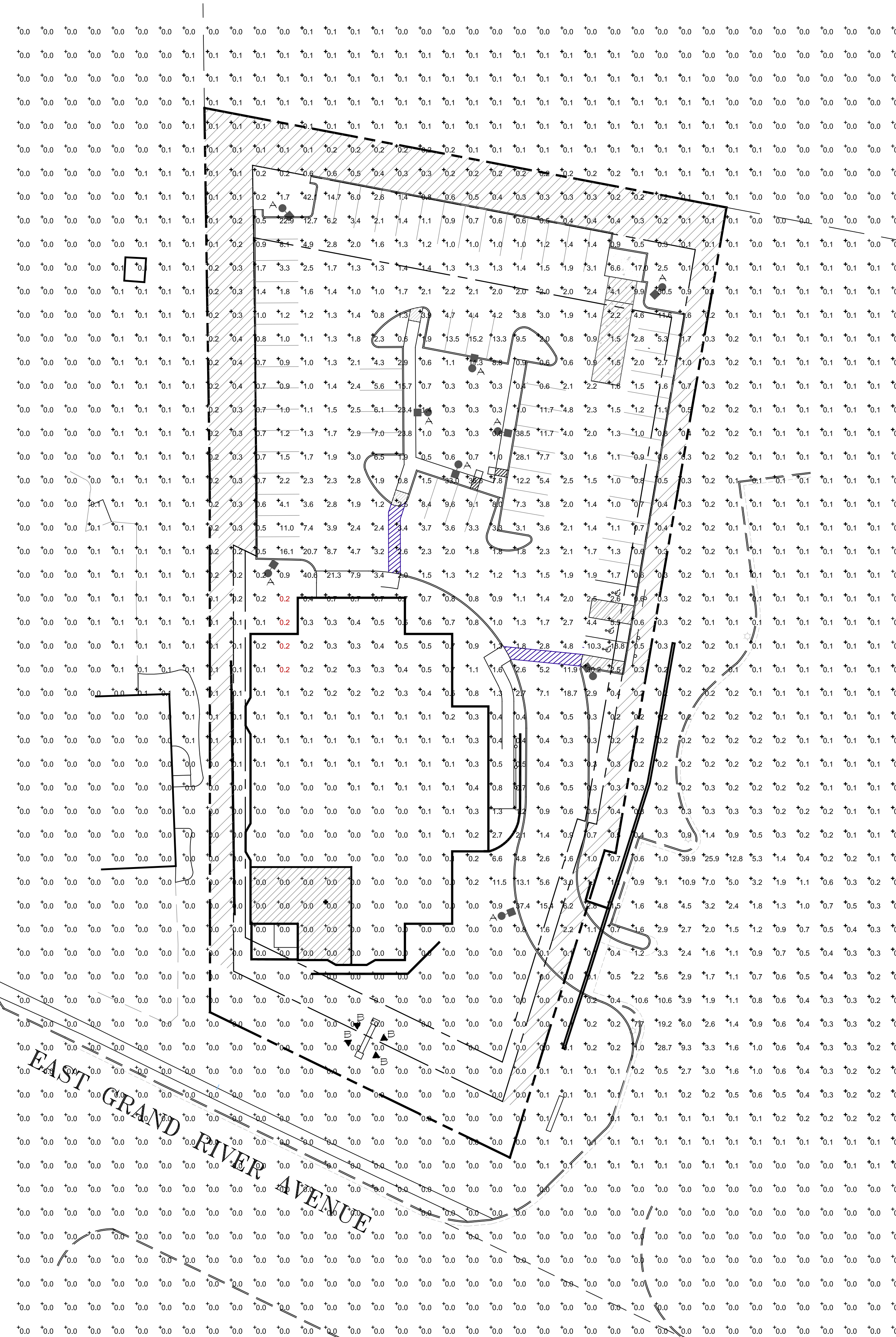
Client
SDS PROPERTIES LLC
 30880 PEAR RIDGE RD
 FARMINGTON HILLS, MI 48334

Project Number
15.062

Sheet
C-101

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LIGHT FIXTURE SCHEDULE				
MARK	MANUFACTURER	MODEL NUMBER	LAMPS	REMARKS
A	LITHONIA	D-SERIES SIZE 1	LED	3 HEAD PER POLE - 14FT POLES PHOTOMETRIC SENSOR / TIMER
B	LITHONIA	OLBF & 30K DDB	10.5W 3000K LED	EXTERIOR SPOT LIGHT PHOTOMETRIC SENSOR / TIMER



PHOTOMETRIC SITE PLAN
1"=30'-0"

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CONSTRUCTION**

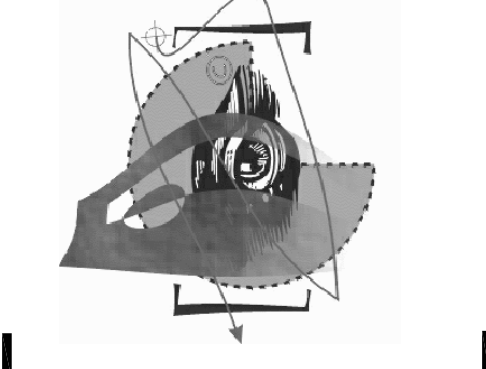
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03/23/16

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STATE OF MICHIGAN
DAVID C. VANDERKOLK
ARCHITECT
NO. 46738
LICENSED ARCHITECT

Project Type
MEDICAL OFFICE DEVELOPMENT

Project
HOWELL MEDICAL OFFICES
2765 EAST GRAND RIVER
HOWELL, MICHIGAN 48843

Client
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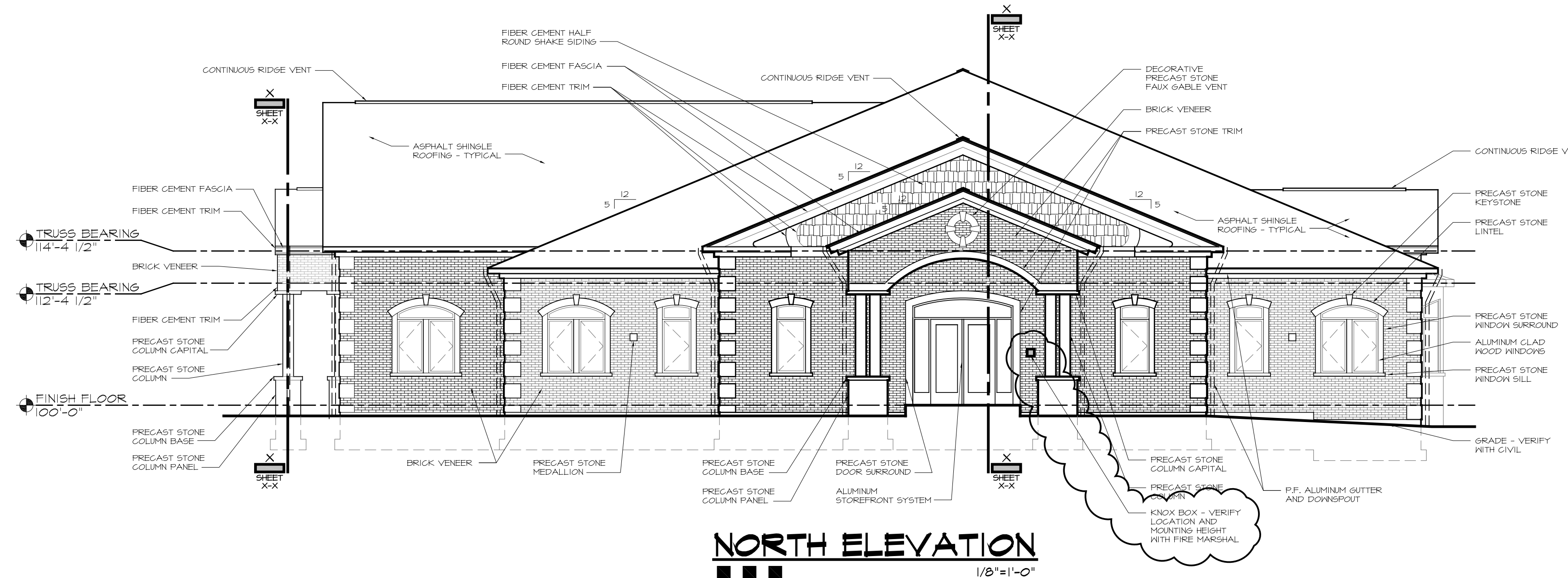
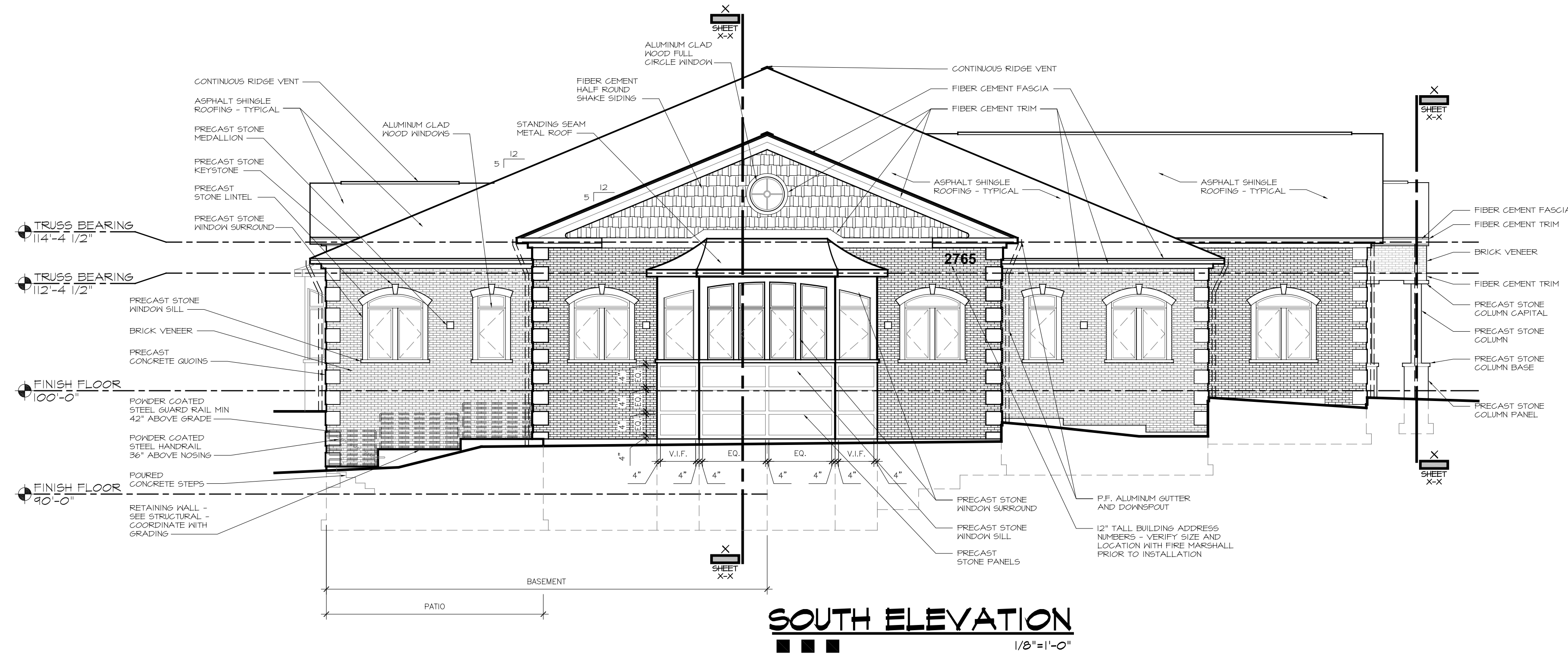
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C-102

2007 MI ENERGY CODE / ASHRAE 90.1-2007 ENVELOPE REQ'MTS							TABLE 5.5-5 (LIVINGSTON COUNTY, MI)	
OPAQUE ENVELOPE ELEMENT	MIN R REQ'D	R PROP.	MIN. CONT. INSUL. REQ'D	CONT. INSUL. PROP.	MAX U PERMITTED	U PROP.	ENVELOPE COMPLIANCE NOTES	
ROOF	30	30	20	N/A	0.027	0.026	1. THE BUILDING ENVELOPE SHALL BE SEALED, GULKED, GASKETED, AND/OR WEATHERSTRIPPED TO MINIMIZE AIR LEAKAGE.	
WALLS, ABOVE GRADE	13	21	3.0	2.5	0.064	0.043	2. AIR LEAKAGE THROUGH PENETRATION AND DOORS SHALL BE LESS THAN 0.4 GPM/SF (1.0 GPM/SF FOR GLAZED SHWING ENTRANCE DOORS) WHEN TESTED IN ACCORDANCE WITH NFRA 400.	
WALLS, BELOW GRADE	N/A	21	7.5	10	N/A	0.035	EXCEPTIONS: FIELD FABRICATED PENETRATION AND DOORS.	
FLOORS	30	30	N/A	N/A	0.030	0.033	FOR GARAGE DOORS (IF APPLICABLE) TESTED IN ACCORDANCE WITH NAGDM 105.	
SLAB ON GRADE	NR	N/A	N/A	N/A	N/A	N/A	3. U FACTORS SHALL BE DETERMINED IN ACCORDANCE WITH NFRG 100.	
OPAQUE DOORS	N/A	N/A	N/A	N/A	0.700	0.700 MAX	4. SOLAR HEAT GAIN COEFFICIENT (SHGC) SHALL BE DETERMINED IN ACCORDANCE WITH NFRG 200.	
							5. VISIBLE LIGHT TRANSMITTANCE SHALL BE DETERMINED IN ACCORDANCE WITH NFRG 200.	
FENESTRATION	MAX U FIXED ALLOW	MAX U FIXED PROP.	MAX U OPER. ALLOW	MAX U OPER. PROP.	MAX SHGC ASSEM. ALLOW	MAX SHGC ASSEM. PROP.	N/A - NOT APPLICABLE	
WINDOWS 14%	.35	.44	.35	.44	NR	.55	NR - NOT REQUIRED	
SKYLIGHTS	N/A	N/A	N/A	N/A	N/A	N/A	ASSEM. - ASSEMBLY	
							CONT. - CONTINUOUS	
							INSUL. - INSULATION	
							MIN. - MINIMUM	
							PROP. - PROPOSED	

STOREFRONT SHALL MEET A MAX U-VALUE OF 0.55 / SHGC OF 0.40

EXTERIOR FINISH SCHEDULE						
MATERIAL	FINISH	MANUFACTURER	MODEL / TYPE / SERIES	COLOR	COMMENTS	
BRICK VENEER	X	X	X	X	X	
PRECAST PANEL	SMOOTH	HERITAGE CAST STONE	HEARTLAND SERIES	SNOWCAP	X	
PRECAST SILL	SMOOTH	HERITAGE CAST STONE	SILL 10	SNOWCAP	X	
PRECAST LINTEL	SMOOTH	HERITAGE CAST STONE	SUR 30 F	SNOWCAP	X	
PRECAST SURROUND	SMOOTH	HERITAGE CAST STONE	SUR 20 F	SNOWCAP	X	
KEYSTONE	SMOOTH	HERITAGE CAST STONE	KEY 40 F	SNOWCAP	X	
MEDALLION	SMOOTH	HERITAGE CAST STONE	MED 30 F	SNOWCAP	X	
PRECAST COLUMN	SMOOTH	HERITAGE CAST STONE	ARCHITECTURAL SERIES	SNOWCAP	X	
PRECAST CAP	SMOOTH	HERITAGE CAST STONE	FLAT PIER CAP	SNOWCAP	X	
PRECAST QUIN	SMOOTH	HERITAGE CAST STONE	QSK 601TF	SNOWCAP	X	
FIBERCEMENT SHAKE	PRE-FINISHED	JAMES HARDIE	STAGGERED EDGE PANEL	COBBLE STONE	X	
FIBERCEMENT TRIM	PRE-FINISHED	JAMES HARDIE	4/4 NTS SMOOTH	ARCTIC WHITE	X	
FIBERCEMENT FASCIA	PRE-FINISHED	JAMES HARDIE	4/4 NTS SMOOTH	ARCTIC WHITE	X	
FIBERCEMENT SOFFIT	PRE-FINISHED	JAMES HARDIE	VENTED SMOOTH	ARCTIC WHITE	X	
WINDOWS	PRE-FINISHED	PELLA	PELLA 450 SERIES	WHITE	X	
DOORS	PRE-FINISHED	TUBELITE	14000 SERIES	CLEAR ANODIZED	STANDARD STYLE / 1" INSULATED GLAZING	
STOREFRONT	PRE-FINISHED	TUBELITE	14000 SERIES	CLEAR ANODIZED	1" INSULATED GLAZING	
ASPHALT SHINGLES	-	X	X	X	X	
METAL ROOFING	PRE-FINISHED	BERRIDGE	CURVED TEE-PANEL	TERRA-COTTA	X	
GUTTERS	PRE-FINISHED	-	-	WHITE	X	
DOWNSPOUTS	PRE-FINISHED	-	-	WHITE	X	

- ALL METAL ROOFING SHALL BE PROVIDED W/ SNOW & ICE SLIDE PROTECTORS.
- ALL GAS PIPING SHALL BE PAINTED.
- PROVIDE SEALANT BETWEEN ALL DISSIMILAR MATERIALS - COLOR TO MATCH ADJACENT PRIMARY MATERIAL.
- ALL MASONRY SHALL RECEIVE A FIELD-APPLIED MASONRY SEALER: PROSOCCO SILOXANE OR EQUAL, WHERE MASONRY IS ADJACENT TO CONCRETE FLATWORK OR ASPHALT PAVING, THE LOWER 4'-0" OF THE MASONRY SHALL BE SEALED WITH PROSOCCO SALTGUARD OR EQUAL.



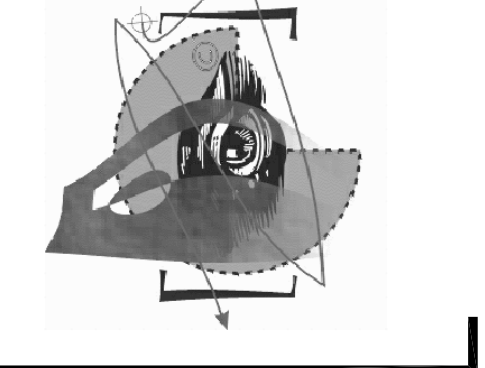
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SITE PLAN REVIEW	
SITE PLAN REVIEW	
03/02/16	
03/23/16	

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 ARCHITECTS
 114 S. WASHINGTON AVE. • SUITE 100 • LANSING, MICHIGAN 48206
 517.372.8804 PHONE • 517.372.8805 FAX • WWW.STUDIOINTRIGUE.COM



Project Type
MEDICAL OFFICE DEVELOPMENT

Project
HOWELL MEDICAL OFFICES
 2765 EAST GRAND RIVER
 HOWELL, MICHIGAN 48843

Client
SDS PROPERTIES LLC
 30880 PEAR RIDGE RD
 FARMINGTON HILLS, MI 48334

Project Number
15.062

Sheet
A-301

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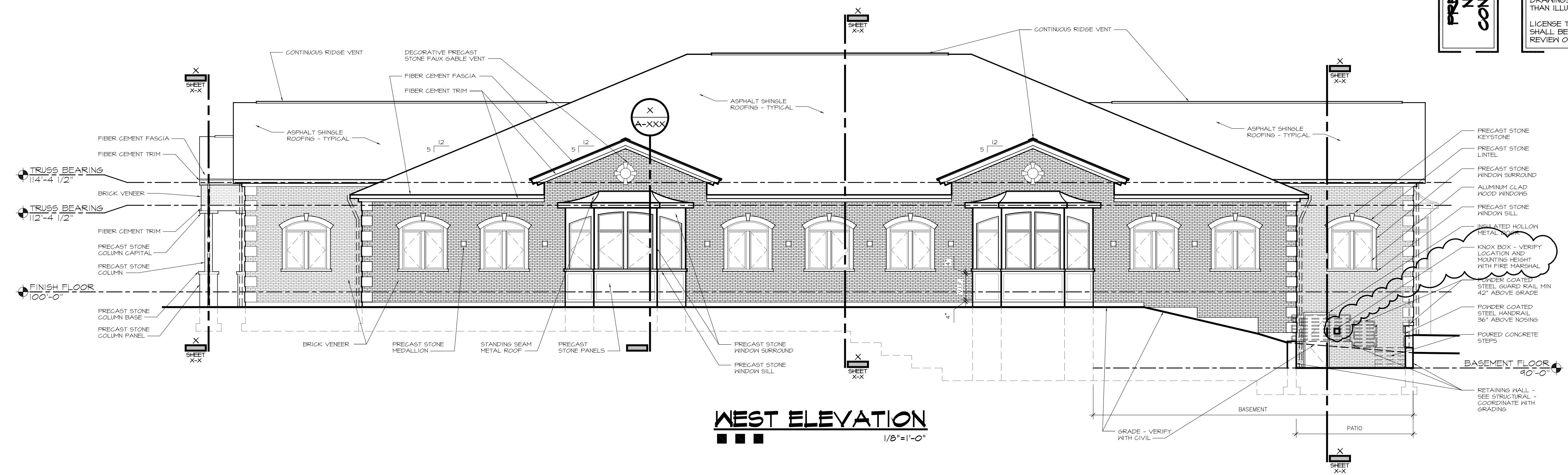
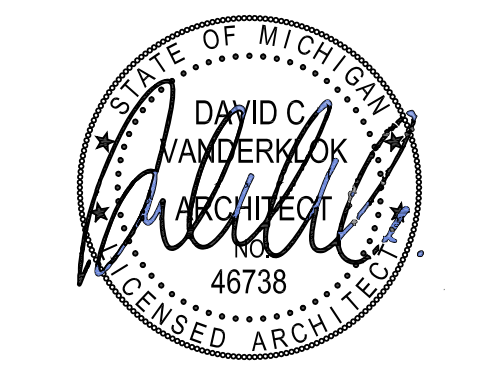
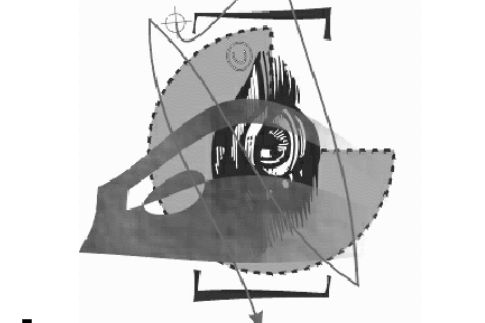
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SITE PLAN REVIEW
SITE PLAN REVISIONS

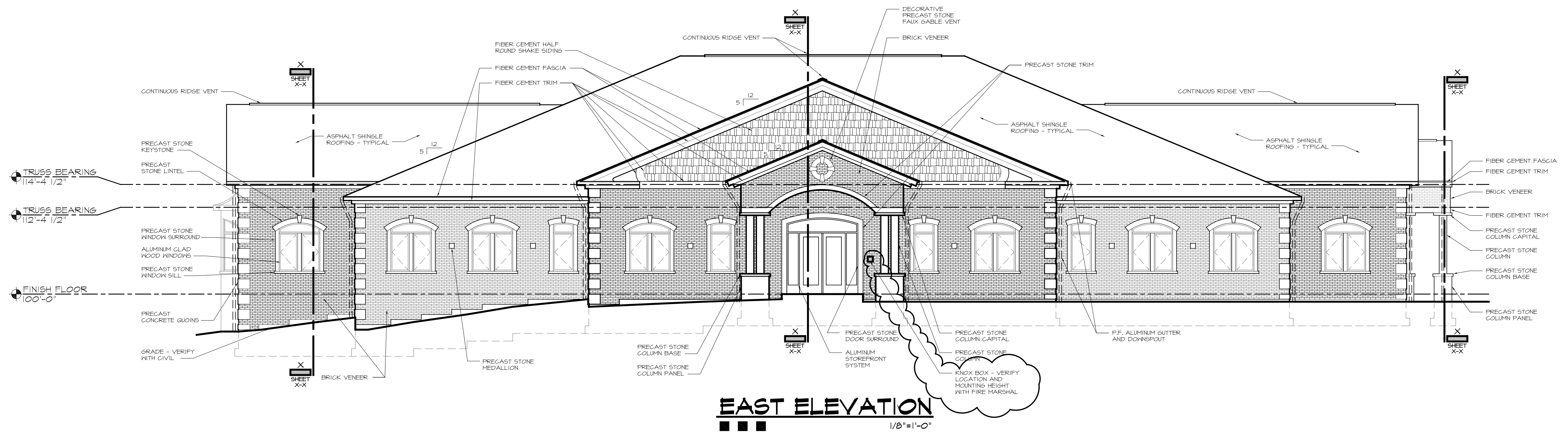
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WEST ELEVATION
 1/8"=1'-0"



EAST ELEVATION
 1/8"=1'-0"

Project Type
MEDICAL OFFICE DEVELOPMENT

Project
HOWELL MEDICAL OFFICES
 2765 EAST GRAND RIVER
 HOWELL, MICHIGAN 48843

Client
SDS PROPERTIES LLC
 30880 PEAR RIDGE RD
 FARMINGTON HILLS, MI 48334

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Project Number
15.062

Sheet
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HOWELL MEDICAL OFFICES

REVISED FACADE DESIGN 09/04/2015



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HOWELL MEDICAL OFFICES

REVISED FACADE DESIGN 09/04/2015



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HOWELL MEDICAL OFFICES

REVISED FACADE DESIGN 09/04/2015



GENOA CHARTER TOWNSHIP
Application for Site Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS: Flagstar Bank
If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: ST. JOHN PROVIDENCE HEALTH SYSTEM

SITE ADDRESS: TBD PARCEL #(s): 11-09-100-036

APPLICANT PHONE: () OWNER PHONE: (248) 331-4667

OWNER EMAIL: ADAM.WESTMICK @ASCENSION.ORG

LOCATION AND BRIEF DESCRIPTION OF SITE: The site is located on the east side of South Latson Rd, approximately 1700 feet south of the Grand River Ave intersection. The property has 210 feet of frontage along South Latson Rd, the entire width of the site. To the west on the opposite side of South Latson Road is non-residential planned unit development use. To the north of the site is undeveloped property in which a two phase project involving medical office buildings are being developed. Undeveloped property to the east and south of the site is zoned as non-residential planned unit development. The subject property is currently undeveloped, non-residential planned unit development (NRPUD).

BRIEF STATEMENT OF PROPOSED USE: The proposed use is to be zoned as regional commercial (RC) and be utilized as a bank that features a drive-thru service.

THE FOLLOWING BUILDINGS ARE PROPOSED: Flagstar Bank building - 3,315 SF

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: [Signature]

ADDRESS: 18000 West Nine Mile, Ste 1200 Southfield, MI 48075

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

1.) Brent LaVanway of Boss Engineering at brentl@bosseng.com
Name Business Affiliation E-mail Address

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE: 

DATE: 3/1/16

PRINT NAME: MICHAEL BOCCIA FOR PROCTOR BANK

PHONE: 248 320 9920

ADDRESS: 30150 TELEGRAPH #150 BINGHAM PROMS, MI 48025

REQUIRED SITE PLAN CONTENTS

Each site plan submitted to the Township Planning Commission shall be in accordance with the provisions of the Zoning Ordinance. No site plan shall be considered until reviewed by the Zoning Administrator. The following information shall be included in the site plan submittal packet:

<u>SUBMITTED</u>	<u>NOT APPLICABLE</u>	<u>ITEM</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Application form and fee: A completed application form and payment of a non-refundable application fee. (A separate escrow fee may be required for administrative charges to review the site plan submittal.)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Applicant information: The name and address of the property owner and applicant, interest of the applicant in the property, the name and address of the developer, and current proof of ownership of the land to be utilized or evidence of a contractual ability to acquire such land, such as an option or purchase agreement.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Scale: The site plan should be drawn at an engineers scale on sheets measuring 24x36 inches at the scale noted below.

<u>ACREAGE</u>	<u>SCALE</u>
160 or more	1" = 200'
5- 159.9	1" = 100'
2- 4.99	1" = 50'
1- 1.99	1" = 30'
0- .99	1" = 20'

COVER SHEET CONTAINING

<input checked="" type="checkbox"/>	<input type="checkbox"/>	The name and address of the project.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The name, address and professional seal of the architect, engineer, surveyor or landscape architect responsible for preparation of the site plan.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A complete and current legal description and size of property in acres and square feet. Where a metes and bound description is used, lot line angles or bearings shall be indicated on the plan. Lot line dimensions and angles or angles or bearings shall be based upon a boundary survey and shall correlate with the legal description.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A small location sketch of sufficient size and scale to locate the property within the Township.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Title block with north arrow, date of preparation and any revisions.

EXISTING CONDITION SHEETS ILLUSTRATING

<input checked="" type="checkbox"/>	<input type="checkbox"/>	All existing lot lines and dimensions, including setback lines and existing or proposed easements.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing topography (minimum contour interval of two feet)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing natural features such as streams, marshes, ponds; wetlands labeled with size and type (upland, emergent, etc)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing woodlands shall be shown by an approximate outline of the total canopy; individual deciduous trees of eight inch caliper or larger and individual evergreen trees six feet in height or higher, where not a part of a group of trees, shall be accurately located and identified by species and size (caliper for deciduous, height for evergreen).

- Soil characteristics of the parcel to at least the detail as provided by the Soil Conservation Service Soil Survey of Livingston County. A separate map or overlay at the same scale as the site plan map may be used.
- Zoning and current land use of applicant's property and all abutting properties and of properties across any public or private street from the site.
- Indication of existing drainage patterns, surface or water bodies.
- The limits of any wetland regulated by the MDEQ, including attachment of any MDEQ approved wetland determination or documentation that an application for an MDEQ review has been submitted. If an MDEQ regulated wetland is to be impacted, an indication of the status of application for an MDEQ wetland permit or copy of a permit including description of any wetland migration required attached.
- Aerial photograph indicating the limits of the site, surrounding land uses and street system.

PROPOSED PROJECT INFORMATION

- Base information:** The location of all existing buildings, structures, street names and existing right-of-way, utility poles, towers, drainage ditches, culverts, pavement, sidewalks, parking areas and driveways on the property and within one-hundred feet of the subject property (including driveways on the opposite side of any street). Notes shall be provided indicating those which will remain and those which are to be removed.
- Building information:** Footprints, dimensions, setbacks, typical floor plans, and a sketch of any rooftop or ground mounted equipment to scale.
- Building elevations:** Elevation drawings shall be submitted illustrating the building design and height, and describing construction materials for all proposed structures. Elevations shall be provided for all sides visible from an existing or proposed public street or visible to a residential district. The Planning Commission may require color renderings of the building. Proposed materials and colors shall be specified on the plan and color chips or samples shall also be provided at the time of site plan review. These elevations, colors, and materials shall be considered part of the approval site plan (as amended 4/15/95).
- Building and lot coverage:** Percentage of building coverage and impervious surface ratio (all paved areas and building v. total lot area) compared to the percentages specified in the Table of Dimensional Standards Article 4.
- For residential developments:** Number of units for each project phase divided by acreage exclusive of any public right-of-way or private road access easement; lot area for each lot; and a description of the number of each unit by size and number of bedrooms; if a multi-phase development is proposed, identification of the areas included in each phase.
- For commercial and office uses:** The Gross Floor Area and Useable Floor Area of each use or lease space. For industrial uses: The floor area devoted to industrial uses and the area intended for accessory office use.
- Streets, driveways, and circulation:** The layout and dimensions of proposed lots, streets and drives (including grades, existing or proposed right-of-way or easement and pavement width, number of lanes and typical cross section showing surface and sub base materials and dimensions,

grades of all entrances and exits, location and typical detail of curbs, intersection radii), access points (including deceleration or passing lanes, distance from adjacent driveways or street intersection), sidewalks (width, pavement type and distance from street) and recreation areas. Written verification of any access easements or agreements for shared access or driveway curb return extending beyond the property line shall be required.

Utilities: Existing and proposed locations of utility services (with sizes), degrees of slope of sides of retention/detention ponds; calculations for size of storm drainage facilities; location of electricity and telephone poles and wires; location and size of surface mounted equipment for electricity and telephone services; location and size of underground tanks where applicable; location and size of outdoor incinerators; location and size of wells, septic tanks and drain fields; location of manholes, catch basins and fire hydrants; location, size, and inverts for storm and sanitary sewers, any public or private easements; notes shall be provided clearly indicating which existing services will remain and which will be removed.

Grading and drainage: A site grading plan for all developments where grading will occur, with existing and proposed topography at a minimum of two (2) foot contour intervals and with topography extending a minimum of twenty (20) feet beyond the site in all directions and a general description of grades within fifty (50) feet, and further where required to indicate stormwater runoff into an approved drain or detention/retention pond so as to clearly indicate cut and fill required. All finished contour lines are to be connected to existing contour lines at or before the property lines. A general description and location of the stormwater management system shall be shown on the grading plan. The Township Engineer may require detailed design information for any retention/detention ponds and stormwater outfall structures or basins. If MDEQ regulated wetlands are to be used, status of MDEQ permit application or copy of permit with attached conditions shall be provided.

Landscape and screening: A landscape plan indicating proposed ground cover and plant locations and with common plant name, number, and size at installation. For any trees over eight (8) inch caliper to be preserved. A detail shall be provided to illustrate protection around the tree's drip line. Berms, retaining walls or fences shall be shown with elevations or cross section from the surrounding average grade. The location, type and height of proposed fences shall be described.

Waste receptacles: Location of proposed outdoor trash container enclosures; size, typical elevation, and vertical section of enclosures; showing materials and dimensions in compliance with Zoning Ordinance Standards.

Signs: Locations of all signs including location, size, area type, height, and method of lighting. Note that all regulatory signs shall meet the standards from the Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

Lighting: Details of exterior lighting including location, height, method of shielding and style of fixtures.

Parking: Parking, storage and loading/unloading areas, including the dimensions of typical space, aisle, and angle of spaces. The total number of parking and loading/unloading spaces to be provided and the method by which the required parking was calculated shall be noted.

The applicant shall erect flagged stakes at the perimeter points of the property to assist Township officials and staff in reviewing the site.



PERMIT INFORMATION

The Department of Environmental Quality (DEQ) has prepared a list of key questions to help identify what departmental permits, licenses, or approvals of a permit-like nature may be needed for a project. By contacting the appropriate offices listed below, you will help reduce the possibility that your project or activity will be delayed due to the untimely discovery of additional permitting requirements later in the process. While this list covers the existence of permits and approvals required from the DEQ, it is not a comprehensive list of all legal responsibilities (i.e. planning requirements and chemical storage regulations may apply). A useful way to learn whether any other requirements will apply is to go through the Self Environmental Assessment in the Michigan Manufacturers Guide, online at: http://www.michigan.gov/deq/0,1607,7-135-3310_4148-15820--00.html.

KEY QUESTIONS: (DEQ Permit and Licensing Guidebook Chapter)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If "Yes," refer to the DEQ Permit and Licensing Guidebook Section(s), the Web Page, or Call the Program:
CONSTRUCTION PERMITS			
Permit to install: Does the project involve installation, construction, reconstruction, relocation, or alteration of any process equipment (including air pollution control equipment) which has the potential to emit air contaminants? (Permit Guidebook Chapter 5.1.3)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	<u>Web</u> , AQD, Permit Section, 517-373-7023
Asbestos Notification: Does the project involve renovating or demolishing all or portions of a building? (Notification is required for all renovations and demolitions, even if the structure never contained asbestos.)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	<u>Web</u> , AQD Asbestos NESHAP Program 517-373-7064
Soil Erosion and Sedimentation Control (SESC): Does the project involve an earth change activity within 500 feet of a lake or stream, or will the project disturb an area greater than one acre in size? (Permit Guidebook Chapter 5.3.5)	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	Contact Your Local SESC Agency: http://www.deq.state.mi.us/sesca/ <u>Web</u> , WB, SESC Program, 517-335-3178
Does the project involve construction which will disturb one or more acre that comes into contact with storm water that enters a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	<u>Web</u> , WB, Permits Section, 517-241-8993 or appropriate DEQ District Office
Does the project involve construction or alteration of any sewage collection or treatment facility? (Permit Guidebook Chapter 5.3.1)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	<u>Web</u> , Appropriate District Office, WB, Part 41 Construction Permit Program
Does the project involve construction of a community water supply well or the extension of a water supply from an existing water system? (Permit Guidebook Chapter 5.3.2)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	<u>Web</u> , Appropriate DEQ District Office, WB, Community Water Supply Program
Does the project involve construction of a water supply well (a private, irrigation, process, or public water well)?	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Contact a <u>Registered Well Driller</u> , <u>Web</u> , <u>Local Health Department Contacts</u> , Non Community Water Supply, <u>Web</u>
Does the project involve construction of a facility that landfills, transfers, or processes of any type of solid non-hazardous waste on-site, or places industrial residuals/sludge into or onto the ground? (Permit Guidebook Chapter 5.4.1)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	<u>Web</u> , Appropriate DEQ District Office, WHMD 517-335-4035
Does the project involve the construction of an on-site treatment, storage, or disposal facility for hazardous waste? (Permit Guidebook Chapter 5.4.2)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	<u>Web</u> 5.4.2, WHMD, Hazardous Waste Section, 517-373-9875
CONSTRUCTION PERMITS (LAND/WATER FEATURE)			
Does the project involve filling, dredging, placement of structures, draining, or use of a wetland? (Permit Guidebook Chapter 5.5.6)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	(Permit Application, <u>Web</u>), <u>Web</u> Land & Water Management Division (LWMD), Permit Consolidation Unit, 517-373-9244
Storm Water Discharge to Wetlands: Will storm water be collected, stored, or treated in a wetland area from a public road, industrial, commercial, or multi-unit residential development? (Permit Guidebook Chapter 5.5.6)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	(Permit Application, <u>Web</u>), <u>Web</u> LWMD, Permit Consolidation Unit, 517-373-9244

Great Lakes: Does the project involve construction, filling, or dredging below the Ordinary High Water Mark of one of the Great Lakes? (Permit Guidebook Chapter 5.5.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Inland Lakes and Streams: Does the project involve any dredging, filling, placement of structures, or the operation of a marina within an inland waterbody (e.g. lake, river, stream, drain, creek, ditch, or canal), enlargement of a waterbody, or excavation of a pond within 500 feet of a waterbody? (Permit Guidebook Chapter 5.5.7)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Storm Water Ponds and Discharges to Inland Lakes/Streams, or Great Lakes: Will storm water from any road or any other part of the development be discharged either directly or ultimately to an inland waterbody, or one of the Great Lakes; or will a storm water pond be constructed within 500 feet of an inland waterbody? (Permit Guidebook Chapters 5.5.7 & 5.5.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web 5.5.7 , Web 5.5.1 LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve placement of fill, earth moving, or placement of structures within the 100-year floodplain of a watercourse? (Permit Guidebook Chapter 5.5.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve construction of a building or septic system in a designated Great Lakes high risk erosion area? (Permit Guidebook Chapter 5.5.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve dredging, filling, grading, or other alteration of the soil, vegetation, or natural drainage, or placement of permanent structures in a designated environmental area? (Permit Guidebook Chapter 5.5.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web 5.5.1 , Web 5.5.4 , Web 5.5.6 , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project propose any development, construction, silvicultural activities or contour alterations within a designated critical dune area? (Permit Guidebook Chapter 5.5.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve construction of a dam, well or other structure to impound flow? (Permit Guidebook Chapters 5.5.7) & 5.5.8)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web 5.5.7 , Web 5.5.8 , LWMD, Dam Safety Program, 517-241-9862
CONSTRUCTION PERMITS (SECTOR SPECIFIC)		
Does the project involve a subdivision or site condominium project utilizing individual on-site subsurface disposal systems or individual wells? (Permit Guidebook Chapter 5.3.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, 517-241-1345
Does the project involve the construction or modification of a campground? (Permit Guidebook Chapter 5.3.6)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, 517-241-1340
Does the project involve the construction or modification of a public swimming pool? (Permit Guidebook Chapter 5.3.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web DEQ, WB, Drinking Water & Environmental Health Section (DWEHS), 517-241-1340
OPERATIONAL PERMITS		
Renewable Operating Permit: Does your facility have the potential to emit any of the following: 100 tons per year or more of any criteria pollutant; 10 tons per year or more of any hazardous air pollutant; or 25 tons per year or more of any combination of hazardous air pollutants? (Permit Guidebook Chapter 5.1.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , AQD, Permit Section, 517-373-7023
NPDES: Does the project involve the discharge of any type of wastewater to a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Appropriate District Office, or National Pollutant Discharge Elimination (NPDES) Permit Program 517-241-1346
Does the facility have industrial activity that comes into contact with storm water that enters a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Permits Section, 517-241-8993 or appropriate DEQ District Office

Does the project involve the discharge of wastewaters into or onto the ground (e.g. subsurface disposal or irrigation)? (Permit Guidebook Chapter <u>5.2.2</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, Groundwater Permits Program, 517-373-8148
Does the project involve the drilling or deepening of wells for waste disposal ? (Permit Guidebook Chapter <u>5.7.8</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve landfilling, transferring, or processing of any type of solid non-hazardous waste on-site, or placing industrial residuals/sludge into or onto the ground? (Permit Guidebook Chapter <u>4.4.2</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , Appropriate DEQ District Office, WHMD 517-335-4035
Does the project involve the on-site treatment, storage, or disposal of hazardous waste ? (Permit Guidebook Chapters <u>4.4.3</u> & <u>4.4.4</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, Hazardous Waste Section, 517-373-9875
Does the project require a site identification number (EPA number) for regulated waste activities (used oil, liquid waste, hazardous waste, universal waste, PCBs)? (<u>Web Site</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD, Appropriate DEQ District Office
Does the project involve the receipt, possession, manufacture, use, storage, transport, transfer, release, or disposal of radioactive material in any form?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, Radioactive Material and Standards Unit, 517-241-1275
Do you desire to develop a withdrawal of over 2,000,000 gallons of water per day from any source other than the Great Lakes and their connecting waterways? Or, do you desire to develop a withdrawal of over 5,000,000 gallons of water per day from the Great Lakes or their connecting waterways? (Permit Guidebook Chapter <u>5.2.6</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, DWEHS, Source Water Protection Unit, 517-241-1318
CHEMICAL ADDITION PROJECTS		
Are you using chemicals or materials in, or in contact with, drinking water at any point in the water works system ? (Permit Guidebook Chapter <u>5.2.3</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, Appropriate District Office, Public Water Supply Program 517-241-1318
Are you applying a chemical treatment for the purpose of aquatic nuisance control (pesticide/herbicide etc) in a water body (i.e. lake, pond or river)? (Permit Guidebook Chapter <u>5.2.4</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, Aquatic Nuisance Control and Remedial Action Unit 517-241-7734
Are you applying materials to a water body for a water resource management project (i.e. mosquito control treatments, dye testing, or fish reclamation projects)? (Permit Guidebook Chapter <u>5.2.5</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, Surface Water Assessment Section 517-373-2190
OPERATIONAL PERMITS (SECTOR SPECIFIC)		
Does the project involve the transport of some other facility's non-hazardous liquid waste ? (Permit Guidebook Chapter <u>4.2.4</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, Transporter Program, 586-753-3850
Does the project involve the transport hazardous waste ? (Permit Guidebook Chapter <u>4.2.3</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, Transporter Program, 586-753-3850
Does your facility have an electric generating unit that sells electricity to the grid and burns a fossil fuel? (Permit Guidebook Chapter <u>5.1.1</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , AQD, Acid Rain Permit Program, 517-373-7023
Is the project a dry cleaning establishment utilizing perchloroethylene or a flammable solvent in the cleaning process? (Permit Guidebook Chapter <u>4.1.2</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , DEQ, Air Quality Division (AQD), 517-241-1324
Does your laboratory test potable water as required for compliance and monitoring purposes of the Safe Drinking Water Act? (Permit Guidebook Chapter <u>4.1.4</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , ESSD, Laboratory Services Section 517-335-9800

Does the project involve the generation of medical waste or a facility that treats medical waste prior to its disposal? (Permit Guidebook Chapter <u>4.1.5</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , Waste and Hazardous Materials Division (WHMD), Medical Waste Regulatory Program 517-241-1320
Does the project involve transport of septic tank, cesspool, or dry well contents or the discharge of septage or sewage sludge into or onto the ground? (Permit Guidebook Chapter <u>4.2.1</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, DWEHS, Septage Program 517-241-1318
Do you store, haul, shred or process scrap tires ? (Permit Guidebook Chapters <u>4.2.2</u> or <u>4.4.1</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, Storage Tank and Solid Waste Section 517-241-2924
Does the project involve the operation of a public swimming pool ? (Permit Guidebook Chapter <u>4.1.3</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> DEQ, WB, Drinking Water & Environmental Health Section (DWEHS), 517-241-1340
Does the project involve the operation of a campground ? (Permit Guidebook Chapter <u>4.1.6</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, DWEHS, 517-241-1340
Do you engage in the business of hauling bulk water for drinking or household purposes (except for your own household use)? (Permit Guidebook Chapter <u>4.2.5</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, DWEHS, Noncommunity Unit, 517-241-1370
Does the project involve composting over 200 cubic yards of yard clippings? (Permit Guidebook Chapter <u>4.4.5</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, Storage Tank and Solid Waste Section 517-241-2924
STORAGE TANKS (CONSTRUCTION AND OPERATION)		
Does the project involve the installation of an aboveground storage tank for a flammable or combustible liquid (under 200 degrees Fahrenheit)? (Permit Guidebook Chapter <u>4.3.1</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, Storage Tank and Solid Waste Section (STSWS), 517-335-7211
Does the project involve the installation of a compressed natural gas dispensing station with storage? (Permit Guidebook Chapter <u>4.3.2</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, STSWS, 517-335-7211
Does the project involve the installation of a liquefied petroleum gas container filling location or storage location that has a tank with a capacity of more than 2,000 gallons or has two (2) or more tanks with an aggregate capacity of more than 4,000 gallons? (Permit Guidebook Chapter <u>4.3.3</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, STSWS, 517-335-7211
Does the project involve the installation, removal, or upgrade of an underground storage tank containing a petroleum product or a hazardous substance? (Permit Guidebook Chapter <u>4.3.4</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WHMD, STSWS, 517-335-7211
Does the project involve the installation of a hydrogen system ?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD STSWS, 517-335-7211
PERSONAL LICENSES/CERTIFICATIONS		
Are you designated by your facility to be the Certified Operator to fulfill the requirements of a wastewater discharge permit (NPDES including Storm Water or Groundwater)? (Permit Guidebook Chapters <u>3.1</u> , <u>3.2</u> , & <u>3.5</u>)	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Hotlink to Program Web Page (Web) <u>Web3.1</u> , <u>Web3.2</u> , Environmental Science and Services Division (ESSD), Operator Training 517-373-4755 and, <u>Web3.5</u> Water Bureau (WB), Storm Water Program 517-241-8993
Are you a drinking water operator in charge of a water treatment or water distribution system, back-up operator, or shift operator? (Permit Guidebook Chapter <u>3.3</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , ESSD, Operator Training 517-241-7199
Are you a water well drilling contractor , pump installer, dewatering well contractor or dewatering well pump installer? (Permit Guidebook Chapter <u>3.4</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , WB, Well Construction Unit 517-241-1377

OIL, GAS AND MINING		
Do you want to operate a central production facility (applies to oil and gas production facilities where products of diverse ownership are commingled)? (Permit Guidebook Chapter 4.1.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , Office of Geological Survey (OGS), Petroleum Geology and Production Unit 517-241-1515
Does the project involve the removal of sand from a sand dune area within two (2) miles of a Great Lakes shoreline? (Permit Guidebook Chapter 5.6.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , Office of Geological Survey (OGS), Minerals and Mapping Unit, 517-241-1542
Does the project involve the diversion and control of water for the mining and processing of low-grade iron ore ? (Permit Guidebook Chapter 5.6.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve the surface or open-pit mining of metallic mineral deposits ? (Permit Guidebook Chapter 5.6.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve the mining of nonferrous mineral deposits at the surface or in underground mines? (Permit Guidebook Chapter 5.6.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve mining coal ? (Permit Guidebook Chapter 5.6.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Minerals and Mapping Unit, 517-241-1542
Do you want to change the status of an oil or gas well (i.e. plug the well)? (Permit Guidebook Chapter 5.7.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve drilling of oil, gas, brine disposal, secondary recovery, or hydrocarbon storage wells ? (Permit Guidebook Chapter 5.7.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve plugging or deepening of an oil or gas well , or conveying rights in the well as an owner to another person? (Permit Guidebook Chapter 5.7.3, 5.7.4 & 5.7.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve changing the status or plugging of a mineral well ? (Permit Guidebook Chapter 5.7.6 & 5.7.7)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve the drilling or deepening of wells for brine production, solution mining, storage, or as test wells ? (5.7.8)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	<u>Web</u> , OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve decommissioning or decontamination of tanks, piping, and/or appurtenances that may have radioactive levels above background?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD Radioactive Material and Standards Unit, 517-241-1275

ENVIRONMENTAL ASSISTANCE CENTER: 1-800-662-9278



March 29, 2016

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Kelly Van Marter, AICP Assistant Township Manager and Planning Director
Subject:	Flagstar Bank – Site Plan Review #2
Location:	Latson Road – East side of Latson Road, just north of I-96
Zoning:	NRPUD (Non-Residential Planned Unit Development)

Dear Commissioners:

At the Township’s request, we have reviewed the revised site plan (dated 3/2/16) proposing a new Flagstar Bank building. As a side note, the revision date has not been included on the current site plan and we request the applicant add such to avoid confusion moving forward.

The subject site is part of a larger Planned Unit Development (PUD) on the former Latson Elementary School property. The proposed project has been reviewed for compliance with the Genoa Township Zoning Ordinance and the PUD Agreement for this site.

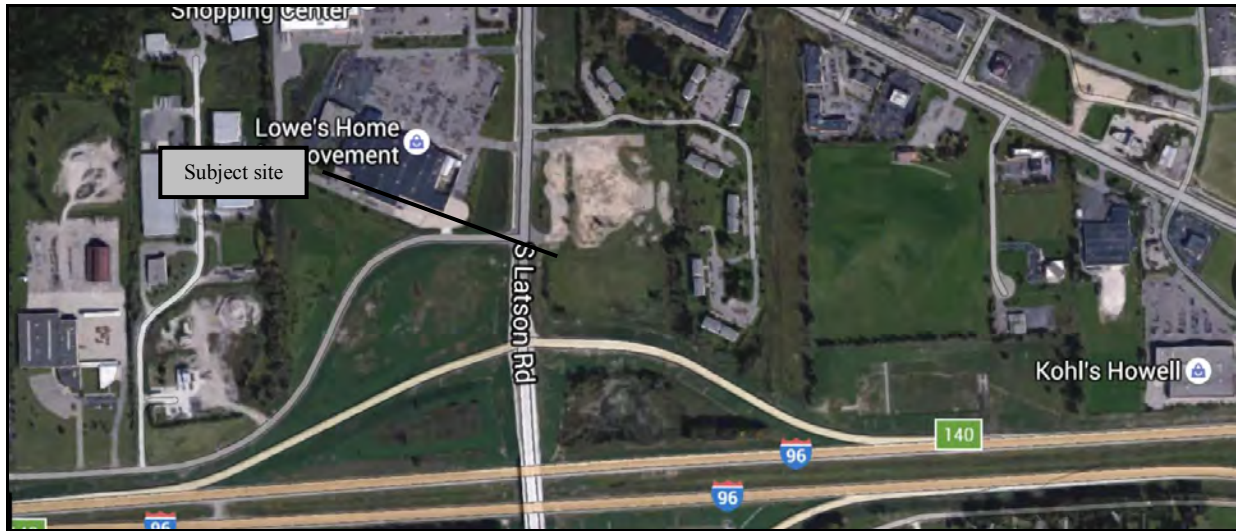
A. Summary

1. The applicant needs to add the revision date to the current site plan.
2. The PUD Agreement requires that each building face contain at least 80% natural materials. The south and east elevations are slightly deficient.
3. The site plan must be corrected to show the required 8’ wide bike path within the Latson Road right-of-way.
4. The applicant may wish to include a cross-access easement for the property south of the site.
5. The mechanical equipment on the east side of the building needs to be screened with landscaping.
6. The applicant may need to provide additional ornamental light fixtures along Latson Road.
7. The base of the proposed ground sign must be brick to match the building.
8. We request the applicant include a note on the signage plan acknowledging the requirements for electronic changeable message signs.
9. The proposed flag pole must be reduced to no more than 40’ in height.

B. Proposal/Process

The applicant requests site plan review and approval for a proposed free-standing Flagstar Bank building within the Former Latson Elementary School Property PUD.

Under the PUD Agreement for this site, banks with up to 3 drive-through teller windows are permitted by right. As such, the request requires review and approval of the site plan and Environmental Impact Assessment.



Aerial view of site and surroundings (looking north)

C. Site Plan Review

1. Dimensional Requirements. As shown in the table below, the proposed development complies with the dimensional standards for this PUD:

District	Lot Size		Minimum Setbacks (feet)				Max. Height	Max. Coverage
	Lot Area (acres)	Width (feet)	Front Yard	Side Yard	Rear Yard	Parking		
NRPUD	1	120	20	10	20	0 front 5 side/rear	75'	50% building 85% impervious
Proposal	1.01	210	71.37	86.76 (N) 63 (S)	54.18	2 (front) 10 side/rear	26'	7.51% building 59% impervious

2. Building Design and Materials. Proposed elevations, including colors and materials, are subject to review and approval by the Planning Commission. The applicant has indicated that color sample boards will be presented at the Planning Commission meeting.

The primary building material is brick with EIFS accents below the eaves line. The building is further accented by various cast stone medallions and brick soldier course on all four sides. The main entrance to the building has a larger façade with a metal canopy.

The PUD Agreement requires that each wall face contain at least 80% natural materials, such as brick or stone. Based on the calculations provided on Sheet A-2, the amount of EIFS slightly exceeds that permitted on the east and south building elevations.

3. Parking/Stacking. Required parking for banks is one space for each 200 square feet of gross floor space, plus two spaces for each ATM (Section 14.04). Given the size of the building and the inclusion of an ATM, 19 parking spaces are required. The revised plan provides 19 spaces, including the 1 barrier-free space required. The parking space and drive aisle dimensions also comply with the Ordinance.

Drive through windows for bank uses require four stacking spaces for the first window and three stacking spaces for each additional window. This requirement is met.

There are no loading areas proposed for the project; however, such spaces are not typically necessary for bank uses.

Flagstar Bank

Site Plan Review #2

Page 3

- 4. Pedestrian Circulation.** The site plan provides 7’ wide sidewalks along the north and west sides of the building adjacent to the parking lot. The proposal includes a 5’ wide sidewalk parallel to the north property line, which would connect to the public sidewalk along Latson Road. A connection is also provided between this sidewalk and the building, with crosswalk striping across the drive aisle.

An 8’ wide bike path is required within the Latson Road right-of-way; however, this is currently shown as a 5’ wide sidewalk. The approved PUD site plan for the medical facility within this development provided for the 8’ wide bike path. As such, the plan needs to be corrected to show the required bike path.

Lastly, the applicant has included an easement for a future sidewalk along the east side lot line to provide for better pedestrian circulation throughout the full PUD.

- 5. Vehicular Circulation.** This PUD has 2 access drives along Latson Road. The main access to the PUD and the subject site is via the southerly drive, opposite Grand Oaks Drive.

The revised plans provide a cross-access easement that would connect the site and the undeveloped property to the east in the event it is needed.

The applicant may also wish to include a similar easement for future access to the property south of the site; however, cross-access would be limited due to the one-way drive through lanes.

- 6. Landscaping.** The following table is a summary of the landscaping required by Section 12.02:

Location	Ordinance Requirement	Landscaping Required	Proposed	Comments
Front yard greenbelt (210 ft.) (Latson Rd)	20’ width 1 canopy tree every 40’	6 canopy trees required	20’ width (minimum) 4 canopy trees 2 evergreen trees 2 ornamental trees	Requirements met
Parking lot (19 spaces)	1 tree & 100 SF landscaped area per 10 spaces	2 canopy trees & 190 SF landscaping. 1 tree must be interior parking lot. Front yard parking must be screened by hedge row, 3’ knee wall or berm.	2 canopy trees, row of arborvitae and yews screen parking spaces in front yard	Requirements met
Buffer Zone “C” (North)	10’ width 1 canopy OR evergreen tree OR 4 shrubs per 20’	226’ = 12 canopy OR evergreen trees OR 46 shrubs.	18’ width 7 canopy trees & 38 shrubs	Requirements met
Buffer Zone “C” (East)	10’ width 1 canopy OR evergreen tree OR 4 shrubs per 20’	210’ = 11 canopy OR evergreen trees OR 42 shrubs.	26’ width 11 canopy trees	Requirements met
Buffer Zone “C” (South)	10’ width 1 canopy OR evergreen tree OR 4 shrubs per 20’	192’ = 10 canopy OR evergreen trees OR 39 shrubs.	10’ width 7 canopy or evergreen trees & 20 shrubs	Requirements met

The site plan also identifies ground mounted mechanical equipment on the east side of the building. Per Section 12.02.06, this equipment must be screened with shrubs.

7. **Waste Receptacle and Enclosure.** The site does not provide a waste receptacle, which is not uncommon for financial uses dealing with sensitive information. The applicant has added a note to sheet 4 that trash will be collected internally and picked up via curbside weekly.
8. **Exterior Lighting.** The photometric plan illustrates 5 light poles within the parking lot, lighting under the drive through canopy and building accent lights. The maximum lighting intensity complies with Ordinance requirements.

The revised plan also includes 1 ornamental light pole along Latson Road, as required by the PUD Agreement. Depending on the spacing necessary for these fixtures, the applicant may need to provide additional ornamental lighting.

9. **Signs.** The proposal includes one monument sign, one wall sign and two directional ground signs. The proposed signage is generally in compliance with the Zoning Ordinance; however, the applicant must address the following items:

- The ground sign detail does not identify the base material. The PUD Agreement requires that it match the primary building material; in this instance, brick; and
- We request that a note be added acknowledging the requirements of Section 16.07.02(e) for electronic changeable message signs.

10. **Impact Assessment.** The submittal includes an Impact Assessment notes that the proposed project is not expected to adversely impact natural features, public services/utilities, surrounding land uses or traffic.

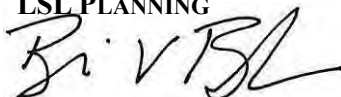
11. **Additional Considerations.** The revised plan includes a bike rack southwest of the building as an additional site amenity per the NRPUD requirements.

A 50' tall flag pole is also proposed southwest of the building; however, Section 11.01.05(b) limits the height to 40'. The applicant must revise the plan accordingly.

Should you have any questions concerning this review, please do not hesitate to contact our office. We can be reached by phone at (248) 586-0505, or via e-mail at borden@lslplanning.com and gruba@lslplanning.com.

Sincerely,

LSL PLANNING



Brian V. Borden, AICP
Principal Planner



Christopher Gruba
Project Planner II



March 28, 2016

Ms. Kelly Van Marter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

**Re: Flagstar Bank
Site Plan Review #2**

Dear Ms. Van Marter:

We have reviewed the updated site plan documents from Boss Engineering Inc. dated March 23, 2016, for the subject project. The applicant is proposing a 3,335 sft bank on the east side of Latson Road in an outlot of the Providence Ambulatory Facility. Tetra Tech has reviewed the documents and site plan and offers the following comment.

SITE PLAN

1. The site sanitary sewer service has been changed to gravity through a public sewer extension constructed to the northeast corner of the property. A review of the proposed sewer depth against the approved construction plans for the site to the north shows that there may be some sections of the proposed sewer main with less than 4 feet of cover, which is less than the Township standard for cover. We recommend the petitioner redesign the sewer to meet the 4 feet of cover requirement which will be checked on the profiles provided during the construction plan review. A sewer easement also should be added to the drawings.

The petitioner has discussed the proposed sewer plan with the Township and addressed our earlier comments. We have no engineering related objections to approval of the site plan provided the petitioner address the sanitary sewer comment above in the construction plans.

Please call if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Gary J. Markstrom'.

Gary J. Markstrom, P.E.
Unit Vice President

A handwritten signature in blue ink, appearing to read 'Joseph C. Siwek'.

Joseph C. Siwek, P.E.
Project Engineer

Copy: Brent LaVanway, P.E., Boss Engineering Inc.



BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

March 30, 2016

Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Flagstar Bank
Latson Rd. – S. of Grand River
Genoa Twp., MI

Dear Kelly:

The Brighton Area Fire Department has reviewed the above mentioned site plan. The plans were received for review on March 3, 2016 and the drawings are dated March 2, 2016. The project is for new 3,335 square foot business occupancy to be used as a bank. The plan review is based on the requirements of the International Fire Code (IFC) 2012 edition.

1. Future project submittals shall include the address and street name of the project in the title block. **(Noted to be Provided after Land Division)**
IFC 105.4.2
2. The building shall include the building address on the building. The address shall be a **minimum of 6"** high letters of contrasting colors and be clearly visible from the street (West Elevation). The location and size shall be verified prior to installation. **(Not yet assigned, Noted to be provided on West Elevation)**
IFC 505.1
3. The one-way drive along the east side of the building must be widened to 20'. With a width of 20' wide, both sides shall be marked as a fire lane. Include the location of the proposed fire lane signage and include a detail of the fire lane sign in the submittal. Access roads to site shall be provided and maintained during construction. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds. **(Revised and shown on Drawing)**
IFC D 103.6
IFC D 103.1
IFC D 102.1
IFC D 103.3
4. Access around building shall provide emergency vehicles with a turning radius up to 50' outside and a 30' inside. A minimum vertical clearance of 13½ feet shall be maintained throughout. **(Revised and shown on Drawing)**
5. The location of a key box (Knox Box) shall be indicated on future submittals. The Knox box will be located adjacent to the main entrance of the structure. **(Noted on Drawing)**
IFC 506.1
6. Provide names, addresses, phone numbers, emails of owner or owner's agent, contractor, architect, on-site project supervisor. **(Added to Drawing, Contractor TBD)**



Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department. If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink, appearing to read 'R. Boisvert'.

Capt. Rick Boisvert, CFPS
Fire Inspector



2911 Dorr Road
 Brighton, MI 48116
 810.227.5225
 810.227.3420 fax
 genoa.org

MEMORANDUM

TO: File

FROM: Kelly VanMarter, Assistant Township Manager/Community Development Director

DATE: April 7, 2016

RE: Flagstar Bank Connection Fees

This memo will describe the water and sewer connection fees required for the proposed 3,335 square foot Flagstar bank building located within the Providence Medical Center (former Latson Road Elementary School) Planned Unit Development .

ANALYSIS: The REU Table provides 0.12 REU’s per employee for a bank. Based on information in the impact assessment the proposed bank would have 14 employees therefore the connection fees would be: $0.12 \times 14 = 1.68$ REU’s

OPTION 1 – CREDITS:

There is an existing balance of 21.5 REU’s associated with this property. The owner can dedicate the credits for use by the bank if so desired. This would have the following effect:

	Water REU	Sewer REU
Credits per PUD Agreement	27	27
Providence Ph. 1 Medical Office building	-5.5	-5.5
Flagstar Bank	-1.68	-1.68
REMAINING BALANCE	19.82	19.82

OPTION 2 – PAYMENT:

If the owner is not transferring the REU credits to the bank outlot the following fees would be applicable:

1.68 REU x \$5,500 per Sewer REU =	\$ 9,240.00
1.68 REU x \$5,000 per Water REU =	\$ 8,400.00
TOTAL DUE =	\$17,640.00

If using option 2, the connection fees are due at the time of Land Use Permit issuance.

SUPERVISOR

Gary T. McCririe

CLERK

Paulette A. Skolarus

TREASURER

Robin L. Hunt

MANAGER

Michael C. Archinal

TRUSTEES

H. James Mortensen

Jean W. Ledford

Todd W. Smith

Linda Rowell

**IMPACT ASSESSMENT
FOR
SITE PLAN PETITION
“FLAGSTAR BANK”
GENOA TOWNSHIP, LIVINGSTON COUNTY
MICHIGAN**

Prepared for:

**MBA ARCHTECTS
30150 TELEGRAPH RD. SUITE 150
BINGHAM FARMS, MI 48025
(248) 258-5155**

Prepared by:

**BOSS ENGINEERING COMPANY
3121 E. GRAND RIVER
HOWELL, MI 48843
(517) 546-4836**

September 24, 2015

15-325 EIA

INTRODUCTION

The purpose of this Impact Assessment (IA) report is to show the effect that this proposed development may have on various factors in the general vicinity of the project. The format used for presentation of this report conforms to the *Submittal Requirements for Impact Assessment* guidelines in accordance with Section 18.07 of the published Zoning Ordinance for Genoa Township, Livingston County, Michigan.

DISCUSSION ITEMS

A. Name(s) and address(es) of person(s) responsible for preparation of the impact assessment and a brief statement of their qualifications.

Prepared For:
MBA Architects
30150 Telegraph Rd. Suite 150
Bingham Farms, MI 48025
(248) 258-5155

Prepared By:
BOSS ENGINEERING COMPANY
Civil Engineers, Land Surveyors, Landscape Architects and Planners
3121 E. Grand River
Howell, MI 48843
(517) 546-4836

Boss Engineering has been successfully providing engineering, surveying, planning and landscape architecture services on land development projects since 1969. Since its beginning, Boss Engineering has strived to provide unparalleled professional services with integrity and respect to every client. Today, Boss provides a complete lineup of consulting services for each project, ranging from conceptual design through final construction. The company currently employs a variety of professions including civil engineers, surveyors, landscape architects and sanitarians.

B. Map(s) and written description / analysis of the project site including all existing structures, manmade facilities, and natural features. The analysis shall also include information for areas within 10 feet of the property. An aerial photograph or drawing may be used to delineate these areas.

The site is located on the east side of South Latson Rd, approximately 1700 feet south of the Grand River Ave intersection. The property has 210 feet of frontage along South Latson Rd, the entire width of the site. To the west on the opposite side of South Latson Road is non-residential planned unit development use. To the north of the site is undeveloped property in which a two phase project involving medical office buildings are being developed. Undeveloped property to the east and south of the site is zoned as non-residential planned unit development. The subject property is currently undeveloped, non-residential planned unit development (NRPUD).

C. Impact on natural features: A written description of the environmental characteristics of the site prior to development and following development, i.e., topography, soils, wildlife, woodlands, mature trees (eight inch caliper or greater), wetlands, drainage, lakes, streams, creeks or ponds. Documentation by a qualified wetland specialist shall be required wherever the Township determines that there is a potential regulated wetland. Reduced copies of the Existing Conditions Map(s) or aerial photographs may accompany written material.

The total site area is 1.01 acres. There are 0.08 acres of right-of-way for South Latson Road leaving a total of 0.93 acres of buildable space. There are no wetlands on the property. The site gradually slopes southeast at approximately 1.78%. The trees and shrubs/brush on site are minimal and located along the

west property line within the ditch, while the remainder of the site is open area. The USDA Soil Conservation Service soil classification for the site is Miami-Loam 2-6% slopes.

D. Impact on storm water management: Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from County Soil Conservation Service.

Surface runoff during periods of construction will be controlled by proper methods set forth by the Livingston County Drain Commissioner, including silt fence, inlet protection devices, and seed and mulch.

At the time of construction, there may be some temporary dust, noise, vibration and smoke, but these conditions will be of relatively short duration and shall be controlled by applying appropriate procedures to minimize the effects, such as watering if necessary for dust control.

The Site Plan documents show the proposed locations of all site improvements along with detailed soil erosion control information. The plans will be reviewed by the Livingston County Drain Commissioner's office for compliance with their regulations prior to issuance of a Soil Erosion Control permit.

E. Impact on surrounding land use: Description of the types of proposed uses and other man made facilities, including any project phasing, and an indication of how the proposed use conforms or conflicts with existing and potential development patterns. A description shall be provided of any increases of light, noise or air pollution which could negatively impact adjacent properties.

To the north in two phases, two medical office buildings are being developed. Phase 1 includes building #1 being 3 stories at 20,500 square feet and the closest of the two medical buildings being proposed to South Latson Road that requires parking, pedestrian circulation and site access. Phase I also includes construction of the detention and forebay storm water management system, sized for the medical buildings, subject property and future developments. Phase II will be constructed at a later date, which includes building #2, and final build out of the required parking and pedestrian walkways.

With the proposed use being a bank, most of the activity on the property would be weekdays 9 AM to 6 PM. Unlike a commercial use, there would be limited evening or weekend traffic with hours of operation being limited.

The increase in light, noise or air pollution would be far less than what is typically associated with a commercial development. Developing a single small bank building on the property will have minimal impact on surrounding properties.

F. Impact on public facilities and services: Description of number of expected residents, employees, visitors, or patrons, and the anticipated impact on public schools, police protection and fire protection. Letters from the appropriate agencies may be provided, as appropriate.

The anticipated occupancy of 14 employees and customers, will have very little negative impact to nearby properties, but may even help the neighboring businesses with additional subsidiary patronage.

There is no expected impact on Howell Area Schools and very minimal impact on the police and fire departments.

G. Impact on public utilities: Description of the method to be used to service the development with water and sanitary sewer facilities, the method to be used to control drainage on the site and from the site, including runoff control during periods of construction. For sites service with sanitary sewer, calculations for pre- and post development flows shall be provided in equivalents to a single family home. Where septic systems are proposed, documentation or permits from the Livingston County Health Department shall be provided.

The development is to be served by both public water and sanitary sewer, both located within South Latson Road right-of-way. The public water is provided by MHOG Sewer and Water Authority, where the sanitary sewer collection is provided by the G-O Sewer Authority.

The development will tap into an 8+water main that is being provided by others to the north of the site along the drive to provide its water service. For sanitary, a 1.5+force main is to be connected to the manhole north of the site near the medical office building.

The pre-development sanitary flow from this site is zero. Post-development flows based on MHOG sewer standards for the proposed bank is equivalent to 1.68 REU c .

Bank = 0.12 per employee x 14 = 1.68 REU c

With regards to storm water management, the project will be required to meet all local, county and state storm water and erosion control requirements. All of the required information is included in the Site Plan documents. Most storm water runoff will be directed to the proposed forebay and detention basin of the medical office buildings to the southeast of the site.

H. Storage or handling of any hazardous materials: Description of any hazardous substances expected to be used, stored or disposed of on the site. The information shall describe the type of materials, location within the site and method of containment. Documentation of compliance with federal and state requirements, and a Pollution Incident Prevention Plan (PIPP) shall be submitted, as appropriate.

There will be no hazardous materials used or disposed of on this site, such as gas cans, striping paint, etc.

I. Impact on traffic and pedestrians: A description of the traffic volumes to be generated based on national reference documents, such as the most recent edition of the Institute of Transportation Engineers Trip Generation Manual, other published studies or actual counts of similar uses in Michigan.

According to the Institute of Transportation Engineers Trip Generation 6th addition, the number of trips generated by this development would be an average of 55 trips per hour (35.18 trips per unit per 1,000sf) during the AM peak hours, and 81 trips per hour (51.23 trips per unit per 1,000 sf) during the PM peak hours. This is based on a drive-in bank building.

J. A detailed traffic impact study shall be submitted for any site over ten (10) acres in size which would be expected to generate 100 directional vehicle trips (i.e. 100 inbound or 100 outbound trips) during the peak hour of traffic of the generator or on the adjacent streets.

The site is under 10 acres. Therefore a detailed traffic impact study is not necessary.

K. Special Provisions: General description of any deed restrictions, protective covenants, master deed or association bylaws.

None at this time.

L. A list of all sources shall be provided.

Genoa Township's *Submittal Requirements for Impact Assessment*

Genoa Township Zoning Ordinances

Soil Survey of Livingston County, Michigan, U.S.D.A. Soil Conservation Service

National Wetland Inventory Plan, United States Department of the Interior, Fish and Wildlife Service

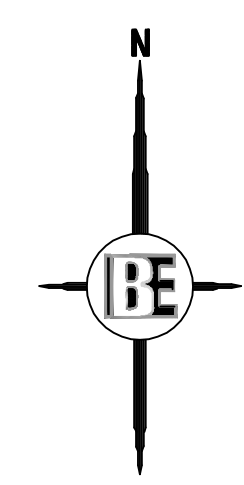
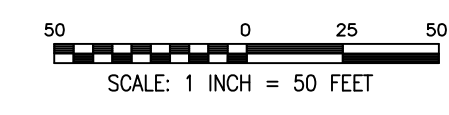
Trip Generation manual, 6th edition, Institute of Transportation Engineers

APPENDIX

N88°08'18"E (M) N87°20'53"E (R) 700.00' (M&R)

LEGEND

PROPOSED (PR)	EXISTING (EX)	HYDRANT
		FENCE
		MODIFIED CURB
		CONCRETE
		ASPHALT
		PAVEMENT TO BE CONSTRUCTED BY OTHERS



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE AND NO GUARANTEE IS MADE AS TO THE ACCURACY OF THE INFORMATION. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND PROPOSED UTILITY LOCATIONS IN THE FIELD PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES OR CONFLICTS ARE APART OF THE LOCATION OR DEPTH DIFFERENCES IDENTIFIED FROM THE PLAN.

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PROPOSED PHASE I
MEDICAL OFFICE BUILDING
TO BE CONSTRUCTED
BY OTHERS

PROPOSED PHASE II
MEDICAL OFFICE
BUILDING
TO BE
CONSTRUCTED
BY OTHERS

PARCEL
14.57 AC.±
1201 S. LATSON ROAD
ZONED NRPUD
(NON-RESIDENTIAL UNIT DEVELOPMENT)

PROPOSED DRIVE TO BE
CONSTRUCTED BY OTHERS

PROPOSED PAVEMENT TO BE
CONSTRUCTED BY OTHERS

PROPOSED
BUILDING

FUTURE DEVELOPMENT
PROPERTY

PROPOSED BASIN
TO BE CONSTRUCTED
BY OTHERS

FUTURE DEVELOPMENT
PROPERTY

GRAND OAKS DR

S. LATSON ROAD

S. LATSON ROAD

N01°46'12"W 627.95'

S89°34'04"W
33.00'

N01°46'12"W 182.00'

N45°07'09"W
114.42'

N88°29'51"W 222.00'

N80°34'02"W 243.16'

N74°17'55"W
134.50' (M)
134.45' (R)

S01°46'12"E (M) S02°33'37"E (R) 995.34' (M&R)

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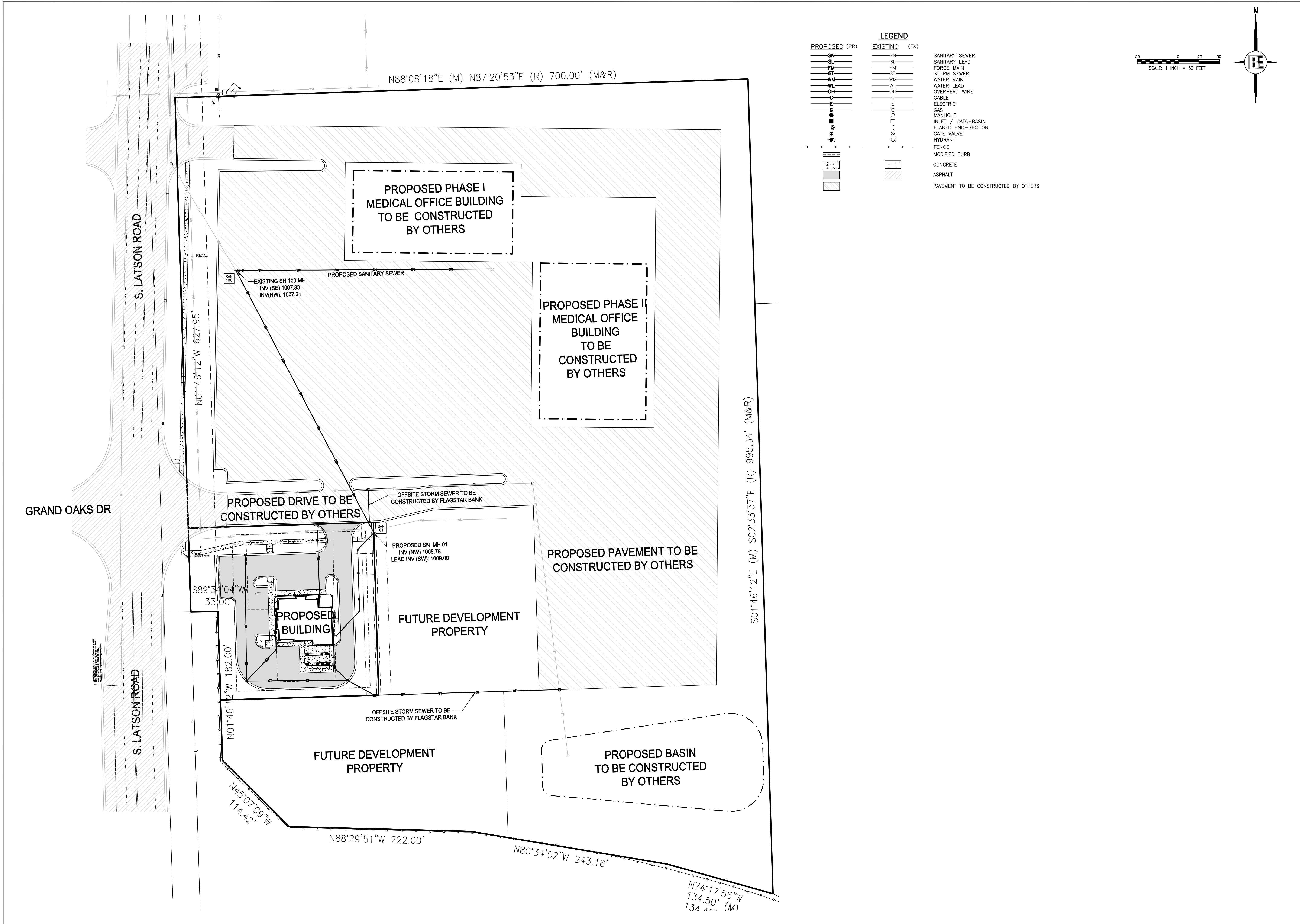
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

PROJECT: FLAGSTAR BANK
PREPARED FOR: MBA ARCHITECTS
30160 TELEGRAPH RD, SUITE 160
BINGHAM FARMS, MI 48025
248-2885155

TITLE: OVERALL SCHEMATIC

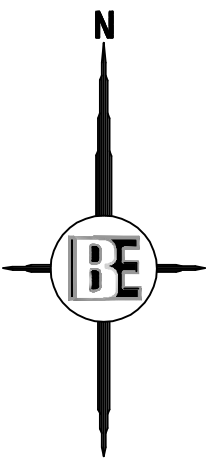
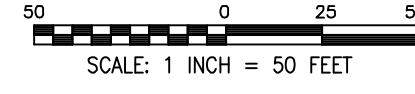
NO	BY	REVISION	PER	DATE

DESIGNED BY: KS
DRAWN BY: KS
CHECKED BY:
SCALE 1" = 50'
JOB NO. 15-325
DATE 03/02/2016
SHEET NO. 3



LEGEND

PROPOSED (PR)	EXISTING (EX)	
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
M	M	MANHOLE
I	I	INLET / CATCHBASIN
F	F	FLARED END-SECTION
V	V	GATE VALVE
H	H	HYDRANT
F	F	FENCE
M	M	MODIFIED CURB
C	C	CONCRETE
A	A	ASPHALT
		PAVEMENT TO BE CONSTRUCTED BY OTHERS



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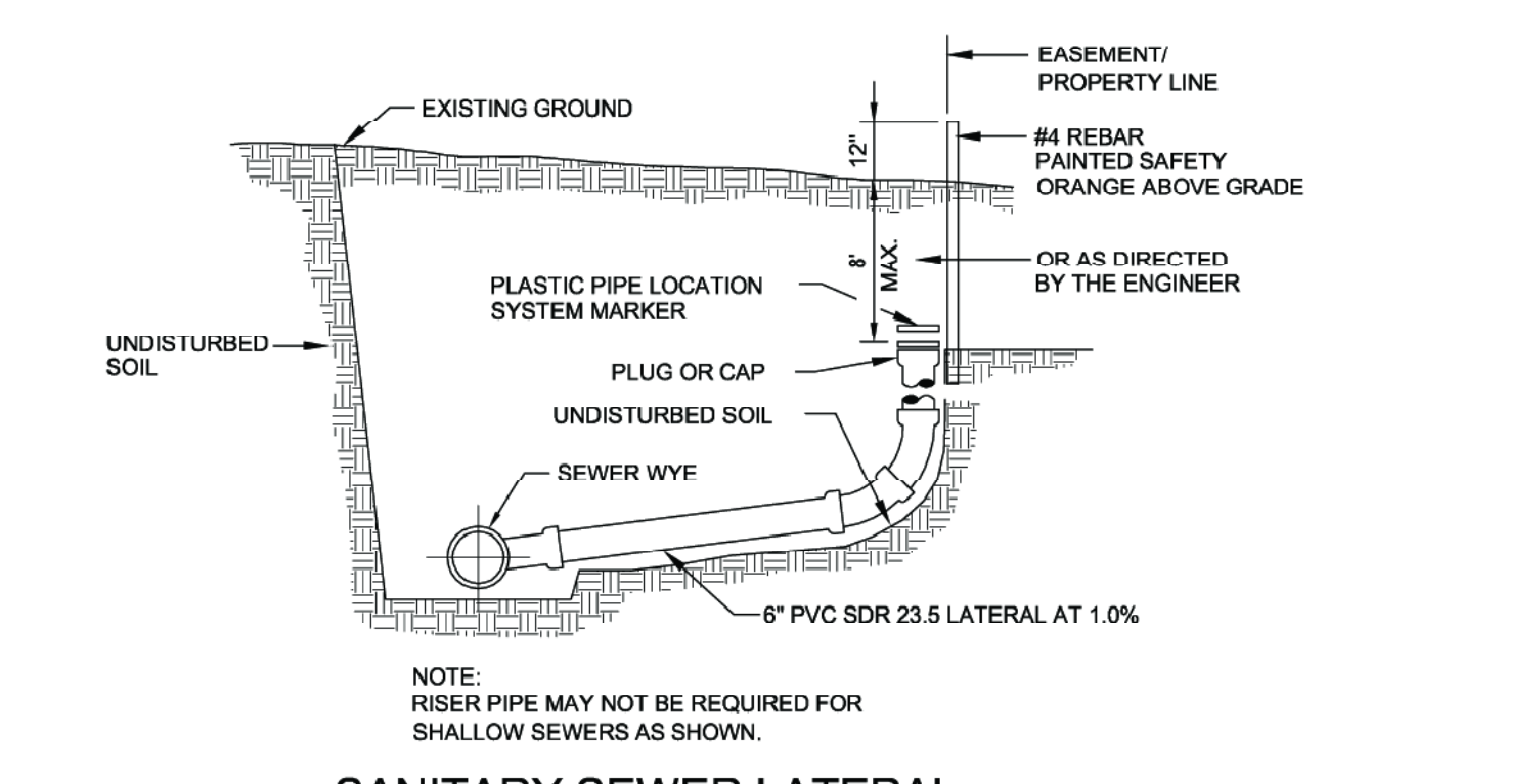
PROJECT: FLAGSTAR BANK
PREPARED FOR: MBA ARCHITECTS
30160 TELEGRAPH RD, SUITE 160
BINGHAM FARMS, MI 48025
248-2585155

TITLE: OVERALL UTILITY SCHEMATIC

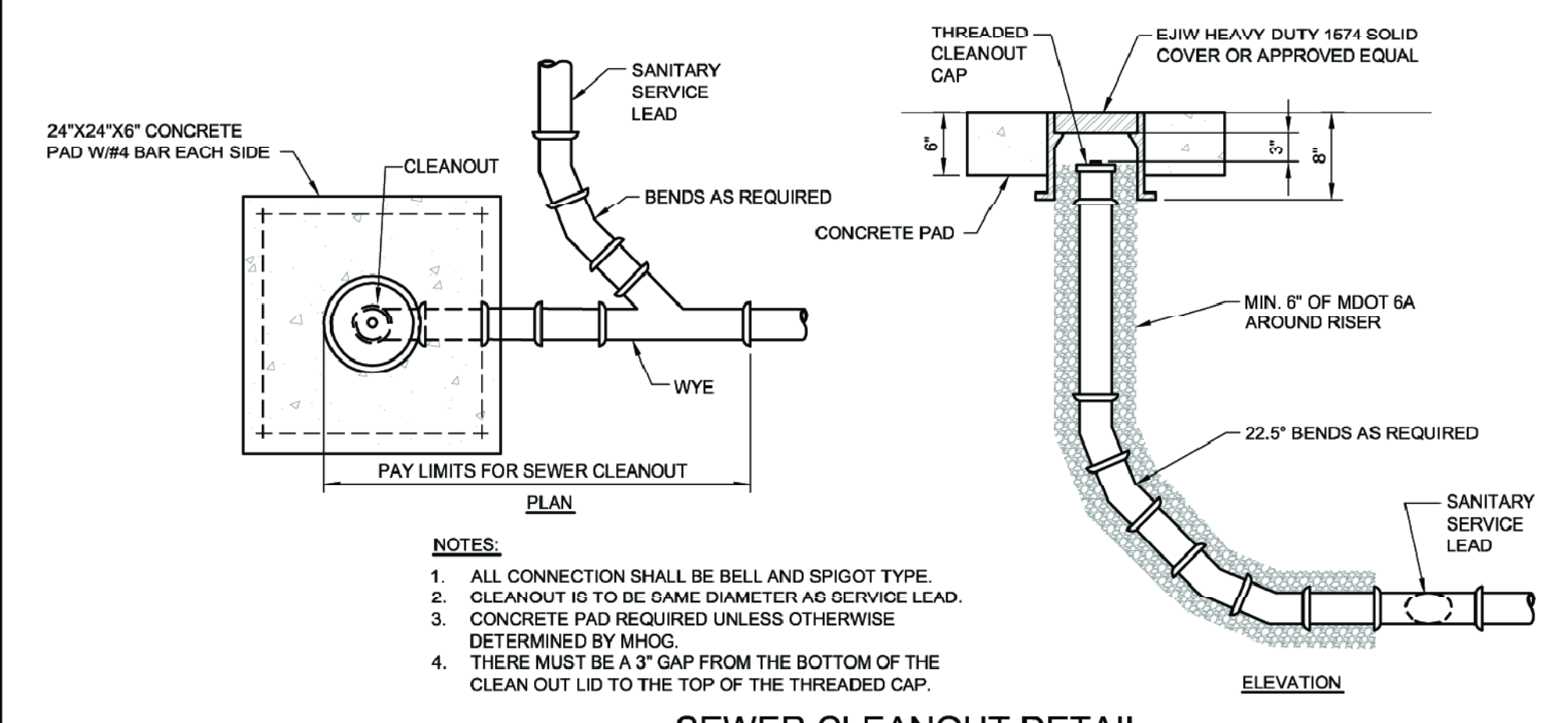
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DRAWN BY: KS
CHECKED BY:
SCALE 1" = 20'
JOB NO. 15-325
DATE 03/02/2016
SHEET NO. 6

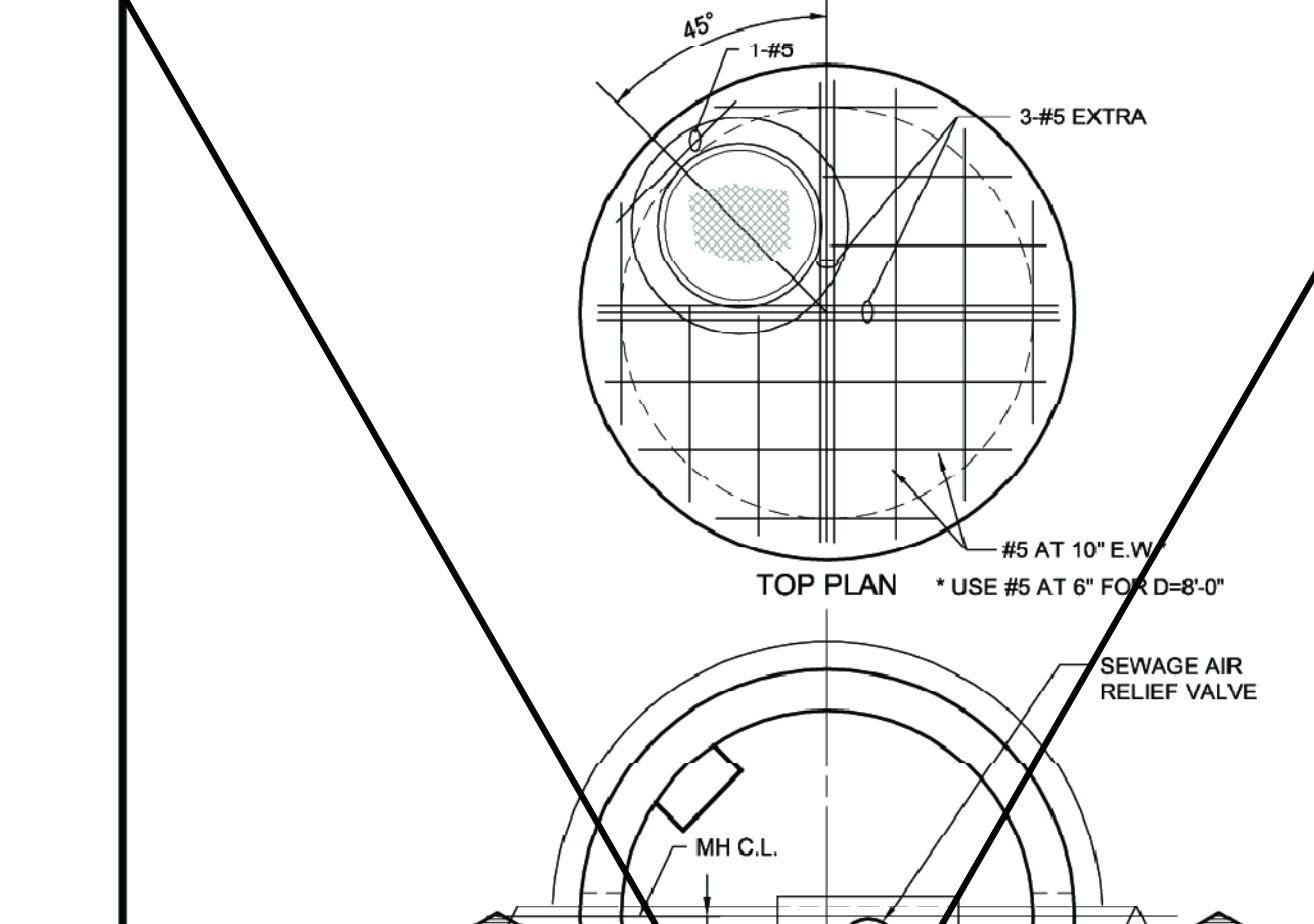
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



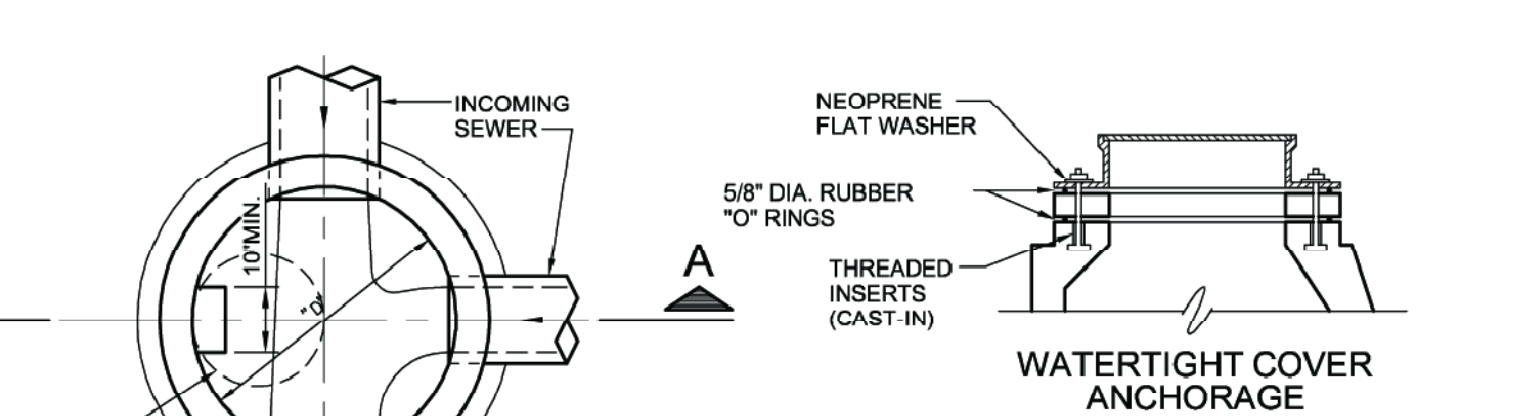
SANITARY SEWER LATERAL



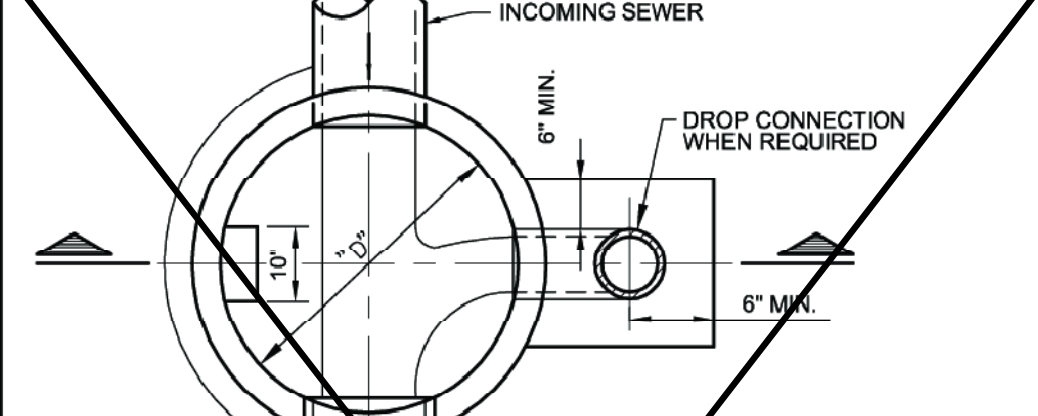
SEWER CLEANOUT DETAIL



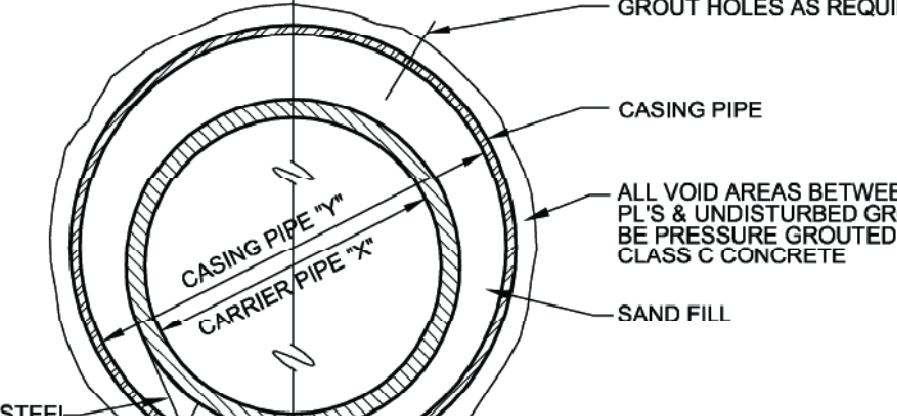
AIR RELIEF STRUCTURE



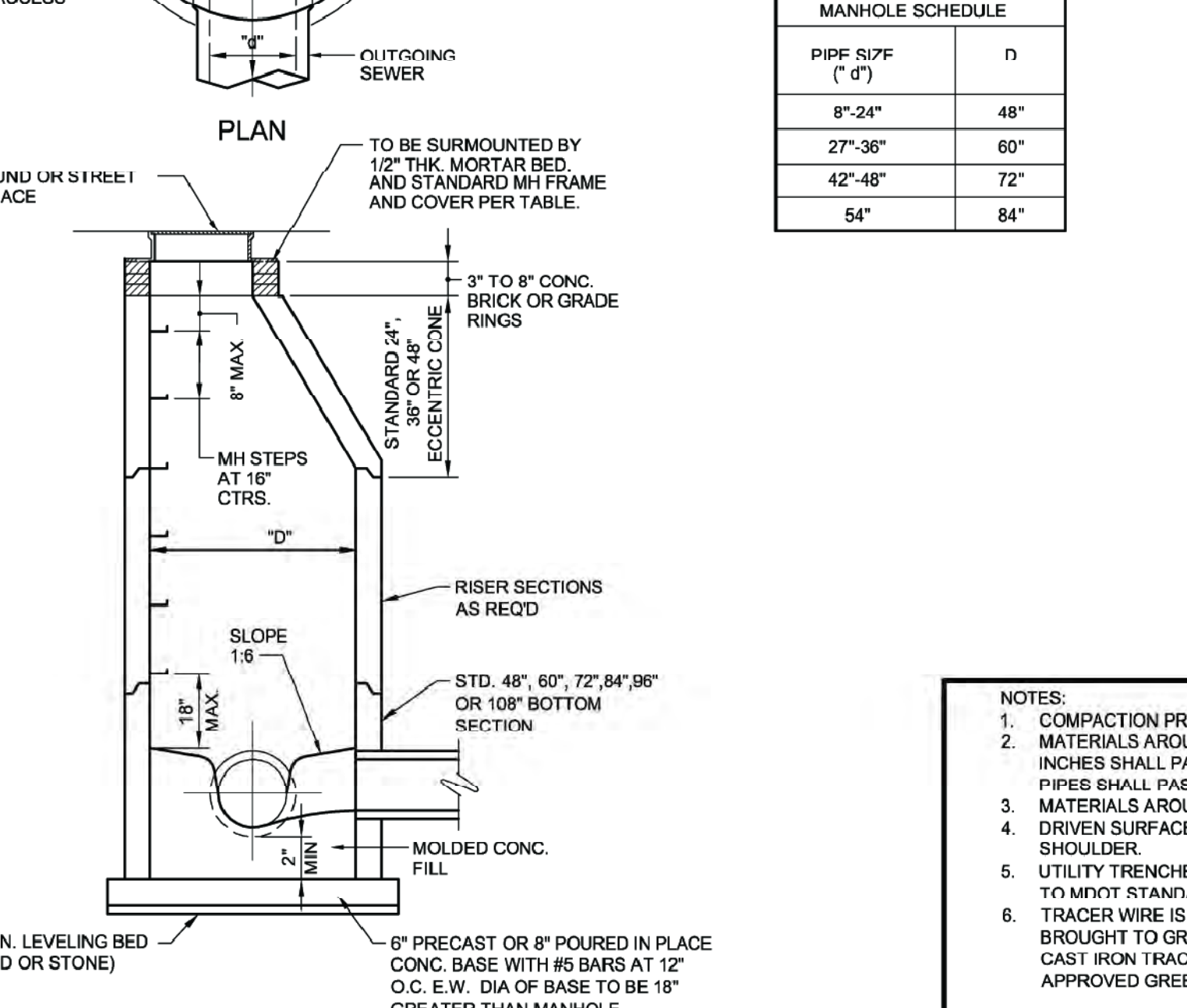
WATERTIGHT COVER ANCHORAGE



DROP CONNECTION



CASING PIPE



STANDARD MANHOLE

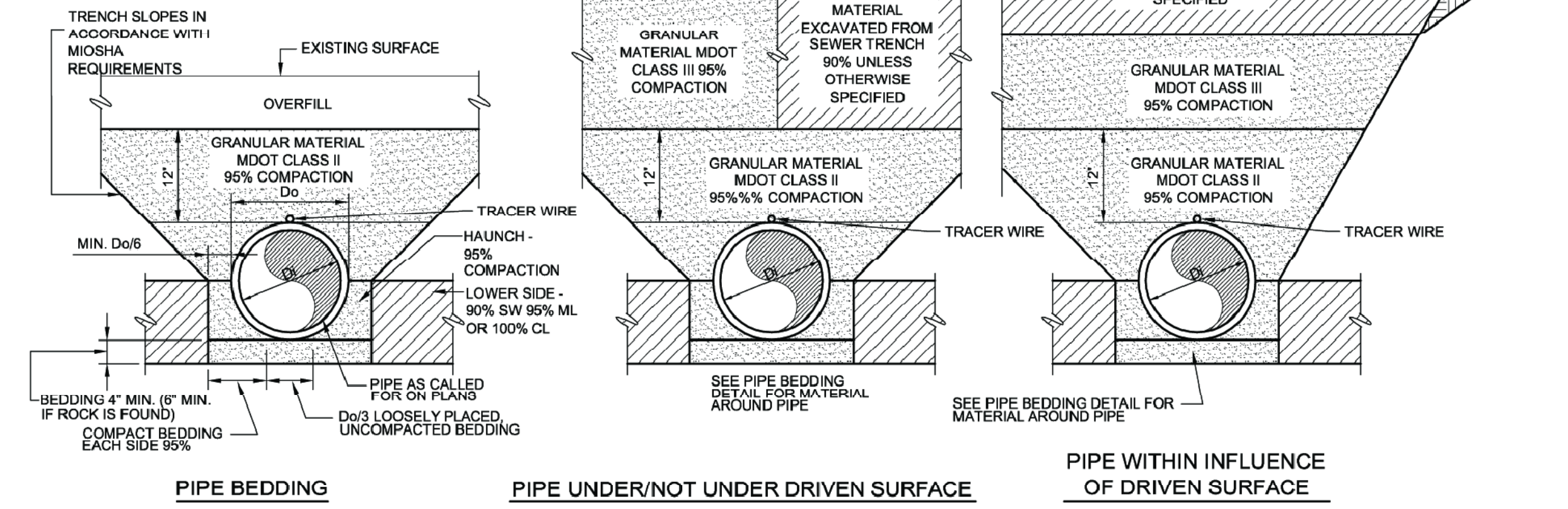
- NOTES:
1. ALL SANITARY MANHOLES TO BE PRECAST REINFORCED CONCRETE WITH PREMIUM JOINTS. SEE SPECIFICATIONS FOR BASE SLAB AND PIPE OPENINGS AND CONNECTIONS.
 2. MANHOLE CONES SHALL BE THE ECCENTRIC TYPE.
 3. PROVIDE 6" OF COMPACTED GRANULAR MATERIAL UNDER ALL PRECAST CONCRETE BASE SLABS.
 4. FORCE MAINS CONNECT DIRECTLY TO A MANHOLE SHALL BE INSTALLED SO THAT THE ELEVATION OF THE PIPE CROWNS MATCH. THE FORCE MAIN SHALL BE DIRECTED DOWNWARD INTO THE FLOW CHANNEL.
 5. FOR SANITARY SEWERS ALL PIPES SHALL ENTER MANHOLE THROUGH RUBBER BOOTED CONNECTION.

FRAME & COVER FOR SANITARY SEWER MANHOLES			
TYPE	TYPE OF COVER	MANUFACTURER OR EQUAL	
		EAST JORDAN	NEENAH
MH	SANITARY - SOLID SELF-SEALING	1040.0000	R-1642
MH	SANITARY - SOLID WATERTIGHT	1040-APT	R-1916-F
CO	SOLID	1574A	R-1973-A

MANHOLE SCHEDULE		
PIPE SIZE ("D")	D	
8"-24"	48"	
27"-36"	60"	
42"-48"	72"	
54"	84"	

TABLE	
"X"	"Y"(MIN)
6"-8"	20"
10"-12"	24"
14"-15"	30"
18"-21"	36"
24"	42"

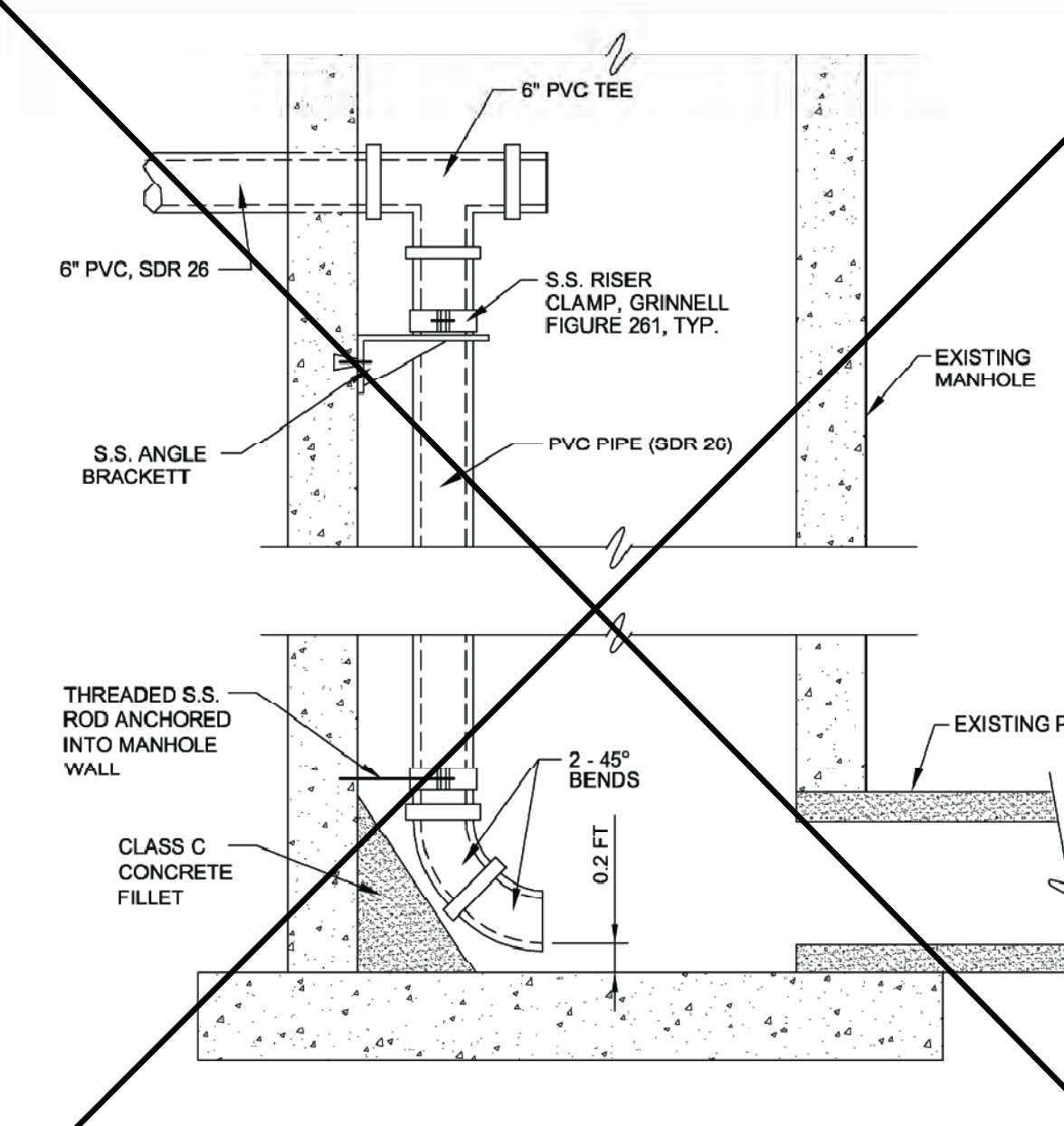
- NOTES:
1. COMPACTION PRESENTED AS MINIMUM STANDARD PROCTOR VALUES.
 2. MATERIALS AROUND THERMOPLASTIC PIPE WITH DIAMETER < 6 INCHES SHALL PASS 0.5 INCH SIEVE, MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SIEVE.
 3. MATERIALS AROUND HDPE PIPE TO BE MDO 6A OR 21AA.
 4. DRIVEN SURFACE IS DRIVEWAY, PARKING AREA, ROAD BED OR SHOULDER.
 5. UTILITY TRENCHES LOCATED WITHIN A MDO ROW SHALL CONFORM TO MDO STANDARD DETAIL R-83.
 6. TRACER WIRE IS REQUIRED ON FORCE MAIN ONLY AND SHALL BE BROUGHT TO GRADE AT A MINIMUM EVERY 1000 FEET IN A APPROVED CAST IRON TRACER WIRE BOX ENCASED IN CONCRETE OR WITH AN APPROVED GREEN MARKER POST.



PIPE BEDDING

PIPE UNDER/NOT UNDER DRIVEN SURFACE TRENCH EXCAVATION & PIPE BEDDING

PIPE WITHIN INFLUENCE OF DRIVEN SURFACE



INTERIOR SEWER LATERAL DROP CONNECTION



GENOA OCEOLA
Sewer and Water Authority

SANITARY SEWER STANDARD DETAILS

Scale: NONE
Issued Date: JANUARY - 2014

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MBA ARCHITECTS
30160 TELEGRAPH RD, SUITE 160
BINGHAM FARMS, MI 48025
248-2585155

SANITARY SEWER DETAILS

PROJECT: _____ DATE: _____
PREPARED FOR: _____ NO. BY: _____ REVISION PER: _____
CHECKED BY: _____
SCALE: _____
JOB NO. 15-325
DATE 03/02/2016
SHEET NO. 10

DESIGNED BY: KS
DRAWN BY: KS

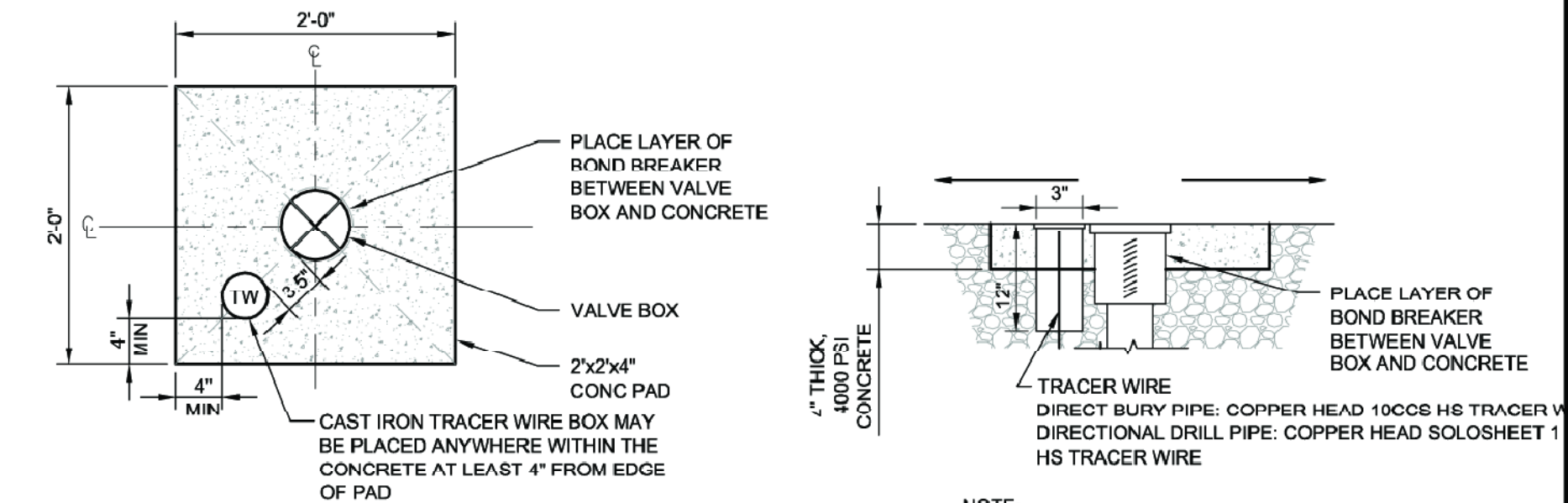
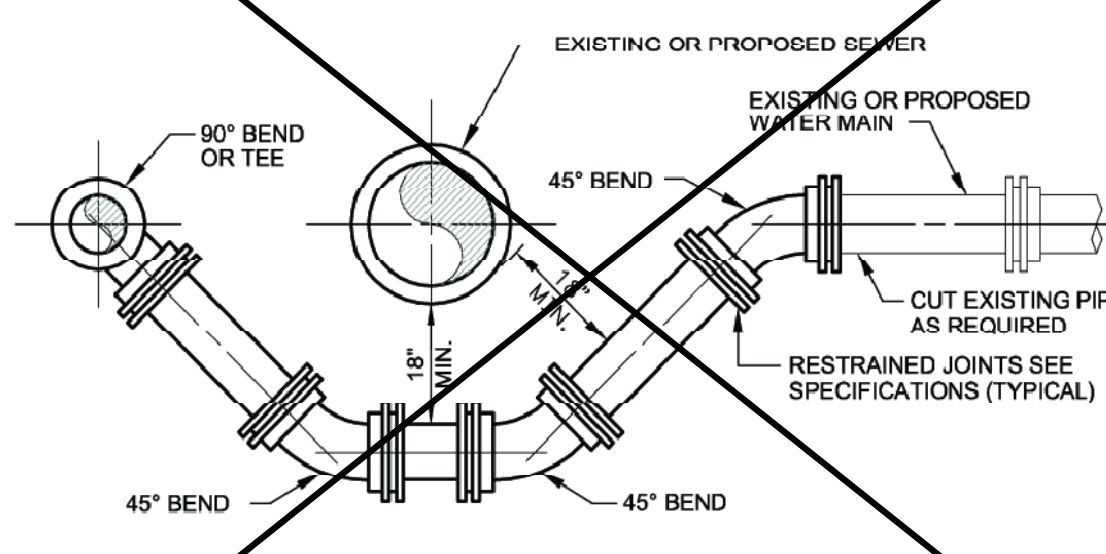
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PIPE RESTRAINT SCHEDULE

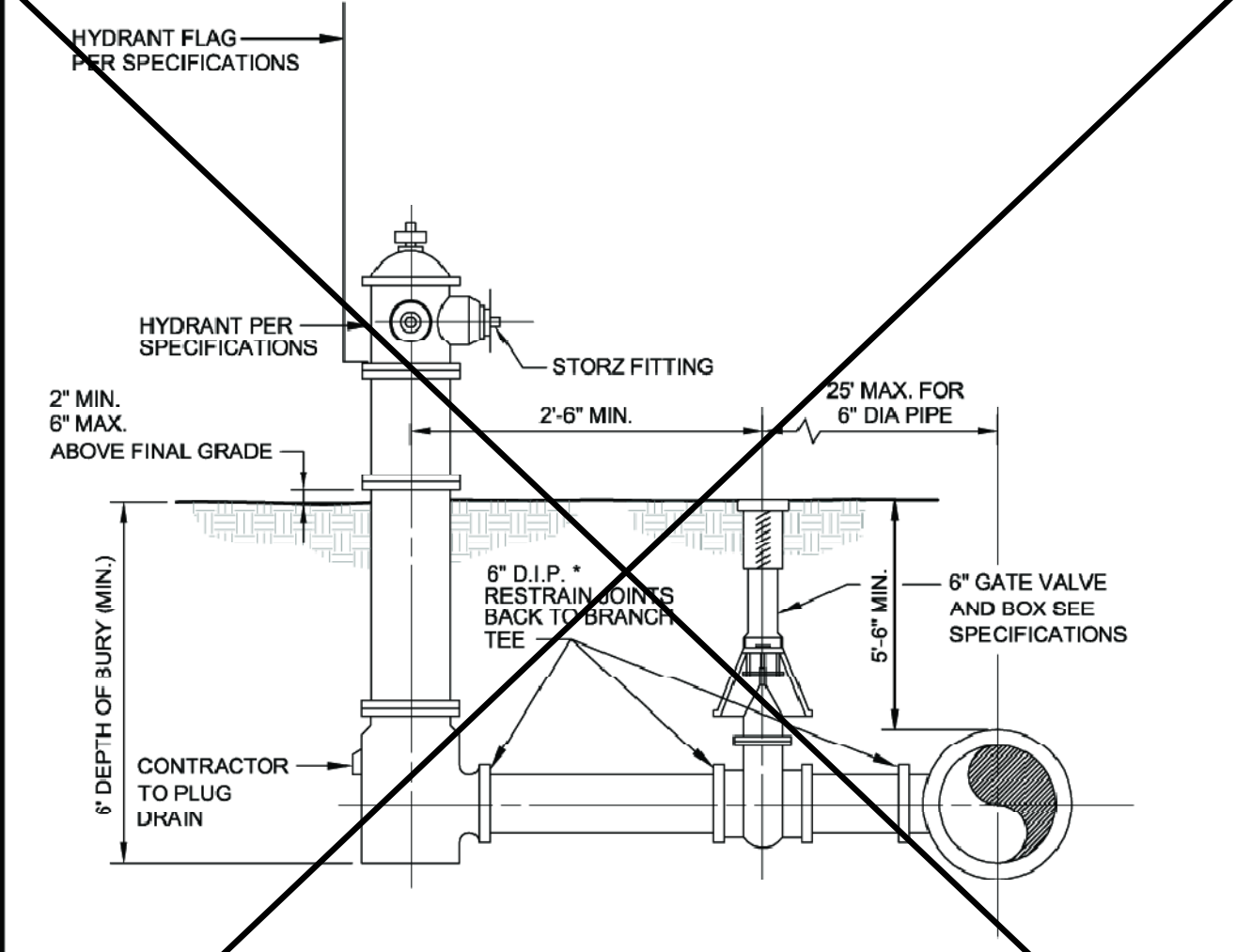
GROUND BURIED PRESSURE PIPE - POLYETHYLENE ENCASED DUCTILE IRON PIPE

PIPE DIAMETER	TEES, 90° BENDS	45° BENDS	22-1/2° BENDS	11-1/4° BENDS	DEAD ENDS	REDUCERS (ONE SIZE REDUCTION)*	REDUCERS (TWO SIZE REDUCTION)*
4	13	5	3	1	40	--	--
6	19	8	4	2	58	31	--
8	24	10	5	2	75	30	70
12	34	14	7	3	107	57	116
16	43	18	9	4	139	59	137
20	52	22	10	5	169	59	134
24	61	25	12	6	199	60	132
30	73	30	15	7	242	65	168
36	84	35	17	8	281	64	168

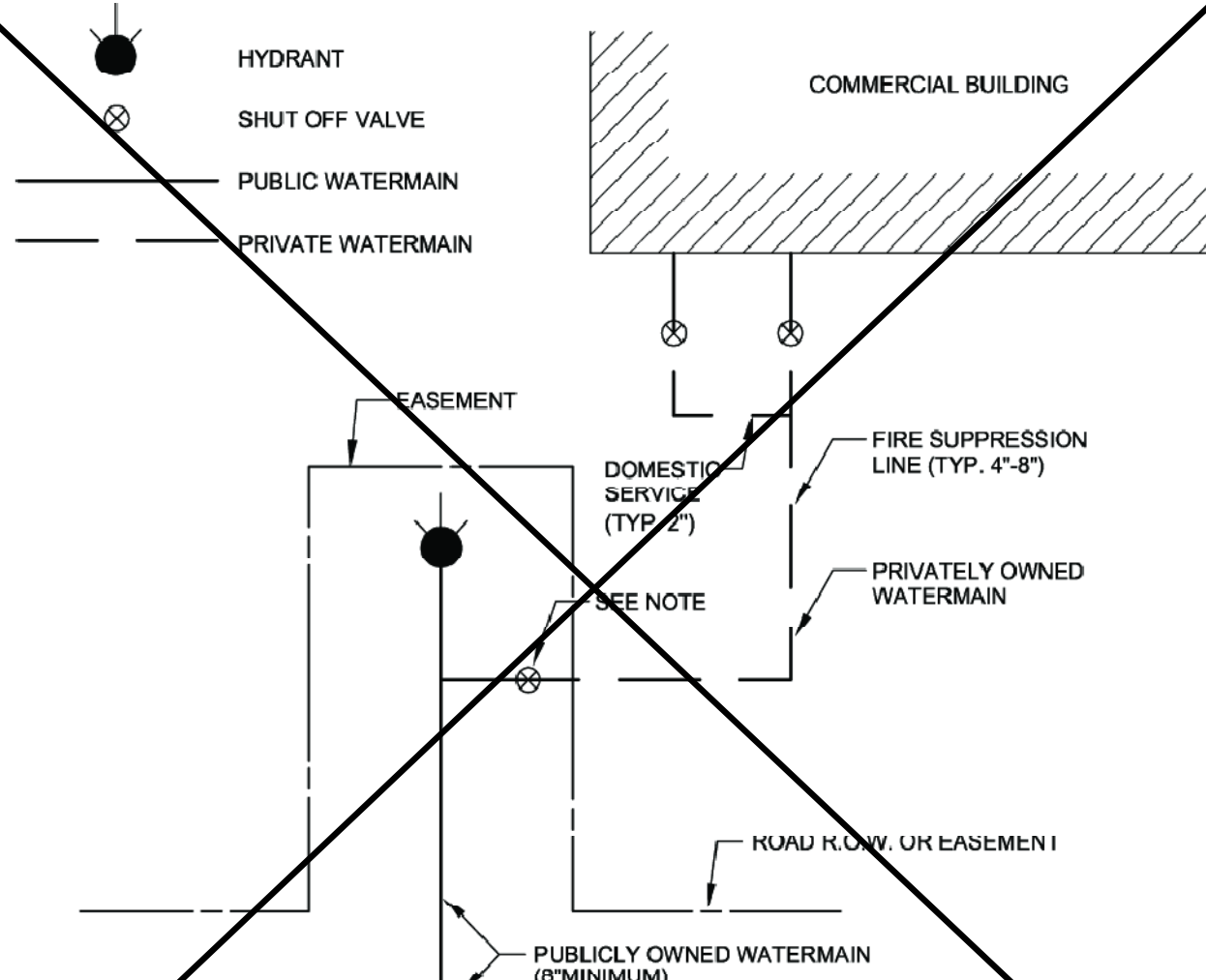
- LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.
 - IF REQUIRED PIPE DIAMETER IS NOT LISTED IN THIS TABLE, THE NEXT LARGEST PIPE DIAMETER SHALL BE USED.
 - THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER FOR OTHER TEST PRESSURES. ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY.
 - THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
 - IF THE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8-INCH TO BAR DIAMETER AS CORROSION ALLOWANCE.
- * SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.
- BASED UPON: INTERNAL PRESSURE: 180
PIPE DEPTH: 6
BEDDING CLASS: TYPE 4
SOIL TYPE: GOOD SAND
SAFETY FACTOR: 2



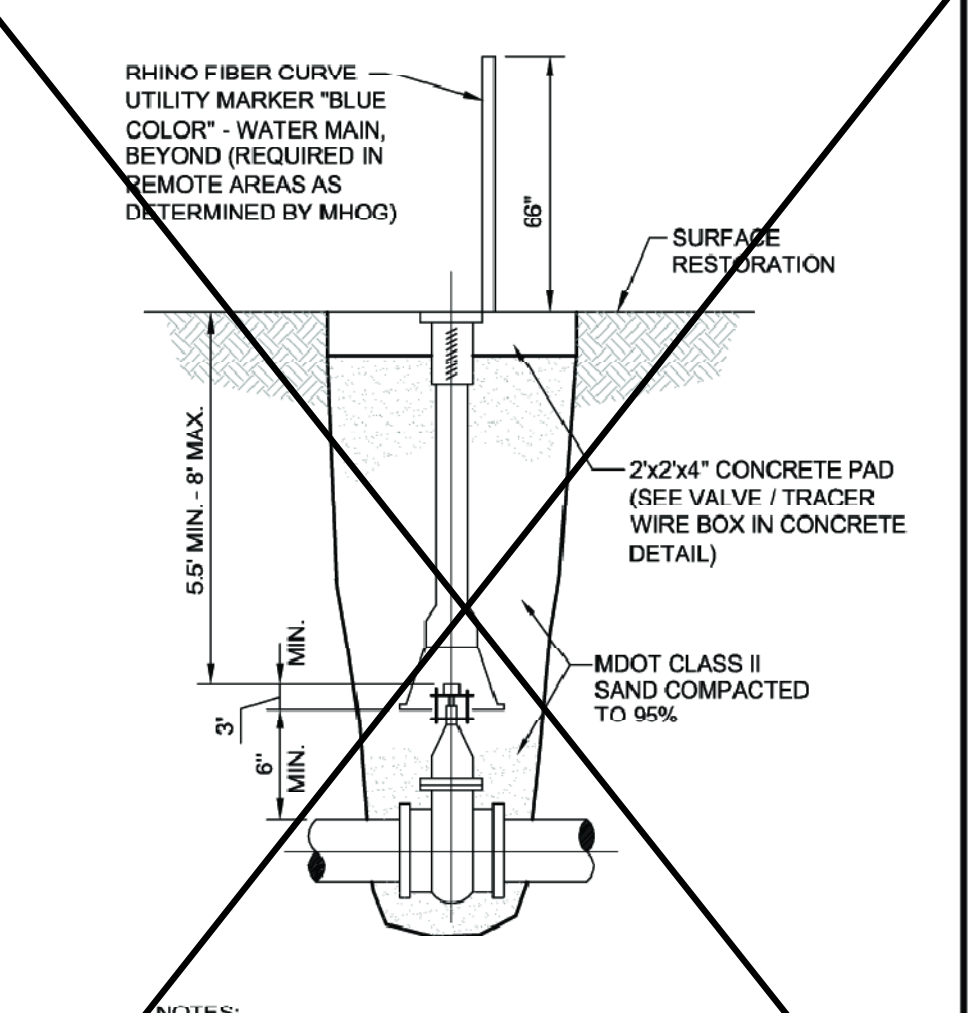
- NOTE: ALL BOXES & ADJOINING TW BOXES SHALL BE ENCASED IN A CONCRETE PAD UNLESS OTHERWISE DETERMINED BY MHOG.
- NOTE:
- TRACER WIRE BOXES LOCATED WITHOUT A VALVE BOX ONLY REQUIRE AN 18" X 18" CONCRETE PAD.
 - TRACER WIRE BOX SHALL HAVE A LOCKING LID W/STANDARD AWWA PENTAGON KEY.



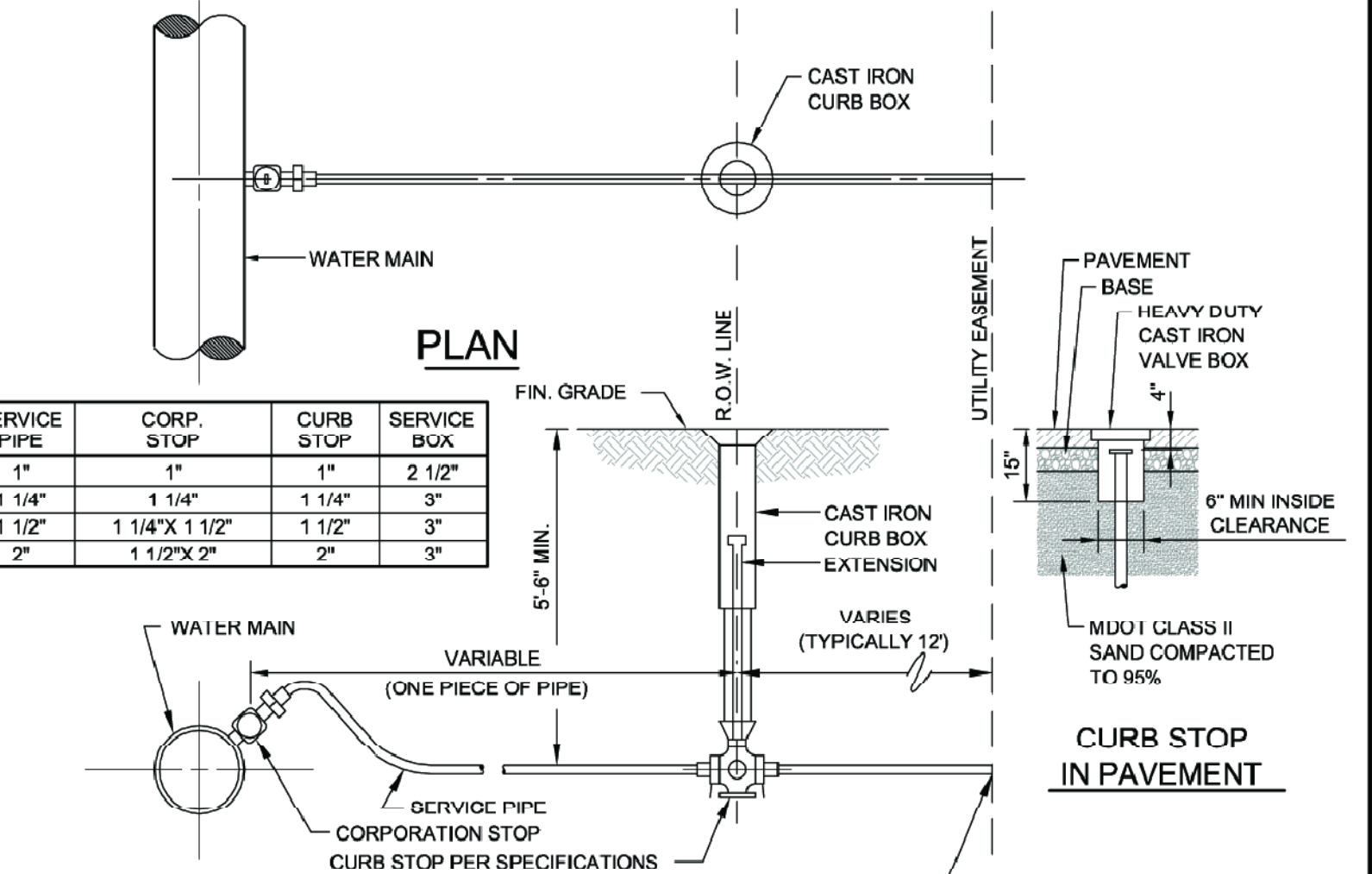
* THE LENGTH OF 6" PIPE FROM THE MAIN TO THE HYDRANT ASSEMBLY CANNOT EXCEED 25'. ANY PIPE OVER 20' IN LENGTH SHALL BE 6" DIAMETER MINIMUM AND DESIGNED PER MHOG SPECIFICATIONS.



NOTE: PUBLICLY OWNED SHUT OFF VALVE TO BE LOCATED IN EASEMENT.

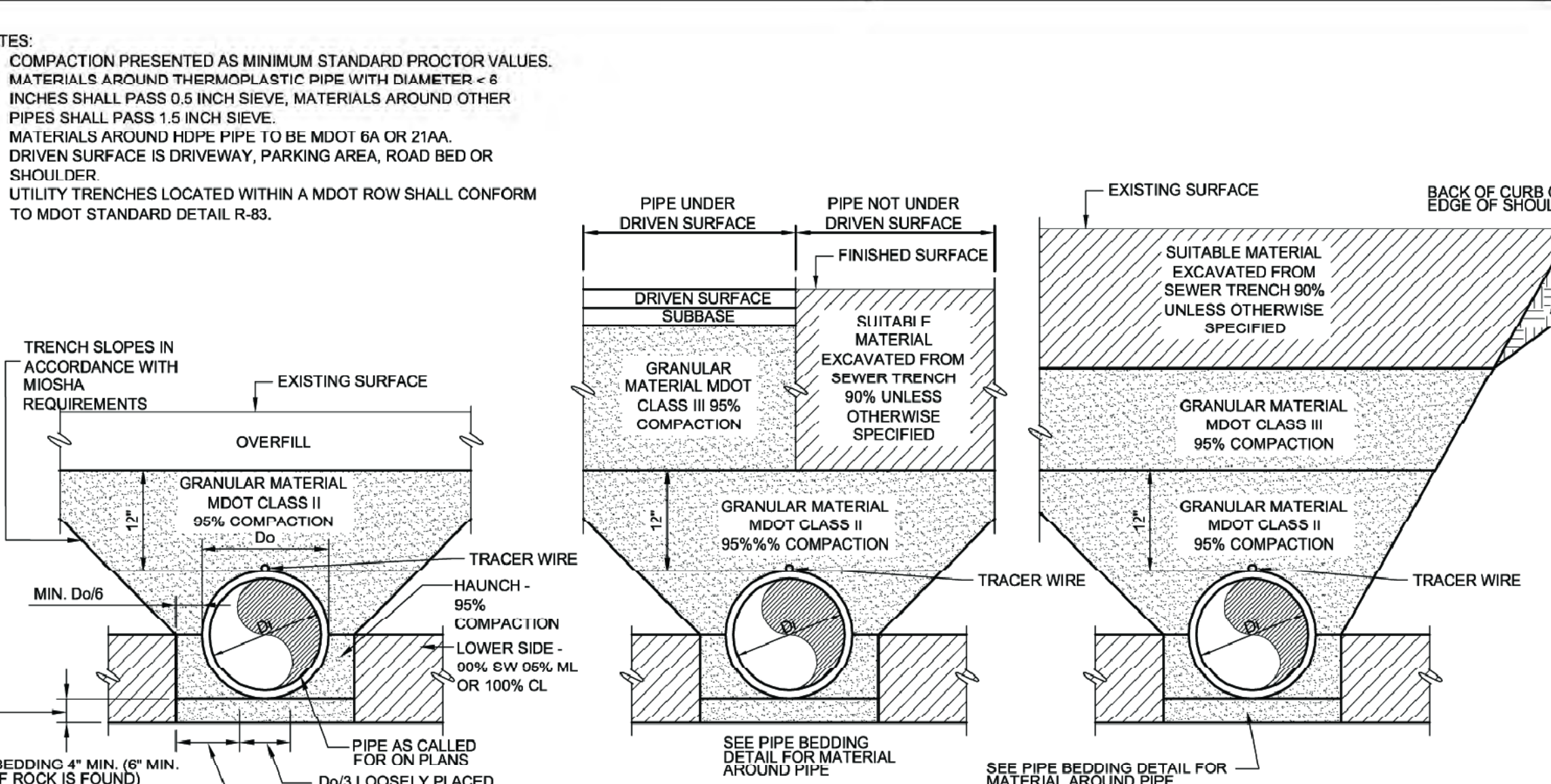
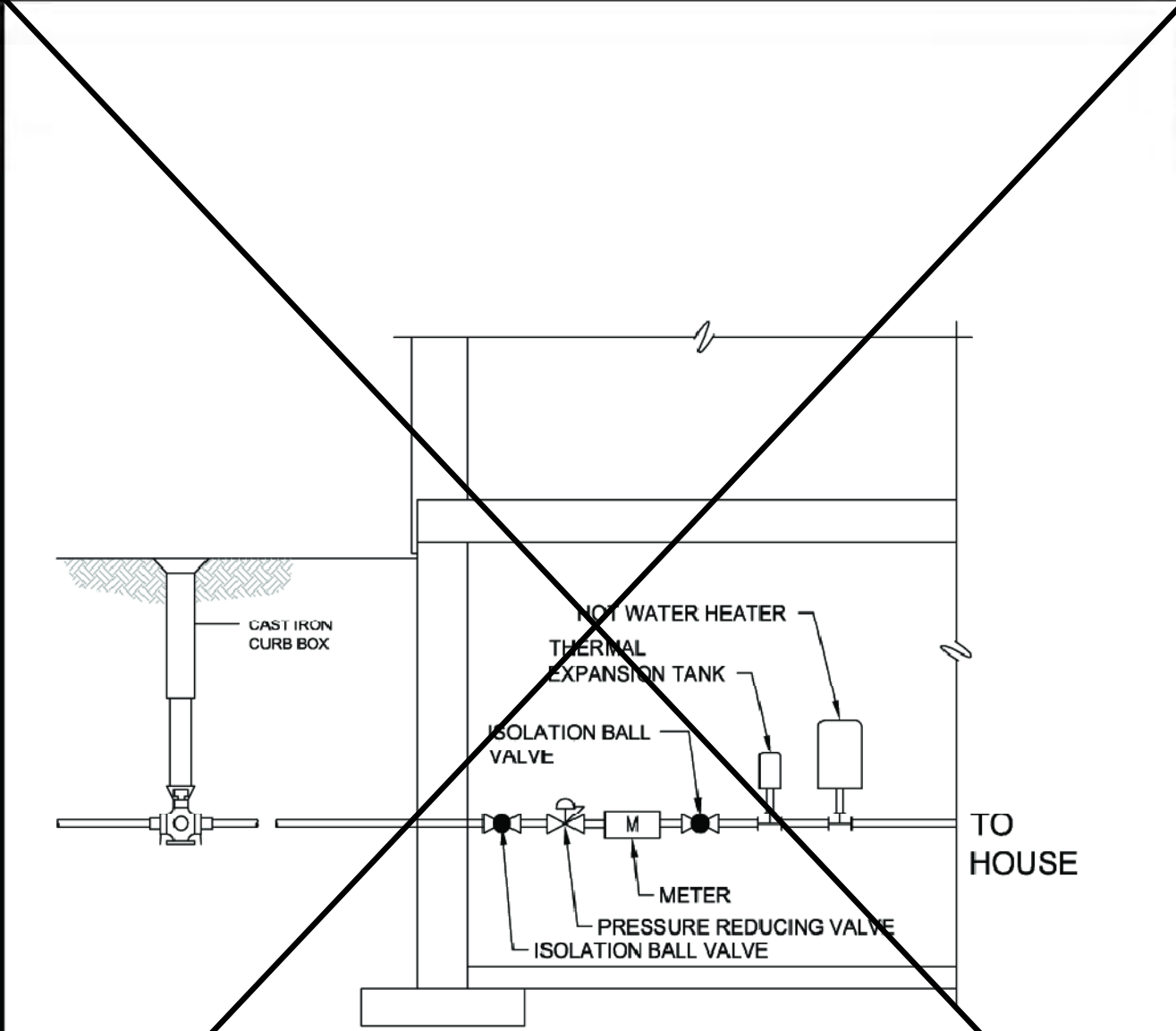


- NOTES:
- VALVE BOX SHALL NOT REST ON VALVE OR MAIN LINE PIPE.
 - A VALVE STEM EXTENSION WITH CENTERING RING IS REQUIRED FOR VALVES BURIED DEEPER THAN 6'.

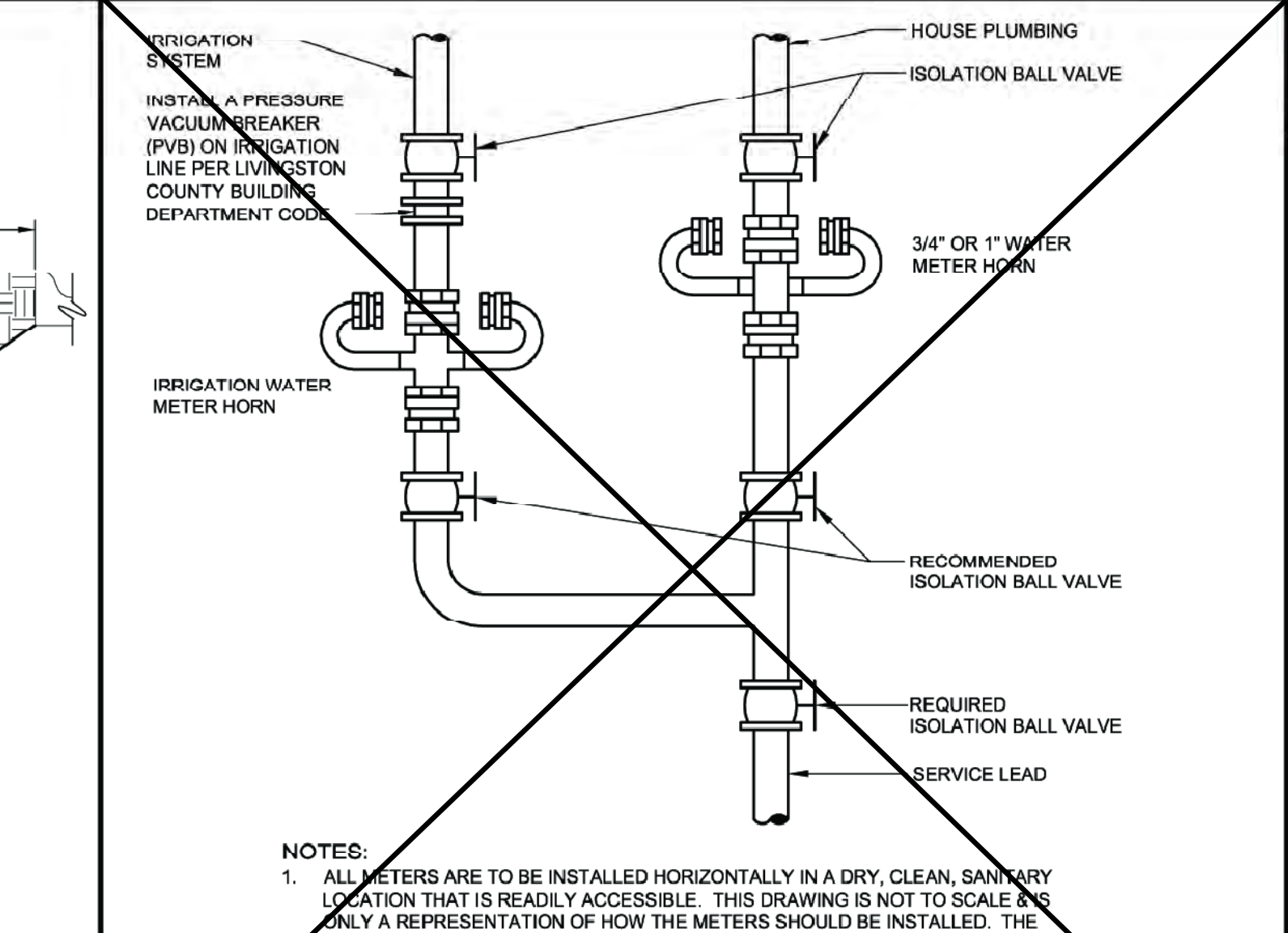


SERVICE PIPE	CORP. STOP	CURB STOP	SERVICE BOX
1"	1"	1"	2 1/2"
1 1/4"	1 1/4"	1 1/4"	3"
1 1/2"	1 1/4" X 1 1/2"	1 1/2"	3"
2"	1 1/2" X 2"	2"	3"

- NOTE: CURB STOP PER SPECIFICATIONS LOCATED AT R.O.W.



- NOTES:
- COMPACTION PRESENTED AS MINIMUM STANDARD PROCTOR VALUES.
 - MATERIALS AROUND THERMOPLASTIC PIPE WITH DIAMETER < 6 INCHES SHALL PASS 0.5 INCH SIEVE. MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SIEVE.
 - MATERIALS AROUND HDPE PIPE TO BE MDOT 6A OR 21AA.
 - DRIVEN SURFACE IS DRIVEWAY, PARKING AREA, ROAD BED OR SHOULDER.
 - UTILITY TRENCHES LOCATED WITHIN A MDOT ROW SHALL CONFORM TO MDOT STANDARD DETAIL R-83.



- NOTES:
- ALL METERS ARE TO BE INSTALLED HORIZONTALLY IN A DRY, CLEAN, SANITARY LOCATION THAT IS READILY ACCESSIBLE. THIS DRAWING IS NOT TO SCALE & IS ONLY A REPRESENTATION OF HOW THE METERS SHOULD BE INSTALLED. THE SECOND METER IS OPTIONAL FOR IRRIGATION USAGE. METERS SHOULD NOT BE INSTALLED IN LINE (ONE RIGHT AFTER THE OTHER).
 - PROPERTIES DESIGNATED "HIGH HAZARD" PER THE MHOG CROSS CONNECTION RULES MANUAL WILL REQUIRE THE INSTALLATION OF A REDUCED PRESSURE ZONE (RPZ) BACK FLOW PREVENTION DEVICE.



MARION HOWELL OCEOLA GENOA
Sewer and Water Authority

Scale: NONE
Issued Date: JANUARY - 2014

WATER MAIN STANDARD DETAILS

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE AS TO THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE LOCATION OF ANY UTILITIES SHALL BE AS SHOWN ON THESE DRAWINGS OR BY THE LOCATION OF DEPTH DIFFERS.

BEFORE YOU DIG
1-800-482-7171

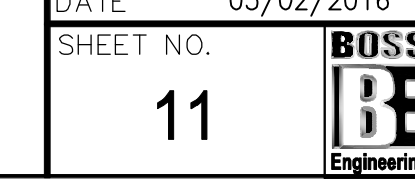
BEBOSS
Engineering
Engineers Surveyors Planners Landscape Architects

3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

FLAGSTAR BANK
MBA ARCHITECTS
30160 TELEGRAPH RD, SUITE 150
BINGHAM PARKS, MI 48025
248-2585-155

WATER MAIN DETAILS

PROJECT:	DATE:
PREPARED FOR:	
TITLE:	
NO. BY:	REVISION PER
DESIGNED BY: KS	
DRAWN BY: KS	
CHECKED BY:	
SCALE:	
JOB NO. 15-325	
DATE 03/02/2016	
SHEET NO. 11	



PROPOSED:

FLAGSTAR BANK



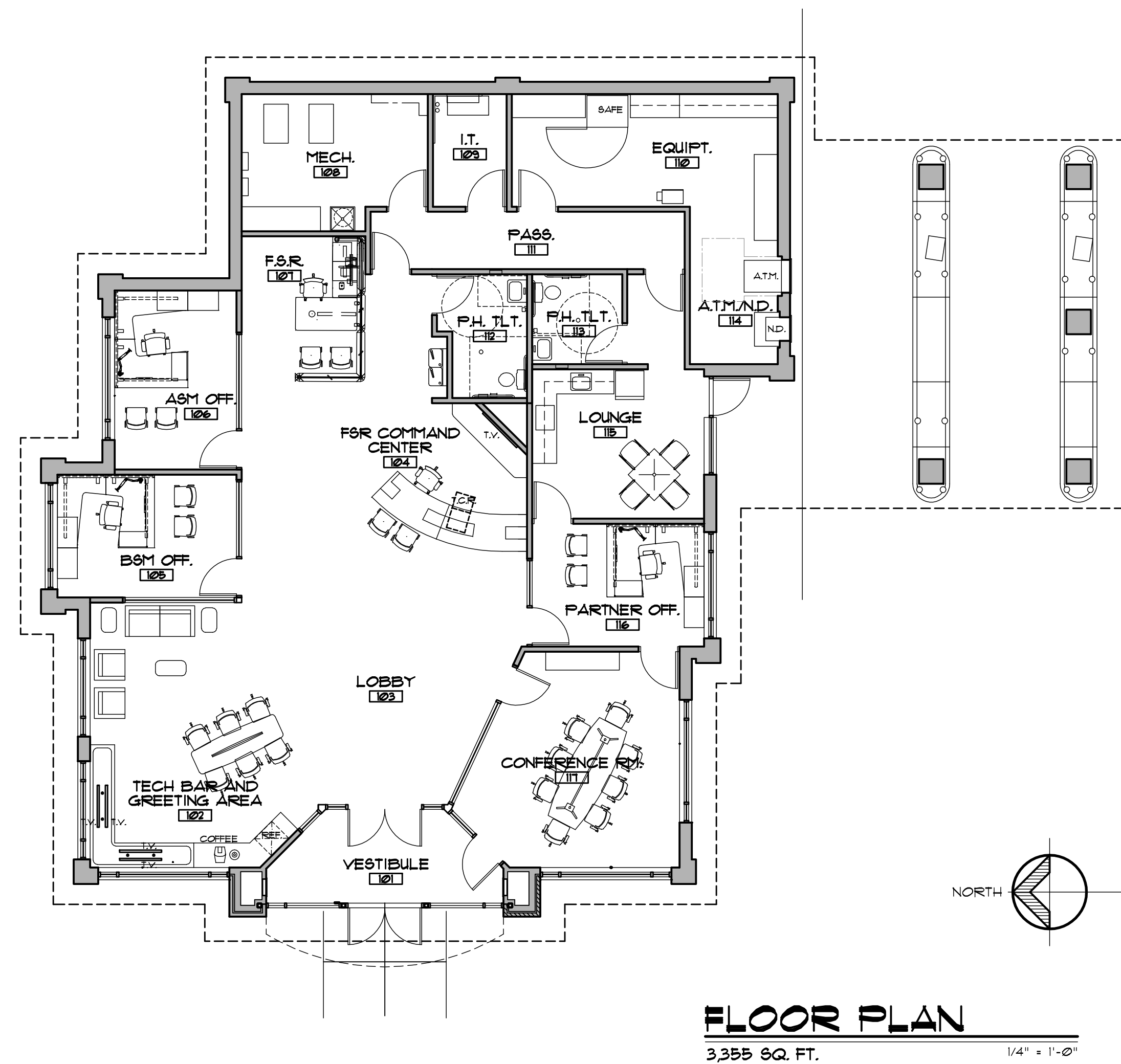
BRANCH #032
LATSON ROAD
GENOA TOWNSHIP, MI

Sheet Title:
FLOOR PLAN

Issued For:
03/02/2016

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Sheet No.



FLOOR PLAN

3,355 SQ. FT.

1/4" = 1'-0"

MICHAEL A. BOGGIO ASSOCIATES

30150 Telegraph Rd.
Suite 150
Bingham Farms, MI 48025
248.258.5155
BOGGIOARCHITECTS@COMCAST.NET

PROPOSED:

FLAGSTAR BANK



BRANCH #032
LATSON ROAD
GENOA TOWNSHIP, MI

Sheet Title:
ELEVATIONS

Issued For:
03/02/2016
03/22/2016 REV.

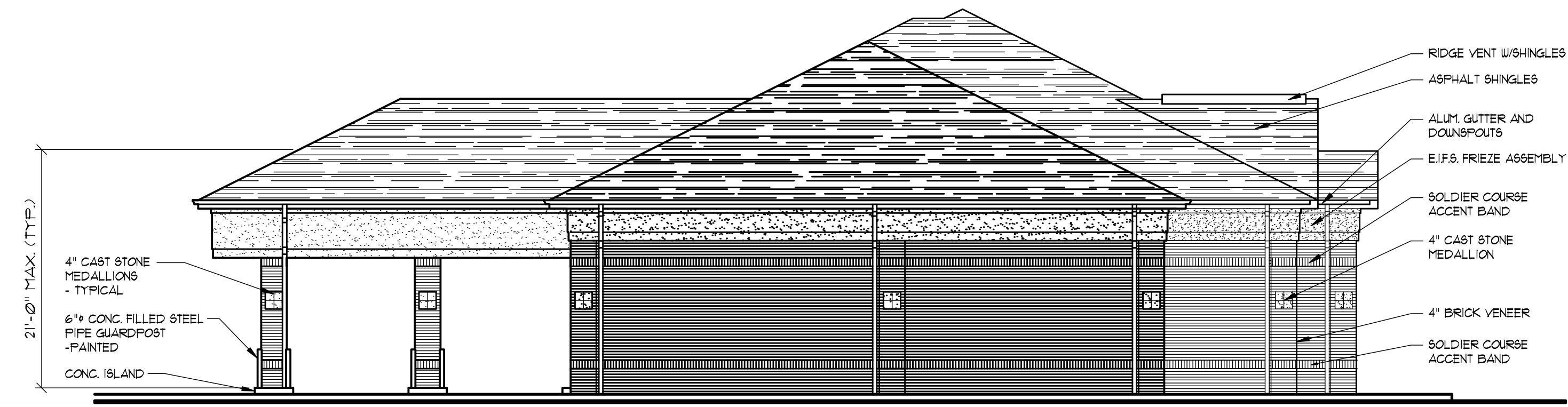
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Sheet No.

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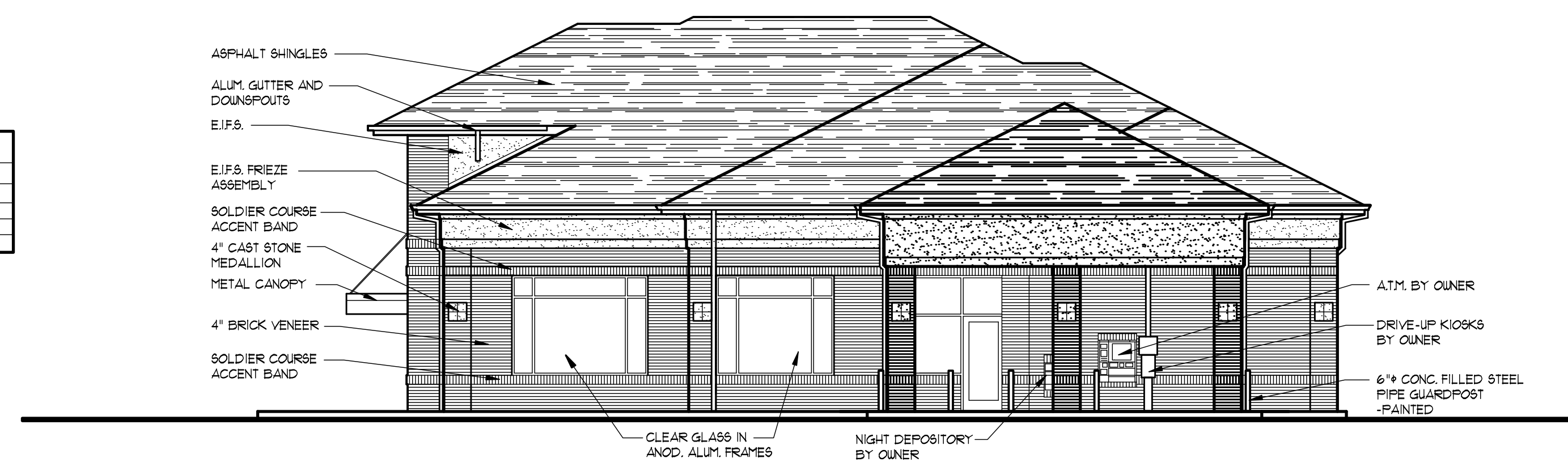


NORTH ELEVATION
1/8" = 1'-0"



EAST ELEVATION
1/8" = 1'-0"

BUILDING MATERIAL PERCENTAGES				
MATERIAL	NORTH	EAST	SOUTH	WEST
BRICK	71%	73.5%	51.1%	50.1%
GLASS	15.5%	0%	21.5%	28.1%
E.I.F.S.	1.5%	26.5%	21.4%	11.8%
METAL CANOPY				3.4%



SOUTH ELEVATION
1/8" = 1'-0"



WEST ELEVATION
1/8" = 1'-0"

Flagstar | #32 Genoa Twp, MI

NOTE: Renderings below utilize sample dimensions derived from client surveys.



WEST ELEVATION



A QTY 1: Illuminated Letterset on Raceways
Raceways – paint to match



FAIRMONT
SIGN COMPANY

3750 East Outer Drive
Detroit, MI 48234
t: 313.368.4000 f: 313.368.9335
www.fairmontsign.com

Client:



#32
Latson Road
Genoa Twp, MI

Date:
3/02/16

File:
Accounts/Banks/Flagstar/Elev/
32 Genoa Twp, MI

Designer:
RNB

Scale:
na

Job#	Sheet#
00000	1 of 2

Revision #	Date:
1	3-22-16

Revision Description:

Customer
Approval:

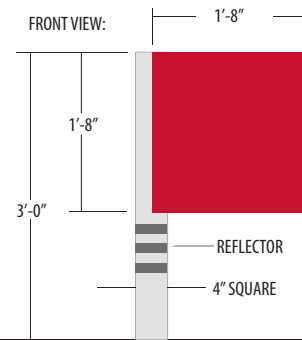
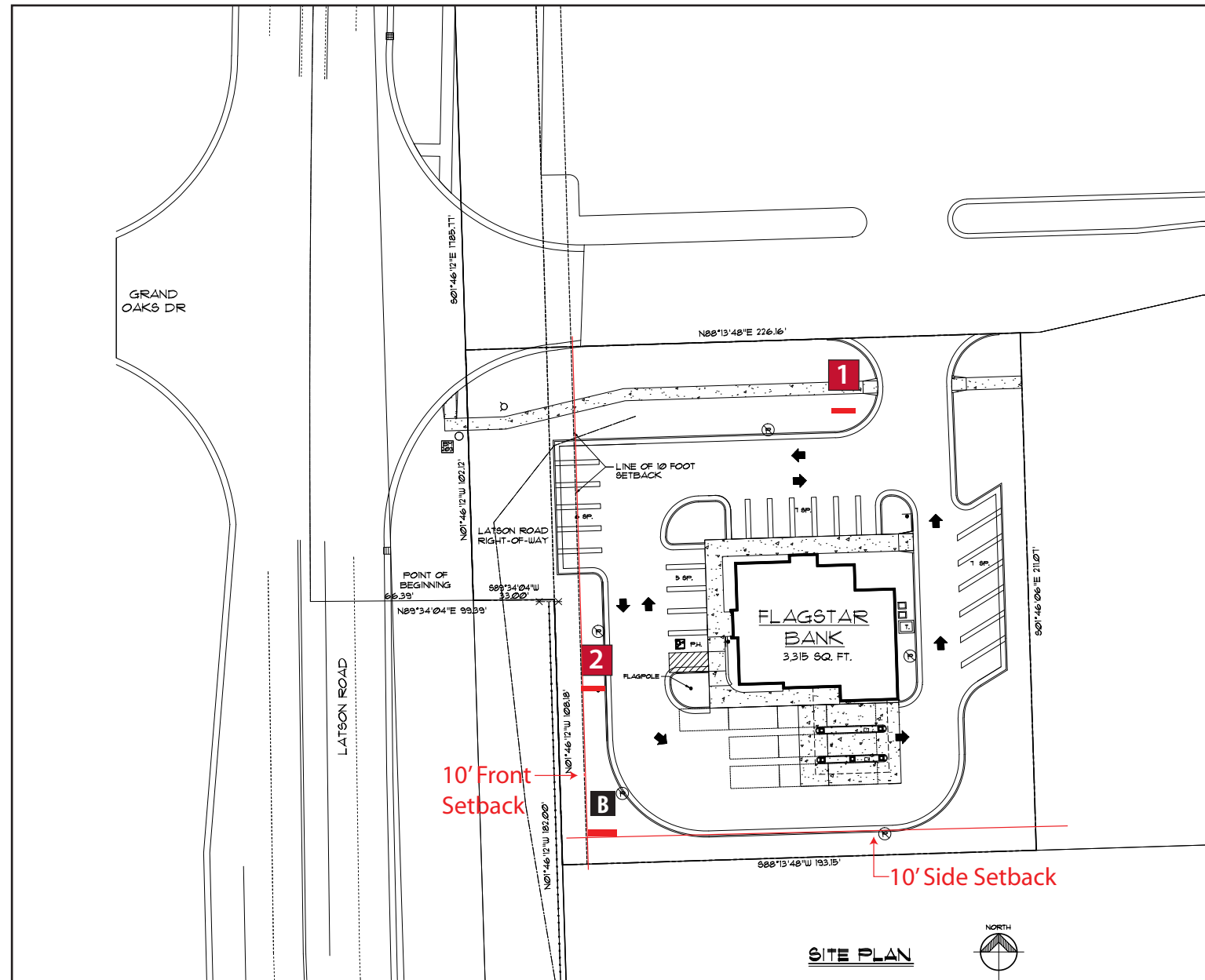
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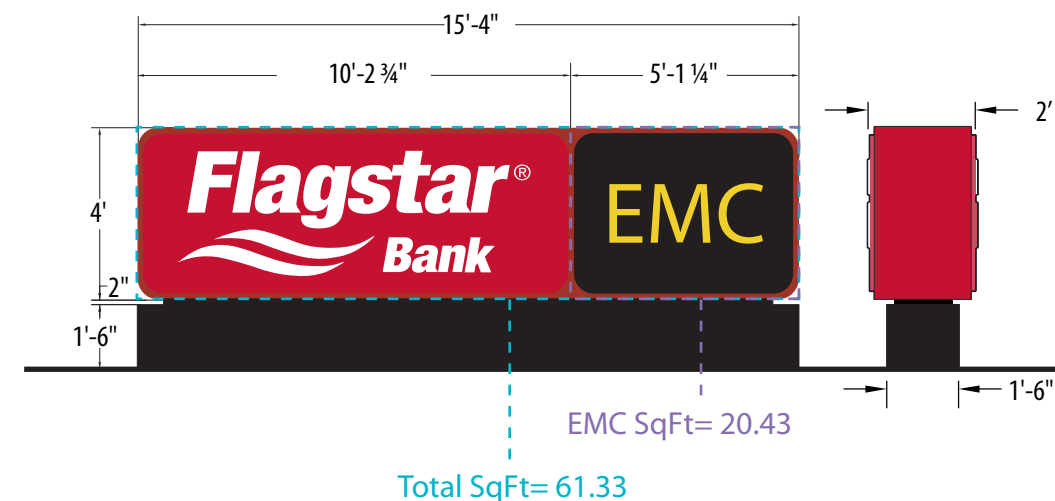
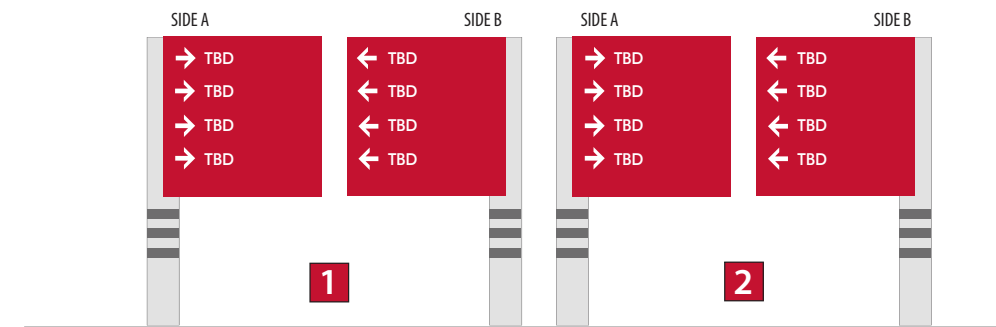
ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO INSTALLATION

Flagstar | #32 Genoa Twp, MI

NOTE: Renderings below utilize sample dimensions derived from client surveys.



1 2 QTY 2: Non-illuminated D/F Directional Signs – Copy TBD



B QTY 1: Monument with EMC



3750 East Outer Drive
 Detroit, MI 48234
 t: 313.368.4000 f: 313.368.9335
 www.fairmontsign.com

Client:



#32
 Latson Road
 Genoa Twp, MI

Date:
 3/02/16

File:
 Accounts/Banks/Flagstar/Elev/
 32 Genoa Twp, MI

Designer:
 RNB

Scale:
 na

Job# 00000 Sheet# 2 of 2

Revision # 1 Date: 3-22-16

Revision Description:

Customer Approval:

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ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO INSTALLATION



GENOA CHARTER TOWNSHIP APPLICATION
Sketch Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION:

APPLICANT NAME & ADDRESS: Wonderland Marine West Inc.
If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: Wonderland Marine West Inc.

SITE ADDRESS: 5796 E. GRAND RIVER PARCEL #(s): 4711-15-200-12

APPLICANT PHONE: (517) 548-5122 OWNER PHONE: (810) 923-8334

LOCATION AND BRIEF DESCRIPTION OF SITE: Tax Code 4711-15-200-012

ATTACHED IS THE PROPOSED SITE PLAN SOUTH
INDICATING WHERE WE WANT TO PUT THE POLE
BARN.

BRIEF STATEMENT OF PROPOSED USE: _____

BOAT STORAGE BUILDING

THE FOLLOWING IMPROVEMENTS ARE PROPOSED: TO BUILD 1 MORE
STORAGE POLE BARN ON OUR BACK

ACREAGE. IT WOULD BE THE EXACT SIZE OF OUR

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE OTHER
PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. BARN 85 x 120

BY: Gary E. Mitter PRESIDENT

ADDRESS: 8400 WOODLAND SHORE DR.
BRIGHTON, MI 48114

Contact Information - Review Letters and Correspondence shall be forwarded to the following:		
1) <u>Paul Mitter</u>	of <u>V. P.</u>	at <u>PMITTER@WONDERLANDMARINEWEST.COM</u>
Name	Business Affiliation	Email Address

FEE EXCEEDANCE AGREEMENT	
All sketch plans are allocated one (1) consultant review and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal for a Land Use Permit. By signing below, applicant indicates agreement and full understanding of this policy.	
SIGNATURE: <u>Gary E. Mitter</u>	DATE: <u>3-17-16</u>
PRINT NAME: <u>GARY E. MITTER SR</u>	PHONE: <u>810-923-8334</u>



PERMIT INFORMATION

The Department of Environmental Quality (DEQ) has prepared a list of key questions to help identify what departmental permits, licenses, or approvals of a permit-like nature may be needed for a project. By contacting the appropriate offices listed below, you will help reduce the possibility that your project or activity will be delayed due to the untimely discovery of additional permitting requirements later in the process. While this list covers the existence of permits and approvals required from the DEQ, it is not a comprehensive list of all legal responsibilities (i.e. planning requirements and chemical storage regulations may apply). A useful way to learn whether any other requirements will apply is to go through the Self Environmental Assessment in the Michigan Manufacturers Guide, online at: http://www.michigan.gov/deq/0,1607,7-135-3310_4148-15820--00.html.

KEY QUESTIONS: (DEQ Permit and Licensing Guidebook Chapter)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If "Yes," refer to the DEQ Permit and Licensing Guidebook Section(s), the Web Page, or Call the Program:
CONSTRUCTION PERMITS			
Permit to Install: Does the project involve installation, construction, reconstruction, relocation, or alteration of any process equipment (including air pollution control equipment) which has the potential to emit air contaminants? (Permit Guidebook Chapter 5.1.3)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , AQD, Permit Section, 517-373-7023
Asbestos Notification: Does the project involve renovating or demolishing all or portions of a building? (Notification is required for all renovations and demolitions, even if the structure never contained asbestos.)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , AQD Asbestos NESHAP Program 517-373-7064
Soil Erosion and Sedimentation Control (SESC): Does the project involve an earth change activity within 500 feet of a lake or stream, or will the project disturb an area greater than one acre in size? (Permit Guidebook Chapter 5.3.5)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Contact Your Local SESC Agency: http://www.deq.state.mi.us/sesca/ Web , WB, SESC Program, 517-335-3178
Does the project involve construction which will disturb one or more acre that comes into contact with storm water that enters a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , WB, Permits Section, 517-241-8993 or appropriate DEQ District Office
Does the project involve construction or alteration of any sewage collection or treatment facility? (Permit Guidebook Chapter 5.3.1)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , Appropriate District Office, WB, Part 41 Construction Permit Program
Does the project involve construction of a community water supply well or the extension of a water supply from an existing water system? (Permit Guidebook Chapter 5.3.2)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , Appropriate DEQ District Office, WB, Community Water Supply Program
Does the project involve construction of a water supply well (a private, irrigation, process, or public water well)?	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Contact a Registered Well Driller , Web , Local Health Department Contacts , Non Community Water Supply, Web
Does the project involve construction of a facility that landfills, transfers, or processes of any type of solid non-hazardous waste on-site, or places industrial residuals/sludge into or onto the ground? (Permit Guidebook Chapter 5.4.1)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web , Appropriate DEQ District Office, WHMD 517-335-4035
Does the project involve the construction of an on-site treatment, storage, or disposal facility for hazardous waste? (Permit Guidebook Chapter 5.4.2)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Web 5.4.2 , WHMD, Hazardous Waste Section, 517-373-9875
CONSTRUCTION PERMITS (LAND/WATER FEATURE)			
Does the project involve filling, dredging, placement of structures, draining, or use of a wetland? (Permit Guidebook Chapter 5.5.6)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	(Permit Application, Web), Web Land & Water Management Division (LWMD), Permit Consolidation Unit, 517-373-9244
Storm Water Discharge to Wetlands: Will storm water be collected, stored, or treated in a wetland area from a public road, industrial, commercial, or multi-unit residential development? (Permit Guidebook Chapter 5.5.6)	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	(Permit Application, Web), Web LWMD, Permit Consolidation Unit, 517-373-9244

Great Lakes: Does the project involve construction, filling, or dredging below the Ordinary High Water Mark of one of the Great Lakes? (Permit Guidebook Chapter 5.5.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Inland Lakes and Streams: Does the project involve any dredging, filling, placement of structures, or the operation of a marina within an inland waterbody (e.g. lake, river, stream, drain, creek, ditch, or canal), enlargement of a waterbody, or excavation of a pond within 500 feet of a waterbody? (Permit Guidebook Chapter 5.5.7)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Storm Water Ponds and Discharges to Inland Lakes/Streams, or Great Lakes: Will storm water from any road or any other part of the development be discharged either directly or ultimately to an inland waterbody, or one of the Great Lakes; or will a storm water pond be constructed within 500 feet of an inland waterbody? (Permit Guidebook Chapters 5.5.7 & 5.5.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web 5.5.7 , Web 5.5.1 LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve placement of fill, earth moving, or placement of structures within the 100-year floodplain of a watercourse? (Permit Guidebook Chapter 5.5.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve construction of a building or septic system in a designated Great Lakes high risk erosion area? (Permit Guidebook Chapter 5.5.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve dredging, filling, grading, or other alteration of the soil, vegetation, or natural drainage, or placement of permanent structures in a designated environmental area? (Permit Guidebook Chapter 5.5.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web 5.5.1 , Web 5.5.4 , Web 5.5.6 , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project propose any development, construction, silvicultural activities or contour alterations within a designated critical dune area? (Permit Guidebook Chapter 5.5.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web , LWMD, Permit Consolidation Unit, 517-373-9244
Does the project involve construction of a dam, weir or other structure to impound flow? (Permit Guidebook Chapters 5.5.7 & 5.5.8)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	(Permit Application Web), Web 5.5.7 , Web 5.5.8 , LWMD, Dam Safety Program, 517-241-9862
CONSTRUCTION PERMITS (SECTOR SPECIFIC)		
Does the project involve a subdivision or site condominium project utilizing individual on-site subsurface disposal systems or individual wells? (Permit Guidebook Chapter 5.3.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, 517-241-1345
Does the project involve the construction or modification of a campground? (Permit Guidebook Chapter 5.3.6)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, 517-241-1340
Does the project involve the construction or modification of a public swimming pool? (Permit Guidebook Chapter 5.3.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web DEQ, WB, Drinking Water & Environmental Health Section (DWEHS), 517-241-1340
OPERATIONAL PERMITS		
Renewable Operating Permit: Does your facility have the potential to emit any of the following: 100 tons per year or more of any criteria pollutant; 10 tons per year or more of any hazardous air pollutant; or 25 tons per year or more of any combination of hazardous air pollutants? (Permit Guidebook Chapter 5.1.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , AQD, Permit Section, 517-373-7023
NPDES: Does the project involve the discharge of any type of wastewater to a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Appropriate District Office, or National Pollutant Discharge Elimination (NPDES) Permit Program 517-241-1346
Does the facility have industrial activity that comes into contact with storm water that enters a storm sewer, drain, lake, stream, or other surface water? (Permit Guidebook Chapter 5.2.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Permits Section, 517-241-8993 or appropriate DEQ District Office

Does the project involve the discharge of wastewaters into or onto the ground (e.g. subsurface disposal or irrigation)? (Permit Guidebook Chapter 5.2.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WB, Groundwater Permits Program, 517-373-8148
Does the project involve the drilling or deepening of wells for waste disposal? (Permit Guidebook Chapter 5.7.8)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve landfilling, transferring, or processing of any type of solid non-hazardous waste on-site, or placing industrial residuals/sludge into or onto the ground? (Permit Guidebook Chapter 4.4.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, Appropriate DEQ District Office, WHMD 517-335-4035
Does the project involve the on-site treatment, storage, or disposal of hazardous waste? (Permit Guidebook Chapters 4.4.3, & 4.4.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WHMD, Hazardous Waste Section, 517-373-9875
Does the project require a site identification number (EPA number) for regulated waste activities (used oil, liquid waste, hazardous waste, universal waste, PCBs)? (Web Site)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD, Appropriate DEQ District Office
Does the project involve the receipt, possession, manufacture, use, storage, transport, transfer, release, or disposal of radioactive material in any form?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WHMD, Radioactive Material and Standards Unit, 517-241-1275
Do you desire to develop a withdrawal of over 2,000,000 gallons of water per day from any source other than the Great Lakes and their connecting waterways? Or, do you desire to develop a withdrawal of over 5,000,000 gallons of water per day from the Great Lakes or their connecting waterways? (Permit Guidebook Chapter 5.2.6)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WB, DWEHS, Source Water Protection Unit, 517-241-1318
CHEMICAL ADDITION PROJECTS		
Are you using chemicals or materials in, or in contact with, drinking water at any point in the water works system? (Permit Guidebook Chapter 5.2.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WB, Appropriate District Office, Public Water Supply Program 517-241-1318
Are you applying a chemical treatment for the purpose of aquatic nuisance control (pesticide/herbicide etc) in a water body (i.e. lake, pond or river)? (Permit Guidebook Chapter 5.2.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WB, Aquatic Nuisance Control and Remedial Action Unit 517-241-7734
Are you applying materials to a water body for a water resource management project (i.e. mosquito control treatments, dye testing, or fish reclamation projects)? (Permit Guidebook Chapter 5.2.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WB, Surface Water Assessment Section 517-373-2190
OPERATIONAL PERMITS (SECTOR SPECIFIC)		
Does the project involve the transport of some other facility's non-hazardous liquid waste? (Permit Guidebook Chapter 4.2.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WHMD, Transporter Program, 586-753-3850
Does the project involve the transport hazardous waste? (Permit Guidebook Chapter 4.2.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, WHMD, Transporter Program, 586-753-3850
Does your facility have an electric generating unit that sells electricity to the grid and burns a fossil fuel? (Permit Guidebook Chapter 5.1.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, AQD, Acid Rain Permit Program, 517-373-7023
Is the project a dry cleaning establishment utilizing perchloroethylene or a flammable solvent in the cleaning process? (Permit Guidebook Chapter 4.1.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, DEQ, Air Quality Division (AQD), 517-241-1324
Does your laboratory test potable water as required for compliance and monitoring purposes of the Safe Drinking Water Act? (Permit Guidebook Chapter 4.1.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web, ESSD, Laboratory Services Section 517-335-9800

Does the project involve the generation of medical waste or a facility that treats medical waste prior to its disposal? (Permit Guidebook Chapter 4.1.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , Waste and Hazardous Materials Division (WHMD), Medical Waste Regulatory Program 517-241-1320
Does the project involve transport of septic tank, cesspool, or dry well contents or the discharge of septage or sewage sludge into or onto the ground? (Permit Guidebook Chapter 4.2.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, Septage Program 517-241-1318
Do you store, haul, shred or process scrap tires? (Permit Guidebook Chapters 4.2.2 or 4.4.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Storage Tank and Solid Waste Section 517-241-2924
Does the project involve the operation of a public swimming pool? (Permit Guidebook Chapter 4.1.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web DEQ, WB, Drinking Water & Environmental Health Section (DWEHS), 517-241-1340
Does the project involve the operation of a campground? (Permit Guidebook Chapter 4.1.6)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, 517-241-1340
Do you engage in the business of hauling bulk water for drinking or household purposes (except for your own household use)? (Permit Guidebook Chapter 4.2.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, DWEHS, Noncommunity Unit, 517-241-1370
Does the project involve composting over 200 cubic yards of yard clippings? (Permit Guidebook Chapter 4.4.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Storage Tank and Solid Waste Section 517-241-2924
STORAGE TANKS (CONSTRUCTION AND OPERATION)		
Does the project involve the installation of an aboveground storage tank for a flammable or combustible liquid (under 200 degrees Fahrenheit)? (Permit Guidebook Chapter 4.3.1)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, Storage Tank and Solid Waste Section (STSWs), 517-335-7211
Does the project involve the installation of a compressed natural gas dispensing station with storage? (Permit Guidebook Chapter 4.3.2)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, STSWs, 517-335-7211
Does the project involve the installation of a liquefied petroleum gas container filling location or storage location that has a tank with a capacity of more than 2,000 gallons or has two (2) or more tanks with an aggregate capacity of more than 4,000 gallons? (Permit Guidebook Chapter 4.3.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, STSWs, 517-335-7211
Does the project involve the installation, removal, or upgrade of an underground storage tank containing a petroleum product or a hazardous substance? (Permit Guidebook Chapter 4.3.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WHMD, STSWs, 517-335-7211
Does the project involve the installation of a hydrogen system?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD STSWs, 517-335-7211
PERSONAL LICENSES/CERTIFICATIONS		
Are you designated by your facility to be the Certified Operator to fulfill the requirements of a wastewater discharge permit (NPDES including Storm Water or Groundwater)? (Permit Guidebook Chapters 3.1 , 3.2 , & 3.5)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Hotlink to Program Web Page (Web) Web3.1 , Web3.2 , Environmental Science and Services Division (ESSD), Operator Training 517-373-4755 and, Web3.5 Water Bureau (WB), Storm Water Program 517-241-8993
Are you a drinking water operator in charge of a water treatment or water distribution system, back-up operator, or shift operator? (Permit Guidebook Chapter 3.3)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , ESSD, Operator Training 517-241-7199
Are you a water well drilling contractor, pump installer, dewatering well contractor or dewatering well pump installer? (Permit Guidebook Chapter 3.4)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , WB, Well Construction Unit 517-241-1377

OIL, GAS AND MINING

Do you want to operate a central production facility (applies to oil and gas production facilities where products of diverse ownership are commingled)? (Permit Guidebook Chapter <u>4.1.1</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , Office of Geological Survey (OGS), Petroleum Geology and Production Unit 517-241-1515
Does the project involve the removal of sand from a sand dune area within two (2) miles of a Great Lakes shoreline? (Permit Guidebook Chapter <u>5.6.1</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , Office of Geological Survey (OGS), Minerals and Mapping Unit, 517-241-1542
Does the project involve the diversion and control of water for the mining and processing of low-grade iron ore ? (Permit Guidebook Chapter <u>5.6.2</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve the surface or open-pit mining of metallic mineral deposits ? (Permit Guidebook Chapter <u>5.6.3</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve the mining of nonferrous mineral deposits at the surface or in underground mines? (Permit Guidebook Chapter <u>5.6.4</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1542
Does the project involve mining coal ? (Permit Guidebook Chapter <u>5.6.5</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1542
Do you want to change the status of an oil or gas well (i.e. plug the well)? (Permit Guidebook Chapter <u>5.7.1</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve drilling of oil, gas, brine disposal, secondary recovery, or hydrocarbon storage wells ? (Permit Guidebook Chapter <u>5.7.2</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve plugging or deepening of an oil or gas well , or conveying rights in the well as an owner to another person? (Permit Guidebook Chapter <u>5.7.3, 5.7.4 & 5.7.5</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Permits and Bonding Unit, 517-241-1528
Does the project involve changing the status or plugging of a mineral well ? (Permit Guidebook Chapter <u>5.7.6 & 5.7.7</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve the drilling or deepening of wells for brine production, solution mining, storage, or as test wells ? (<u>5.7.8</u>)	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Web , OGS, Minerals and Mapping Unit, 517-241-1532
Does the project involve decommissioning or decontamination of tanks, piping, and/or appurtenances that may have radioactive levels above background ?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	WHMD Radioactive Material and Standards Unit, 517-241-1275

ENVIRONMENTAL ASSISTANCE CENTER: 1-800-662-9278



March 29, 2016

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Kelly Van Marter, AICP Assistant Township Manager and Planning Director
Subject:	Wonderland Marine West storage buildings – Sketch Plan Review #1
Location:	5796 E. Grand River – south side of Grand River Avenue, between Dorr and Gray Roads
Zoning:	IND Industrial District

Dear Commissioners:

As requested, we have reviewed the sketch plan (dated 3/17/16) proposing the construction of two new boat storage buildings in the southerly yard of the existing Wonderland Marine West development. The site is located at 5796 E. Grand River Avenue.

We have reviewed the proposal in accordance with the applicable provisions of the Genoa Township Zoning Ordinance and provided the following comments for your consideration.

A. Summary

1. The applicant must clarify how many storage buildings are proposed and revise the application form or sketch plan accordingly.
2. Metal sided and roofed buildings are not typical in the Township; however, the nature of the use and site conditions may mitigate any adverse impacts.
3. The applicant should present the Commission with building material and color samples.
4. We request the applicant indicate whether the landscaped area shown on the 1999 site plan was planted. If it was not and/or if existing plantings are in poor condition, the Commission may wish to require additional landscaping.
5. If lighting is proposed, the applicant must provide details.
6. The proposed building elevations identify wall signage; however, the business is limited to a maximum of 1 wall sign.
7. An Impact Assessment is not required with a submittal for sketch plan review.

B. Proposal/Process

The applicant requests sketch plan review/approval for two accessory storage buildings on a developed site. The submittal includes site plans from 1999 showing the location of future storage buildings, including those currently proposed. Based on review of aerial photos, it appears that 3 similar buildings have already been constructed.

The current submittal describes the buildings as “pole barns” that are 85’ x 120’ (10,200 SF) and approximately 30’ in height. One item in need of clarification is a discrepancy between the application form and sketch plan with respect to the number of buildings proposed at this time – the application states 1, while the plan shows 2.

Given the project’s limited scope, it is eligible for sketch plan review (rather than calling for a full site plan review) in accordance with Article 18 of the Township Zoning Ordinance.



Aerial view of site and surroundings (looking north)

C. Sketch Plan Review

1. **Dimensional Requirements.** The subject site is relatively odd in shape with frontage along both Grand River and Gray Road. The project area is located east of the Gray Road frontage and, as such, we are viewing the southerly lot line as a side lot line.

As such, both buildings comply with the minimum side yard setback of the IND – 25’ required; 30’ provided. Additionally, the proposed building height is compliant with that allowed in the IND (30’ maximum).

2. **Building Materials and Design.** The proposed buildings are constructed of metal siding with pitched metal roofs.

Metal buildings are not overly common in the Township; however, the nature of the use (boat storage) and site conditions (large lot with limited off-site views) may mitigate the typical concerns associated with such buildings.

Ultimately, the Planning Commission has review and approval authority over the proposed buildings. The applicant should present the Commission with material and color samples for their consideration.

3. **Landscaping.** The 1999 site plan shows protection of an existing tree line and several new screen plantings north and west of the project area to buffer the adjacent residential use.

We request the applicant indicate whether all of the landscaped was planted. If it was not and/or if existing plantings are in poor condition, the Commission may wish to require additional landscaping.

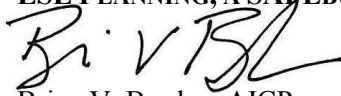
4. **Exterior Lighting.** The submittal does not identify any exterior site lighting associated with this project. If lighting is proposed, the applicant must provide details of fixtures and a photometric plan showing light intensities.

5. **Signage.** The building elevation drawings show wall-mounted signage on one side of the building; however, details of its size are not provided. Depending upon the nature of existing signage, the proposed sign may or may not be permitted. More specifically, Table 16.1 of the Zoning Ordinance restricts the business to a single wall-mounted sign.
6. **Impact Assessment.** The Ordinance does not require the submittal of an Impact Assessment with projects eligible for sketch plan review.

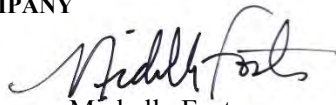
Should you have any questions concerning this matter, please do not hesitate to contact our office. We can be reached by phone at (248) 586-0505, or via e-mail at borden@lslplanning.com and foster@lslplanning.com.

Sincerely,

LSL PLANNING, A SAFE BUILT LLC COMPANY



Brian V. Borden, AICP
Principal Planner



Michelle Foster
Project Planner II



March 30, 2016

Ms. Kelly Van Marter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

**Re: Wonderland Marine West
Sketch Plan Review**

Dear Ms. Van Marter:

We have reviewed the sketch plan documents from Wonderland Marine West Inc. dated March 17, 2016, which were delivered to the Township Engineer on that date. The applicant is proposing to construct two pole barns for boat storage on the site which is located on the south side of Grand River Avenue between Gray and Dorr Roads. The sketch plan is an extension of a previously approved site plan prepared by Desine Inc. which proposed nine new pole barn storage facilities. This submittal proposes two of the nine buildings in this phase. It appears that the remaining site improvements have been constructed. Since this is an extension of the previously approved plan and the site improvements beyond the actual buildings have been constructed, we have no objections to approval of the sketch plan.

Please call if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Gary Markstrom'.

Gary J. Markstrom, P.E.
Unit Vice President

A handwritten signature in blue ink, appearing to read 'Joseph C. Siwek'.

Joseph C. Siwek, P.E.
Project Engineer

Copy: Paul Mitter, Wonderland Marine West Inc.

Tetra Tech

401 South Washington Square, Suite 100, Lansing, MI 48933
Tel 517.316.3930 Fax 517.484.8140 www.tetratech.com



BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

April 5, 2016

Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Wonderland Marine Storage Building
5796 E. Grand River
Genoa Twp., MI

Dear Kelly:

The Brighton Area Fire Department has reviewed the above mentioned site plan. The plans were received for review on March 23, 2016 and the drawings are dated July 20, 1999 with latest revisions dated September 17, 1999. The project is for the construction of multiple new 10,200 square type-VB pole barn style S-2 buildings, to be utilized as boat storage. The site was last reviewed and approved by Genoa Township in 1999. The plan review is based on the requirements of the International Fire Code (IFC) 2012 edition.

1. The closest watermain and hydrants to the site are not shown on any of the drawings. Each building is requires a fire flow at a rate of 2,750 gallons per minute for 2 hours for the new buildings. To achieve this flow rate a minimum of 3 fire hydrants must be installed in the back lot area where the new buildings will be located. They shall be equally spaced throughout the site with no more than 450 feet between. (This fire flow is for a single 10,200 square foot structure) The recommended location for each on the lot is CB107, CB102 and at the Southeast corner of the lot in front of the furthest east building near boat rack-storage. The hydrants shall be installed to be no closer than 40' from any building.

IFC 507.3
IFC C 102.1
IFC C 103

2. The primary access road into the site appears to be in compliance. Access roads to site shall be provided and maintained during construction. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds.

IFC D 103.6
IFC D 103.1
IFC D 102.1
IFC D 103.3

3. The secondary access drive from Gray Rd. must be cleared of all foliage and debris. The surface must be brought to its original approved condition capable of supporting the weight of a 75,000 pound emergency vehicle. The width of the drive shall be maintained at 20' wide with a 13½' overhead clearance. A knox padlock must be purchased and installed on the gate in conjunction with the owners lock for emergency vehicle access.

4. Provide names, addresses, phone numbers, emails of owner or owner's agent, contractor, architect, on-site project supervisor.

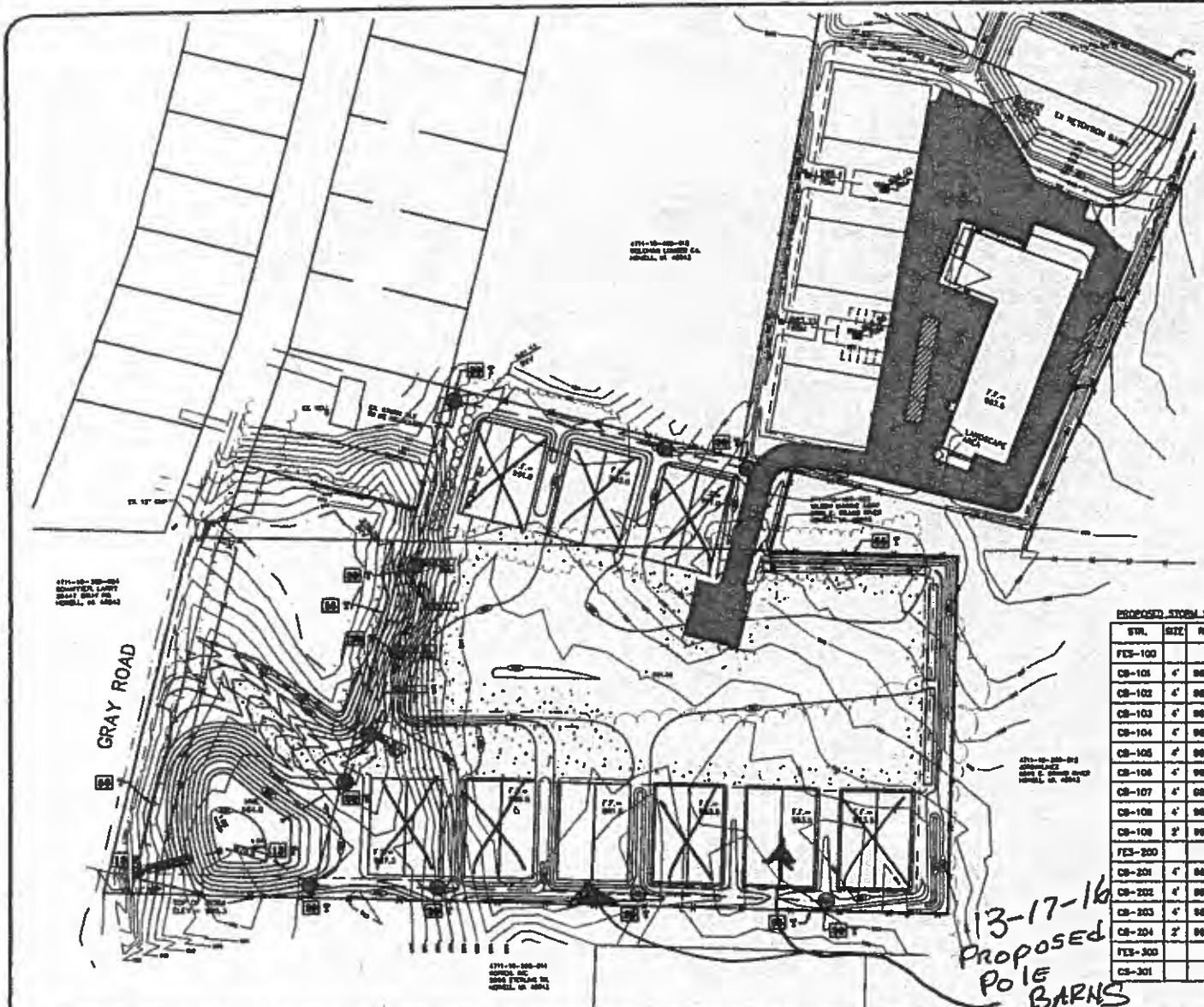


Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department. If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink, appearing to read "R. Boisvert".

Capt. Rick Boisvert, CFPS
Fire Inspector



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- - - PROPOSED STORM SEWER
- - - EXISTING STORM SEWER
- PROPERTY LINE
- PROPOSED GRAVEL
- X-X- PROPOSED FENCE
- X-X- EXISTING FENCE
- X-X- EXISTING WETLAND
- - - SETBACK LINE
- CATCH BASIN
- ▽ FLARED END
- PROPOSED BITUMINOUS PAVING
- ▨ PROPOSED ASPHALT LOADING/UNLOADING AREAS
- PROPOSED GRAVEL AREA



PROPOSED STORM SCHEDULE

STW.	SIZE	RM.	BY.
FES-100			42 IN. 100.00
CS-101	4'	884.8	10 IN. 100.00 10 IN. 100.00
CS-102	4'	884.8	10 IN. 100.00 10 IN. 100.00
CS-103	4'	884.8	10 IN. 100.00 10 IN. 100.00
CS-104	4'	884.8	10 IN. 100.00 10 IN. 100.00
CS-105	4'	887.0	10 IN. 100.00 10 IN. 100.00
CS-106	4'	888.0	10 IN. 100.00 10 IN. 100.00
CS-107	4'	887.0	10 IN. 100.00 10 IN. 100.00
CS-108	4'	888.0	10 IN. 100.00 10 IN. 100.00
CS-109	4'	890.0	10 IN. 100.00
FES-200			60 IN. 100.00
CS-201	4'	885.1	10 IN. 100.00 10 IN. 100.00
CS-202	4'	885.1	10 IN. 100.00 10 IN. 100.00
CS-203	4'	886.3	10 IN. 100.00 10 IN. 100.00
CS-204	2'	891.0	10 IN. 100.00
FES-300			10 IN. 100.00
CS-301			10 IN. 100.00

SOIL EROSION LEGEND

13	SOIL TYPE: 13	PERMANENT PROTECTION REQUIRED FOR ALL SLOPES OF 10% OR GREATER. MUST BE MAINTAINED THROUGHOUT CONSTRUCTION AND PERMANENTLY MAINTAINED THEREAFTER.
39	SOIL TYPE: 39	PERMANENT PROTECTION REQUIRED FOR ALL SLOPES OF 10% OR GREATER. MUST BE MAINTAINED THROUGHOUT CONSTRUCTION AND PERMANENTLY MAINTAINED THEREAFTER.
55	SOIL TYPE: 55	PERMANENT PROTECTION REQUIRED FOR ALL SLOPES OF 10% OR GREATER. MUST BE MAINTAINED THROUGHOUT CONSTRUCTION AND PERMANENTLY MAINTAINED THEREAFTER.

P=PERMANENT
 T=TEMPORARY

SEE SHEET SE FOR SOIL EROSION DETAILS

13-17-16
 Proposed
 POLE
 BARN

DATE: 08/14/16	BY: J. W. WILSON	REVISION: REVISED FOR CONSULTANT COMMENTS	DATE: 08/14/16	BY: J. W. WILSON	REVISION: REVISED FOR CONSULTANT COMMENTS	DATE: 08/14/16	BY: J. W. WILSON	REVISION: REVISED FOR CONSULTANT COMMENTS
DATE: 08/14/16	BY: J. W. WILSON	REVISION: REVISED FOR CONSULTANT COMMENTS	DATE: 08/14/16	BY: J. W. WILSON	REVISION: REVISED FOR CONSULTANT COMMENTS	DATE: 08/14/16	BY: J. W. WILSON	REVISION: REVISED FOR CONSULTANT COMMENTS
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CARY LITTLE INC.
 8750 E. GRAND AVENUE
 HONOLULU, HI 96843
 (817)740-3123

**WONDERLAM
 MARINE WEST**

GRADING PLAN

SCALE: 1" = 60'

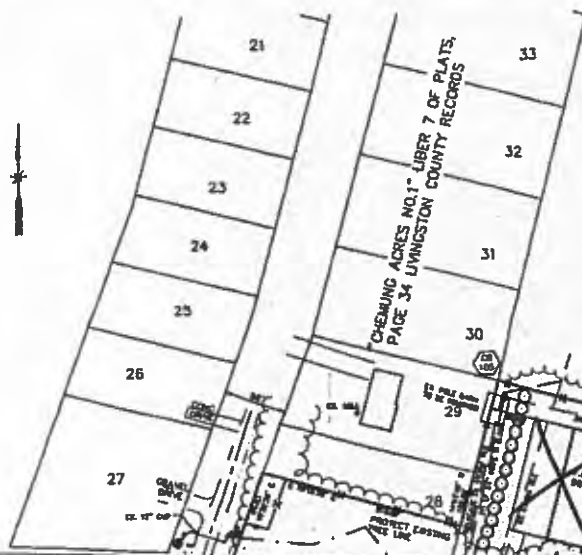
DATE: 08/14/16

BY: J. W. WILSON

PROJECT: GRADING PLAN

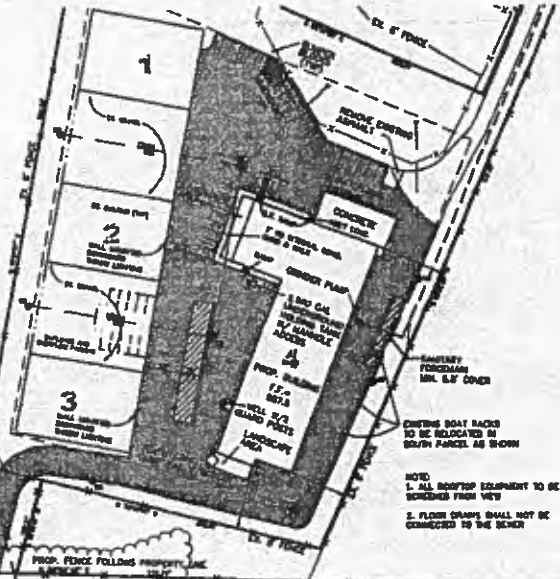
CLIENT: WILSON

PROJECT NO: GR

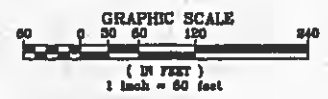


CHEMUNG ACRES NO. 1, LIBER 7 OF PLATS, PAGE 34 LYNNSTON COUNTY RECORDS

PROPOSED BUILDINGS	
BLDG. No. 1	
OFFICE/SALES	6,240 SQ FT
PORTS STORAGE	12,000 SQ FT
SHOP	3,516 SQ FT
MEZZANINE	1,360 SQ FT
TOTAL	23,116 SQ FT
BLDG. No. 2-12A	
STORAGE	19,500 SQ FT EACH BLDG.
TOTAL FOR 8-12A	91,800 SQ FT



NOTE:
1. ALL ROOFTOP EQUIPMENT TO BE SCREENED FROM VIEW
2. FLOOR DRAINS SHALL NOT BE CONNECTED TO THE SEWER



- LEGEND**
- EXISTING CONTOUR
 - - - PROPOSED CONTOUR
 - - - PROPOSED STORM SEWER
 - - - EXISTING STORM SEWER
 - PROPERTY LINE
 - - - PROPOSED GRAVEL
 - - - EXISTING FENCE
 - - - EXISTING WETLAND
 - - - SETBACK LINE
 - CATCH BASIN
 - ◐ FLARED END
 - PROPOSED BITUMINOUS PAVING
 - ▨ PROPOSED ASPHALT LOADING/UNLOADING
 - PROPOSED GRAVEL AREA
 - F.F. FINISH FLOOR ELEVATION

3-17-16
PROPOSED POLE BARN

NOTES:
#1: SE CORNER OF CONCRETE PAD EAST OF BUILDING No. 3
ELEV = 102.77

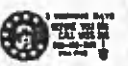
REV	DATE	DESCRIPTION
0001	11/27/16	REVISED PER CONSULTANT COMMENTS
0002	12/17/16	REVISED PER CONSULTANT COMMENTS
0003	12/14/16	REVISED PER COMMENTS

DESIGNER
GARY MITCHELL
2706 E. GRAND RIVER
HONOLULU, HI 96843
(817)946-0122

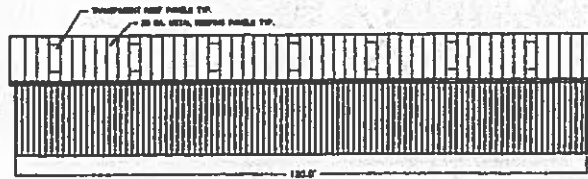
WONDERLAND MARINE WEST

PROPOSED SITE PLAN SOUTH

DATE: 12/17/16
PROJECT NO.: 16-001
SHEET NO.: 02-01
DATE PLOTTED: 12/14/16



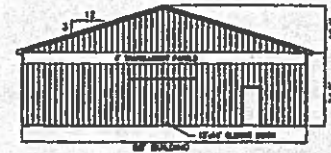
SP2



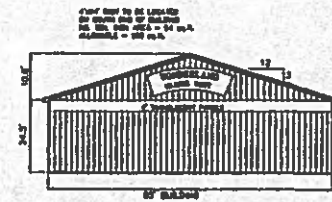
PROPOSED SIDE VIEW BUILDING ELEVATION
NO SCALE



PROPOSED SIDE VIEW BUILDING ELEVATION
NO SCALE



PROPOSED END VIEW BUILDING ELEVATION
NO SCALE



PROPOSED END VIEW BUILDING ELEVATION
NO SCALE

DATE	BY	REVISION	DATE	REVISION	DATE

GARY MITCHELL D.
2706 E. GRAND AVENUE
MORRIS, IL 62443
(617) 640-0432

WONDERLAND
MARINE WEST

BUILDING
ELEVATIONS
No. 5 THRU No. 12A

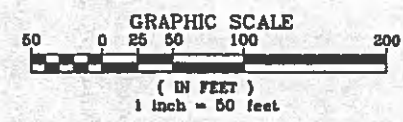
DESIGN
2025 W. GRAND AVENUE, SUITE 100
MORRIS, ILLINOIS 62443
(617) 237-0001

SCALE AS SHOWN
PROJECT NO. 12A
REV. DATE 05/24
DATE PLOTTED 6/24/20

SHEET 2 OF 10

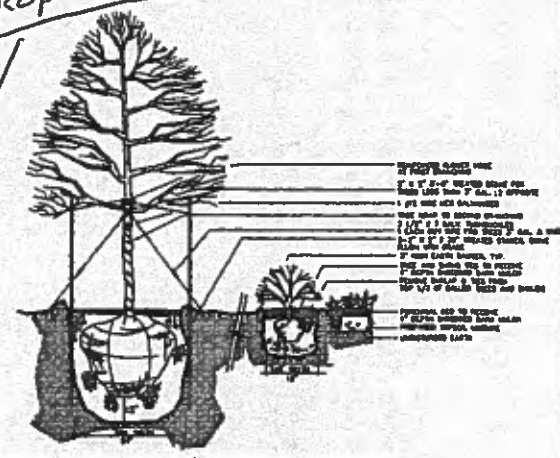
AR

2025 WONDERLAND MARINE WEST

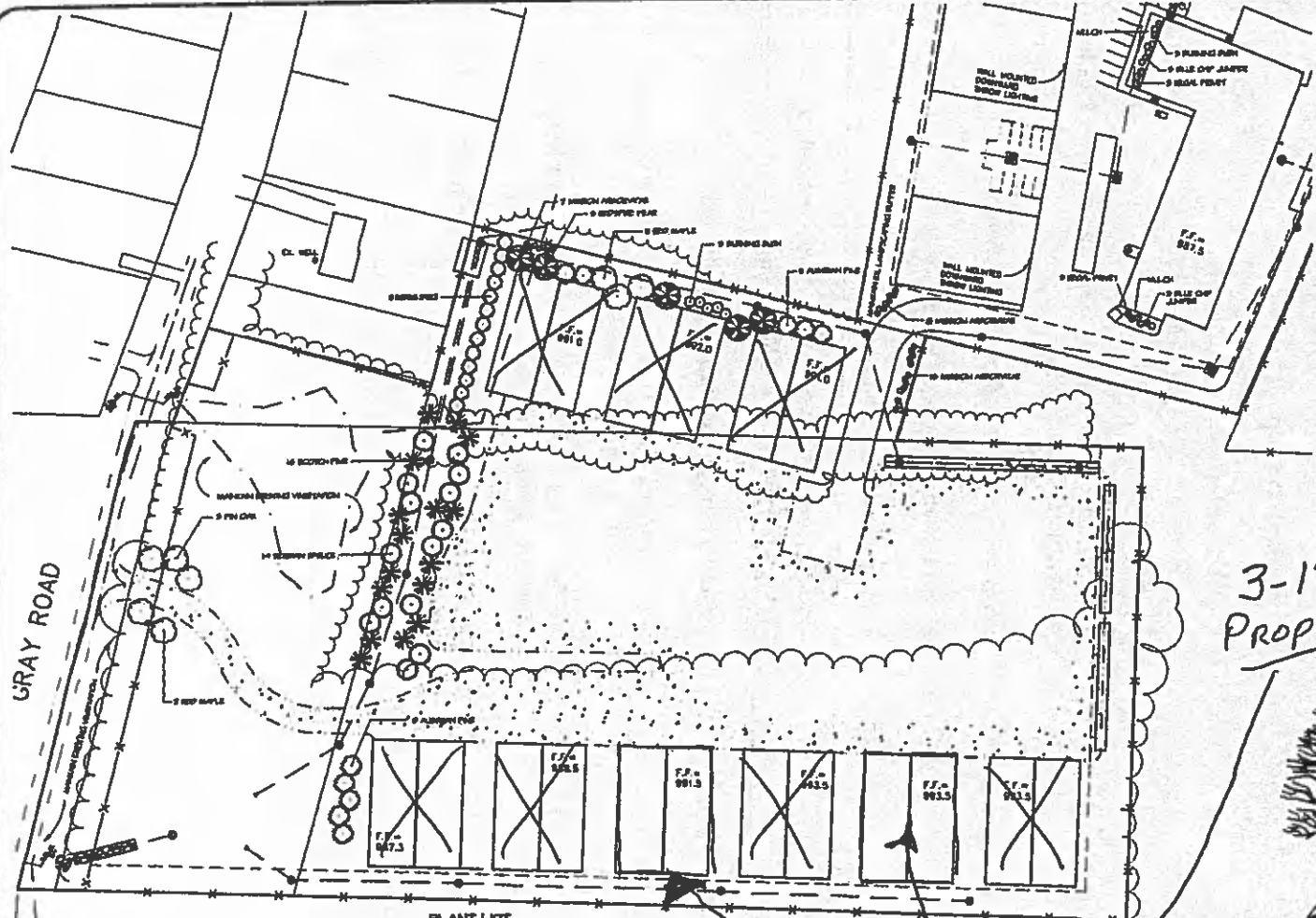


- GENERAL NOTES**
- ALL PLANTING SIZES SHOWN SHALL BE AT TIME OF PLANTING
 - ALL PLANT MATERIAL SHALL BE FREE OF DISEASE AND INSECTS AND SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF NURSERTHURM
 - ALL LANDSCAPING SHALL BE MAINTAINED A HEALTHY CONDITION. ANY DEAD OR DISEASED PLANTINGS SHALL BE REMOVED AND REPLACED WITHIN 1 YEAR.
 - ALL LANDSCAPE BEDS TO BE MULCHED WILL HAVE CYPRESS MULCH UNLESS OTHERWISE NOTED.
 - ALL PLANT MATERIAL TO BE USED SHALL BE AS SPECIFIED OR APPROVED EQUAL.
 - ALL UNPAVED AREAS AND AREAS NOT OTHERWISE PROPOSED AS A LANDSCAPE BED OR AN AREA TO BE CYPRESS MULCHED SHALL BE SEEDED TO ESTABLISH A VEGETATIVE LAWN COVER.

3-17-16
Proposed Pole BARKS



TYPICAL TREE/ SHRUB/ PERENNIAL PLANTING
NOT TO SCALE



PLANT LIST

COMMON/ BOTANICAL NAME	QTY.	SIZE
RED MAPLE/ ACER RUBRUM	5	2.5" CALIP
PIN OAK/ QUERCUS PALUSTRIS	3	2.5" CALIP
REDSPIRE PEAR/PYRUS CALLERYANA 'REDSPIRE'	5	2.5" CALIP
AUSTRIAN PINE/ PINUS NIGRA	10	6" HT.
SCOTCH PINE/ PINUS SYLVESTRIS	16	6" HT.
SERBIAN SPRUCE/ PICEA OMORICA	14	6" HT.
BURNING BUSH/ EUCHYMAUS ALATA	11	24" HT.
MISSION ARBOVITAE/ THALIA OCCIDENTALIS 'TECHRY'	28	4" HT.
REGAL PRIVET/ LIGUSTRUM OBTUSIFOLIUM REGELIANUM	6	24" HT.
BLUE CHIP JUNIPER/ JUNIPERUS HORIZONTALIS 'BLUE CHIP'	8	15" HT.

DATE	BY	REVISION	DESCRIPTION
8-17-99	REVISOR PER COMMENTS		
12-12-99	REVISOR PER COMMENTS		

GARY METER S.
 2708 E. GRAND RIVER
 WOBURN, MA 02463
 (617) 462-8122

WONDERLAND
MARINE WEST

LANDSCAPE PLAN

002 1" = 50'
 003 1" = 50'
 004 1" = 50'
 005 1" = 50'
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**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
March 14, 2016
6:30 P.M.
MINUTES**

CALL TO ORDER: The meeting of the Genoa Charter Township Planning Commission was called to order at 6:30 p.m. Present were Chairman Doug Brown, Diana Lowe, James Mortensen, Chris Grajek, and Eric Rauch. Absent were Barbara Figurski and John McManus. Also present was Kelly VanMarter, Community Development Director/Assistant Township Manager.

PLEDGE OF ALLEGIANCE: The pledge of allegiance was recited.

APPROVAL OF AGENDA: **Moved** by Commissioner Lowe, seconded by Commissioner Mortensen, to approve the agenda as presented. **The motion carried unanimously.**

CALL TO THE PUBLIC: The call to the public was made at 6:32 pm with no response.

OPEN PUBLIC HEARING #1 (Postponed from February 8, 2016)... Review of a special use application, impact assessment and sketch plan to allow outdoor storage located at 5775 Brighton Pines Court, Brighton, Parcel #11-15-200-025. The request is petitioned by CRW Plastics.

Planning Commission disposition of petition

- A. Recommendation of Special Use Application.
- B. Recommendation of Impact Assessment (12-15-16)
- C. Recommendation of Sketch Plan (12-15-15/Landscape Plan 2-24-16)

Mr. Antonio Orlando stated they hired a landscaper to develop a plan to meet the screening requirements made at the last Planning Commission meeting. He showed the proposal.

Mr. Brian Borden, of LSL Planning, feels the revised submittal meets the requirements for the special land use.

The call to the public was made at 6:37 pm with no response.

Moved by Commissioner Mortensen, seconded by Commissioner Grajek, to recommend to the Township Board approval of the special land use to allow outdoor storage for CRW Plastics located at 5775 Brighton Pines Court subject to the following:

- Approval of the sketch plan by the Township Board
- Approval of the Environmental Impact Assessment by the Township Board.

It is the finding of the Planning Commission that this special land use permit is consistent with the specific requirements of Section 19.03 of the Township Zoning Ordinance and is consistent with other activities in this industrial zone. It complies

Section 8.02.02 of the Township Zoning Ordinance. **The motion carried unanimously.**

Moved by Commissioner Lowe, seconded by Commissioner Rauch, to recommend to the Township Board approval of the Environmental Impact Assessment conditioned upon:

- Approval of the special land use and sketch plan by the Township Board.

The motion carried unanimously.

Moved by Commissioner Mortensen, seconded by Commissioner Grajek, to recommend to the Township Board approval of the sketch plan dated 12-15-15 and Landscape Plan dated 2-24-16 subject to:

- Approval of the special lane use by the Township Board.
- Approval of the Environmental Impact Assessment by the Township Board.
- Any signage must be consistent with the Township Ordinance.

It should be noted that both the Township Engineer and Brighton Area Fire Authority had only limited comments regarding this proposal. **The motion carried unanimously.**

OPEN PUBLIC HEARING #2...Review of a request for a rezoning from Medium Density Residential (MDR) to High Density Residential (HDR) for Parcel #11-06-400-015 which is located on the east side of Chilson Road, south of Grand River, in Howell. The request is petitioned by the Lockwood Companies.

Planning Commission disposition of petition

- A. Recommendation of Rezoning from MDR to HDR
- B. Recommendation of Environmental Impact Assessment (2-24-16)

Mr. Rod Lockwood of Lockwood Companies, Walter Coponen of Component Architects, Ken Weikal, the landscape architect, and Mark Jones of Boss Engineering were present.

Mr. Lockwood gave a review of the first two phases of this project. They are proposing to build 144 additional units with a separate entrance off of Chilson Road. Mr. Coponen showed colored renderings of the site plan and building elevations. He described and showed pictures of the proposed central trash collection station.

Mr. Borden stated that the rezoning will be addressed first and then the site plan can be reviewed. The rezoning will need to be reviewed and approved by Livingston County and then returned for review and approval by the Township Board. The recent Master Plan update shows this parcel as HDR and the surrounding properties are HDR.

Mr. Joseph Siwek, of Tetra Tech, stated they have concerns with the storm water flow. There are no calculations shown. The traffic engineer is recommending an updated traffic impact study to evaluate the operation of the intersection of Grand River and Tahoe.

Mr. Jones stated that he has spoken to Wendy Ramirez of MDOT who stated that due to the new Latson Road interchange, traffic volumes on Grand River are 50 percent less than what they were before. They also feel that the traffic from Phases 1 and 2 will shift to the Chilson Road entrance / exit.

03-14-16 Unapproved Minutes

Commissioner Mortensen would like to have the traffic study done on Grand River as requested by the Township Engineer. Mr. Jones stated they can have the traffic study completed within one month.

Mr. Lockwood noted that their funding source deadline for the project is mid-June.

It was noted that these issues should be addressed during site plan approval and this agenda item is for the rezoning.

The call to the public was made at 7:19 pm.

Mr. Bill Gregory of 960 Victory Drive stated that looking at the Master Plan, there is very little industrial zoning in the Township. He would like to see screening on the east side of the site. He does not have any concerns with the rezoning.

Mr. Steve Krouse of Best Storage at 902 Victory Drive is in support of the rezoning.

The call to the public was closed at 7:22 pm.

Moved by Commissioner Mortensen, seconded by Commissioner Lowe, to recommend to the Township Board approval of the rezoning request from Medium Density Residential (MDR) to High Density Residential (HDR) by Lockwood Companies. The proposed rezoning is consistent with the standards of Section 22.04 of the Township Ordinance, is consistent with the Master Plan Future Land Use map, is consistent with the HDR zoning to the north, the industrial zoning to the east, and the planned industrial district zoning to the south. **The motion carried unanimously.**

Moved by Commissioner Lowe, seconded by Commissioner Grajek, to recommend to the Township Board approval of the Environmental Impact Assessment dated 2-24-16 for Phase 3 of Lakeshore Village conditioned upon approval of the rezoning by the Township Board. **The motion carried unanimously.**

OPEN PUBLIC HEARING #3... Review of a site plan and impact assessment for a proposed Phase 3 of the Lakeshore Village Apartments consisting of an additional 144 units with a business center/club house. The property is located on the east side of Chilson Road, south of Grand River in Howell on Parcel #11-06-400-015. The request is petitioned by the Lockwood Companies.

Planning Commission disposition of petition

- A. Recommendation of Environmental Impact Assessment (2-24-16)
- B. Disposition of Site Plan pending approval of the Impact Assessment by the Board (2-24-16)

Mr. Borden stated that the applicant has addressed all by one of his concerns after review of their first submittal. The primary building material is vinyl siding and Section 12.01 of the Township Ordinance limits the use of vinyl siding to no more than 25 percent for walls visible from public roads or parking lot. He noted that the applicant would like to keep this phase of the plan consistent with the first two and to add masonry would give it the appearance of a completely different project.

Chairman Brown called for a five-minute break at 7:30 pm. The meeting resumed at 7:45 p.m.

03-14-16 Unapproved Minutes

Mr. Siwek reiterated his concerns regarding the storm water and traffic study stated in the previous agenda item. He feels the applicant can meet their requirements for the storm water; however, he needs to see the calculations. Mr. Jones agrees that he can address Mr. Siwek's concerns without altering the proposed site plan.

Mr. Coponen stated they will be able to meet the concerns of the Brighton Area Fire Authority's letter of March 9, 2016.

The discussion returned to the building materials. Mr. Coponen showed the proposed building materials. He stated that it would be very difficult to provide this affordable housing if they needed to meet the masonry requirement of the ordinance. Commissioner Mortensen stated he would recommend approval of the materials due to the fact that this is affordable housing, it is not visible from Chilson Road, and it matches the existing buildings in this development.

Commissioner Rauch agrees with Commissioner Mortensen; however, he feels that the fitness center and Unit #5 are visible from Chilson Road. Mr. Coponen stated they could increase the landscape buffer to better screen Unit #5. He offered to have the fitness center all brick.

The call to the public was made at 8:17 pm.

Mr. and Mrs. Old who own the three properties to the west of this site on Chilson Road had concerns regarding drainage. They spoke to the developer during the break and they feel that he is addressing their needs in the case they want to develop their properties.

The call to the public was closed at 8:19 pm.

There was a discussion regarding the traffic study and how obtaining it may affect the timeline that Mr. Lockwood has with his funding source. Ms. VanMarter advised the Planning Commission of Mr. Lockwood's time constraints to obtain their funding from MSHDA. She stated that Township Staff will do what they can to assist him in meeting his deadline.

Moved by Commissioner Lowe, seconded by Commissioner Grajek, to recommend to the Township Board approval of the Environmental Impact Assessment dated 2-24-16 subject to the following:

- Approval of the rezoning by the Township Board
- Approval of the site plan by the Township Board
- Verification by the Township Engineer on a traffic study that there is no deterioration of the level of service at Tahoe and Grand River.

The motion carried unanimously.

Moved Commissioner Mortensen, seconded by Commissioner Rauch, to recommend to the Township Board approval of the site plan dated 2-24-16 for a 144-unit development by Lockwood Companies subject to the following:

- Approval of the rezoning request by the Township Board
- Approval of the Environmental Impact Assessment by the Township Board
- Requirements of the Township Engineer for the handling of site drainage be met
- Construction plan review and approval by the DEQ.

- The requirements of the Brighton Area Fire Authority's letter of March 9, 2016 are met
- A traffic study shall be completed by the applicant in advance of submission to the Township Board, showing no deterioration in the level of service at Tahoe and Grand River and further subject to review by the Township Engineer.
- The building material samples shall become property of the Township.

The building materials were reviewed this evening and are acceptable to the Planning Commission, with additional landscaping around Unit #5 to shield it from the properties to the southwest of the site and the fitness center shall be all brick, with that material to be reviewed and approved by Township Staff. **The motion carried unanimously.**

OPEN PUBLIC HEARING #4...Review of a site plan and impact assessment for a proposed Gilden Woods child care facility located on the north side of Grand Oaks Drive in Howell on Parcel #11-08-200-012. The request is located within the Livingston Commons Phase 2 Planned Unit Development and is petitioned by BBI Holdings, LLC.

Planning Commission disposition of petition

- A. Recommendation of Environmental Impact Assessment
- B. Recommendation of Final PUD Site Plan

Mr. Steve Witte, of Nederveld, Inc., and Dan Boverhof of BBI Holdings, were present.

Mr. Witte stated they are proposing to build an 11,968 square foot building as a day care center. Gilden Woods was previously Apple Tree. Mr. Boverhof has built approximately 20 of these facilities for Gilden Woods. The day care facility will accommodate up to 164 children. There will be an 18,834 square foot, fenced-in playground area. He showed the proposed site plan, building elevations, and building materials. They need a larger number of parking spaces than what is allowed because each of the parents must park and escort their children into and out of the building. He distributed replies to the planner's, engineer's, and Brighton Area Fire Authority's letters.

Commissioner Rauch has no issue with the additional parking; however, he noted that the indoor play area does not meet the requirements.

Mr. Borden stated that the applicant has addressed all of his concerns. With regard to the indoor play area, it is calculated on the maximum capacity of the facility and the applicant is proposing 49.5 square feet per child instead of the 50 square foot required by ordinance. He noted that they do meet the requirements of the State of Michigan.

They have added more stone to the building ;however, they have not met the 80% requirement for natural materials per the PUD Agreement. Commissioner Rauch likes the proposed building materials; however, he would like to have more stone added to the sides of the building.

Mr. Boverhof stated these are the standard materials that are used on all Gilden Woods facilities.

Mr. Witte stated he can add stone to the north side of the building and extend the fence on the south side of the building so it will not be seen. The fence is opaque. It was also suggested to carry the lap siding on the north side of the building to match the front. Both Mr. Witte and Mr. Boverhof agreed to this suggestion.

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Mr. Borden advised that a second drive is recommended to accommodate vehicle circulation and emergency vehicle turnaround. Mr. Witte stated that MDOT will not allow the second drive due to sight distance issues.

The call to the public was made at 9:16 pm with no response.

Moved by Commissioner Lowe, seconded by Commissioner Grajek, to recommend to the Township Board approval of the Environmental Impact Assessment dated 2-24-16 subject to the following:

- Final PUD site plan approval by the Township Board
- Approval of the proposed excess parking by the Township Board

The motion carried unanimously.

Moved by Commissioner Mortensen, seconded by Commissioner Grajek, to recommend to the Township Board approval of the Final PUD site plan for Gildea Woods child care facility subject to the following:

- Approval of the building materials
- The six-foot vinyl fence will be extended on the south side of the building.
- The north side of the building will have three-feet of cultured stone off grade and the remainder will be lap siding consistent with the front.
- The requirements of the Brighton Area Fire Authority's March 9, 2016 letter shall be met.
- Approval of parking proposed by the applicant of more than 120% of the maximum allowed by ordinance as the Planning Commission finds this acceptable as it is consistent with the applicant's business model and experience.

The site is a transitional property from industrial zoning.

The motion carried unanimously.

Administrative Business:

- Staff Report

Mr. VanMarter stated that Flagstar bank has submitted plans for a new branch located on the same property as the proposed Providence Medical Center. Also, an application for a new medical office on the north side of Grand River across from Bob Maxi Ford has been submitted.

- Approval of February 8, 2016 Planning Commission meeting minutes:

Moved by Commissioner Lowe, seconded by Commissioner Grajek, to approve the minutes from the February 8, 2016 Planning Commission Meeting as presented.

The motion carried unanimously.

- Member Discussion:

Mr. Borden stated that the Michigan Association of Planning's Spring Institute will be held in mid-April if any commissioners are interested in attending.

03-14-16 Unapproved Minutes

- Adjournment

Moved by Commissioner Mortensen, seconded by Commissioner Grajek, to adjourn the meeting at 9:29pm. **The motion carried unanimously.**

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