City of Birmingham
A Walkable Community

# MEMORANDUM

**Engineering Dept.**

**DATE:** **August 14, 2014**

**TO:** **Joseph A. Valentine, City Manager**

**FROM:** **Paul T. O'Meara, City Engineer**

**SUBJECT:** **Hazel St. Right-of-way Vacation**
**Woodward Ave. to Elm St.**

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At the meeting of April 9, 2012, the City Commission passed the following resolution:

*To authorize the vacation of Hazel St., from Woodward Ave. to Elm St., contingent upon a fifty foot wide easement being retained for public utilities over said right-of-way, and subject to the site plan as submitted by the adjoining property owner, Greentree Investment Co.*

Generally, the next step after such a resolution is for the Engineering Dept. to work with the City Treasurer's office to send documents to Oakland Co.'s Assessing office. Once they receive the documents, they would then change the parcel I.D. maps to reflect this change. However, the owner of the adjacent properties, Fred Lavery, immediately asked that we hold off on processing this paperwork with Oakland Co. Mr. Lavery indicated that he was concerned about the vacation being processed with a 50 ft. wide easement for utilities. He stated that he wanted to take the time to look into what extra steps it would take to vacate the property without such an easement. I agreed to cooperate with this request.

After intermittent progress occurring in the intervening two years, it was concluded that the only way to vacate the property without a utility easement would be to make modifications to each system such that the utilities in this area are no longer considered public. Over the past several months, the adjacent property owner (Lavery) has worked with the City and other utilities to identify what would be needed, and to get this process moving. Here is where this process stands in regards to the various utility companies:

<u>City of Birmingham (Water and Sewer)</u> – The existing public water and sewer lines on this block were both installed about 100 years ago. They currently only service the property on the north side of the block. We determined that with relatively minor revisions, they can be modified to act as part of the service leads to this building. Lavery has agreed to make these modifications at their expense, and this is reflected now on the plans that we are prepared to approve. The work will help remove two old sections of pipeline off the City's jurisdiction at no cost to the City, which we endorse.

<u>Consumers Energy (Natural Gas)</u> – Lavery has worked with Consumers Energy, who has concluded that once the property is vacated and the two properties are joined as one parcel, they can then consider the gas main on Hazel St. private. (Like the City's water and sewer, the gas main here does not service any other properties.) No physical work will be required as a part of this process.

Comcast (Communication) – Comcast has an underground line in this right-of-way that services other properties in the area. Comcast offered to make the necessary rerouting if so desired to remove this line from Hazel St., at a cost of $20,692. They are prepared to have Comcast do this work.

Wide Open West (Communication) – Wide Open West (WOW!) has provided a response in writing that they have no facilities in this area, and have no objection to what is planned.

AT&T (Communication) – AT&T has not responded to this issue, either two years ago, or more recently. We will again ask them to respond once the public hearing has been scheduled.

DTE Energy (Electric) – DTE Energy has not responded to this issue. We suspect, however, that there are no electric facilities in the Hazel St. right-of-way.

As was discussed two years ago, Lavery intends to close off Hazel St. at the Elm St. intersection. They would also reduce the size of the entrance at Woodward Ave., so it appears to be more like a private driveway. The plans have been reviewed and approved by the MI Dept. of Transportation. The pavement and landscaping improvements proposed in 2012 remain largely unchanged.

At this time, it would be appropriate to hold a new public hearing. While the Commission approved a vacation in 2012, the new request is to approve a vacation without easements. Doing so will allow the entire property to be redeveloped as one parcel at some time in the future (there are no plans to do so at this time.) During the courtesy review of the site plan conducted by the Planning Board in 2012, they requested that an easement be provided on the vacated land for pedestrian ingress/egress (as long as the buildings remain in their current configuration). This would allow pedestrians from the area to continue to use the two Hazel St. sidewalks as a way to pass through this area, rather than it becoming an obstruction. The previous resolution covered this, since the property was remaining an easement in general. However, if there is no utility easement, there would be no easement for pedestrians as well. The request for a pedestrian easement can be found below in the suggested resolution.

Should the Commission set a public hearing date, all five utility companies will again be notified, and encouraged to comment on this proposal, with the clarified understanding that it is the intent of the City to move forward on a vacation without a utility easement.

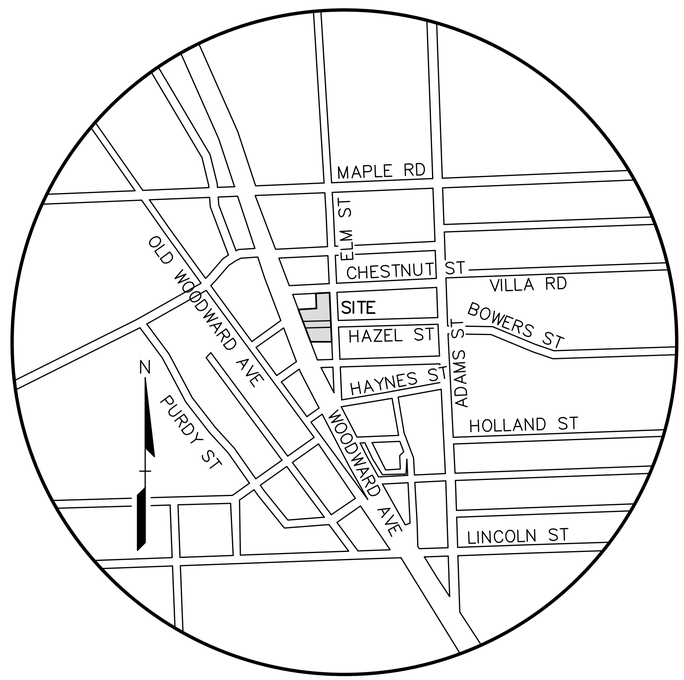
SUGGESTED RESOLUTION:

To conduct a public hearing on Monday, September 22, 2014, at the regularly scheduled City Commission meeting, to consider the vacation of Hazel St., from Woodward Ave. to Elm St., subject to a 50 ft. wide ingress/egress easement for pedestrians being retained.

CONSTRUCTION PLANS FOR

# HAZEL STREET VACATION

34574 & 34602 WOODWARD AVENUE, BIRMINGHAM, MICHIGAN




LOCATION MAP
NO SCALE

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| C–2.0 | DEMOLITION PLAN |
| C–2.1 | PEDESTRIAN RE–ROUTING PLAN |
| C–3.0 | OVERALL SITE PLAN |
| C–3.1 | PAVING PLAN – ELM STREET |
| C–3.2 | PAVING PLAN – WOODWARD AVENUE |
| C–4.1 | GRADING PLAN – ELM STREET |
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| L–1.0 | LANDSCAPE PLAN |


CITY OF BIRMINGHAM STANDARD DETAILS:
CBD STREETSCAPE STANDARD DETAILS
STANDARD PAVING DETAILS

## CIVIL ENGINEER/LANDSCAPE ARCHITECT:


PROFESSIONAL ENGINEERING ASSOCIATES, INC.
2430 ROCHESTER CT., SUITE 100
TROY, MI 48083
PHONE: (248) 689–9090 EXT. 133
FAX: (248) 689–1044
PROJECT MANAGER: JAMES P. BUTLER, P.E.
LANDSCAPE ARCHITECT: JEFFREY T. SMITH R.L.A.


## GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF BIRMINGHAM AND M.D.O.T.
2. ALL NECESSARY PERMITS, TESTING, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL CITY INSPECTION FEES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL DURING THE PERIODS OF CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO THE JOB.
4. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS DIG (811) TO VERIFY THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES AND SHALL NOTIFY OTHER REPRESENTATIVES OF OTHER UTILITIES IN THE VICINITY OF THE WORK.
5. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
6. MANHOLE, CATCH BASIN, GATE VALVES AND HYDRANT FINISH GRADES MUST BE CLOSELY CHECKED AND APPROVED BY THE ENGINEER BEFORE THE CONTRACTOR'S WORK IS CONSIDERED COMPLETE.
7. CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF–SITE ANY TREES, BRUSH, STUMPS, TRASH OR OTHER UNWANTED DEBRIS AT THE OWNER'S DIRECTION, INCLUDING OLD BUILDING FOUNDATIONS AND FLOORS. BURNING OF TRASH, STUMPS OR OTHER DEBRIS SHALL NOT BE PERMITTED.
8. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADING, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY CONTAIN TRAFFIC IN ACCORDANCE WITH THE LATEST EDITION OF THE "MMUTCD".
9. ALL EXCAVATIONS SHALL BE SLOPED, SHORED OR BRACED IN ACCORDANCE WITH MI–OSHA REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE AN ADEQUATELY CONSTRUCTED AND BRACED SHORING SYSTEM FOR EMPLOYEES WORKING IN AN EXCAVATION THAT MAY EXPOSE EMPLOYEES TO THE DANGER OF MOVING GROUND.
10. ALL REFERENCES TO M.D.O.T. SPECIFICATIONS ARE TO BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

## PAVING NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF BIRMINGHAM AND M.D.O.T.
2. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
3. SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REPLACE MATERIALS SUSCEPTIBLE TO FROST HEAVING AND UNSTABLE SOIL CONDITIONS. ANY EXCAVATIONS THAT MAY BE REQUIRED BELOW THE TOPSOIL IN FILL SECTIONS OR BELOW SUBGRADE IN CUT SECTIONS, WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
4. SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED WITH SAND OR OTHER SIMILAR APPROVED MATERIAL. BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM UNIT WEIGHT (PER ASTM D–1557) UNLESS OTHERWISE SPECIFIED.
5. BACKFILL UNDER PAVED AREAS SHALL BE AS SPECIFIED ON DETAILS.
6. ANY SUB–GRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.

## GENERAL UTILITY NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF BIRMINGHAM AND M.D.O.T.
2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES, WHICH MIGHT AFFECT THIS JOB.
3. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY–FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY–FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D–1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
4. WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER TO CENTER, AROUND PERIPHERY OF OPENING TO CREATE A PLANE OF WEAKNESS JOINT BEFORE BREAKING SECTION OUT.
5. EXACT GRADES AND DEPTHS OF UTILITIES ARE TO BE CHECKED CLOSELY WITH THE FIELD ENGINEER PRIOR TO INSTALLATION.

XREF: L:\2012143\DWG\TOPOBASE–12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE–12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK–12143.DWG

REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments | 04/29/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/24/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/02/13 |

STATE OF MICHIGAN JAMES PETER BUTLER No. 39605 LICENSED PROFESSIONAL ENGINEER


CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

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CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTRACUELY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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GREENTREE INVESTMENT COMPANY
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

COVER SHEET
HAZEL STREET VACATION
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | DN. | SUR. | P.M. |
|---|---|---|---|
| PB | PB | KTR | JPB |

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ORIGINAL ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: NONE

DRAWING NUMBER:
COVER

**FLOODPLAIN:**

BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN." (ZONE X) PER FLOOD INSURANCE RATE MAP NUMBER 26125C-0537F, EFFECTIVE SEPT. 29, 2006.

**BENCHMARKS**
(USGS DATUM)

BM#303
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 30 FEET SOUTH OF HAZEL STREET.
ELEV. = 763.78

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ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 20 FEET SOUTH OF CHESTNUT STREET.
ELEV. = 765.86

BM#305
ARROW ON HYDRANT, NORTH SIDE OF CHESTNUT, APPROX. 50 FEET EAST OF WOODWARD AVENUE.
ELEV. = 768.01

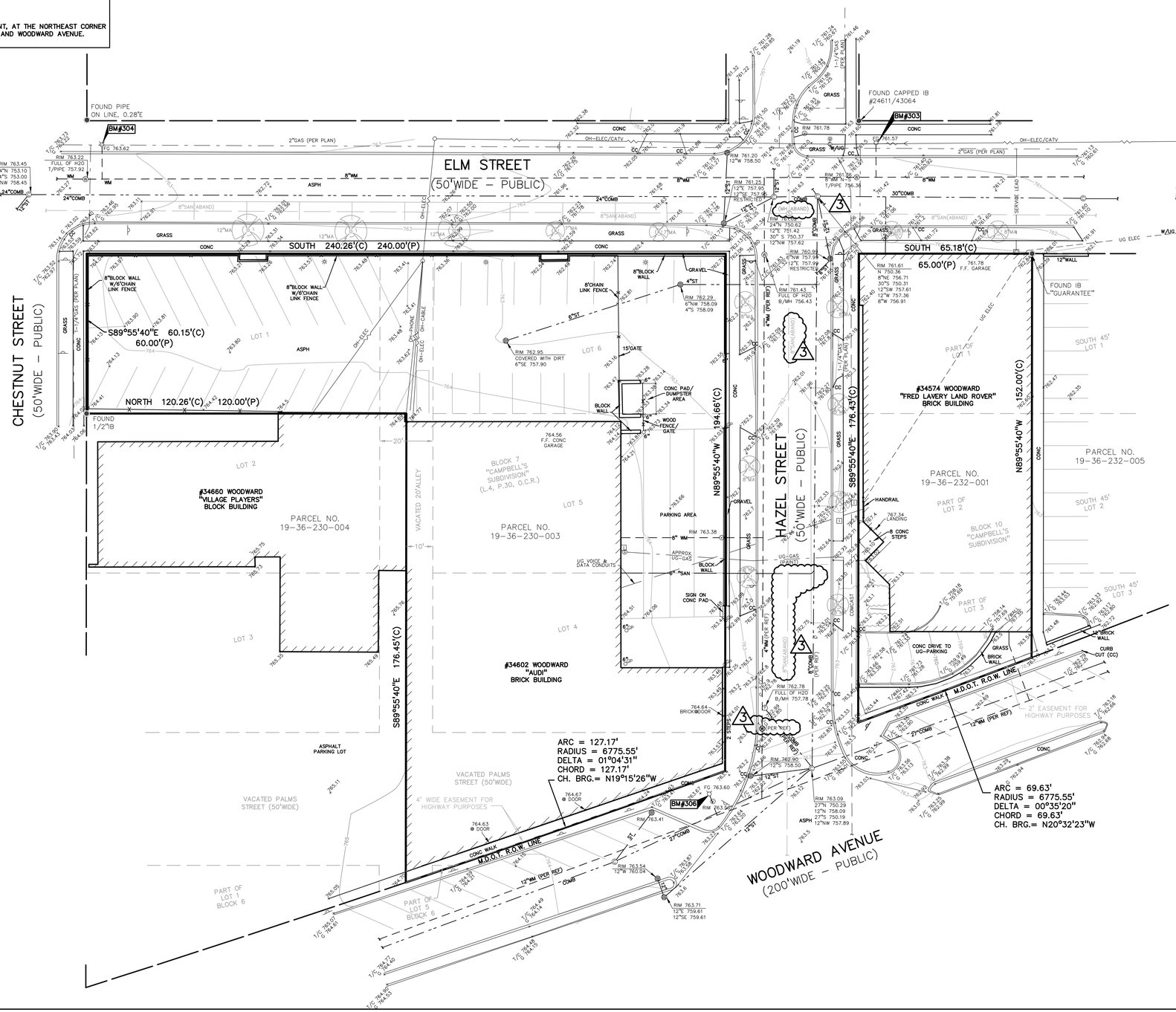
BM#306
ARROW ON HYDRANT, AT THE NORTHEAST CORNER OF HAZEL STREET AND WOODWARD AVENUE.
ELEV. = 765.78

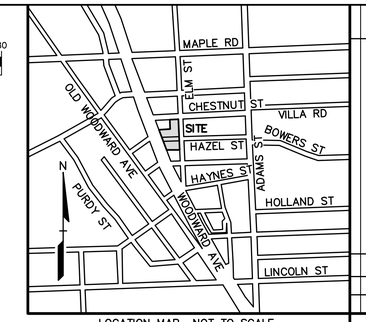
**LEGAL DESCRIPTION**
(PER OAKLAND COUNTY TAX RECORDS)

PARCEL NO. 19-36-230-003
TOWN 2 NORTH, RANGE 10 EAST, SECTION 36, "CAMPBELL'S SUBDIVISION", LOT 5, BLOCK 6 EXCEPT THAT PART TAKEN FOR HIGHWAY, ALSO LOTS 1, 4, 5 & 6 OF BLOCK 7, ALSO ALL OF VACATED PALM STREET & 1/2 OF VACATED ALLEY ADJACENT TO SAME.

PARCEL NO. 19-36-232-001
TOWN 2 NORTH, RANGE 10 EAST, SECTION 36, "CAMPBELL'S SUBDIVISION", LOTS 1, 2 & 3 EXCEPT THE SOUTH 45 FEET, ALSO EXCEPT PART OF LOT 3 TAKEN FOR HIGHWAY, BLOCK 10

GRAPHIC SCALE
-20 0 10 20 40 80
( IN FEET )
1 inch = 20 ft.




LOCATION MAP NOT TO SCALE

## LEGEND

- IRON FOUND
- IRON SET
- NAIL FOUND
- NAIL & CAP SET
- BRASS PLUG SET
- MONUMENT FOUND
- MONUMENT SET
- SEC. CORNER FOUND
- R RECORDED
- M MEASURED
- C CALCULATED

EXISTING

- ELEC., PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE
- UNDERGROUND CABLE TV, CATV PEDESTAL
- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
- GAS MAIN, VALVE & GAS LINE MARKER
- WATERMAIN, HYD., GATE VALVE, TAPPING SLEEVE & VALVE
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- STORM SEWER, CLEANOUT & MANHOLE
- COMBINED SEWER & MANHOLE
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- MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- AS BUILT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIGN
- CONC. CONCRETE
- ASPH. ASPHALT

## REFERENCE DRAWINGS

| | |
|---|---|
| WATER MAIN | HAVE NOT RECEIVED AS OF 9-18-12 |
| STORM SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| SANITARY SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| COMBINED SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| ELECTRIC | "OUTSIDE SALES PRODUCT MAPS 301-382" DETROIT EDISON, RECEIVED 8-24-12 |
| TELEPHONE | FIBER LINK – NO FACILITES ON SITE, RECEIVED 8-20-12 |
| | VERIZON – NO FACILITES ON SITE, RECEIVED 8-24-12 |
| GAS | "QUARTER SECTION MAP #02-60-36-1, DATED 12-03-09" & |
| | "SKETCH OF GAS LEAD, DATED 1983" CONSUMERS ENERGY |
| | BUCKEYE PIPELINE – NO FACILITES ON SITE, RECEIVED 8-29-12 |
| | SUNOCO PIPELINE – NO FACILITES ON SITE, RECEIVED 8-22-12 |
| CATV | COMCAST – SKETCH OF UTILITIES, RECEIVED 8-29-12 |
| OTHER | "MCKALICH & ASSOC. – ALTA SURVEY/ASBUILT", PROJ. #01041, DATED 2-28-01 |
| OTHER | "LUCKENBACH, ZEGELMAN ARCHITECTS – HAZEL ST. VACATION SITE PLAN", PROJ. #1107, DATED 1-9-12 |

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments. | 04/09/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal. (No Changes this Sheet) | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review. (No Changes this Sheet) | 04/05/13 |

REVISIONS

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# TOPOGRAPHIC SURVEY
# HAZEL STREET VACATION

34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

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| PB | PB | KTR | JPB |

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ORIGINAL
ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: 1" = 20'

DRAWING NUMBER:
C-1.0

**FLOODPLAIN:**

BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN." (ZONE X) PER FLOOD INSURANCE RATE MAP NUMBER 26125C-0537F, EFFECTIVE SEPT. 29, 2006.

**BENCHMARKS**
(USGS DATUM)

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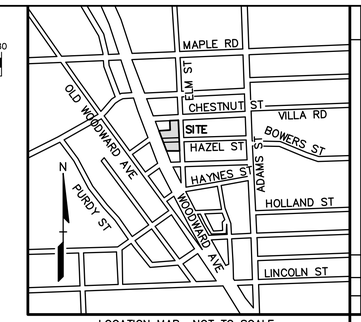
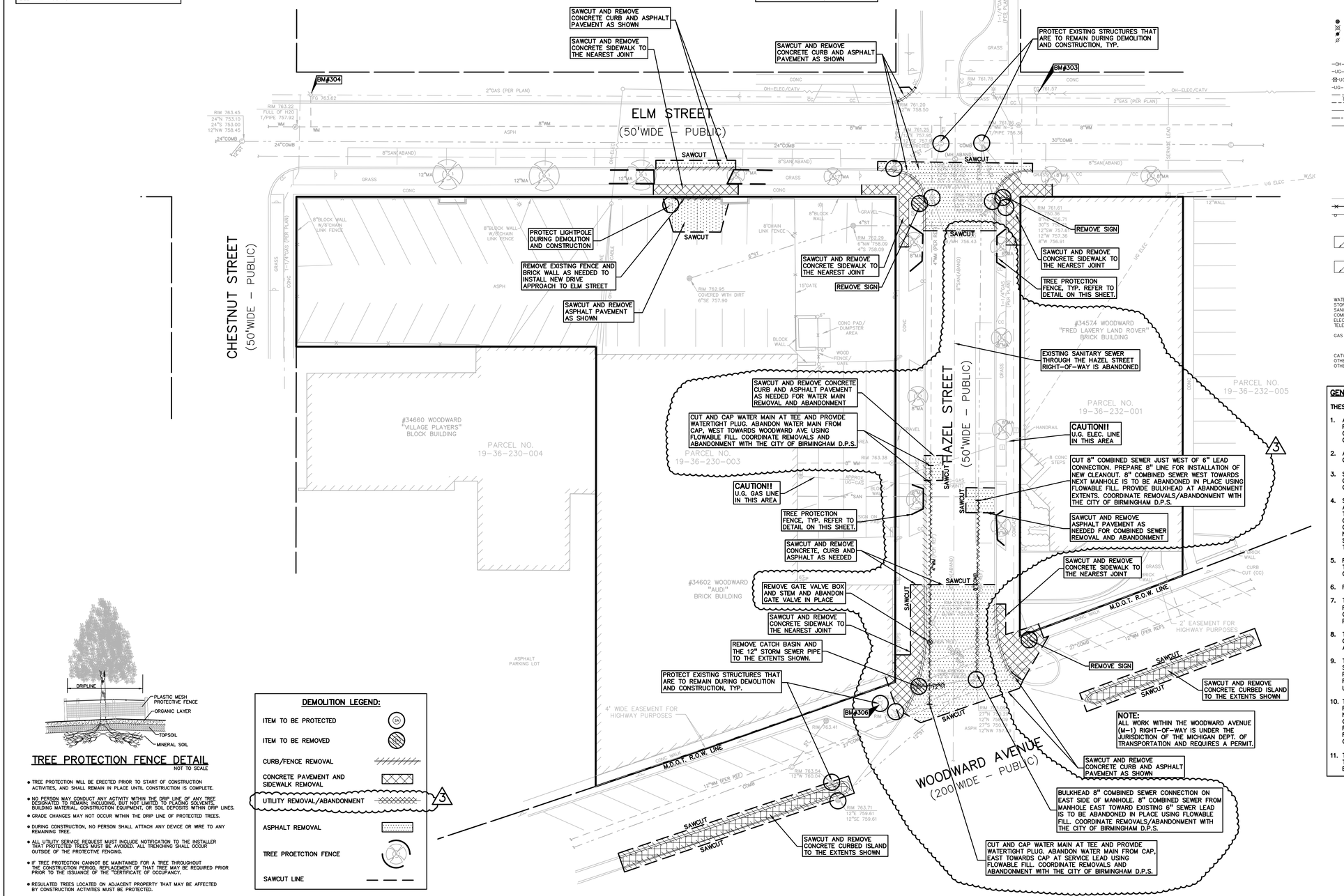



LOCATION MAP NOT TO SCALE

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- AS BUILT ELEVATION (+696.00 AS-BUILT)
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- FENCE
- GUARD RAIL
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- SIGN
- CONC. CONCRETE
- ASPH. ASPHALT

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| STORM SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| SANITARY SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| COMBINED SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| ELECTRIC | "OUTSIDE SALES PRODUCT MAPS 301-382" DETROIT EDISON, RECEIVED 8-24-12 |
| TELEPHONE | FIBER LINK – NO FACILITIES ON SITE, RECEIVED 8-20-12<br>VERIZON – NO FACILITIES ON SITE, RECEIVED 8-24-12 |
| GAS | "QUARTER SECTION MAP #02-60-36-1, DATED 12-03-09" &<br>"SKETCH OF GAS LEAD, DATED 1983" CONSUMERS ENERGY<br>BUCKEYE PIPELINE – NO FACILITIES ON SITE, RECEIVED 8-29-12<br>SUNOCO PIPELINE – NO FACILITIES ON SITE, RECEIVED 8-22-12 |
| CATV | COMCAST – SKETCH OF UTILITIES, RECEIVED 8-29-12 |
| OTHER | "MICKALICH & ASSOC. – ALTA SURVEY/ASBUILT", PROJ. #01041, DATED 2-28-01 |
| OTHER | "LUCKENBACH, ZIEGELMAN ARCHITECTS – HAZEL ST. VACATION SITE PLAN", PROJ. #1107, DATED 1-9-12 |

## GENERAL DEMOLITION NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT:

1. ALL MATERIAL TO BE REMOVED, WHETHER SPECIFICALLY NOTED IN THE PLANS OR NOT, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A LEGAL MANNER. NO ON-SITE BURY OR BURN PITS SHALL BE ALLOWED.
2. ALL DEMOLITION WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES.
3. STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
4. SPECIFIC DEMOLITION ITEMS HAVE BEEN INDICATED ON THE PLANS AS A GUIDE TO THE GENERAL SCOPE OF THE WORK. IT IS THE INTENT THAT THESE ITEMS SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR ABOVE AND BELOW GROUND, UNLESS SPECIFICALLY NOTED OTHERWISE, AND THAT DEMOLITION WILL INCLUDE BUT WILL NOT NECESSARILY BE LIMITED TO THESE ITEMS. CONTRACTOR SHALL VISIT SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.
5. REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES WALLS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, DRAINAGE STRUCTURES, ETC.
6. REFER TO THIS SHEET FOR TREE PROTECTION DETAILS.
7. THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15' OF CONSTRUCTION ACTIVITIES AND AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, MARKINGS, LIGHTS AND OTHER TRAFFIC CONTROL DEVICES TO PROTECT THE WORK ZONE AND SAFELY MAINTAIN TRAFFIC PER AGENCY REQUIREMENTS AND IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) LATEST EDITION.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF SIGNS AND SUPPORTS WITHIN THE WORK AREA, AS NECESSARY TO FACILITATE CONSTRUCTION. SIGNS SHALL BE PROTECTED OR STOCKPILED FOR REUSE AS SPECIFIED IN THE PLANS OR AS REQUIRED BY THE AGENCY OF JURISDICTION. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SIGNS AND SUPPORTS AT NO ADDITIONAL COST TO THE OWNER.
11. THE CONTRACTOR SHALL NOTIFY MISS DIG, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.




## TREE PROTECTION FENCE DETAIL

NOT TO SCALE

- TREE PROTECTION WILL BE ERECTED PRIOR TO START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
- NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN; INCLUDING, BUT NOT LIMITED TO PLACING SOLVENTS, BUILDING MATERIAL, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN DRIP LINES.
- GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINE OF PROTECTED TREES.
- DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE.
- ALL UTILITY SERVICE REQUEST MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.
- IF TREE PROTECTION CANNOT BE MAINTAINED FOR A TREE THROUGHOUT THE CONSTRUCTION PERIOD, REPLACEMENT OF THAT TREE MAY BE REQUIRED PRIOR PRIOR TO THE ISSUANCE OF THE "CERTIFICATE OF OCCUPANCY.
- REGULATED TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.

## DEMOLITION LEGEND:

- ITEM TO BE PROTECTED
- ITEM TO BE REMOVED
- CURB/FENCE REMOVAL
- CONCRETE PAVEMENT AND SIDEWALK REMOVAL
- UTILITY REMOVAL/ABANDONMENT
- ASPHALT REMOVAL
- TREE PROETCTION FENCE
- SAWCUT LINE

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments | 04/29/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/24/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/05/13 |

REVISIONS

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1-800-482-7171 (TOLL FREE) www.missdig.net

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PROFESSIONAL ENGINEERING ASSOCIATES
2430 Rochester Ct. Suite 100
Troy, MI 48083-1872
Phone: (248) 689-9090
Fax: (248) 689-1044
website: www.peainc.com

GREENTREE INVESTMENT COMPANY
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

**DEMOLITION PLAN**
**HAZEL STREET VACATION**
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | PB | DN. | PB | SUR. | KTR | P.M. | JPB |
|---|---|---|---|---|---|---|---|

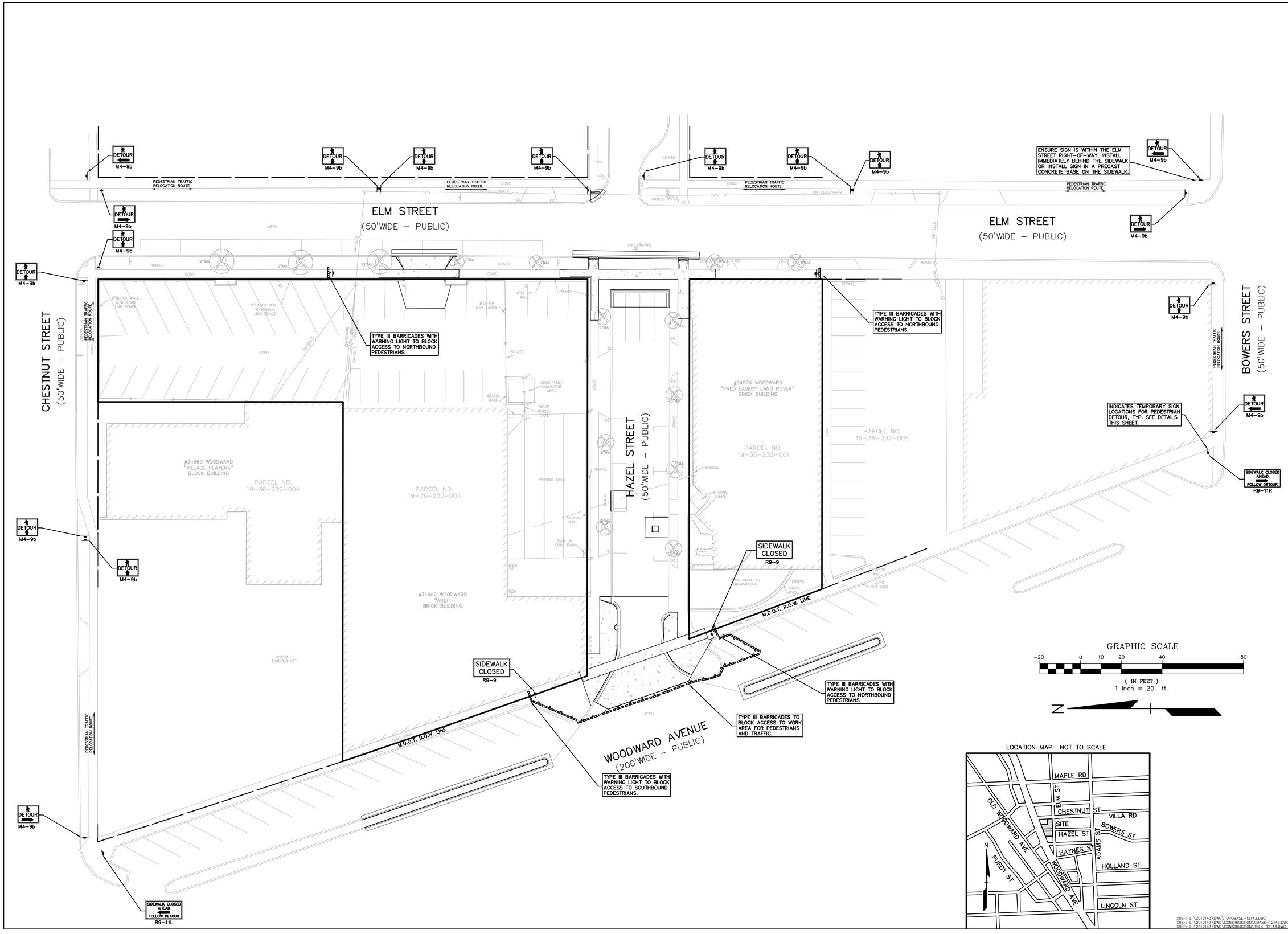
S:\PROJECTS\2012\12143 HAZEL STREET VACATION\Dwg\CONSTRUCTION\C-2.0DEMO-12143.dwg

ORIGINAL
ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: 1" = 20'

DRAWING NUMBER:
C-2.0




XREF: L:\2012143\DWG\TOPOBASE–12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE–12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK–12143.DWG

## REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments. (No Changes this Sheet) | 04/28/14 |
| 2 | PB | JPB | Revised for Haze St Utility Removal (No Changes this Sheet) | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/02/13 |

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**GREENTREE INVESTMENT COMPANY**
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

**PEDESTRIAN REROUTING PLAN**
**HAZEL STREET VACATION**
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | DN. | SUR. | P.M. |
|---|---|---|---|
| PB | PB | KTR | JPB |

S:\PROJECTS\2012\2012143 HAZEL STREET VACATION\DWG\CONSTRUCTION\C-2.2\PED-12143.dwg

ORIGINAL
ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: 1" = 20'

DRAWING NUMBER:
C-2.1

**FLOODPLAIN:**

BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN." (ZONE X) PER FLOOD INSURANCE RATE MAP NUMBER 26125C-0537F, EFFECTIVE SEPT. 29, 2006.

**BENCHMARKS**
(USGS DATUM)

BM#303
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 30 FEET SOUTH OF HAZEL STREET.
ELEV. = 763.78

BM#304
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 20 FEET SOUTH OF CHESTNUT STREET.
ELEV. = 765.86

BM#305
ARROW ON HYDRANT, NORTH SIDE OF CHESTNUT, APPROX. 50 FEET EAST OF WOODWARD AVENUE.
ELEV. = 768.01

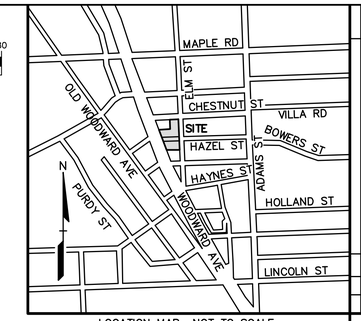
BM#306
ARROW ON HYDRANT, AT THE NORTHEAST CORNER OF HAZEL STREET AND WOODWARD AVENUE.
ELEV. = 765.78

**LEGAL DESCRIPTION**
(PER OAKLAND COUNTY TAX RECORDS)

PARCEL NO. 19-36-230-003
TOWN 2 NORTH, RANGE 10 EAST, SECTION 36, "CAMPBELL'S SUBDIVISION", LOT 5, BLOCK 6 EXCEPT THAT PART TAKEN FOR HIGHWAY, ALSO LOTS 1, 4, 5 & 6 OF BLOCK 7, ALSO ALL OF VACATED PALM STREET & 1/2 OF VACATED ALLEY ADJACENT TO SAME.

PARCEL NO. 19-36-232-001
TOWN 2 NORTH, RANGE 10 EAST, SECTION 36, "CAMPBELL'S SUBDIVISION", LOTS 1, 2 & 3 EXCEPT THE SOUTH 45 FEET, ALSO EXCEPT PART OF LOT 3 TAKEN FOR HIGHWAY, BLOCK 10

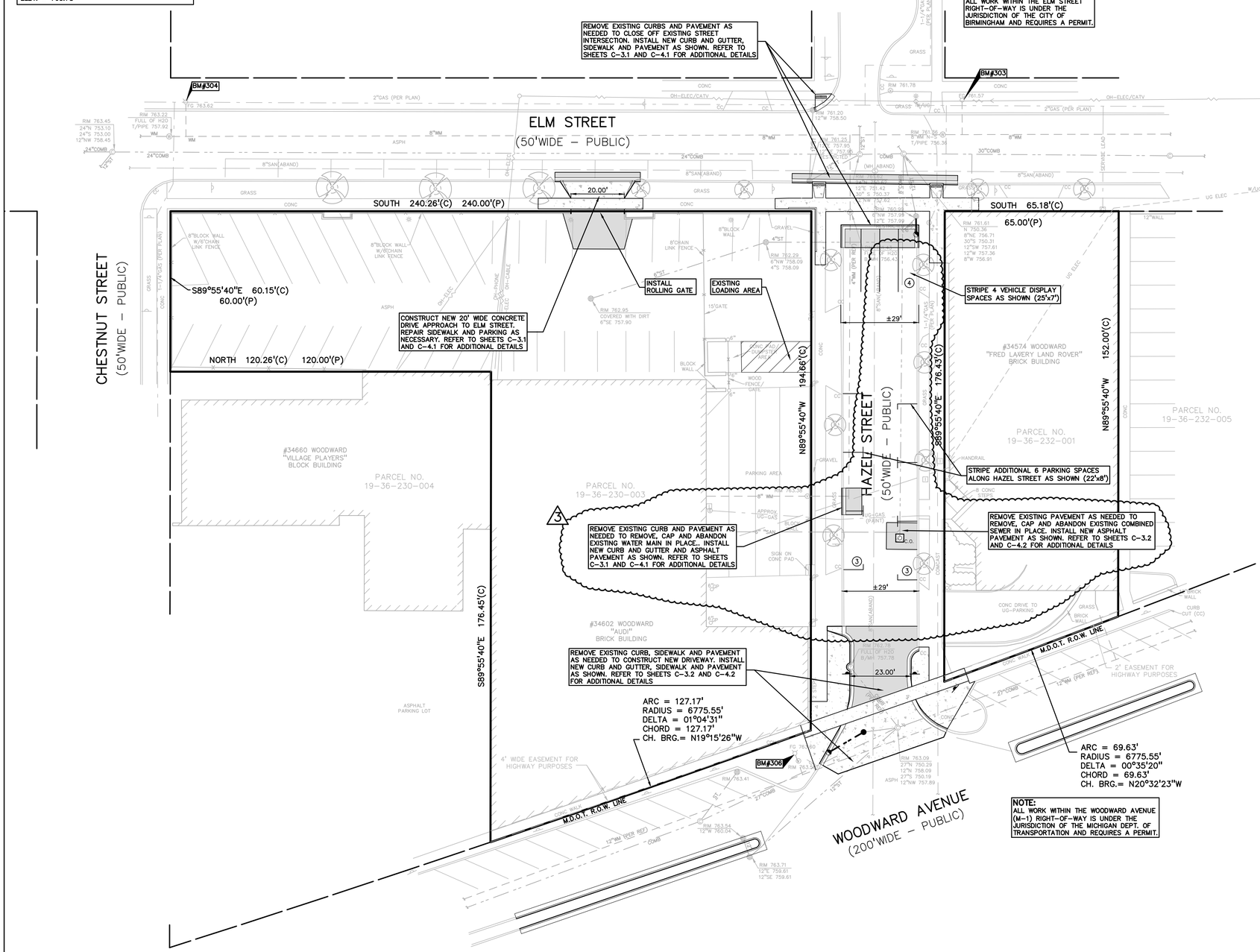
GRAPHIC SCALE
-20 0 10 20 40 80
( IN FEET )
1 inch = 20 ft.




LOCATION MAP NOT TO SCALE

**NOTE:**
ALL WORK WITHIN THE ELM STREET RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE CITY OF BIRMINGHAM AND REQUIRES A PERMIT.

REMOVE EXISTING CURBS AND PAVEMENT AS NEEDED TO CLOSE OFF EXISTING STREET INTERSECTION. INSTALL NEW CURB AND GUTTER, SIDEWALK AND PAVEMENT AS SHOWN. REFER TO SHEETS C-3.1 AND C-4.1 FOR ADDITIONAL DETAILS




**NOTE:**
ALL WORK WITHIN THE WOODWARD AVENUE (M-1) RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE MICHIGAN DEPT. OF TRANSPORTATION AND REQUIRES A PERMIT.

## LEGEND

IRON FOUND
IRON SET
NAIL FOUND
NAIL & CAP SET
BRASS PLUG SET
MONUMENT FOUND
MONUMENT SET
SEC. CORNER FOUND
R RECORDED
M MEASURED
C CALCULATED

| EXISTING | | PROPOSED |
|---|---|---|
| -OH-ELEC- | ELEC., PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE | |
| -UG-CATV- | UNDERGROUND CABLE TV, CATV PEDESTAL | |
| -UG-PHONE- | TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE | |
| -UG-ELEC- | ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE | |
| | GAS MAIN, VALVE & GAS LINE MARKER | |
| | WATERMAIN, HYD., GATE VALVE, TAPPING SLEEVE & VALVE | C.O. C.O. |
| | SANITARY SEWER, CLEANOUT & MANHOLE | C.O. |
| | STORM SEWER, CLEANOUT & MANHOLE | |
| | COMBINED SEWER & MANHOLE | |
| | CATCH BASIN | |
| | INLET (NO INCOMING LINES) | |
| | POST INDICATOR VALVE | |
| | WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF | |
| | MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE | |
| | UNIDENTIFIED STRUCTURE | |
| 671 | SPOT ELEVATION | +671.21 |
| | AS BUILT ELEVATION | |
| 670 | CONTOUR LINE | 671 |
| | FENCE | |
| | GUARD RAIL | |
| | STREET LIGHT | |
| | SIGN | |
| CONC. | CONCRETE | M.D.O.T. ROW PAVEMENT |
| ASPH. | ASPHALT | STANDARD DUTY / CITY R.O.W. PAVEMENT |

## REFERENCE DRAWINGS

| | |
|---|---|
| WATER MAIN | HAVE NOT RECEIVED AS OF 9-18-12 |
| STORM SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| SANITARY SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| COMBINED SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| ELECTRIC | "OUTSIDE SALES PRODUCT MAPS 301-382" DETROIT EDISON, RECEIVED 8-24-12 |
| TELEPHONE | FIBER LINK - NO FACILITIES ON SITE, RECEIVED 8-20-12<br>VERIZON - NO FACILITIES ON SITE, RECEIVED 8-24-12 |
| GAS | "QUARTER SECTION MAP #02-60-36-1, DATED 12-03-09" &<br>"SKETCH OF GAS LEAD, DATED 1983" CONSUMERS ENERGY<br>BUCKEYE PIPELINE - NO FACILITIES ON SITE, RECEIVED 8-29-12<br>SUNOCO PIPELINE - NO FACILITIES ON SITE, RECEIVED 8-22-12 |
| CATV | COMCAST - SKETCH OF UTILITIES, RECEIVED 8-29-12 |
| OTHER | "MCKALICH & ASSOC. - ALTA SURVEY/ASBUILT", PROJ. #01041, DATED 2-28-01 |
| OTHER | "LUCKENBACH, ZEGELMAN ARCHITECTS - HAZEL ST. VACATION SITE PLAN", PROJ. #1107, DATED 1-9-12 |

**GENERAL NOTES:**

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
2. REFER TO SHEET C-3.1 FOR ON-SITE PAVING DETAILS.
3. REFER TO SHEET C-6.1 FOR M.D.O.T. SIDEWALK RAMP DETAILS.
4. 'NO PARKING-FIRE LANE' SIGNS SHALL BE POSTED ALONG ALL FIRE LANES AT 100 FOOT INTERVALS OR AS DIRECTED BY THE FIRE OFFICIAL.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF BIRMINGHAM AND M.D.O.T. CURRENT STANDARDS AND REGULATIONS.
6. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments | 04/29/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/05/13 |

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GREENTREE INVESTMENT COMPANY
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

OVERALL SITE PLAN
HAZEL STREET VACATION
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | PB | DN. | PB | SUR. | KTR | P.M. | JPB |
|---|---|---|---|---|---|---|---|

S:\PROJECTS\2012\2012143 HAZEL STREET VACATION\DWG\CONSTRUCTION\C-3.0SW-12143.dwg

ORIGINAL
ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: 1" = 20'

DRAWING NUMBER:
C-3.0

**FLOODPLAIN:**

BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN." (ZONE X) PER FLOOD INSURANCE RATE MAP NUMBER 26125C-0537F, EFFECTIVE SEPT. 29, 2006.

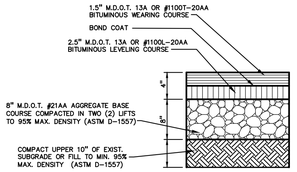
**BENCHMARKS**
(USGS DATUM)

BM#303
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 30 FEET SOUTH OF HAZEL STREET.
ELEV. = 763.78

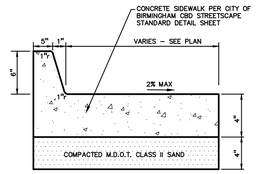
BM#304
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 20 FEET SOUTH OF CHESTNUT STREET.
ELEV. = 765.86

BM#305
ARROW ON HYDRANT, NORTH SIDE OF CHESTNUT, APPROX. 50 FEET EAST OF WOODWARD AVENUE.
ELEV. = 768.01

BM#306
ARROW ON HYDRANT, AT THE NORTHEAST CORNER OF HAZEL STREET AND WOODWARD AVENUE.
ELEV. = 765.78




STANDARD DUTY ASPHALT DETAIL
NOT TO SCALE




CONCRETE WALK WITH INTEGRAL CURB
(TO BE INSTALLED ALONG PORTIONS OF THE ELM STREET SIDEWALK ADJACENT TO THE EXISTING BUILDING AND SCREEN WALL)
NOT TO SCALE

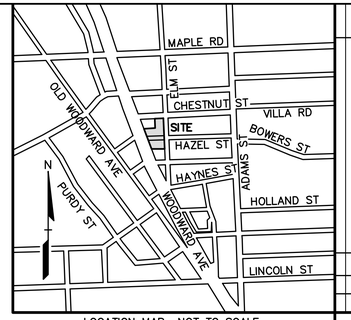
30" x 30"
WHITE ON RED REFLECTORIZED
6'-8" MOUNTING HEIGHT
(R1-1)

STOP SIGN DETAIL
NOT TO SCALE

30" x 30"
BLACK ON YELLOW REFLECTORIZED
6'-8" MOUNTING HEIGHT
(W14-1A)

NOT A THROUGH STREET SIGN DETAIL
NOT TO SCALE

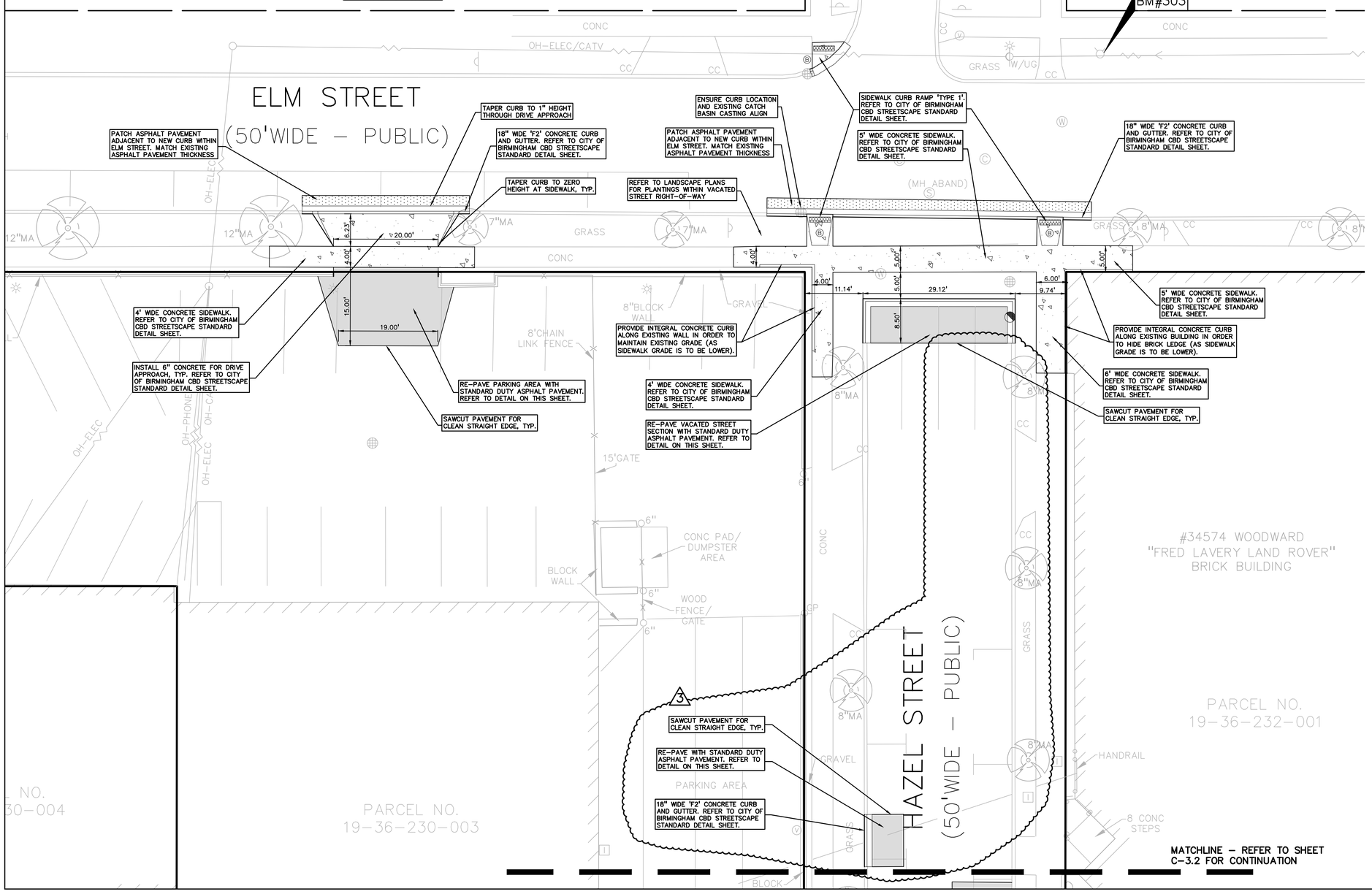
GRAPHIC SCALE
–10 0 5 10 20 40
( IN FEET )
1 inch = 10 ft.




LOCATION MAP NOT TO SCALE

**NOTE:**
REFER TO SHEET C-2.1 FOR PEDESTRIAN REROUTING PLAN DURING SIDEWALK CLOSURES.

**NOTE:**
ALL WORK WITHIN THE ELM STREET RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE CITY OF BIRMINGHAM AND REQUIRES A PERMIT.




## LEGEND

IRON FOUND
IRON SET
NAIL FOUND
NAIL & CAP SET
BRASS PLUG SET
MONUMENT FOUND
MONUMENT SET
SEC. CORNER FOUND
R RECORDED
M MEASURED
C CALCULATED

| EXISTING | | PROPOSED |
|---|---|---|
| –OH–ELEC– | ELEC., PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE | |
| –UG–CATV | UNDERGROUND CABLE TV, CATV PEDESTAL | |
| –UG–PHONE | TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE | |
| –UG–ELEC | ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE | |
| | GAS MAIN, VALVE & GAS LINE MARKER | |
| | WATERMAIN, HYD., GATE VALVE, TAPPING SLEEVE & VALVE | C.O. |
| | SANITARY SEWER, CLEANOUT & MANHOLE | C.O. |
| | STORM SEWER, CLEANOUT & MANHOLE | |
| | COMBINED SEWER & MANHOLE | |
| | CATCH BASIN | |
| | INLET (NO INCOMING LINES) | |
| | POST INDICATOR VALVE | |
| | WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF | |
| | MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE | |
| | UNIDENTIFIED STRUCTURE | |
| 671.21 | SPOT ELEVATION | 671.21 |
| (671.21) | AS BUILT ELEVATION | |
| 670 | CONTOUR LINE | 671 |
| | FENCE | |
| | GUARD RAIL | |
| | STREET LIGHT | |
| | SIGN | |
| CONC. | CONCRETE | M.D.O.T. ROW PAVEMENT |
| ASPH. | ASPHALT | STANDARD DUTY / CITY R.O.W. PAVEMENT |

## REFERENCE DRAWINGS

| | |
|---|---|
| WATER MAIN | HAVE NOT RECEIVED AS OF 9-18-12 |
| STORM SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| SANITARY SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| COMBINED SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| ELECTRIC | "OUTSIDE SALES PRODUCT MAPS 301-382" DETROIT EDISON, RECEIVED 8-24-12 |
| TELEPHONE | FIBER LINK – NO FACILITIES ON SITE, RECEIVED 8-20-12 |
| | VERIZON – NO FACILITIES ON SITE, RECEIVED 8-24-12 |
| GAS | "QUARTER SECTION MAP #02-60-36-1, DATED 12-03-09" & |
| | "SKETCH OF GAS LEAD, DATED 1983" CONSUMERS ENERGY |
| | BUCKEYE PIPELINE – NO FACILITIES ON SITE, RECEIVED 8-29-12 |
| | SUNOCO PIPELINE – NO FACILITIES ON SITE, RECEIVED 8-22-12 |
| CATV | COMCAST – SKETCH OF UTILITIES, RECEIVED 8-29-12 |
| OTHER | "MCKALICH & ASSOC. – ALTA SURVEY/ASBUILT", PROJ. #01041, DATED 2-28-01 |
| OTHER | "LUCKENBACH, ZIEGELMAN ARCHITECTS – HAZEL ST. VACATION SITE PLAN", PROJ. #1107, DATED 1-9-12 |

**GENERAL NOTES:**

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
2. REFER TO THIS SHEET FOR ON-SITE PAVING DETAILS.
3. REFER TO SHEET C-6.1 FOR M.D.O.T. SIDEWALK RAMP DETAILS.
4. 'NO PARKING-FIRE LANE' SIGNS SHALL BE POSTED ALONG ALL FIRE LANES AT 100 FOOT INTERVALS OR AS DIRECTED BY THE FIRE OFFICIAL.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF BIRMINGHAM AND M.D.O.T. CURRENT STANDARDS AND REGULATIONS.
6. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.

**CURB DROP AND RAMP LEGEND:**

CITY OF BIRMINGHAM RAMP 'TYPE 1' Ⓑ

REFER TO CITY OF BIRMINGHAM 'CBD STREETSCAPE STANDARD DETAILS' SHEET FOR CITY RAMP DETAILS. ALL DETECTABLE WARNING STRIPS TO BE E.J.I.W. #7007 DETECTABLE WARNING PLATES AS REQUIRED BY THE CITY.

**SIGN LEGEND:**

| | |
|---|---|
| 'STOP' SIGN | 1 |
| SALVAGED PARKING SIGN | 2 |
| 'NOT A THROUGH STREET' SIGN | 3 |

REFER TO THIS SHEET FOR SIGN DETAILS

**NOTE:**
THE CONTRACTOR SHALL NOTIFY THE CITY OF BIRMINGHAM ENGINEER, PAUL O'MEARA AT (248) 530-1836 AT THE START OF CONSTRUCTION TO HAVE THE APPLICABLE STREET NAME SIGNS REMOVED FROM THE PREMISES.

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments | 04/29/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/05/13 |

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PROFESSIONAL ENGINEERING ASSOCIATES, INC. THEY ARE SUBMITTED ON THE CONDITION THAT THEY ARE NOT TO BE USED, REPRODUCED, OR COPIED, IN WHOLE OR IN PART, OR USED FOR FURNISHING INFORMATION TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF PROFESSIONAL ENGINEERING ASSOCIATES, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2012 PROFESSIONAL ENGINEERING ASSOCIATES, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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Troy, MI 48083-1872
Phone: (248) 689-9090
Fax: (248) 689-1044
website: www.peainc.com

**GREENTREE INVESTMENT COMPANY**
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

**PAVING PLAN - ELM STREET**
**HAZEL STREET VACATION**
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | DN. | SUR. | P.M. |
|---|---|---|---|
| PB | PB | KTR | JPB |

S:\PROJECTS\2012\2012143 HAZEL STREET VACATION\Dwg\CONSTRUCTION\C-3.1\DWG-12143.dwg

ORIGINAL ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: 1" = 10'

DRAWING NUMBER:
C-3.1

**FLOODPLAIN:**

BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN." (ZONE X) PER FLOOD INSURANCE RATE MAP NUMBER 26125C-0537F, EFFECTIVE SEPT. 29, 2006.

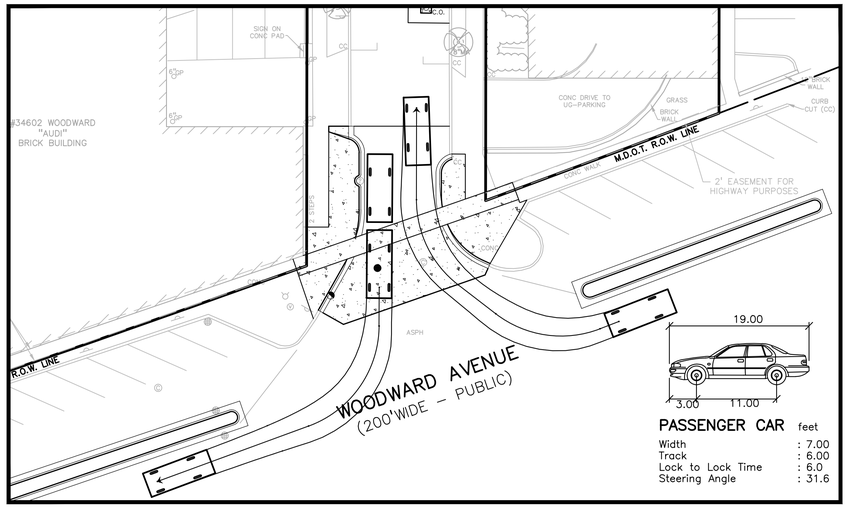
**BENCHMARKS**
(USGS DATUM)

BM#303
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 30 FEET SOUTH OF HAZEL STREET.
ELEV. = 763.78

BM#304
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 20 FEET SOUTH OF CHESTNUT STREET.
ELEV. = 765.86

BM#305
ARROW ON HYDRANT, NORTH SIDE OF CHESTNUT, APPROX. 50 FEET EAST OF WOODWARD AVENUE.
ELEV. = 768.01

BM#306
ARROW ON HYDRANT, AT THE NORTHEAST CORNER OF HAZEL STREET AND WOODWARD AVENUE.
ELEV. = 765.78




PASSENGER CAR feet

| | |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |

AUTOTURN ANALYSIS FOR CAR TRAFFIC
SCALE: 1"=20'

GRAPHIC SCALE

−10 0 5 10 20 40

( IN FEET )
1 inch = 10 ft.

**CURB DROP AND RAMP LEGEND:**

CITY OF BIRMINGHAM RAMP 'TYPE 1' (B)

REFER TO CITY OF BIRMINGHAM 'CBD STREETSCAPE STANDARD DETAILS' SHEET FOR CITY RAMP DETAILS. ALL DETECTABLE WARNING STRIPS TO BE E.J.I.W. #7007 DETECTABLE WARNING PLATES AS REQUIRED BY THE CITY.

**SIGN LEGEND:**

| | |
|---|---|
| 'STOP' SIGN | 1 |
| SALVAGED PARKING SIGN | 2 |
| 'NOT A THROUGH STREET' SIGN | 3 |

REFER TO SHEET C-3.1 FOR SIGN DETAILS

**NOTE:**
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2. REFER TO SHEET C-3.1 FOR ON-SITE PAVING DETAILS.
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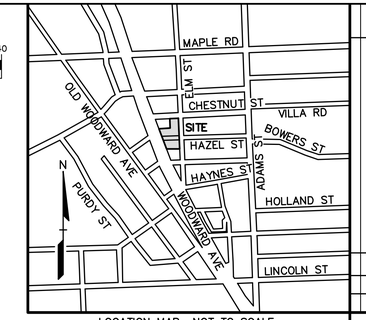


LOCATION MAP NOT TO SCALE

## LEGEND

- IRON FOUND
- IRON SET
- NAIL FOUND
- NAIL & CAP SET
- BRASS PLUG SET
- MONUMENT FOUND
- MONUMENT SET
- SEC. CORNER FOUND
- R RECORDED
- M MEASURED
- C CALCULATED

| EXISTING | | PROPOSED |
|---|---|---|
| —OH—ELEC— | ELEC., PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE | |
| —UG—CATV— TV | UNDERGROUND CABLE TV, CATV PEDESTAL | |
| —UG—PHONE— T | TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE | |
| —UG—ELEC— E | ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE | |
| G | GAS MAIN, VALVE & GAS LINE MARKER | |
| W | WATERMAIN, HYD., GATE VALVE, TAPPING SLEEVE & VALVE | C.O. C.O. |
| S | SANITARY SEWER, CLEANOUT & MANHOLE | |
| M | STORM SEWER, CLEANOUT & MANHOLE | |
| C | COMBINED SEWER & MANHOLE | |
| | CATCH BASIN | |
| | INLET (NO INCOMING LINES) | |
| | POST INDICATOR VALVE | |
| V | WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF | |
| M T I | MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE | |
| ? | UNIDENTIFIED STRUCTURE | |
| | SPOT ELEVATION | x671.21 |
| (671.00) | AS BUILT ELEVATION | |
| 670 | CONTOUR LINE | 671 |
| | FENCE | |
| | GUARD RAIL | |
| | STREET LIGHT | |
| | SIGN | |
| CONC. | CONCRETE | |
| ASPH. | ASPHALT | M.D.O.T. ROW PAVEMENT; STANDARD DUTY; CITY R.O.W. PAVEMENT |

## REFERENCE DRAWINGS

| | |
|---|---|
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| STORM SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| SANITARY SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| COMBINED SEWER | HAVE NOT RECEIVED AS OF 9-18-12 |
| ELECTRIC | "OUTSIDE SALES PRODUCT MAPS 301-382" DETROIT EDISON, RECEIVED 8-24-12 |
| TELEPHONE | FIBER LINK - NO FACILITIES ON SITE, RECEIVED 8-20-12 |
| | VERIZON - NO FACILITIES ON SITE, RECEIVED 8-24-12 |
| GAS | "QUARTER SECTION MAP #02-60-36-1, DATED 12-03-09" & |
| | "SKETCH OF GAS LEAD, DATED 1983" CONSUMERS ENERGY |
| | BUCKEYE PIPELINE - NO FACILITIES ON SITE, RECEIVED 8-29-12 |
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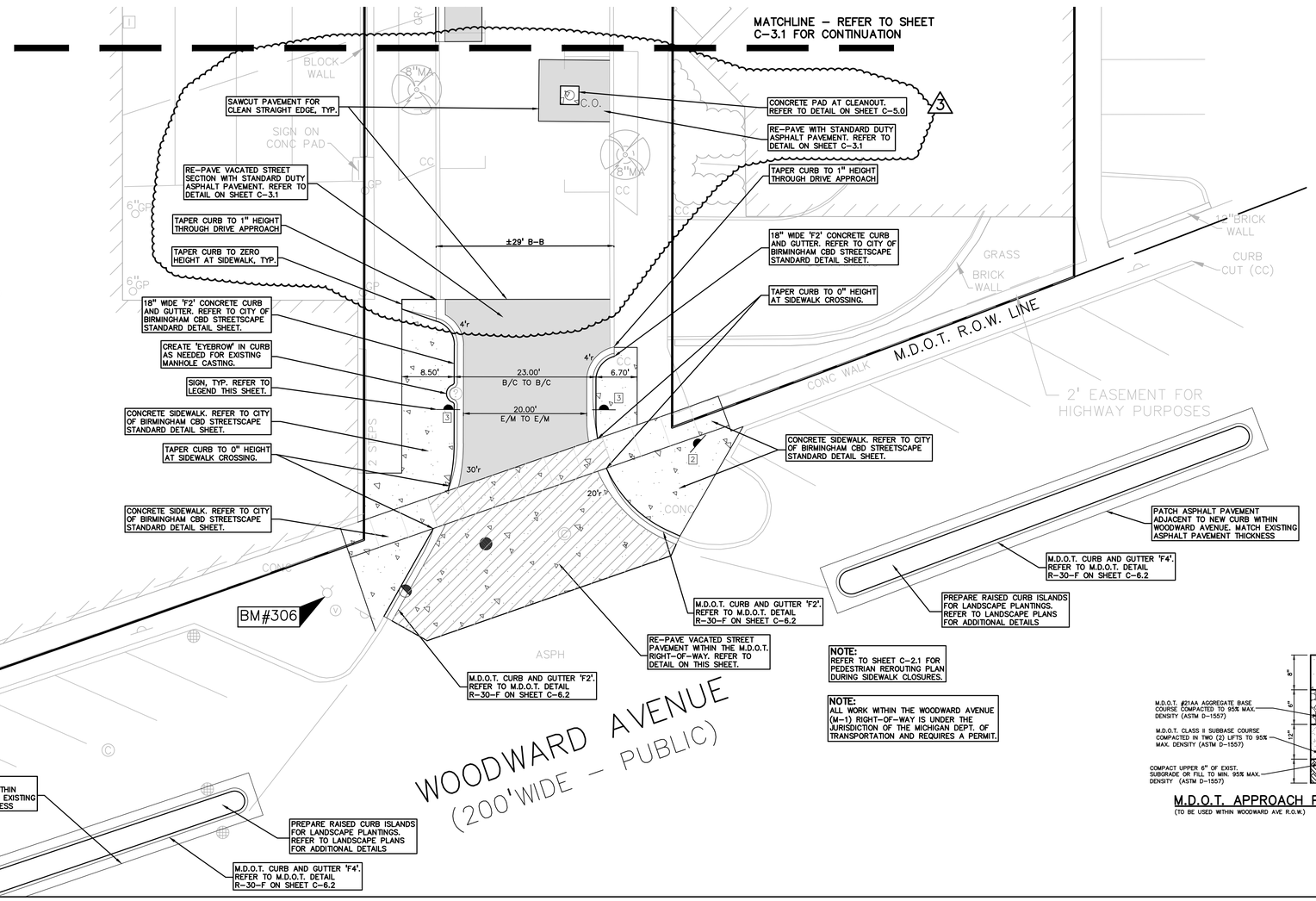
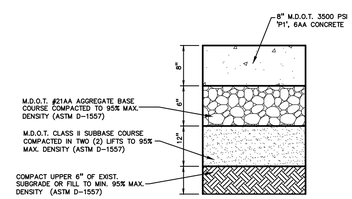
| CATV | COMCAST - SKETCH OF UTILITIES, RECEIVED 8-29-12 |
| OTHER | "MCKALICH & ASSOC. - ALTA SURVEY/ASBUILT", PROJ. #01041, DATED 2-28-01 |
| OTHER | "LUCKENBACH, ZEGELMAN ARCHITECTS - HAZEL ST. VACATION SITE PLAN", PROJ. #1107, DATED 1-9-12 |




**NOTE:**
REFER TO SHEET C-2.1 FOR PEDESTRIAN REROUTING PLAN DURING SIDEWALK CLOSURES.

**NOTE:**
ALL WORK WITHIN THE WOODWARD AVENUE (M-1) RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE MICHIGAN DEPT. OF TRANSPORTATION AND REQUIRES A PERMIT.




M.D.O.T. APPROACH PAVEMENT DETAIL
(TO BE USED WITHIN WOODWARD AVE R.O.W.)
NOT TO SCALE

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments | 04/29/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/05/13 |

REVISIONS

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website: www.peainc.com

GREENTREE INVESTMENT COMPANY
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

PAVING PLAN - WOODWARD AVENUE
HAZEL STREET VACATION
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | PB | DN. | PB | SUR. | KTR | P.M. | JPB |
|---|---|---|---|---|---|---|---|

S:\PROJECTS\2012\143 HAZEL STREET VACATION\Dwg\CONSTRUCTION\C-3.1(Site-12143.dwg

ORIGINAL
ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: 1" = 10'

DRAWING NUMBER:
C-3.2

**FLOODPLAIN:**

BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN." (ZONE X) PER FLOOD INSURANCE RATE MAP NUMBER 26125C–0537F, EFFECTIVE SEPT. 29, 2006.

**BENCHMARKS**
(USGS DATUM)

BM#303
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 30 FEET SOUTH OF HAZEL STREET.
ELEV. = 763.78

BM#304
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 20 FEET SOUTH OF CHESTNUT STREET.
ELEV. = 765.86

BM#305
ARROW ON HYDRANT, NORTH SIDE OF CHESTNUT, APPROX. 50 FEET EAST OF WOODWARD AVENUE.
ELEV. = 768.01

BM#306
ARROW ON HYDRANT, AT THE NORTHEAST CORNER OF HAZEL STREET AND WOODWARD AVENUE.
ELEV. = 765.78

**LEGAL DESCRIPTION**
(PER OAKLAND COUNTY TAX RECORDS)

PARCEL NO. 19–36–230–003
TOWN 2 NORTH, RANGE 10 EAST, SECTION 36, "CAMPBELL'S SUBDIVISION", LOT 5, BLOCK 6 EXCEPT THAT PART TAKEN FOR HIGHWAY, ALSO LOTS 1, 4, 5 & 6 OF BLOCK 7, ALSO ALL OF VACATED PALM STREET & 1/2 OF VACATED ALLEY ADJACENT TO SAME.

PARCEL NO. 19–36–232–001
TOWN 2 NORTH, RANGE 10 EAST, SECTION 36, "CAMPBELL'S SUBDIVISION", LOTS 1, 2 & 3 EXCEPT THE SOUTH 45 FEET, ALSO EXCEPT PART OF LOT 3 TAKEN FOR HIGHWAY, BLOCK 10

**CURB DROP AND RAMP LEGEND:**

CITY OF BIRMINGHAM RAMP 'TYPE 1' Ⓑ

REFER TO CITY OF BIRMINGHAM 'CBD STREETSCAPE STANDARD DETAILS' SHEET FOR CITY RAMP DETAILS. ALL DETECTABLE WARNING STRIPS TO BE E.J.I.W. #7007 DETECTABLE WARNING PLATES AS REQUIRED BY THE CITY.

**GENERAL GRADING AND EARTHWORK NOTES:**

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT

1. ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED. ADD 0.50' TO OBTAIN TOP OF CURB ELEVATION.
2. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
3. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE CITY OF BIRMINGHAM. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE CITY PRIOR TO CONSTRUCTION.
4. SEE ADDITIONAL GRADING AND EARTHWORK NOTES ON THE COVER SHEET.
5. REFER TO THIS SHEET FOR ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES.
6. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE GEOTECHNICAL ENGINEER, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

**SYMBOLS: GRADING**

+62.20 — PROPOSED SPOT GRADE ELEVATION ALL GRADES INDICATED ARE TOP OF PAVEMENT UNLESS OTHERWISE NOTED. ADD 700 TO ALL 4–DIGIT ELEVATIONS TO OBTAIN ACTUAL ELEVATION.

—762— PROPOSED CONTOUR LINE

**EARTHWORK BALANCING NOTE:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

GRAPHIC SCALE

–10 0 5 10 20 40

( IN FEET )
1 inch = 10 ft.

**EROSION CONTROL QUANTITIES**

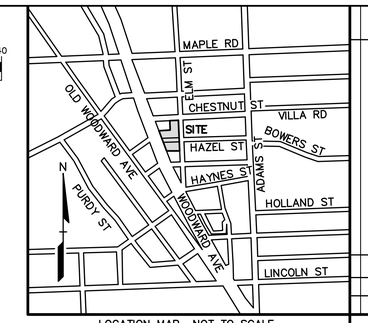
| | |
|---|---|
| FABRIC SILTATION FENCING | 185 LF. |
| INLET FILTER | 9 EA. |
| TEMPORARY ACCESS DRIVES | 1 EA. |

**SYMBOLS: STORM, EROSION & GRADING**

SILT FENCE, TYP. (SEE DETAIL ON SHEET C–4.2)

STORM SEWER INLET FILTER (SEE DETAIL ON SHEET C–4.2)

TEMPORARY CONSTRUCTION ACCESS DRIVE. (SEE DETAIL ON SHEET C–4.2)




LOCATION MAP NOT TO SCALE

**LEGEND**

IRON FOUND
IRON SET
NAIL FOUND
NAIL & CAP SET
BRASS PLUG SET
MONUMENT FOUND
MONUMENT SET
SEC. CORNER FOUND
R RECORDED
M MEASURED
C CALCULATED

| EXISTING | | PROPOSED |
|---|---|---|
| —OH—ELEC— | ELEC., PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE | |
| —UG—CATV— | UNDERGROUND CABLE TV, CATV PEDESTAL | |
| —UG—PHONE— | TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE | |
| —UG—ELEC— | ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE | |
| | GAS MAIN, VALVE & GAS LINE MARKER | |
| | WATERMAIN, HYD., GATE VALVE, TAPPING SLEEVE & VALVE | |
| | SANITARY SEWER, CLEANOUT & MANHOLE | |
| | STORM SEWER, CLEANOUT & MANHOLE | |
| | COMBINED SEWER & MANHOLE | |
| | CATCH BASIN | |
| | INLET (NO INCOMING LINES) | |
| | YARD DRAIN (2' DIA. & SMALLER) | |
| | POST INDICATOR VALVE | |
| | WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF | |
| | MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE | |
| | UNIDENTIFIED STRUCTURE | |
| | SPOT ELEVATION | 671.21 |
| | AS BUILT ELEVATION | |
| 670 | CONTOUR LINE | 671 |
| | FENCE | |
| | GUARD RAIL | |
| | STREET LIGHT | |
| | SIGN | |
| CONC. | CONCRETE | |
| ASPH. | ASPHALT | STANDARD DUTY / CITY R.O.W. PAVEMENT / M.D.O.T. ROW PAVEMENT |

**REFERENCE DRAWINGS**

| | |
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| STORM SEWER | HAVE NOT RECEIVED AS OF 9–18–12 |
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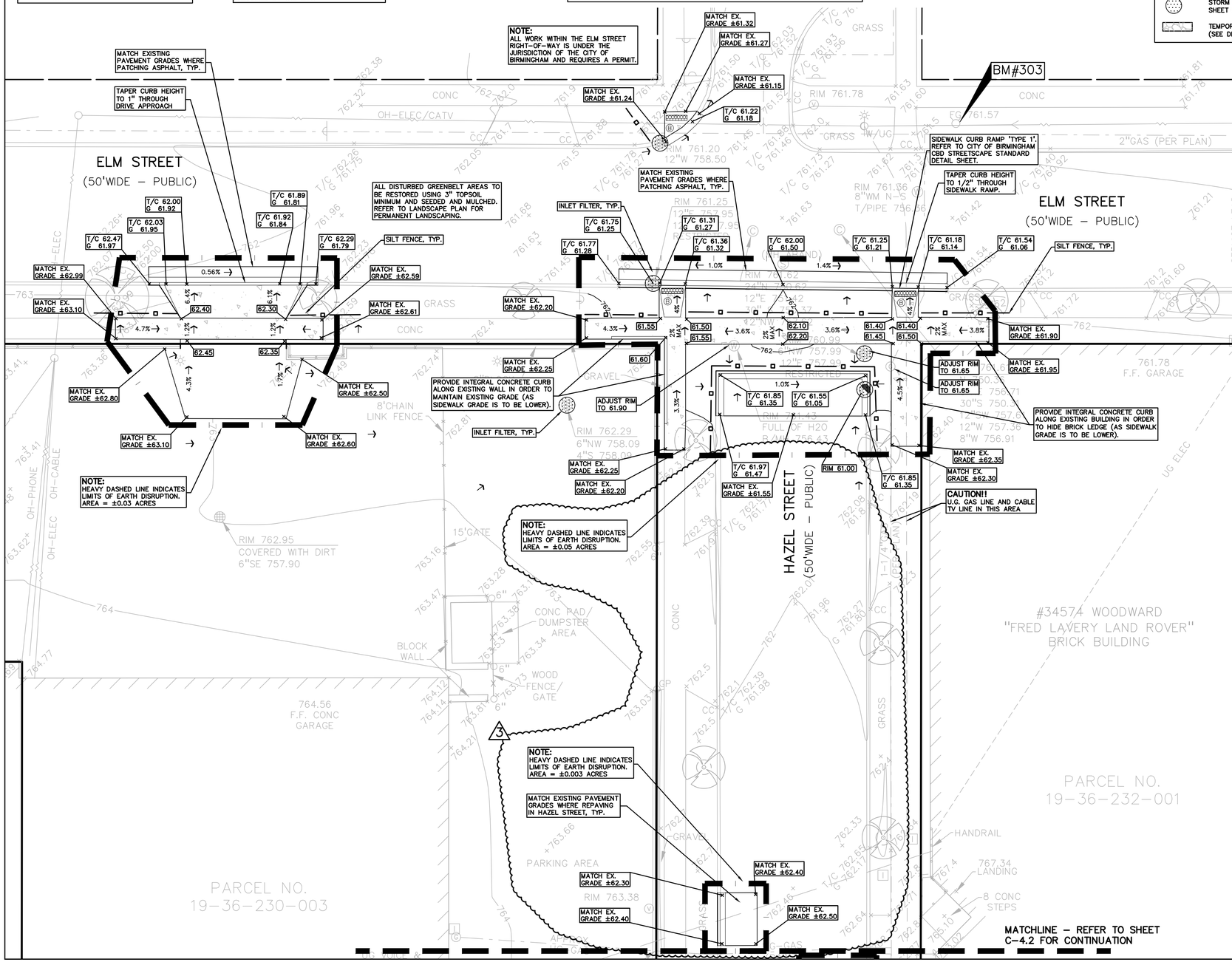


**GENERAL SITE CONDITIONS:**

1. ACCORDING TO THE SOIL SURVEY OF OAKLAND COUNTY AS PUBLISHED BY THE USDA SOIL CONSERVATION SERVICE, THE SOILS AT THIS PROPERTY INCLUDE THE FOLLOWING:

   EtmaoE – UDORTHENTS AND UDIPSAMMENTS, NEARLY LEVEL TO HILLY

2. THE EXISTING STORM SEWER WILL BE RE–USED AND ALL PAVEMENT AREAS HAVE BEEN GRADED TO DRAIN TO THE EXISTING CATCH BASINS OR NEW RELOCATED CATCH BASINS.
3. TOTAL DISTURBED AREA = ±0.20 ACRES

**SOIL EROSION CONTROL NOTES:**

1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE CITY OF BIRMINGHAM.
2. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, AND ANY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
3. EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF–SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN–MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
4. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES, AND OTHER EARTH CHANGES HAVE BEEN ACCOMPLISHED AND A CERTIFICATE OF COMPLETION HAS BEEN ISSUED BY THE CITY OF BIRMINGHAM FOR THE SESC PERMIT.
5. STAGING THE WORK SHALL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH.
6. SOIL EROSION CONTROL PRACTICES SHALL BE ESTABLISHED IN EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES SHALL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF SILT OFF THE SITE.

**SOIL EROSION MAINTENANCE SCHEDULE AND NOTES:**

1. THE CONTRACTOR SHALL INSPECT THE SOIL EROSION AND SEDIMENTATION CONTROL DEVICES ONCE EACH WEEK AND/OR WITHIN 24 HOURS OF A RAINFALL EVENT WHICH RESULTS IN A STORM WATER DISCHARGE FROM THE SITE. THE FOLLOWING STEPS SHALL BE IMPLEMENTED IF ANY DAMAGE HAS OCCURRED.
2. ANY DEBRIS OR DIRT ON ANY PAVED AREA RESULTING FROM CONSTRUCTION TRAFFIC SHALL BE CLEANED IN A PROMPT MANNER BY THE CONTRACTOR. THE CONSTRUCTION DRIVE SHALL BE CLEANED AT THE END OF EACH DAY.
3. ALL DIRT AND MUD TRACKED ONTO PAVED AREAS SHALL BE REMOVED DAILY BY SCRAPING. STREET SWEEPING IS REQUIRED WEEKLY.
4. SILT FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT UP SEDIMENT WHEN THE SEDIMENT HEIGHT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE. THE CONTRACTOR IS RESPONSIBLE TO REMOVE, REPLACE, RETRENCH OR REBACKFILL THE SILTATION FENCE SHOULD IT FALL OR BE DAMAGED DURING CONSTRUCTION.
5. INLET FILTER MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY ACCUMULATED SILT OR OTHER DEBRIS. THE REMOVAL OF SILT SHOULD BE WITH THE USE OF A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTERS CAN NOT BE CLEANED OR ARE DAMAGED, THEN THE FABRIC MUST BE REPLACED.
6. A WATER TRUCK SHALL BE AVAILABLE TO WATER DOWN THE SITE ON A DAILY BASIS AS REQUIRED TO MAINTAIN DUST CONTROL.

XREF: L:\2012143\DWG\TOPOBASE–12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE–12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK–12143.DWG

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments | 04/09/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/24/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/05/13 |

REVISIONS

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2430 Rochester Ct. Suite 100
Troy, MI 48083-1872
Phone: (248) 689-9090
Fax: (248) 689-1044
website: www.peainc.com

**GREENTREE INVESTMENT COMPANY**
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

**GRADING PLAN - ELM STREET**
**HAZEL STREET VACATION**
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | PB | DN. | PB | SUR. | KTR | P.M. | JPB |
|---|---|---|---|---|---|---|---|

S:\PROJECTS\2012\2012-143 HAZEL STREET VACATION\Dwg\CONSTRUCTION\C-4.1(2012-12143).dwg

ORIGINAL
ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: 1" = 10'

DRAWING NUMBER:
C-4.1

**FLOODPLAIN:**

BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN." (ZONE X) PER FLOOD INSURANCE RATE MAP NUMBER 26125C-0537F, EFFECTIVE SEPT. 29, 2006.

**BENCHMARKS**
(USGS DATUM)

BM#303
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 30 FEET SOUTH OF HAZEL STREET.
ELEV. = 763.78

BM#304
ARROW ON HYDRANT, EAST SIDE OF ELM STREET, APPROX. 20 FEET SOUTH OF CHESTNUT STREET.
ELEV. = 765.86

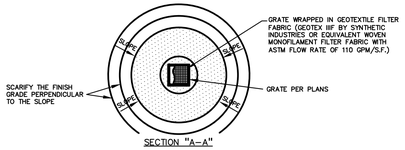
BM#305
ARROW ON HYDRANT, NORTH SIDE OF CHESTNUT, APPROX. 50 FEET EAST OF WOODWARD AVENUE.
ELEV. = 768.01

BM#306
ARROW ON HYDRANT, AT THE NORTHEAST CORNER OF HAZEL STREET AND WOODWARD AVENUE.
ELEV. = 765.78

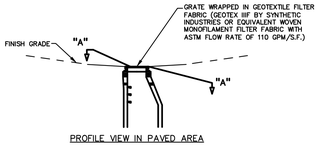
**LEGAL DESCRIPTION**
(PER OAKLAND COUNTY TAX RECORDS)

PARCEL NO. 19-36-230-003
TOWN 2 NORTH, RANGE 10 EAST, SECTION 36, "CAMPBELL'S SUBDIVISION", LOT 5, BLOCK 6 EXCEPT THAT PART TAKEN FOR HIGHWAY, ALSO LOTS 1, 4, 5 & 6 OF BLOCK 7, ALSO ALL OF VACATED PALM STREET & 1/2 OF VACATED ALLEY ADJACENT TO SAME.

PARCEL NO. 19-36-232-001
TOWN 2 NORTH, RANGE 10 EAST, SECTION 36, "CAMPBELL'S SUBDIVISION", LOTS 1, 2 & 3 EXCEPT THE SOUTH 45 FEET, ALSO EXCEPT PART OF LOT 3 TAKEN FOR HIGHWAY, BLOCK 10



SECTION "A-A"



PROFILE VIEW IN PAVED AREA

**INLET FILTER**
NOT TO SCALE

**SYMBOLS: STORM, EROSION & GRADING**

- SILT FENCE, TYP. (SEE DETAIL ON SHEET C-4.2)
- STORM SEWER INLET FILTER (SEE DETAIL ON SHEET C-4.2)
- TEMPORARY CONSTRUCTION ACCESS DRIVE. (SEE DETAIL ON SHEET C-4.2)

**CURB DROP AND RAMP LEGEND:**

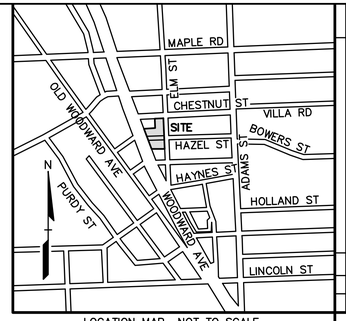
CITY OF BIRMINGHAM RAMP 'TYPE 1' Ⓑ

REFER TO CITY OF BIRMINGHAM 'CBD STREETSCAPE STANDARD DETAILS' SHEET FOR CITY RAMP DETAILS. ALL DETECTABLE WARNING STRIPS TO BE E.J.I.W. #7007 DETECTABLE WARNING PLATES AS REQUIRED BY THE CITY.

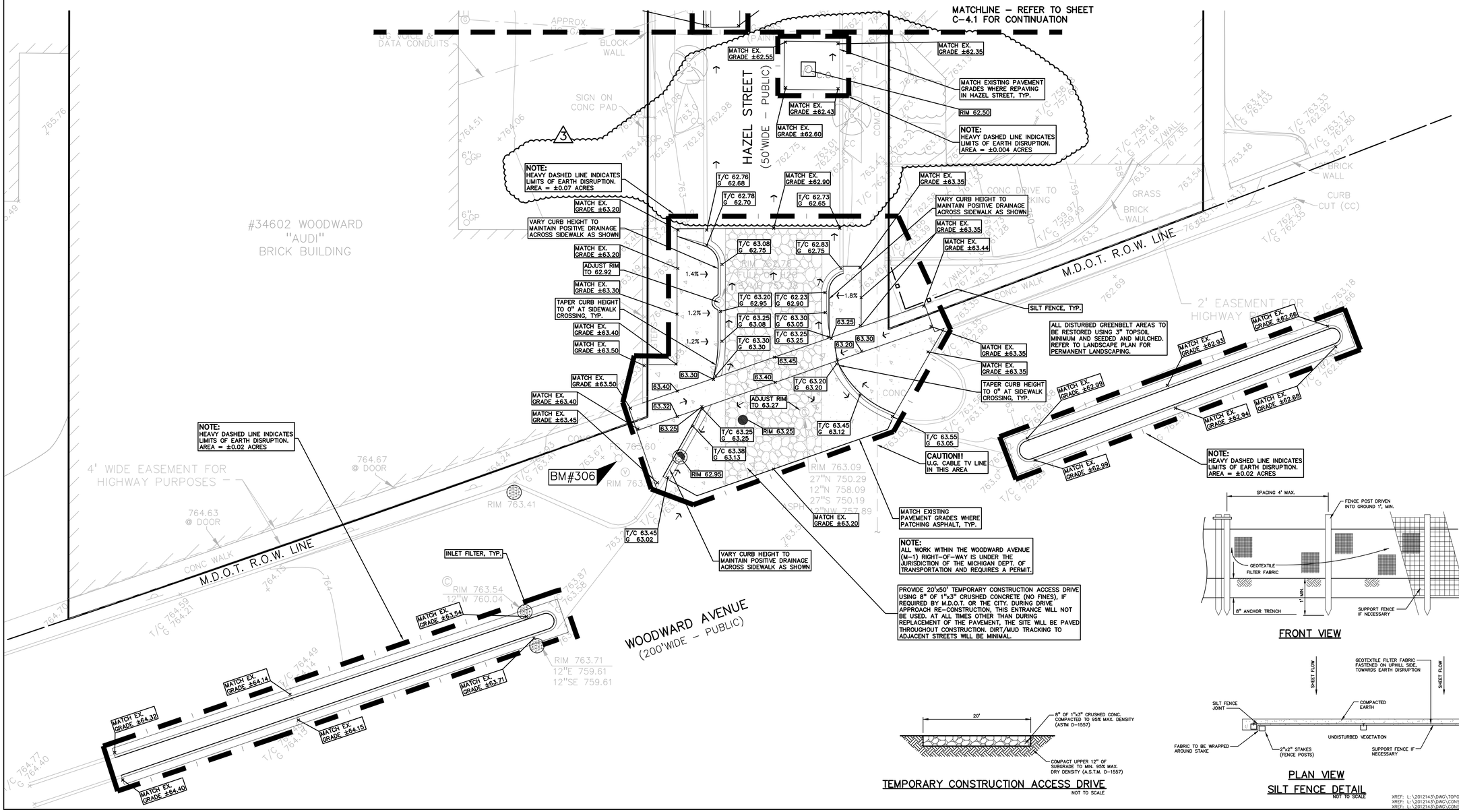
**GENERAL GRADING AND EARTHWORK NOTES:**

REFER TO SHEET C-4.1 FOR ALL GRADING, EARTHWORK AND SOIL EROSION NOTES AND QUANTITES

GRAPHIC SCALE
-10 0 5 10 20 40
( IN FEET )
1 inch = 10 ft.



LOCATION MAP NOT TO SCALE




XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
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XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

**REVISIONS**

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments | 04/29/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/14/14 |
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CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

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S:\PROJECTS\2012\2012143 HAZEL STREET VACATION\Dwg\CONSTRUCTION\C-4.1DWG-12143.dwg

ORIGINAL ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: 1" = 10'

DRAWING NUMBER:
C-4.2

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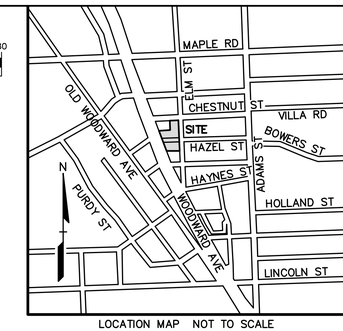


LOCATION MAP NOT TO SCALE

## LEGEND

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- IRON SET
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| | WATERMAIN, HYD., GATE VALVE, TAPPING SLEEVE & VALVE | C.O. C.O. |
| | SANITARY SEWER, CLEANOUT & MANHOLE | C.O. |
| | STORM SEWER, CLEANOUT & MANHOLE | |
| | COMBINED SEWER & MANHOLE | |
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| 671.21 | SPOT ELEVATION | 671.21 |
| 670 | AS BUILT ELEVATION (AS-BUILT 670) | |
| 670 | CONTOUR LINE | 671 |
| | FENCE | |
| | GUARD RAIL | |
| | STREET LIGHT | |
| | SIGN | |
| CONC. | CONCRETE | M.D.O.T. ROW PAVEMENT |
| ASPH. | ASPHALT | STANDARD DUTY / CITY R.O.W. PAVEMENT |

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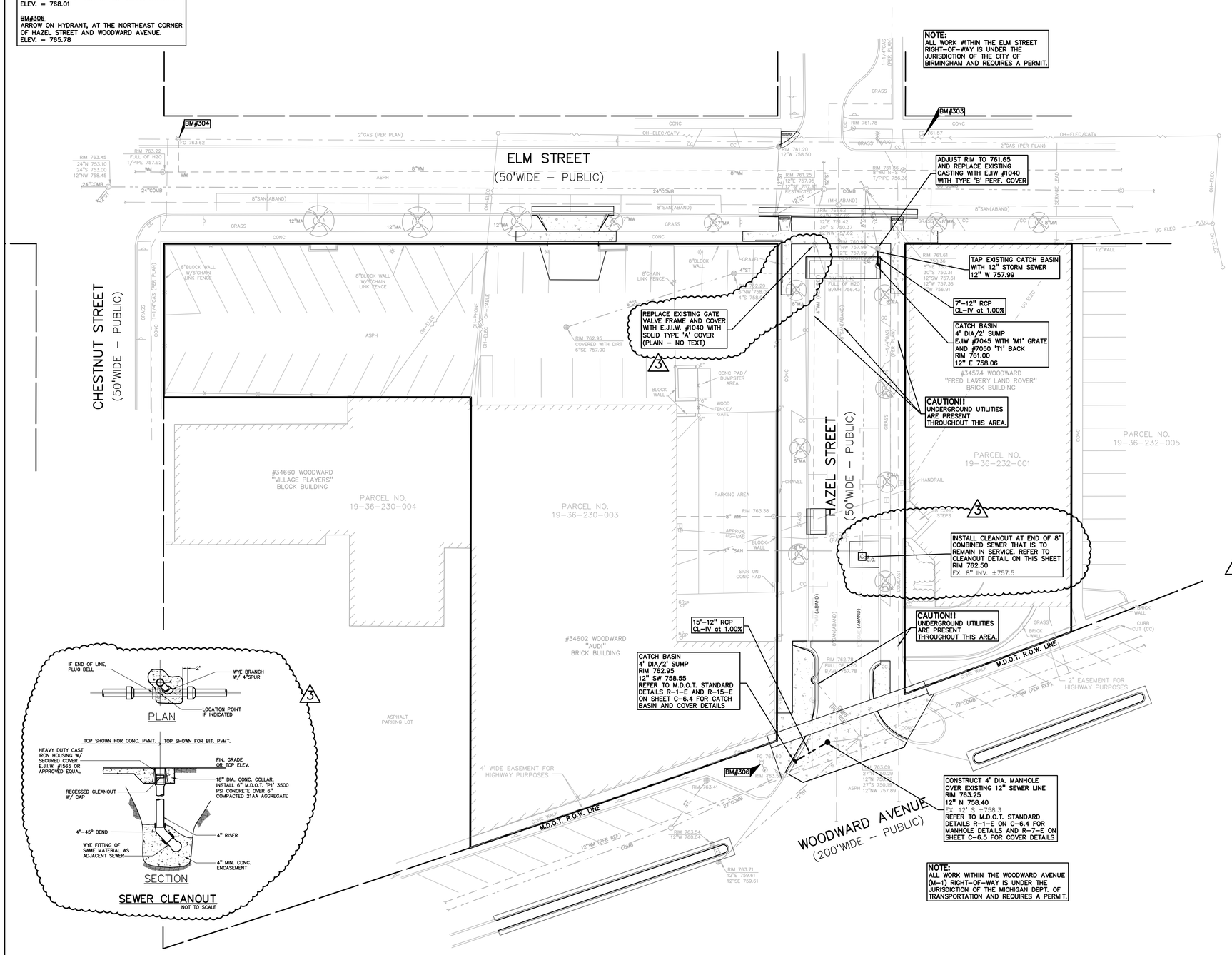





**SEWER CLEANOUT**
NOT TO SCALE

**GENERAL UTILITY NOTES:**

1. ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE CITY OF BIRMINGHAM AND M.D.O.T.
2. ALL STORM SEWER 12" DIAMETER OR LARGER SHALL BE REINFORCED CONCRETE PIPE (RCP C-76) CLASS IV WITH MODIFIED TONGUE AND GROOVE JOINT WITH RUBBER GASKETS UNLESS SPECIFIED OTHERWISE (ASTM C-443).
3. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE UNLESS NOTED OTHERWISE.
4. M.D.O.T. STANDARD DETAIL SHEETS ARE INCORPORATED INTO AND MADE A PART OF THESE PLANS. CONTRACTOR TO REFER TO THESE STANDARD DETAIL SHEETS FOR ALL STRUCTURE, PIPE MATERIALS, BEDDING, TESTING, ETC. NOTES AND DETAILS.

**UTILITY QUANTITIES:**

| | |
|---|---|
| 12" RCP CL-IV PIPE | 22 LF |
| 4' DIA. CATCH BASIN | 2 EA. |
| 4' DIA. MANHOLE OVER EX. LINE | 1 EA. |
| TAP EXISTING STRUCTURE | 1 EA. |
| C.O. AND BOX ON EX. COMBINED SEWER | 1 EA. |
| CHANGE FRAME & GRATE ON GATE VALVE | 1 EA. |

**NOTE:**
CONTRACTOR TO VERIFY ALL QUANTITIES. ANY DEVIATIONS TO THE PLAN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF PROFESSIONAL ENGINEERING ASSOCIATES, INC. FOR VERIFICATION, PRIOR TO BIDDING.

**SAND BACKFILL NOTE:**
ALL UTILITIES UNDER PAVEMENT OR WITHIN 3' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45° LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments | 04/29/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal (No Changes this Sheet) | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/05/13 |

REVISIONS

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

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CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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Fax: (248) 689-1044
website: www.peainc.com

GREENTREE INVESTMENT COMPANY
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

**UTILITY PLAN**
**HAZEL STREET VACATION**
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | DN. | SUR. | P.M. |
|---|---|---|---|
| PB | PB | KTR | JPB |

S:\PROJECTS\2012\2012-143 HAZEL STREET VACATION\DWG\CONSTRUCTION\C-5.0\TL-12143.dwg

ORIGINAL
ISSUE DATE: NOV. 13, 2012

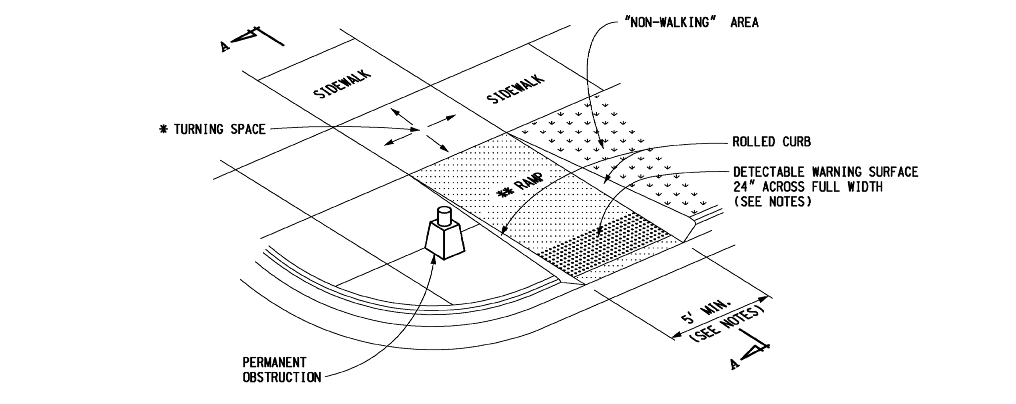
PEA JOB NO. 2012-143

SCALE: 1" = 20'

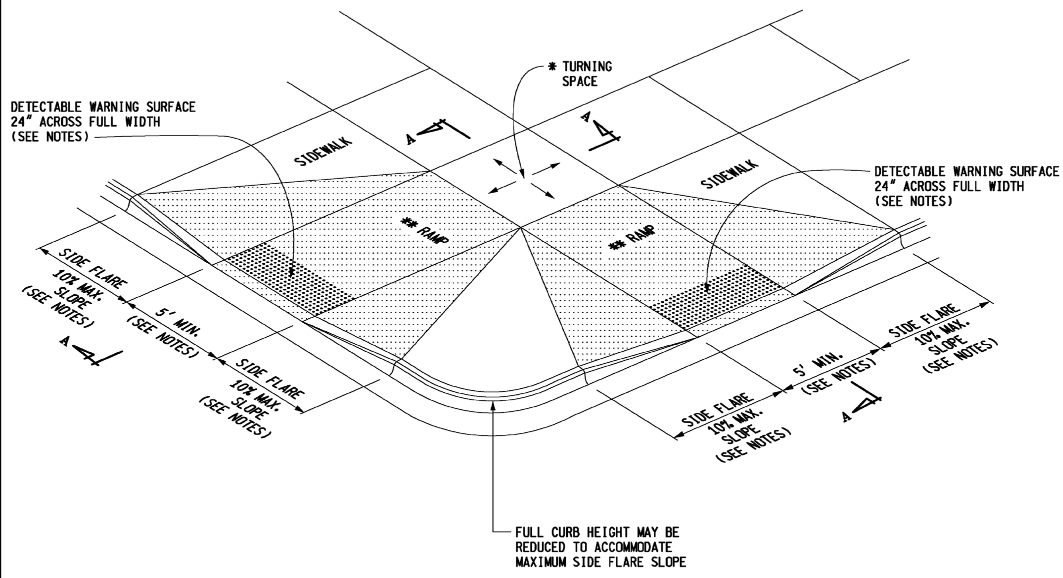
DRAWING NUMBER:
C-5.0

* MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.




**SIDEWALK RAMP TYPE R**
(ROLLED SIDES)




**SIDEWALK RAMP TYPE F**
(FLARED SIDES, TWO RAMPS SHOWN)

MDOT Michigan Department of Transportation
PREPARED BY DESIGN DIVISION
DRAWN BY: B.L.T.
CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

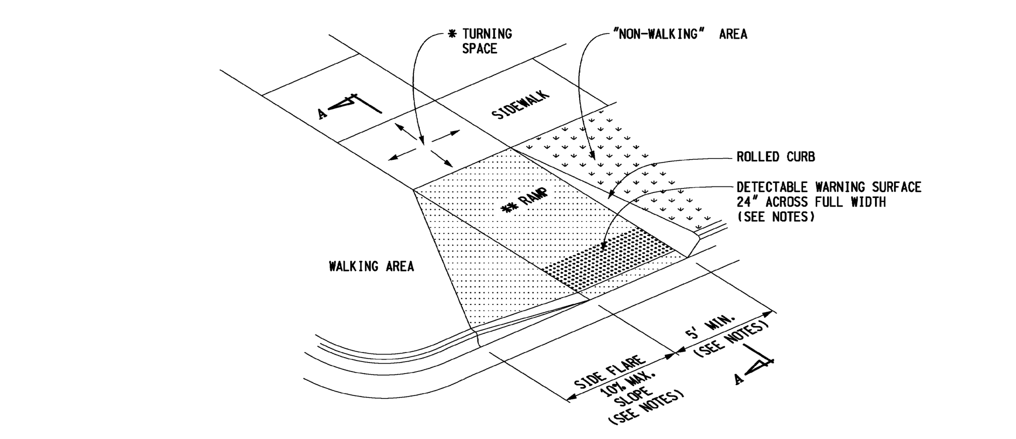
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND DETECTABLE WARNING DETAILS**

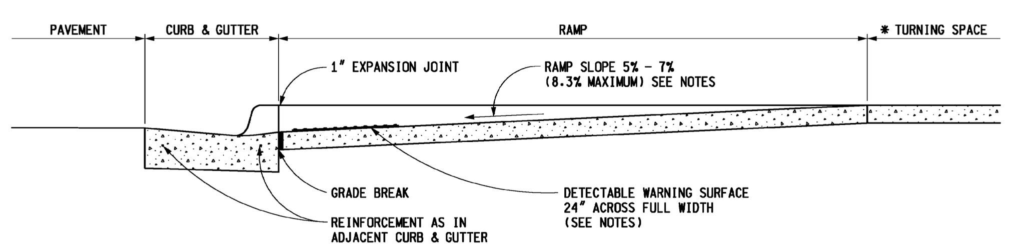
| 1-25-2013 F.H.W.A. APPROVAL | 10-3-2012 PLAN DATE | R-28-H | SHEET 1 OF 7 |
|---|---|---|---|


* MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

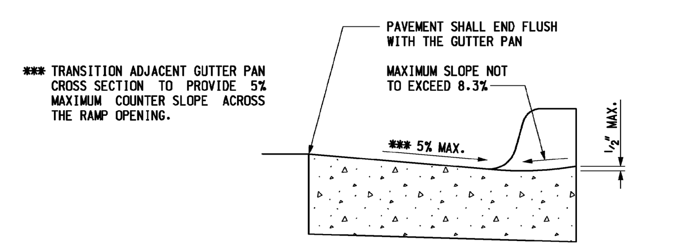




**SIDEWALK RAMP TYPE RF**
(ROLLED / FLARED SIDES)




**SECTION A-A**

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.




**SECTION THROUGH CURB CUT**
(TYPICAL ALL RAMP TYPES)

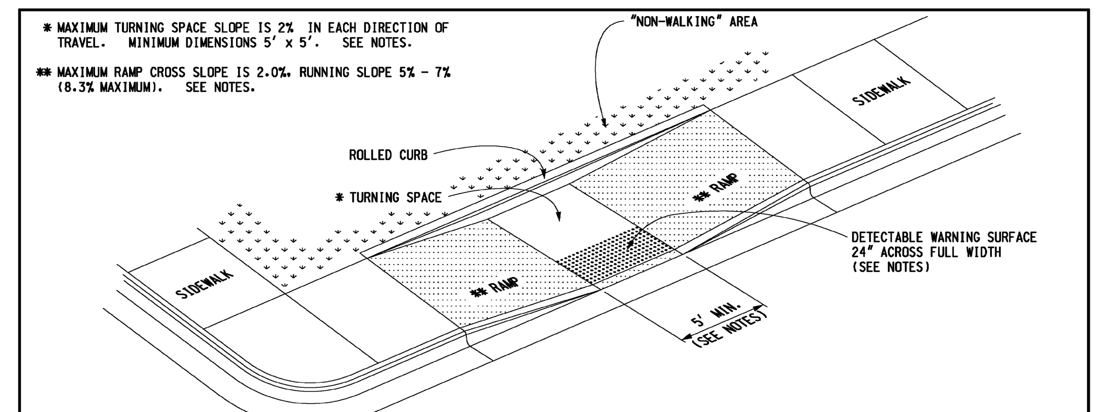

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND DETECTABLE WARNING DETAILS**

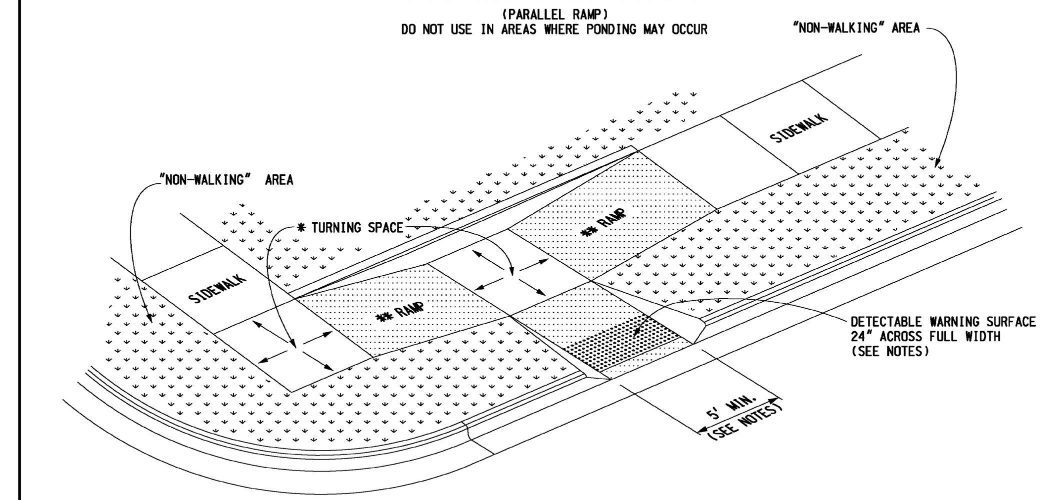

| 1-25-2013 F.H.W.A. APPROVAL | 10-3-2012 PLAN DATE | R-28-H | SHEET 2 OF 7 |
|---|---|---|---|


* MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

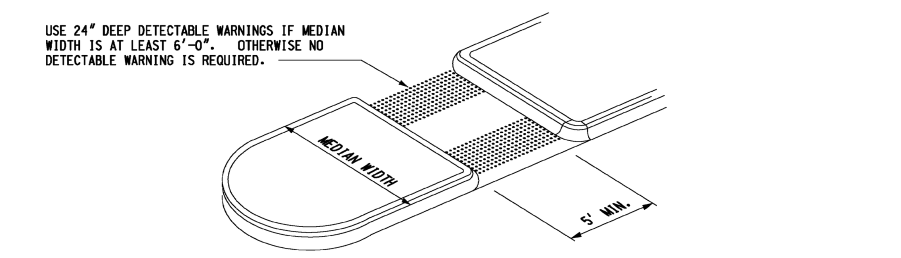




**SIDEWALK RAMP TYPE P**
(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR




**SIDEWALK RAMP TYPE C**
(COMBINATION RAMP)

USE 24" DEEP DETECTABLE WARNINGS IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.




**SIDEWALK RAMP TYPE M**
(MEDIAN ISLAND)

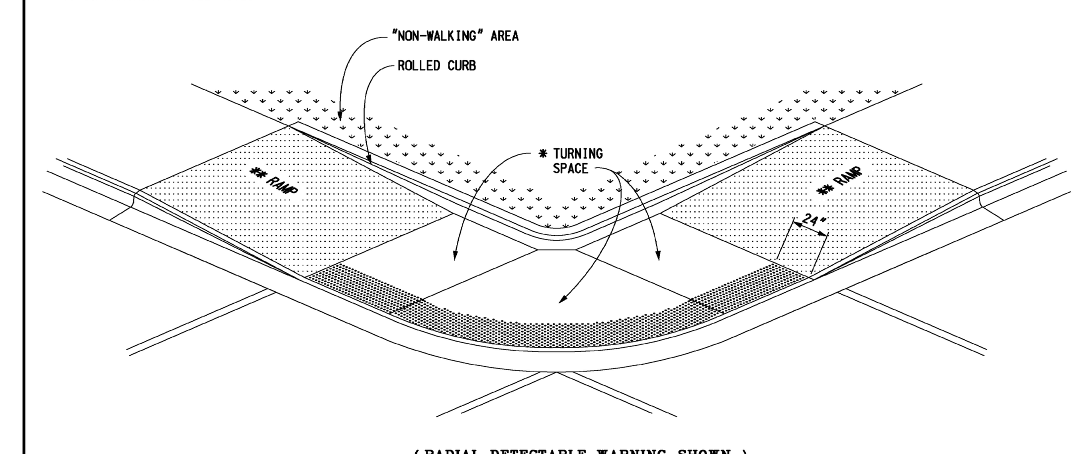

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND DETECTABLE WARNING DETAILS**

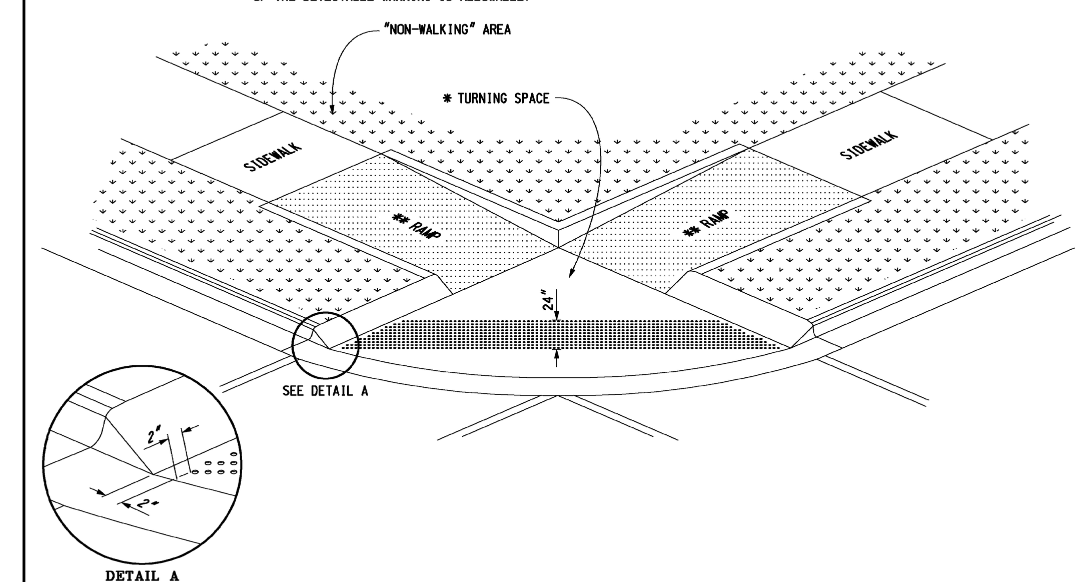

| 1-25-2013 F.H.W.A. APPROVAL | 10-3-2012 PLAN DATE | R-28-H | SHEET 3 OF 7 |
|---|---|---|---|


* MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.


**( RADIAL DETECTABLE WARNING SHOWN )**
DETECTABLE WARNING SURFACE COVERAGE IS 24" FOR THE FULL WIDTH OF THE RAMP OPENING EXCLUDING CURBED OR CURB TRANSITION AREAS. A CURB OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE.




**( TANGENT DETECTABLE WARNING SHOWN )**
A CONCRETE BORDER OFFSET NOT GREATER THAN 2" IS ALLOWABLE FOR DETECTABLE WARNING INSTALLATION WHERE THE BACK OF CURB IS ON A RADIUS. THE BORDER OFFSET MAY BE MEASURED FROM THE END OF THE RADIUS.

**SIDEWALK RAMP TYPE D**
(DEPRESSED CORNER)

USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION


MICHIGAN DEPARTMENT OF TRANSPORTATION
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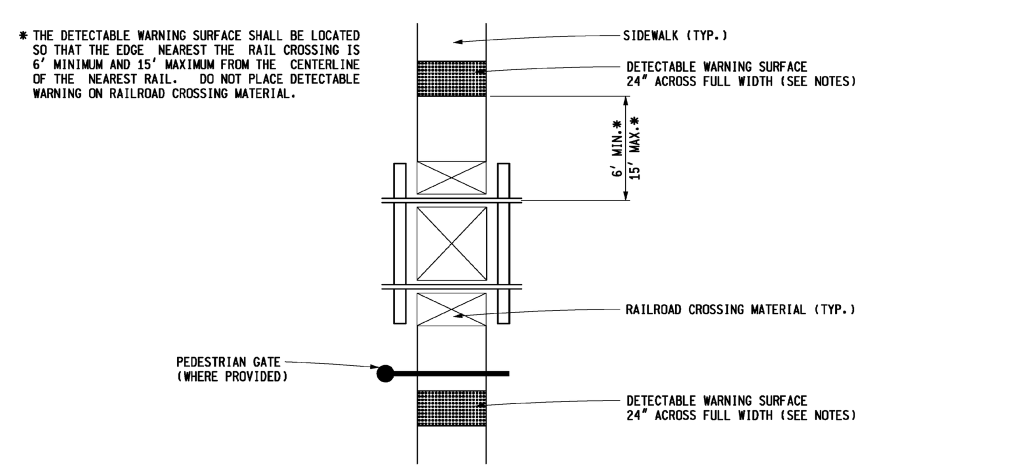
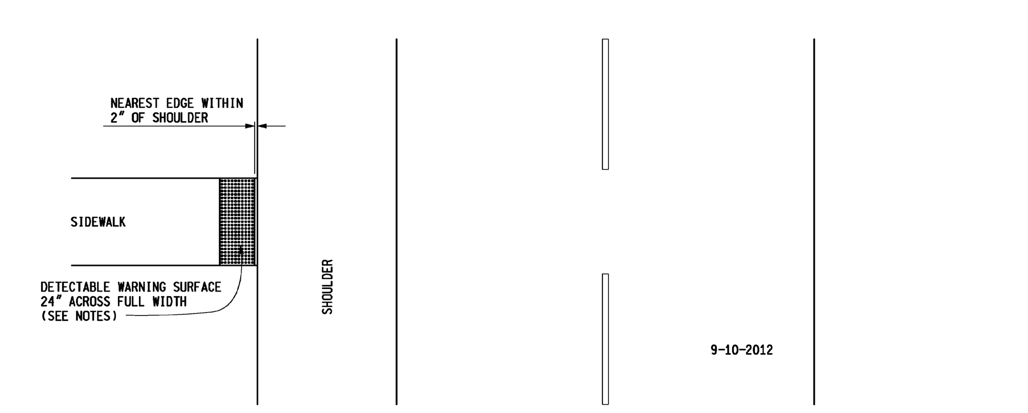
**SIDEWALK RAMP AND DETECTABLE WARNING DETAILS**


| 1-25-2013 F.H.W.A. APPROVAL | 10-3-2012 PLAN DATE | R-28-H | SHEET 4 OF 7 |
|---|---|---|---|

* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.




**DETECTABLE WARNING AT RAILROAD CROSSING**

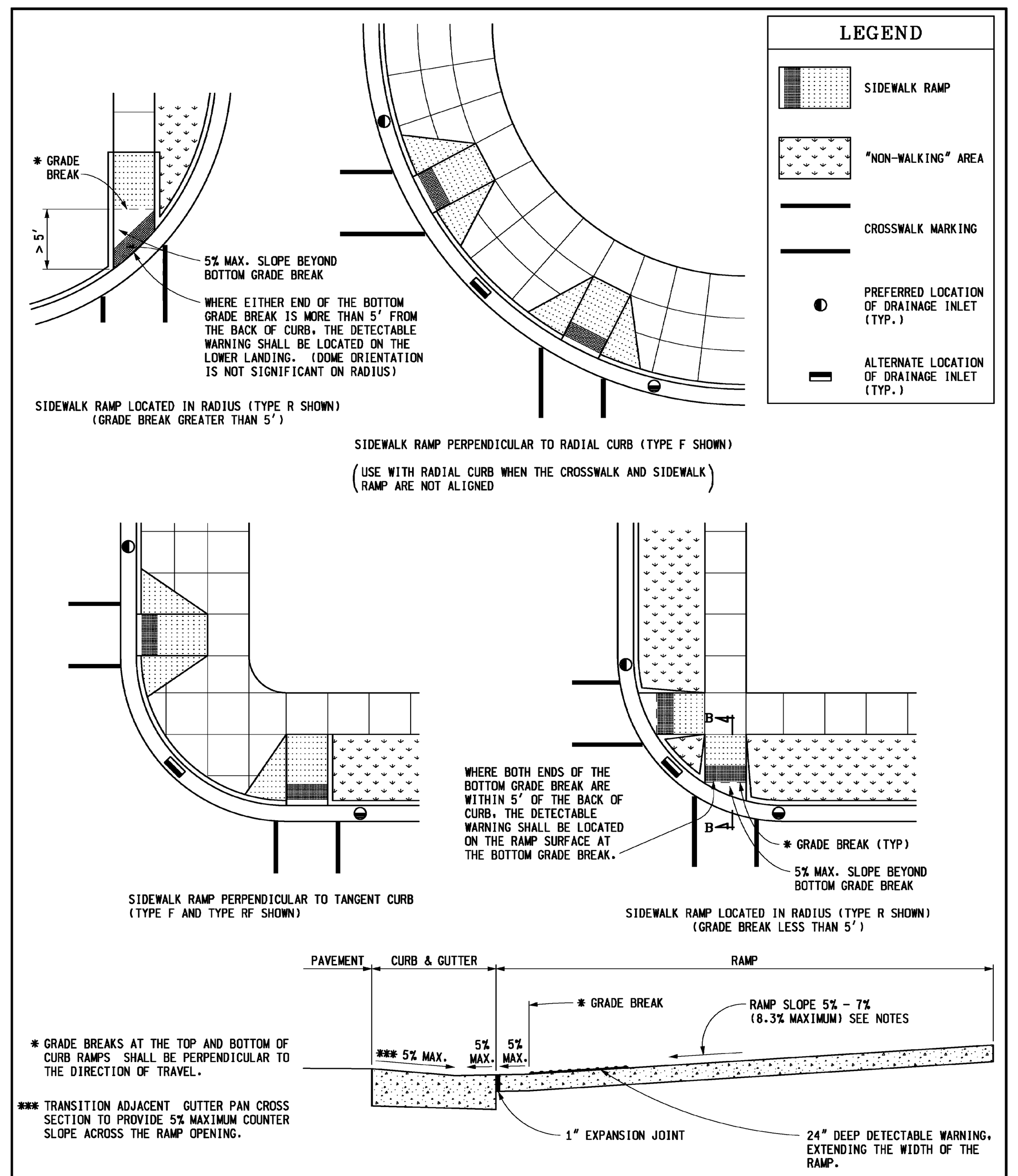



**DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY**


MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND DETECTABLE WARNING DETAILS**


| 1-25-2013 F.H.W.A. APPROVAL | 10-3-2012 PLAN DATE | R-28-H | SHEET 5 OF 7 |
|---|---|---|---|




* GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

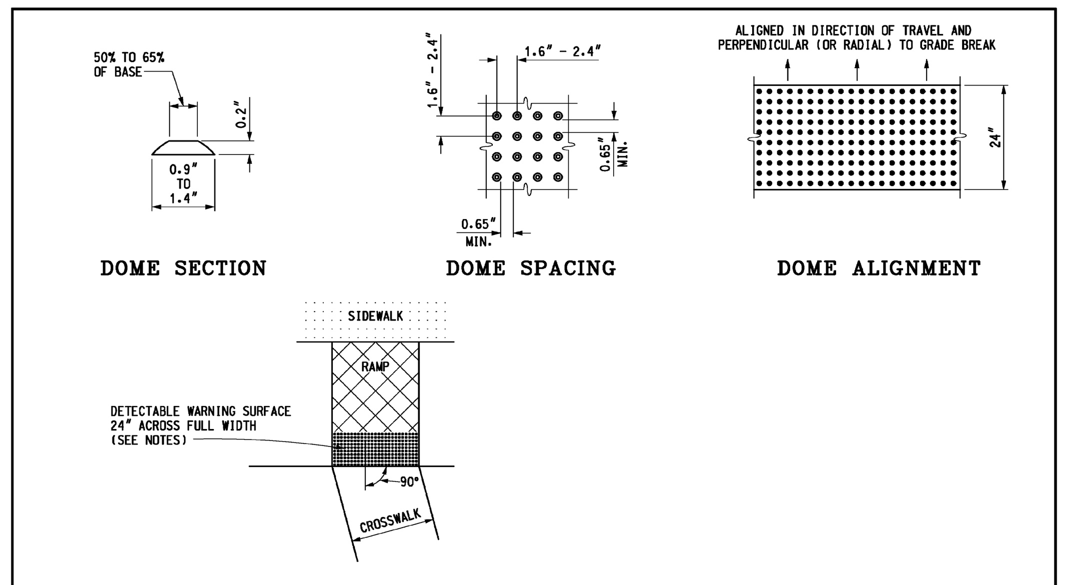
*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

**SECTION B-B**
**SIDEWALK RAMP ORIENTATION**


MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND DETECTABLE WARNING DETAILS**


| 1-25-2013 F.H.W.A. APPROVAL | 10-3-2012 PLAN DATE | R-28-H | SHEET 6 OF 7 |
|---|---|---|---|




**DETECTABLE WARNING DETAILS**

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

PROVIDE TURNING SPACES WHERE PEDESTRIAN TURNING MOVEMENTS ARE REQUIRED.

WHEN 5' MINIMUM WIDTHS ARE NOT FEASIBLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND TURNING SPACES TO NOT LESS THAN 4' x 4'.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A CURB OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING *(OR AS OTHERWISE SHOWN ON THIS STANDARD)* IS ALLOWABLE.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

TRANSITION THE GUTTER PAN CROSS SECTION SUCH THAT THE COUNTER SLOPE IN THE DIRECTION OF RAMP TRAVEL IS NOT GREATER THAN 5%. MAINTAIN THE NORMAL GUTTER PAN CROSS SECTION ACROSS DRAINAGE STRUCTURES.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.


MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND DETECTABLE WARNING DETAILS**


| 1-25-2013 F.H.W.A. APPROVAL | 10-3-2012 PLAN DATE | R-28-H | SHEET 7 OF 7 |
|---|---|---|---|

## M.D.O.T. NOTES:

1. PERMITS TO PERFORM WATER, SANITARY AND/OR STORM SEWER TAPS SHALL BE OBTAINED BY THE APPLICANT FROM THE APPROPRIATE GOVERNING AGENCIES.
2. PERMISSION GRANTED FOR SINGLE LANE CLOSURE IN THE NORTHBOUND DIRECTION M-1 (WOODWARD AVENEUE) FROM 9:00AM TO 3:00PM MONDAY THROUGH FRIDAY IN ACCORDANCE WITH TRAFFIC TYPICALS M0020A, M0080A AND M0730A. ACCESS TO ALL NEIGHBORING BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. ACCESS TO ANY FIRE HYDRANTS SHALL BE MAINTAINED AT ALL TIMES.
3. NO WORK OR LANE CLOSURES ALLOWED DURING THE 2014 WOODWARD DREAM CRUISE (AUGUST 12-19TH) - ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE R.O.W. DURING THAT TIME FRAME.
4. SAWCUT THE EXISTING CONCRETE CURB AND GUTTER/APPROACH/ASPHALT SHOULDERS/TAPER FULL DEPTH AND REMOVE PRIOR TO PLACING THE DRIVE APPROACH.
5. ALL CONCRETE CURB AND GUTTER SHALL BE PLACED IN ACCORDANCE WITH MDOT STANDARD R-30-F.
6. TAPER THE CURB TO ZERO HEIGHT AT THE SIDEWALK, OR RAMP THE SIDEWALK TO MEET THE DRIVEWAY GRADES IN ACCORDANCE WITH MDOT STANDARD R-29-H.
7. ALL SIDEWALK SHALL BE PLACED IN ACCORDANCE WITH MDOT STANDARD PLAN R-29-H AND R-28-H AND BE ADA COMPLIANT (NO DETECTABLE WARNINGS AT DRIVE APPROACHES).
8. A BITUMINOUS BUTT-JOINT WITH A MINIMUM WIDTH OF TWO (2) FEET, SHALL BE PLACED AS DIRECTED BY THE FIELD INSPECTOR.
9. APPLICABLE WARNING, REGULATORY, AND GUIDE SIGNS SHALL NOT BE REMOVED BUT SHALL BE RETAINED DURING THE PROGRESS OF THE WORK IN THEIR EXISTING LOCATION UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT OR IT'S INSPECTOR. ALL MDOT SIGNS REQUIRING RELOCATION DUE TO THE APPLICANT'S OPERATIONS SHALL BE SALVAGED, AS PER THE CURRENT VERSION OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND RE-INSTALLED BY THE APPLICANT AT THE ORIGINAL LOCATION UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT OR THEIR INSPECTING AGENCY. SALVAGED SIGNS SHALL BE RE-INSTALLED NO LATER THAN ONE (1) DAY AFTER THE COMPLETION OF THE WORK OR THIRTY (30) DAYS AFTER THEIR REMOVAL, WHICHEVER OCCURS FIRST.
10. NO PARKING OR STORAGE OF MATERIAL OR EQUIPMENT WILL BE ALLOWED WITHIN THE MDOT RIGHT OF WAY.
11. ALL UTILITIES INCLUDING DRAINAGE FACILITIES SHALL BE LOCATED PRIOR TO EXCAVATION IN THE MODT R.O.W. MDOT FACILITIES ARE NOT LOCATED THROUGH THE MISS DIG SYSTEM.
12. THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE MDOT VISIBILITY POLICY IN REGARDS TO HIGH VISIBILITY CLOTHING WORN BY ALL WORKERS IN THE MDOT R.O.W.
13. NO OPEN CUT OF M-1 (WOODWARD AVENUE) ALLOWED.
14. NO ADVERTISING ALLOWED IN THE MDOT R.O.W. NO OVERHANG OF ANY ADVERTISING SIGNS ALLOWED IN THE MDOT R.O.W. NO PRIVATE SIGNING ALLOWED IN THE MDOT R.O.W.
15. ALL PAVEMENT MARKINGS IN MDOT R.O.W. SHALL BE PER MDOT PAVE DETAILS.
16. THE CONTRACTOR SHALL HAVE A MICHIGAN DEPARTMENT OF TRANSPORTATION APPROVED PLAN AND PERMIT ON-SITE AT ALL TIMES.
17. THE CONTRACTOR SHALL ELECTRONICALLY SUBMIT ADVANCE NOTICE TO MDOT A MINIMUM OF FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION. WORK SHALL NOT COMMENCE UNTIL THE ADVANCE NOTICE HAS BEEN REVIEWED AND APPROVED.
18. ALL TRAFFIC CONTROL DEVICES USED ON THIS PERMIT SHALL MEET THE REQUIREMENTS OF THE MOST RECENT EDITION OF THE MMUTCD AND ATSSA. TRAFFIC CONTROL DEVICES ARE INLCUSIVE OF SIGNS, BARRICADES, VERTICAL PANELS, DRUMS, WARNING LIGHTS, ARROW BOARDS, CHANGEABLE MESSAGE SIGNS, CONES, TUBULAR MARKERS, PAVEMENT TAPE, PAINT AND PAVEMENT MARKERS.
19. ALL TRAFFIC CONTROL DEVICES INCLUDING SIGNS AND PAVEMENT MARKINGS (REMOVAL AND INSTALLATIONS) SHALL BE MAINTAINED AND/OR INSTALLED IN ACCORDANCE WITH CURRENT MDOT STANDARDS AND SPECIFICATIONS. CHARGES SHALL BE THE SOLE RESPONSIBILITY OF THE PERMIT APPLICANT.
20. THE CONTRACTOR SHALL CONTACT THE INSPECTION AGENCY AS SHOWN ON THE PERMIT 72 HOURS PRIOR TO START OF CONSTRUCTION.
21. THE CONTRACTOR SHALL CONTACT THE INPSECTION AGENCY AS SHOWN ON THE PERMIT AT THE COMPLETION OF CONSTRUCTION FOR A FINAL INSPECTION.
22. IT IS THE APPLICANTS' RESPONSIBILITY TO LOCATE ALL UTILITIES INCLUDING DRAINAGE FACILITIES PRIOR TO EXCAVATION IN THE MDOT RIGHT-OF-WAY. MDOT FACILITIES ARE NOT LOCATED THROUGH THE MISS DIG SYSTEM. IF IT IS DETERMINED THAT THE FACILITIES LOCATION DOES NOT EXIST, IT IS THE SOLE RESPONSIBILITY OF THE APPLICANT TO FIND A SOLUTION. THE APPLICANT WILL DEFEND, INDEMIFY AND HOLD HARMLESS THE DEPARTMENT FOR ANY CLAIMS.

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

## REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments (No Changes this Sheet) | 04/28/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review | 04/02/13 |

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.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**M.D.O.T. STANDARD DETAILS**
**HAZEL STREET VACATION**
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | PB | DN. | PB | SUR. | KTR | P.M. | JPB |
|---|---|---|---|---|---|---|---|

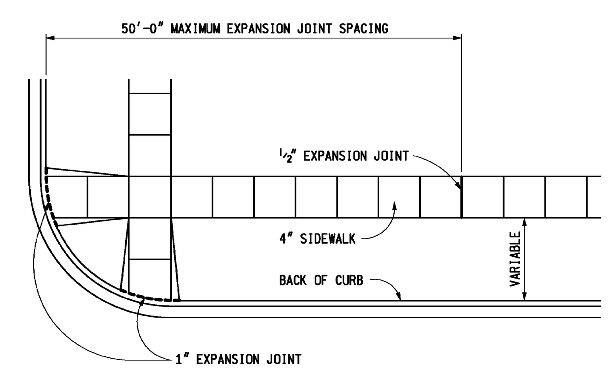
S:\PROJECTS\2012\2012143 HAZEL STREET VACATION\Dwg\CONSTRUCTION\(C-6.1)MDOT-12143.dwg

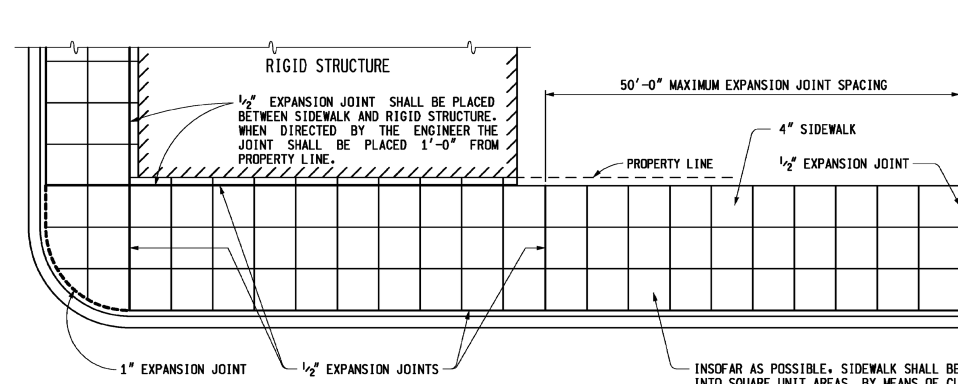
ORIGINAL ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

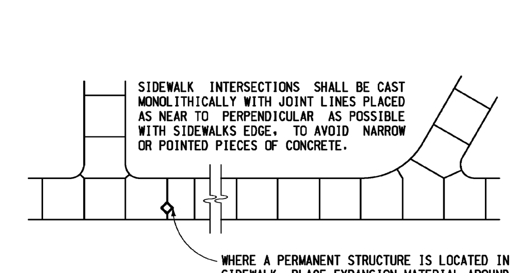
SCALE: NONE

DRAWING NUMBER:
C-6.1

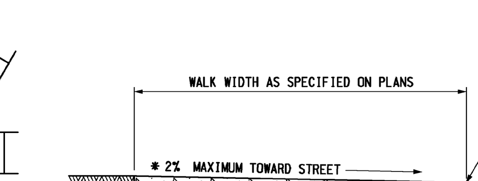



LOCATION OF JOINTS IN CONCRETE SIDEWALK

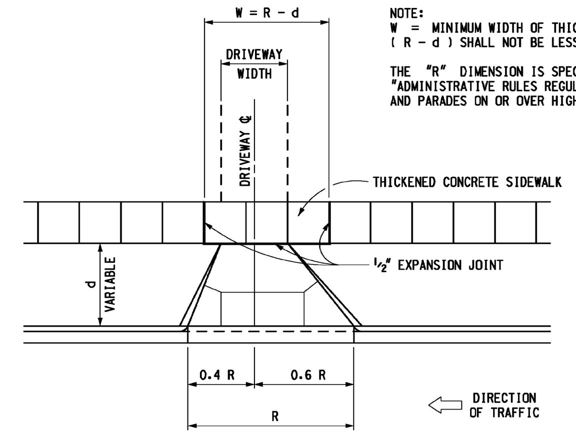



TYPICAL SIDEWALK JOINT LAYOUTS



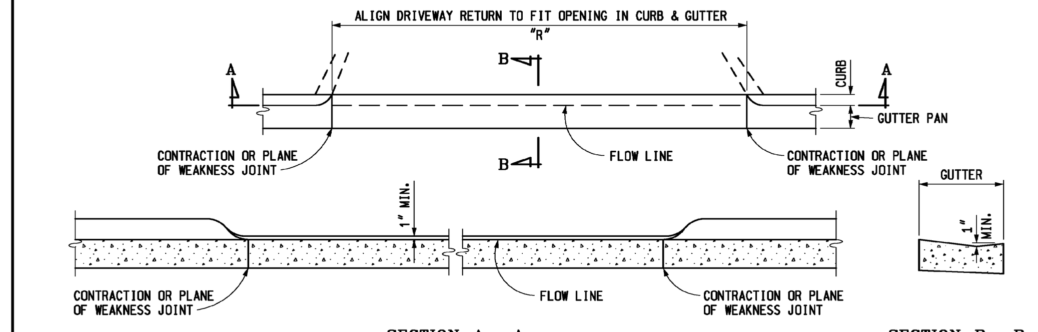

4" CONCRETE SIDEWALK

MDOT Michigan Department of Transportation
PREPARED BY DESIGN DIVISION
DRAWN BY: B.L.T.
CHECKED BY: W.K.P.
DEPARTMENT DIRECTOR Kirk T. Steudle
APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES
APPROVED BY: DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK
1-25-2013 F.H.W.A. APPROVAL | 10-1-2012 PLAN DATE | R-29-H | SHEET 1 OF 4

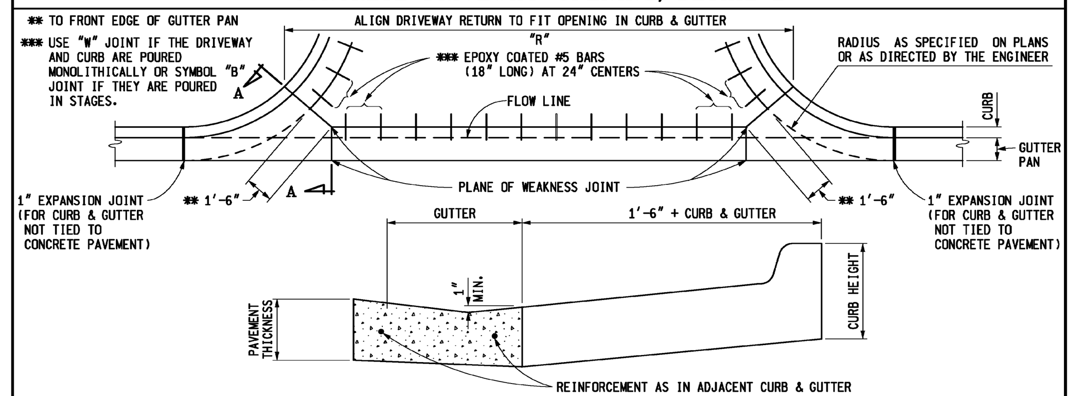



NOTE:
W = MINIMUM WIDTH OF THICKENED CONCRETE SIDEWALK. ( R - d ) SHALL NOT BE LESS THAN DRIVEWAY WIDTH.
THE "R" DIMENSION IS SPECIFIED IN THE PUBLICATION "ADMINISTRATIVE RULES REGULATING DRIVEWAYS, BANNERS AND PARADES ON OR OVER HIGHWAYS".

CONCRETE DRIVEWAY OPENING LAYOUT



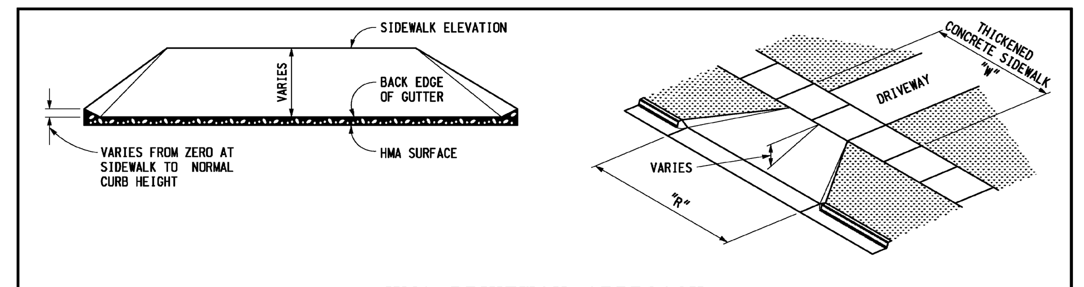

CONCRETE DRIVEWAY OPENING, DETAIL L



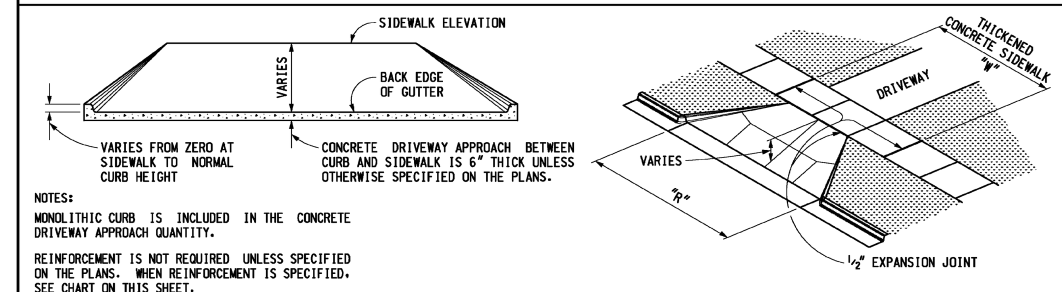

CONCRETE DRIVEWAY OPENING, DETAIL M

NOTE:
FOR ROADWAYS WITH CONCRETE PAVEMENTS, LONGITUDINAL LANE TIES WILL BE CONTINUOUS THROUGH THE DRIVEWAY OPENING AND THE SPACING OF THE #5 BARS IN CONCRETE DRIVEWAYS SHALL BE ADJUSTED TO AVOID CONFLICT WITH THE LONGITUDINAL LANE TIES.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK
1-25-2013 F.H.W.A. APPROVAL | 10-1-2012 PLAN DATE | R-29-H | SHEET 2 OF 4

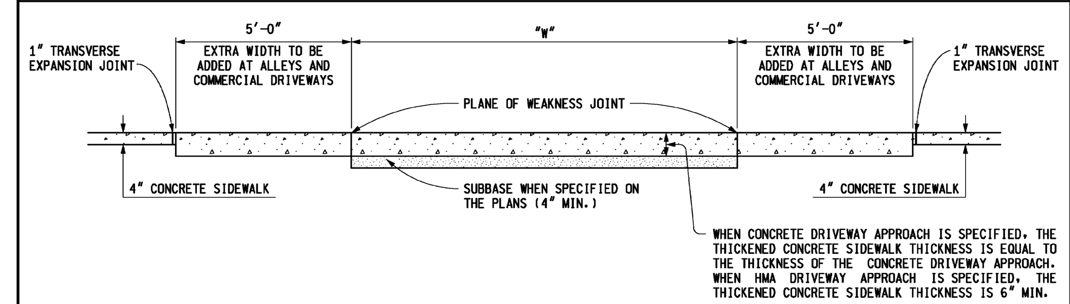



HMA DRIVEWAY APPROACH
(TO BE USED WITH DETAIL L)

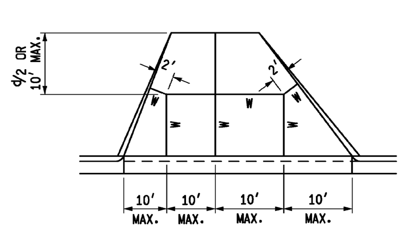



NOTES:
MONOLITHIC CURB IS INCLUDED IN THE CONCRETE DRIVEWAY APPROACH QUANTITY.
REINFORCEMENT IS NOT REQUIRED UNLESS SPECIFIED ON THE PLANS. WHEN REINFORCEMENT IS SPECIFIED, SEE CHART ON THIS SHEET.

CONCRETE DRIVEWAY APPROACH
(TO BE USED WITH DETAIL L OR M)




THICKENED CONCRETE SIDEWALK




ADJUST DRIVEWAY JOINTS AS NEEDED TO ALIGN WITH ANY COINCIDING TRANSVERSE PAVEMENT JOINTS.

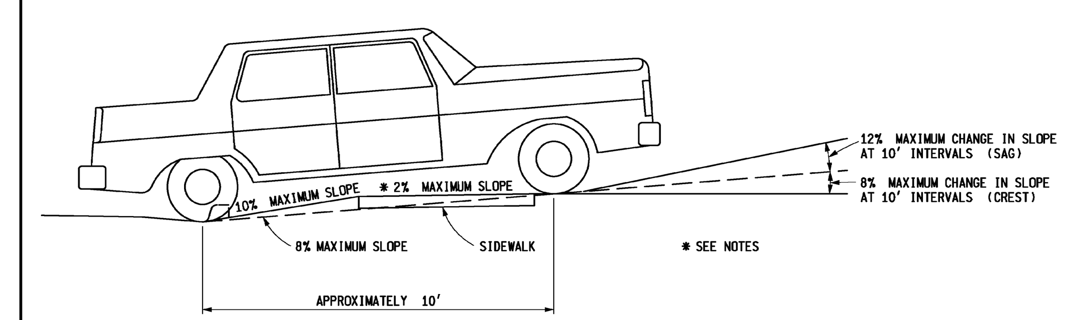
JOINT LAYOUT IS AS INDICATED OR AS DIRECTED BY THE ENGINEER.

INTERMEDIATE DRIVEWAY JOINT DETAILS

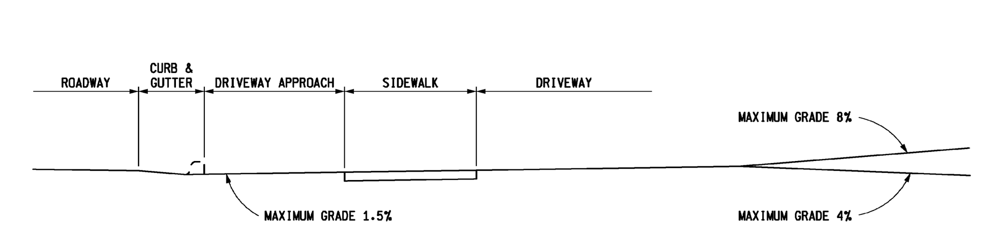
REINFORCEMENT FOR CONCRETE DRIVEWAYS

| CONCRETE DRIVEWAY THICKNESS | WIRE SIZE (6" x 6" MESH) | AVERAGE WEIGHT (LBS/100 SFT) |
|---|---|---|
| LESS THAN 8" | W1.4 | 21 |
| | W2.9 | 42 |
| 8" OR GREATER | USE WIRE FABRIC REINFORCEMENT SPECIFIED ON STANDARD PLAN R-37-SERIES | |

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK
1-25-2013 F.H.W.A. APPROVAL | 10-1-2012 PLAN DATE | R-29-H | SHEET 3 OF 4



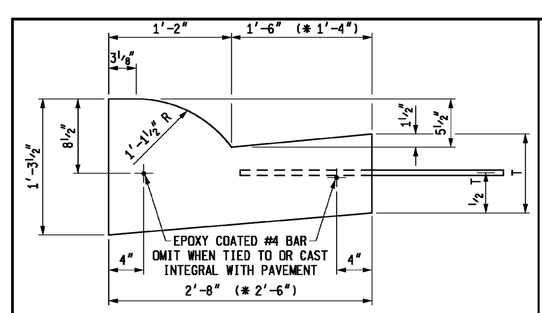

LOW VOLUME COMMERCIAL OR RESIDENTIAL DRIVEWAY SLOPES




COMMERCIAL DRIVEWAY PROFILE FOR MAJOR TRAFFIC GENERATORS

NOTES:
FOR DRIVEWAY DESIGN REFER ALSO TO "ADMINISTRATIVE RULES REGULATING DRIVEWAYS, BANNERS, AND PARADES ON OR OVER HIGHWAYS" AND GEOMETRIC DESIGN G-680-SERIES, COMMERCIAL DRIVEWAYS.
FOR CURB AND GUTTER DETAILS, SEE STANDARD PLAN R-30-SERIES.
TRANSVERSE SIDEWALK SLOPES ARE TYPICALLY 1.5% OR 2% MAXIMUM. IN ORDER TO MEET SITE CONDITIONS, IF THE TRANSVERSE SLOPE IS REQUIRED TO BE LESS THAN 1.5%, LONGITUDINAL DRAINAGE MUST BE PROVIDED.
WHEN SETTING GRADES FOR COMMERCIAL DRIVES, THE TYPES OF VEHICLES USING THE DRIVE SHOULD BE CONSIDERED.

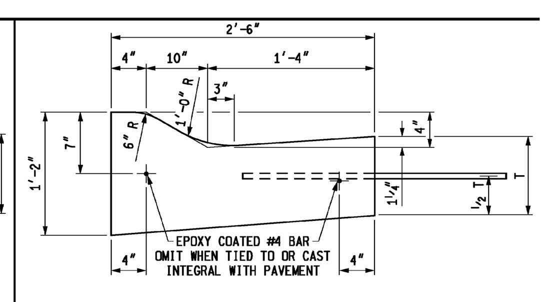
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK
1-25-2013 F.H.W.A. APPROVAL | 10-1-2012 PLAN DATE | R-29-H | SHEET 4 OF 4




(* GUTTER PAN WIDTH MAY BE REDUCED WHEN APPROVED BY THE ENGINEER)

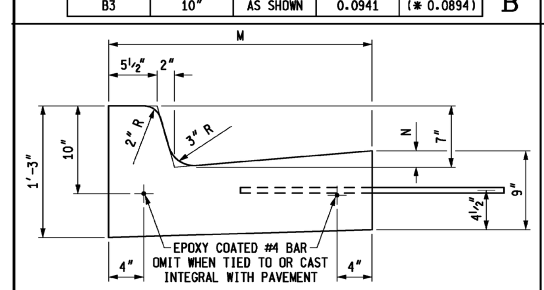
| DETAIL | DIMENSION T | LANE TIES | CONCRETE CYD / LFT | CONCRETE CYD / LFT |
|---|---|---|---|---|
| B1 | 9" | AS SHOWN | 0.0900 | (* 0.0855) |
| B2 | 9" | OMITTED | 0.0900 | (* 0.0855) |
| B3 | 10" | AS SHOWN | 0.0941 | (* 0.0894) |

B



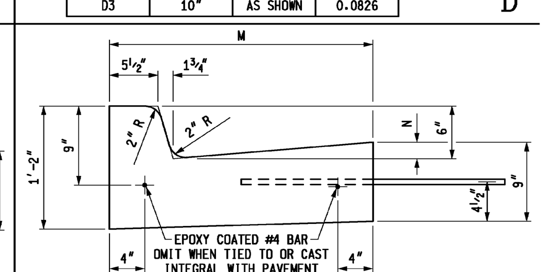

| DETAIL | DIMENSION T | LANE TIES | CONCRETE CYD / LFT |
|---|---|---|---|
| D1 | 9" | AS SHOWN | 0.0788 |
| D2 | 9" | OMITTED | 0.0788 |
| D3 | 10" | AS SHOWN | 0.0826 |

D




| DETAIL | DIMENSION M | DIMENSION N | LANE TIES | CONCRETE CYD / LFT |
|---|---|---|---|---|
| C1 | 1'-6" | 7/8" | AS SHOWN | 0.0506 |
| C2 | 1'-6" | 7/8" | OMITTED | 0.0506 |
| C3 | 2'-0" | 1 3/8" | AS SHOWN | 0.0632 |
| C4 | 2'-0" | 1 3/8" | OMITTED | 0.0632 |
| C5 | 2'-6" | 1 7/8" | AS SHOWN | 0.0757 |
| C6 | 2'-6" | 1 7/8" | OMITTED | 0.0757 |

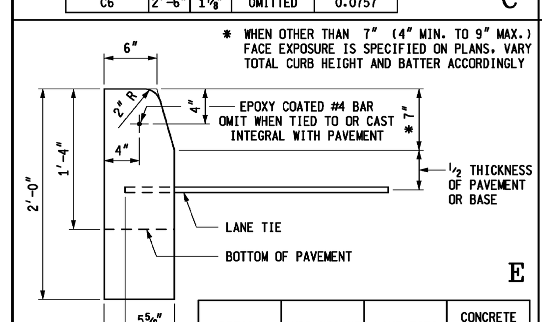
C




| DETAIL | DIMENSION M | DIMENSION N | LANE TIES | CONCRETE CYD / LFT |
|---|---|---|---|---|
| F1 | 1'-6" | 7/8" | AS SHOWN | 0.0484 |
| F2 | 1'-6" | 7/8" | OMITTED | 0.0484 |
| F3 | 2'-0" | 1 3/8" | AS SHOWN | 0.0610 |
| F4 | 2'-0" | 1 3/8" | OMITTED | 0.0610 |
| F5 | 2'-6" | 1 7/8" | AS SHOWN | 0.0737 |
| F6 | 2'-6" | 1 7/8" | OMITTED | 0.0737 |

F

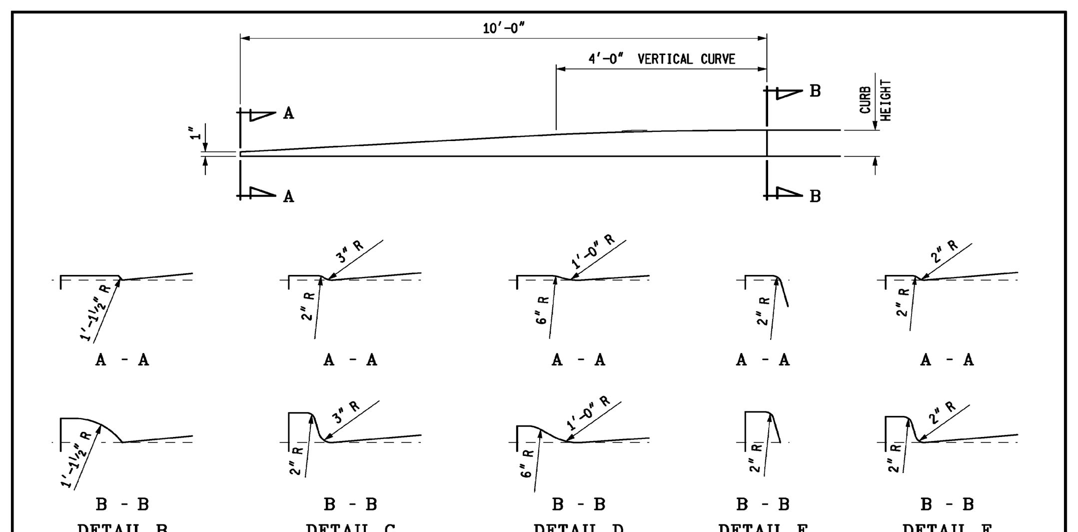
* WHEN OTHER THAN 7" (4" MIN. TO 9" MAX.) FACE EXPOSURE IS SPECIFIED ON PLANS, VARY TOTAL CURB HEIGHT AND BATTER ACCORDINGLY



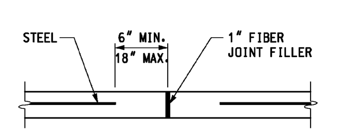

E

| DETAIL | CURB HEIGHT | LANE TIES | CONCRETE CYD / LFT |
|---|---|---|---|
| E1 | 1'-4" | AS SHOWN | 0.0310 |
| E2 | 1'-4" | OMITTED | 0.0310 |
| E4 | 2'-0" | OMITTED | 0.0477 |

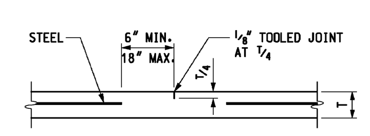
MDOT Michigan Department of Transportation
PREPARED BY DESIGN DIVISION
DRAWN BY: B.L.T.
CHECKED BY: W.K.P.
DEPARTMENT DIRECTOR Kirk T. Steudle
APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES
APPROVED BY: DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
CONCRETE CURB AND CONCRETE CURB & GUTTER
F.H.W.A. APPROVAL | 2-6-2014 PLAN DATE | R-30-G | SHEET 1 OF 2




CONCRETE CURB, CURB AND GUTTER ENDINGS




1" FIBER JOINT FILLER




CONTRACTION JOINT

NOTES:
CURB AND GUTTER RADII SHALL BE DIMENSIONED TO THE FRONT EDGE OF THE GUTTER PAN OR EDGE OF PAVEMENT.
CONCRETE CURB AND GUTTER ENDINGS WILL BE PAID FOR IN LINEAR FEET OF THE ADJACENT CURB DETAIL.
JOINTS SHALL BE PLACED AT RIGHT ANGLES TO THE EDGE OF CONCRETE CURB AND GUTTER.
JOINTS DETAILED ON THE PLANS SHALL SUPERSEDE THOSE SPECIFIED ON THIS STANDARD PLAN.
BOTTOM SLOPE OF CURB AND GUTTER STRUCTURE MAY BE THE SAME SLOPE AS BOTTOM OF PAVEMENT. BACK OF CURB AND VERTICAL EDGE OF GUTTER PAN MAY HAVE A MAXIMUM 1/2" BATTER TO FACILITATE FORMING.
WHEN CURB AND GUTTER IS CAST INTEGRALLY, SEE CURRENT STANDARD PLAN R-31-SERIES.
ALL JOINTS FOR CURB OR CURB AND GUTTER ARE INCLUDED IN THE PAY ITEM FOR THE CURB OR CURB AND GUTTER.

JOINTS IN CURB OR CURB AND GUTTER NOT TIED TO CONCRETE PAVEMENT; ADJACENT TO CONCRETE BASE COURSE; OR ADJACENT TO HMA PAVEMENT:
A. PLACE 1" FIBER JOINT FILLER AT 400' MAXIMUM INTERVALS.
B. PLACE 1" FIBER JOINT FILLER AT SPRING POINTS OF INTERSECTING STREETS.
C. PLACE 1/2" ISOLATION JOINT AT CATCH BASINS PER STANDARD PLAN R-37-SERIES.
D. PLACE CONTRACTION JOINTS AT 40' MAXIMUM INTERVALS.

JOINTS IN CURB OR CURB AND GUTTER TIED TO JOINTED PAVEMENT
A. PLACE 1" FIBER JOINT FILLER OPPOSITE ALL TRANSVERSE EXPANSION JOINTS IN PAVEMENT.
B. PLACE 1/2" ISOLATION JOINT AT CATCH BASINS PER STANDARD PLAN R-37-SERIES.
C. PLACE CONTRACTION JOINTS OPPOSITE ALL TRANSVERSE CONTRACTION JOINTS IN PAVEMENT.
D. A SYMBOL (B) JOINT SHALL BE PLACED BETWEEN CURB OR CURB AND GUTTER AND ADJACENT CONCRETE PAVEMENT AS SPECIFIED ON STANDARD PLAN R-41-SERIES.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
CONCRETE CURB AND CONCRETE CURB & GUTTER
F.H.W.A. APPROVAL | 2-6-2014 PLAN DATE | R-30-G | SHEET 2 OF 2

MINIMUM MERGING TAPER LENGTH "L" (FEET)

| OFFSET FEET | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
|---|---|---|---|---|---|---|---|---|---|---|
| | POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA) | | | | | | | | | |
| 1 | 10 | 15 | 20 | 27 | 45 | 50 | 55 | 60 | 65 | 70 |
| 2 | 21 | 30 | 41 | 53 | 90 | 100 | 110 | 120 | 130 | 140 |
| 3 | 31 | 45 | 61 | 80 | 135 | 150 | 165 | 180 | 195 | 210 |
| 4 | 42 | 60 | 82 | 107 | 180 | 200 | 220 | 240 | 260 | 280 |
| 5 | 52 | 75 | 102 | 133 | 225 | 250 | 275 | 300 | 325 | 350 |
| 6 | 63 | 90 | 123 | 160 | 270 | 300 | 330 | 360 | 390 | 420 |
| 7 | 73 | 105 | 143 | 187 | 315 | 350 | 385 | 420 | 455 | 490 |
| 8 | 83 | 120 | 163 | 213 | 360 | 400 | 440 | 480 | 520 | 560 |
| 9 | 94 | 135 | 184 | 240 | 405 | 450 | 495 | 540 | 585 | 630 |
| 10 | 104 | 150 | 204 | 267 | 450 | 500 | 550 | 600 | 650 | 700 |
| 11 | 115 | 165 | 225 | 293 | 495 | 550 | 605 | 660 | 715 | 770 |
| 12 | 125 | 180 | 245 | 320 | 540 | 600 | 660 | 720 | 780 | 840 |
| 13 | 135 | 195 | 266 | 347 | 585 | 650 | 715 | 780 | 845 | 910 |
| 14 | 146 | 210 | 286 | 374 | 630 | 700 | 770 | 840 | 910 | 980 |
| 15 | 157 | 225 | 307 | 400 | 675 | 750 | 825 | 900 | 975 | 1050 |

TAPER LENGTH "L" IN FEET

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

$$"L" = \frac{W \times S^2}{60}$$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = S x W WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

L = MINIMUM LENGTH OF MERGING TAPER
S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
W = WIDTH OF OFFSET

| TYPES OF TAPERS | TAPER LENGTH |
|---|---|
| UPSTREAM TAPERS | |
| MERGING TAPER | L - MINIMUM |
| SHIFTING TAPER | 1/2 L - MINIMUM |
| SHOULDER TAPER | 1/3 L - MINIMUM |
| TWO-WAY TRAFFIC TAPER | 100 ' - MAXIMUM |
| DOWNSTREAM TAPERS (USE IS OPTIONAL) | 100 ' - MINIMUM (PER LANE) |

MDOT Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC TYPICAL
TABLES FOR "L", "D" AND "B" VALUES
DRAWN BY: CON:AE:djf | JUNE 2006 PLAN DATE: | M0020a | SHEET 1 OF 2
CHECKED BY: BMM
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn REV. 08/21/2006

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D" AND LENGTH OF LONGITUDINAL BUFFER SPACE ON "WHERE WORKERS PRESENT" SEQUENCES

| "D" DISTANCES | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
|---|---|---|---|---|---|---|---|---|---|---|
| | POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA) | | | | | | | | | |
| D (FEET) | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE "B"

| SPEED* MPH | LENGTH FEET |
|---|---|
| 20 | 33 |
| 25 | 50 |
| 30 | 83 |
| 35 | 132 |
| 40 | 181 |
| 45 | 230 |
| 50 | 279 |
| 55 | 329 |
| 60 | 411 |
| 65 | 476 |
| 70 | 542 |

* POSTED SPEED, OFF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

1 BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS AASHTO DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.

MDOT Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC TYPICAL
TABLES FOR "L", "D" AND "B" VALUES
DRAWN BY: CON:AE:djf | JUNE 2006 PLAN DATE: | M0020a | SHEET 2 OF 2
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XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments (No Changes this Sheet) | 04/28/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review (No Changes this Sheet) | 04/02/13 |


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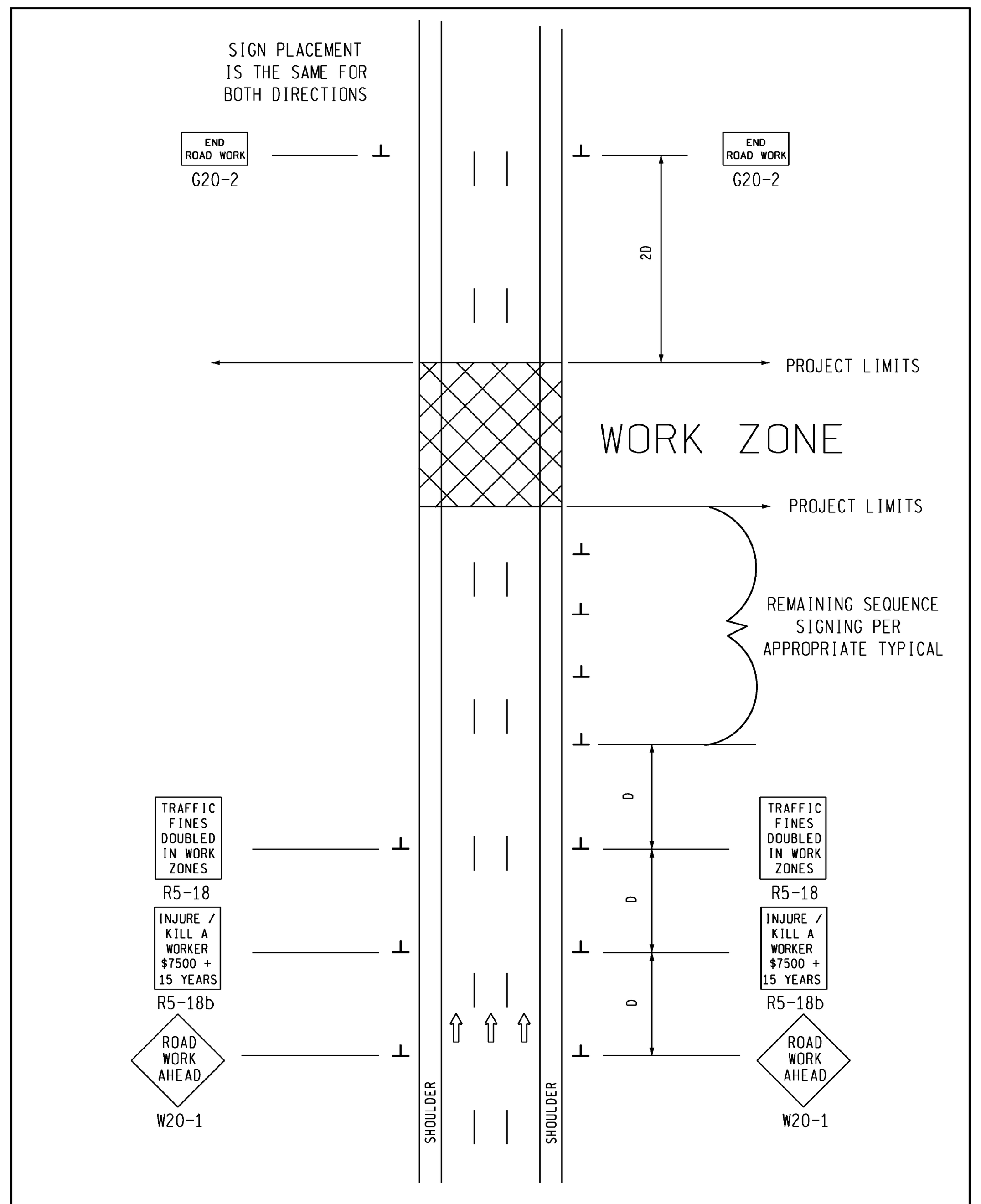
HAZEL STREET VACATION
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

DES. PB | DN. PB | SUR. KTR | P.M. JPB

S:\PROJECTS\2012\2012143 HAZEL STREET VACATION\Dwg\CONSTRUCTION\(C-6.1)MDOT-12143.dwg

ORIGINAL ISSUE DATE: NOV. 13, 2012
PEA JOB NO. 2012-143
SCALE: NONE
DRAWING NUMBER: C-6.2




SIGN = 96 ft2 - TYPE B FOR ONE DIRECTION OF TRAFFIC W20-1 QUANTITY INCLUDED WITH APPROPRIATE TYPICAL FOR SEQUENCE SIGNING

NOT TO SCALE

MDOT Michigan Department of Transportation — TRAFFIC AND SAFETY — MAINTAINING TRAFFIC TYPICAL

TYPICAL ADVANCE SIGNING TREATMENT FOR INTERMEDIATE AND SHORT TERM STATIONARY WORK ZONE OPERATIONS WHERE ALL TRAFFIC CONTROL DEVICES ARE REMOVED AT END OF EACH WORK DAY ON A DIVIDED ROADWAY

DRAWN BY: CON:AE:djf | CHECKED BY: BMM:CRB | OCTOBER 2011 PLAN DATE: | M0080a | SHEET 1 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0080a.dgn REV. 10/13/2011

## NOTES

30. THE APPROPRIATE ADVANCE SIGNING SEQUENCE(S), (M0030a THROUGH M0080a) SHALL BE USED ON ALL PROJECTS.

35. THESE SIGNS ARE INTENDED TO BE USED WITHIN THE LIMITS OF THE TEMPORARY SEQUENCE SIGNING AS IS SHOWN ON 1 OF 2. THESE SIGNS ARE NOT TO BE INTERMINGLED WITH ANY OTHER TEMPORARY SEQUENCE SIGNING EXCEPT AS SHOWN.

### SIGN SIZES

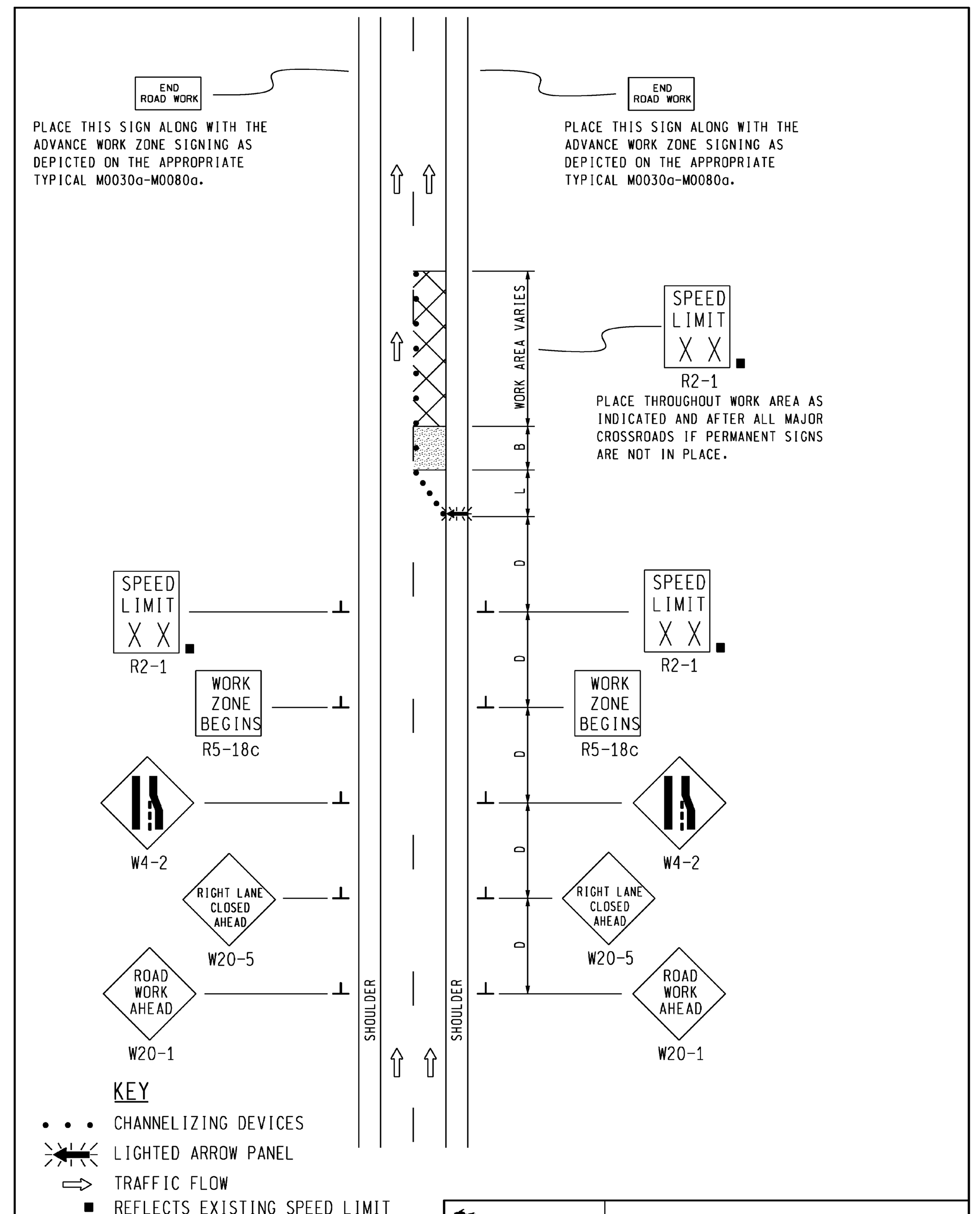
G20-2 - 48" x 24"
R5-18 - 48" x 60"
R5-18b - 48" x 60"
W20-1 - 48" x 48"

NOT TO SCALE

MDOT Michigan Department of Transportation — TRAFFIC AND SAFETY — MAINTAINING TRAFFIC TYPICAL

TYPICAL ADVANCE SIGNING TREATMENT FOR INTERMEDIATE AND SHORT TERM STATIONARY WORK ZONE OPERATIONS WHERE ALL TRAFFIC CONTROL DEVICES ARE REMOVED AT END OF EACH WORK DAY ON A DIVIDED ROADWAY

DRAWN BY: CON:AE:djf | CHECKED BY: BMM:CRB | OCTOBER 2011 PLAN DATE: | M0080a | SHEET 2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0080a.dgn REV. 10/13/2011




SIGN = 168 ft2 - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA

NOT TO SCALE

MDOT Michigan Department of Transportation — TRAFFIC AND SAFETY — MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON A DIVIDED ROADWAY, NO SPEED REDUCTION

DRAWN BY: CON:AE:djf | CHECKED BY: BMM:CRB | OCTOBER 2011 PLAN DATE: | M0730a | SHEET 1 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0730a.dgn REV. 10/26/2011

## NOTES

1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L = MINIMUM LENGTH OF TAPER
B = LENGTH OF LONGITUDINAL BUFFER
SEE M0020a FOR "D," "L," AND "B" VALUES

2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.

3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.

3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.

4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).

5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.

6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.

7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.

8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.

21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.

26. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE.

### SIGN SIZES

DIAMOND WARNING - 48" x 48"
R2-1 REGULATORY - 48" x 60"
R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

MDOT Michigan Department of Transportation — TRAFFIC AND SAFETY — MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON A DIVIDED ROADWAY, NO SPEED REDUCTION

DRAWN BY: CON:AE:djf | CHECKED BY: BMM:CRB | OCTOBER 2011 PLAN DATE: | M0730a | SHEET 2 OF 2
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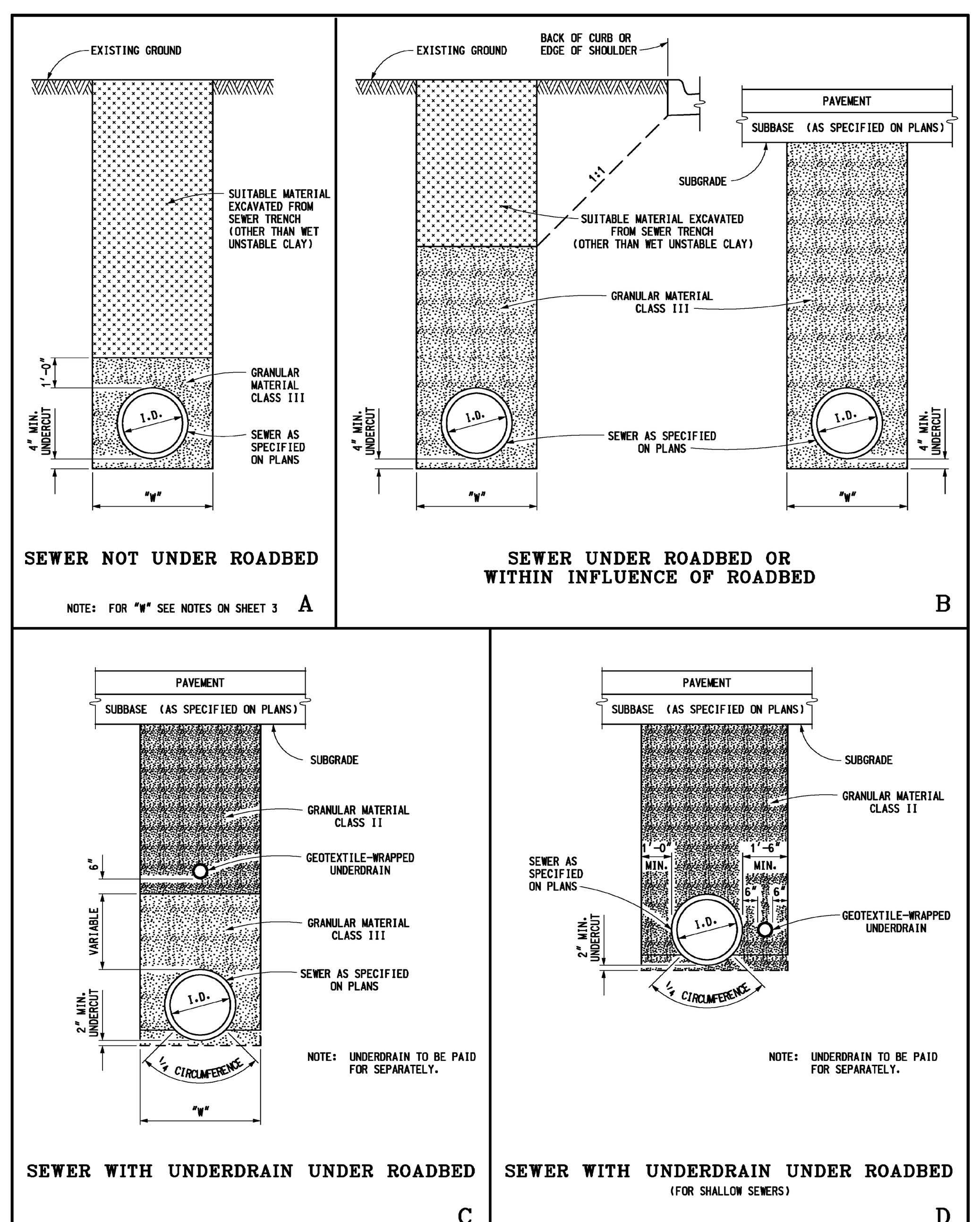
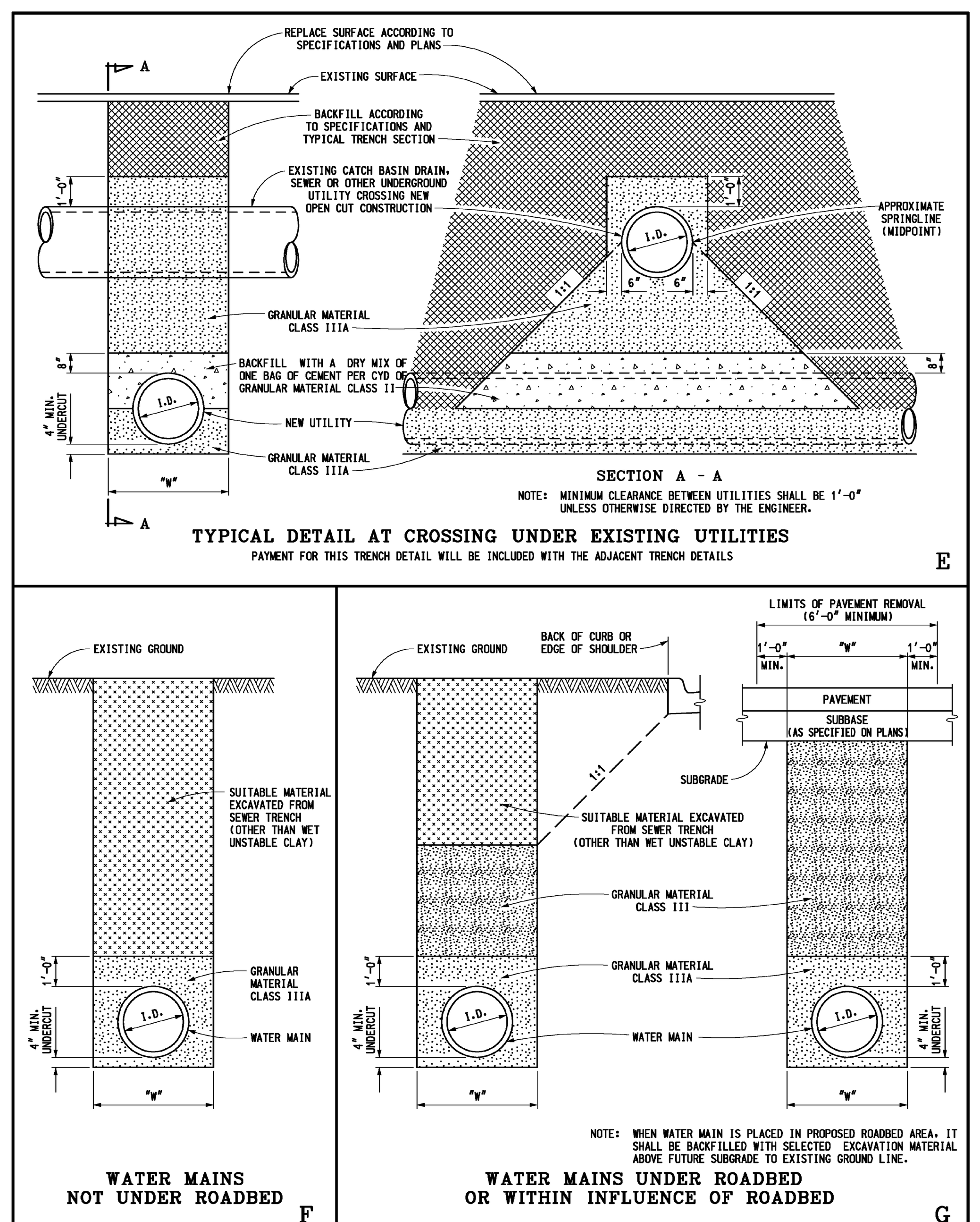



MDOT — PREPARED BY DESIGN DIVISION — DRAWN BY: B.L.T. — CHECKED BY: W.K.P.
ENGINEER OF CONSTRUCTION & TECHNOLOGY — ENGINEER OF MAINTENANCE — ENGINEER OF TRAFFIC AND SAFETY
ENGINEER - ROAD DESIGN — ENGINEER OF DESIGN — DEPARTMENT DIRECTOR Gregory J. Rosine — CHIEF ENGINEER/DEPUTY DIRECTOR BUREAU OF HIGHWAY TECHNICAL SERVICES

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

UTILITY TRENCHES

9-14-2001 F.H.W.A. APPROVAL | 2-28-2001 PLAN DATE | R-83-B | SHEET 1 OF 3




MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

UTILITY TRENCHES

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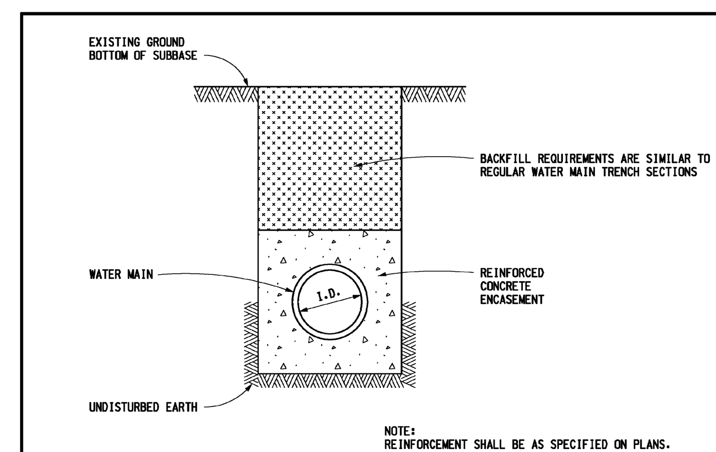


**REQUIRED ENCASEMENT SIZE FOR RESPECTIVE PIPE SIZES**

| DIAMETER OF PIPE | ENCASEMENT SIZE AND TRENCH WIDTH |
|---|---|
| 6" - 12" | 3'-0" |
| 16" | 3'-6" |
| 24" | 4'-6" |
| 30" | 5'-0" |
| 36" | 5'-6" |
| 42" | 6'-0" |
| 48" | 7'-0" |
| 54" | 7'-6" |
| 60" | 8'-0" |
| 66" | 8'-6" |
| 72" | 9'-0" |

WATER MAINS IN REINFORCED CONCRETE ENCASEMENT H

NOTES:

BEDDING UNDER THE UTILITY SHALL BE AS SPECIFIED AND THE UNDERCUT MATERIAL REPLACED WITH GRANULAR MATERIAL CLASS IIIA. BACKFILLING SHALL BE ACCORDING TO THE CURRENT STANDARD SPECIFICATION.

BACKFILL FOR UTILITY TRENCHES ABOVE GRANULAR MATERIAL CLASS IIIA SHALL BE PLACED AS FOLLOWS:

(A) GRANULAR MATERIAL, OF THE CLASS SPECIFIED ON DETAILS, SHALL BE USED TO BACKFILL TRENCHES UNDER THE ROADBED AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT.

(B) GRANULAR MATERIAL, OF THE CLASS SPECIFIED ON DETAILS, SHALL BE USED TO BACKFILL UTILITY TRENCHES OUTSIDE THE ROADBED BUT WITHIN THE 1:1 ZONE OF INFLUENCE SHOWN. IT WILL ALSO BE USED AS BACKFILL UNDER SIDEWALKS, SURFACED AREAS, AND MISCELLANEOUS STRUCTURES, AND COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT.

(C) WHEN ACCEPTABLE, MATERIAL EXCAVATED FROM THE UTILITY TRENCHES SHALL BE USED TO BACKFILL UTILITY TRENCHES OUTSIDE THE LIMITS OF THE 1:1 ZONE OF INFLUENCE AND SHALL BE COMPACTED TO NOT LESS THAN 90% OF ITS MAXIMUM UNIT WEIGHT.

GRANULAR MATERIAL CLASS I, II, IIA, OR IIIA MAY BE USED WHERE GRANULAR MATERIAL CLASS III IS SPECIFIED ON THE PLANS.

SUFFICIENT TRENCH WIDTH SHALL BE PROVIDED TO ALLOW FREE WORKING SPACE AND TO PERMIT COMPACTING THE BACKFILL AROUND THE PIPE.

THE FOLLOWING ARE MINIMUM TRENCH WIDTHS:

| I.D. PIPE SIZE (INCHES) | LESS THAN 18 | 21 | 24 | 30 | 36 |
|---|---|---|---|---|---|
| "W" TRENCH WIDTH (FEET) | 3.0 | 3.5 | 4.0 | 5.0 | 6.0 |

| I.D. PIPE SIZE (INCHES) | 42 | 48 | 54 | 60 | 66 | 72 |
|---|---|---|---|---|---|---|
| "W" TRENCH WIDTH (FEET) | 7.0 | 8.0 | 9.5 | 10.0 | 10.5 | 11.0 |

| I.D. PIPE SIZE (INCHES) | 78 | 84 | 90 | 96 | 102 | 108 |
|---|---|---|---|---|---|---|
| "W" TRENCH WIDTH (FEET) | 11.5 | 12.0 | 12.5 | 13.0 | 13.5 | 14.0 |

ESTIMATED PAVEMENT REMOVAL WIDTH IS TO BE TRENCH WIDTH "W" PLUS 1'-0" EACH SIDE OF THE TRENCH (6'-0" MINIMUM).

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

UTILITY TRENCHES

9-14-2001 F.H.W.A. APPROVAL | 2-28-2001 PLAN DATE | R-83-B | SHEET 3 OF 3

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

## REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments (No Changes this Sheet) | 04/28/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal (No Changes this Sheet) | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review (No Changes this Sheet) | 04/02/13 |

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ORIGINAL ISSUE DATE: NOV. 13, 2012
PEA JOB NO. 2012-143
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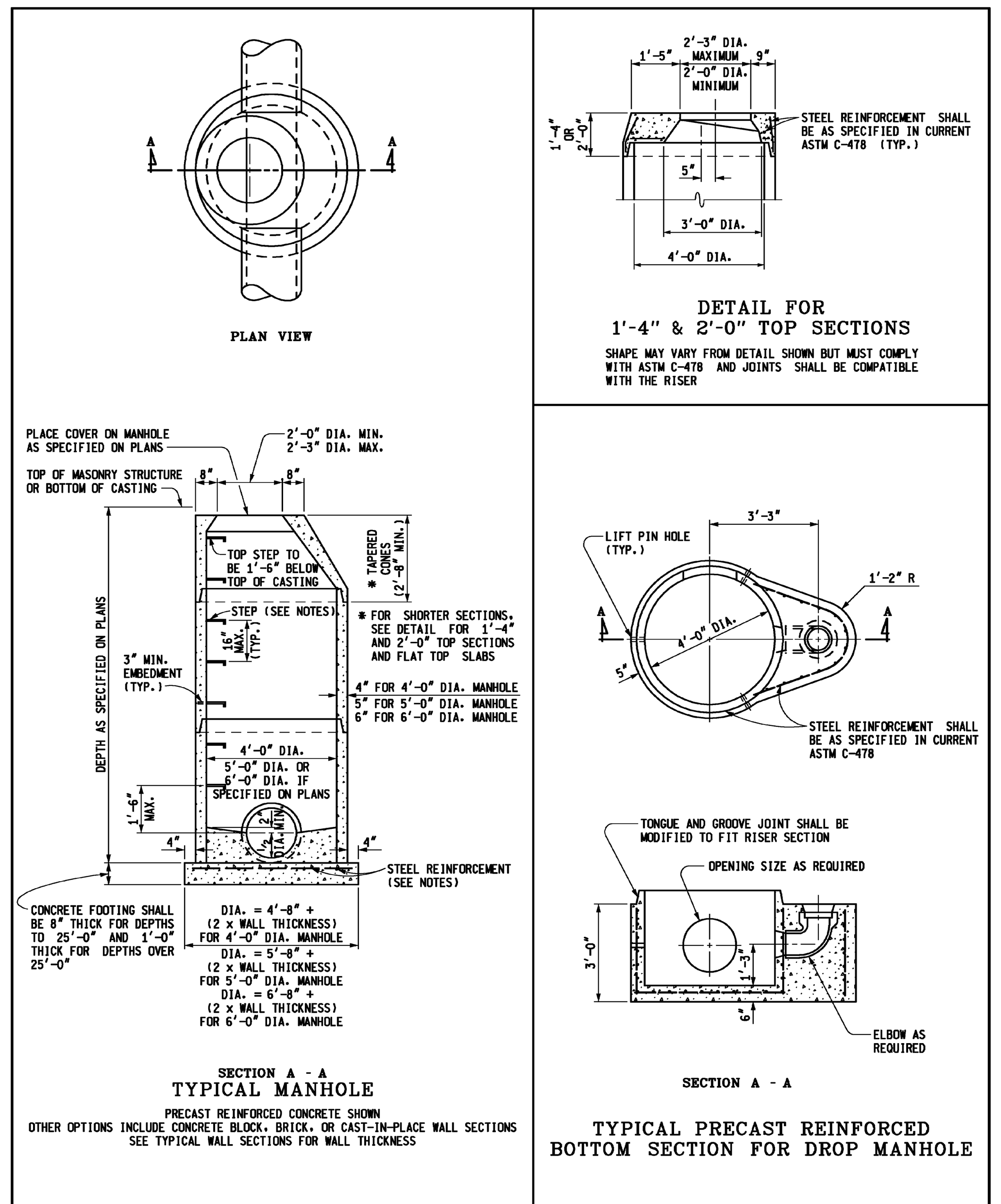



DETAIL FOR 1'-4" & 2'-0" TOP SECTIONS

SHAPE MAY VARY FROM DETAIL SHOWN BUT MUST COMPLY WITH ASTM C-478 AND JOINTS SHALL BE COMPATIBLE WITH THE RISER

SECTION A - A
TYPICAL MANHOLE

PRECAST REINFORCED CONCRETE SHOWN
OTHER OPTIONS INCLUDE CONCRETE BLOCK, BRICK, OR CAST-IN-PLACE WALL SECTIONS
SEE TYPICAL WALL SECTIONS FOR WALL THICKNESS

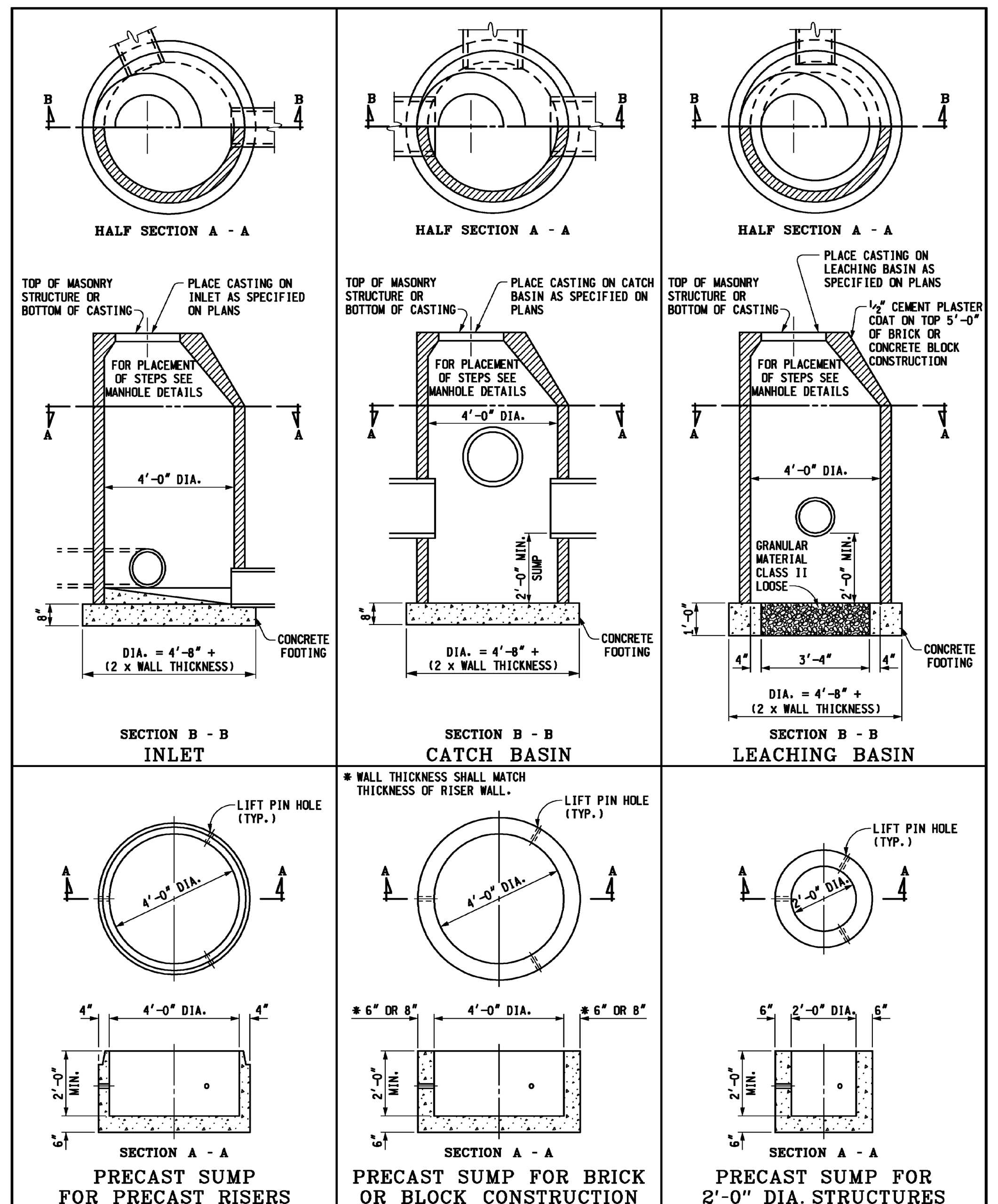
SECTION A - A
TYPICAL PRECAST REINFORCED BOTTOM SECTION FOR DROP MANHOLE

MDOT — PREPARED BY DESIGN DIVISION
DRAWN BY: B.L.T. CHECKED BY: W.K.P.
DEPARTMENT DIRECTOR Kirk T. Steudle
APPROVED BY: ENGINEER OF DELIVERY
APPROVED BY: ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

## DRAINAGE STRUCTURES

9-16-2009 F.H.W.A. APPROVAL | 4-16-2009 PLAN DATE | R-1-E | SHEET 1 OF 5




SECTION B - B
INLET

SECTION B - B
CATCH BASIN

SECTION B - B
LEACHING BASIN

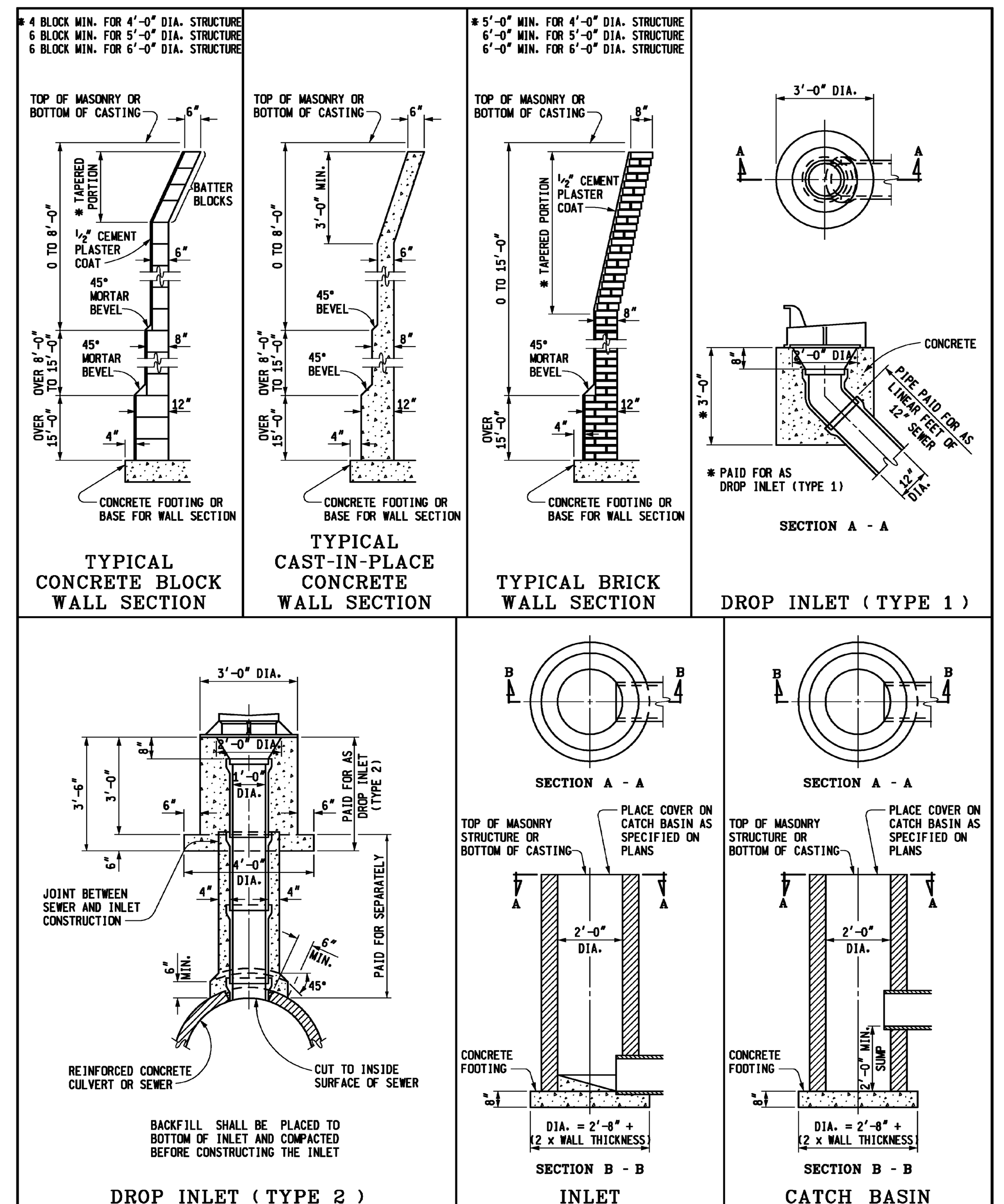
SECTION A - A
PRECAST SUMP FOR PRECAST RISERS

SECTION A - A
PRECAST SUMP FOR BRICK OR BLOCK CONSTRUCTION

SECTION A - A
PRECAST SUMP FOR 2'-0" DIA. STRUCTURES

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRAINAGE STRUCTURES

9-16-2009 F.H.W.A. APPROVAL | 4-16-2009 PLAN DATE | R-1-E | SHEET 2 OF 5




TYPICAL CONCRETE BLOCK WALL SECTION

TYPICAL CAST-IN-PLACE CONCRETE WALL SECTION

TYPICAL BRICK WALL SECTION

SECTION A - A
DROP INLET ( TYPE 1 )

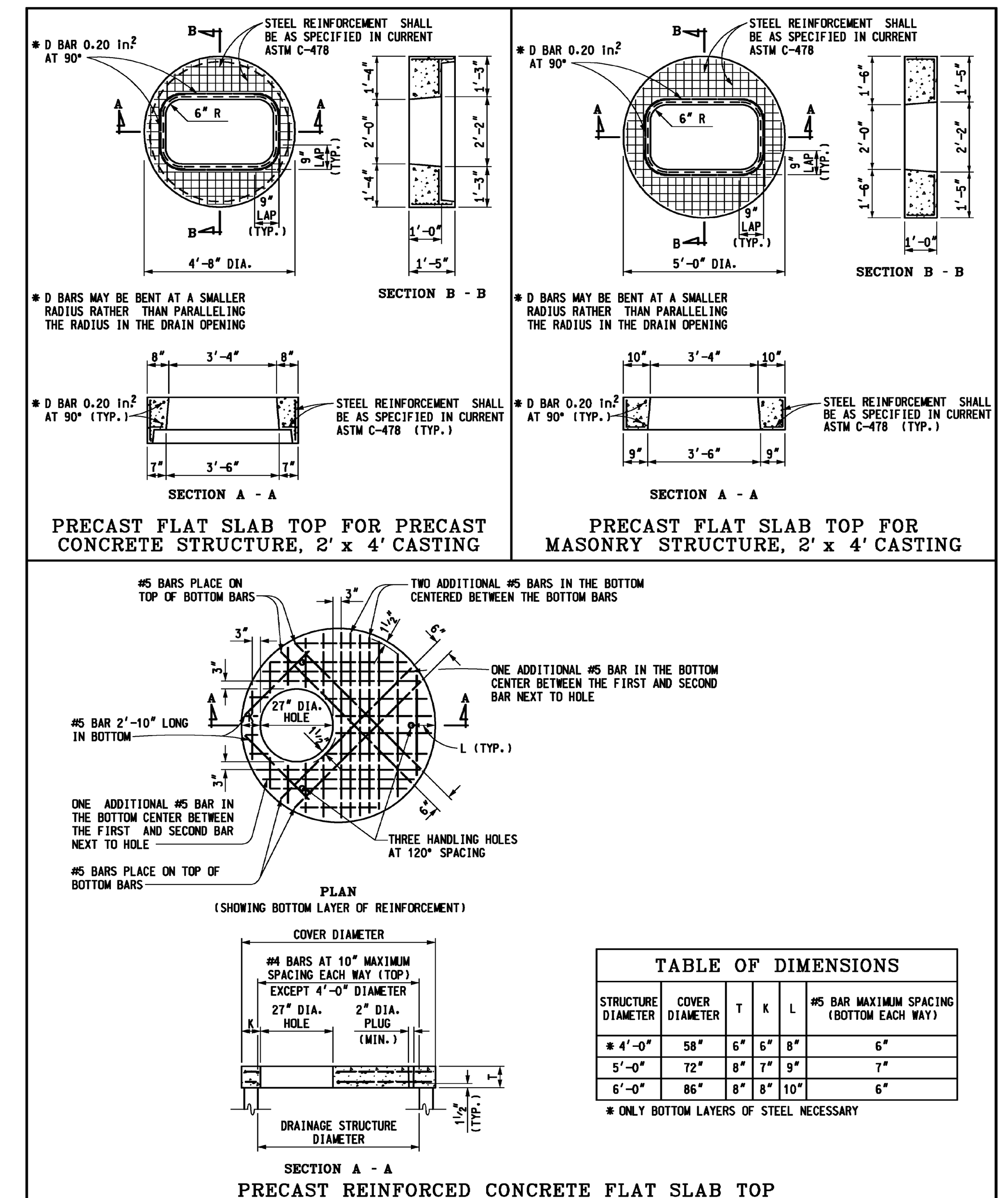
DROP INLET ( TYPE 2 )

SECTION B - B
INLET

SECTION B - B
CATCH BASIN

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRAINAGE STRUCTURES

9-16-2009 F.H.W.A. APPROVAL | 4-16-2009 PLAN DATE | R-1-E | SHEET 3 OF 5




PRECAST FLAT SLAB TOP FOR PRECAST CONCRETE STRUCTURE, 2' x 4' CASTING

PRECAST FLAT SLAB TOP FOR MASONRY STRUCTURE, 2' x 4' CASTING

PLAN
(SHOWING BOTTOM LAYER OF REINFORCEMENT)

TABLE OF DIMENSIONS

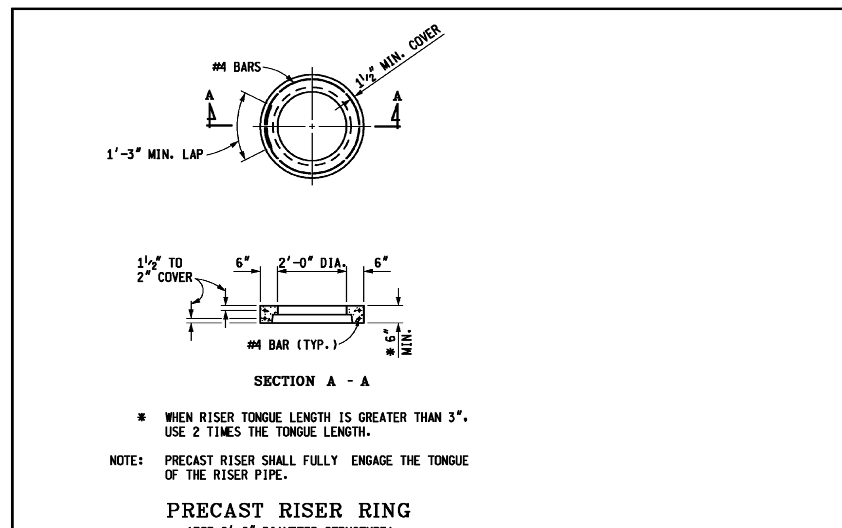
| STRUCTURE DIAMETER | COVER DIAMETER | T | K | L | #5 BAR MAXIMUM SPACING (BOTTOM EACH WAY) |
|---|---|---|---|---|---|
| * 4'-0" | 58" | 6" | 6" | 8" | 6" |
| 5'-0" | 72" | 8" | 7" | 9" | 7" |
| 6'-0" | 86" | 8" | 8" | 10" | 6" |

* ONLY BOTTOM LAYERS OF STEEL NECESSARY

SECTION A - A
PRECAST REINFORCED CONCRETE FLAT SLAB TOP

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRAINAGE STRUCTURES

9-16-2009 F.H.W.A. APPROVAL | 4-16-2009 PLAN DATE | R-1-E | SHEET 4 OF 5




SECTION A - A

* WHEN RISER TONGUE LENGTH IS GREATER THAN 3", USE 2 TIMES THE TONGUE LENGTH.

NOTE: PRECAST RISER SHALL FULLY ENGAGE THE TONGUE OF THE RISER PIPE.

PRECAST RISER RING
(FOR 2'-0" DIAMETER STRUCTURE)

NOTES:

THE DRAINAGE STRUCTURE COVERS ALLOWED FOR USE ON THESE DRAINAGE STRUCTURES ARE SPECIFIED IN SUBSEQUENT STANDARD PLANS AND ARE INTERCHANGEABLE ON ANY STRUCTURE.

THE TOPS OF MASONRY STRUCTURES SHALL BE SUFFICIENTLY LOW TO PERMIT PROPER ADJUSTMENT OF COVER TO GRADE USING MORTAR OR BRICK AS DIRECTED BY THE ENGINEER.

PREMIUM JOINTS ARE REQUIRED ON ALL SANITARY MANHOLES. SEE ASTM DESIGNATION C-923.

GRANULAR MATERIAL CLASS III SHALL BE USED IN BACKFILLING AROUND ALL STRUCTURES THAT FALL WITHIN THE 1:1 INFLUENCE LINES FROM THE EDGE OF PAVEMENT OR BACK OF CURB.

A STRIP OF SOD 3'-0" WIDE SHALL BE PLACED AROUND THE TOP OF EACH STRUCTURE LYING OUTSIDE THE SURFACED PORTIONS OF THE HIGHWAY.

STEPS FOR DRAINAGE STRUCTURES SHALL BE OF AN APPROVED DESIGN AND MADE FROM CAST IRON, ALUMINUM, OR PLASTIC COATED STEEL. RUNGS SHALL BE A MINIMUM OF 10" IN CLEAR LENGTH, DESIGNED TO PREVENT THE FOOT FROM SLIPPING OFF THE END. THE MINIMUM HORIZONTAL PULL OUT LOAD SHALL BE 400 LBS. THE MINIMUM VERTICAL LOAD SHALL BE 800 LBS.

THE BELL SHALL BE REMOVED FOR THE FIRST LENGTH OF OUTLET PIPE PROJECTING THROUGH THE WALL OF THE MANHOLE.

PRECAST CONCRETE SECTIONS, SUMPS, AND FLAT TOP SLABS SHALL BE BUILT ACCORDING TO ASTM C-478 AND ACCORDING TO DETAILS SPECIFIED ON THIS PLAN. PRECAST REINFORCED CONCRETE FLAT TOP SLAB SHALL BE MARKED TO SHOW LOCATION OF REINFORCEMENT. THE WALLS OF THE PRECAST UNITS MAY HAVE A SLIGHT TAPER TO ALLOW FOR FORM REMOVAL. PRECAST CONCRETE 2'-0" DIAMETER DRAINAGE STRUCTURES SHALL HAVE A MINIMUM 3" WALL THICKNESS WITH A 6" MINIMUM BEARING SURFACE ON TOP. SEE PRECAST RISER RING FOR 2'-0" DIAMETER STRUCTURE.

PIPES ENTERING OR LEAVING PRECAST STRUCTURES SHALL NOT HAVE AN INSIDE DIAMETER GREATER THAN 2'-0" LESS THAN THE INSIDE DIAMETER OF THE STRUCTURE, EXCEPT THAT A PIPE LEAVING A 2'-0" INSIDE DIAMETER STRUCTURE MAY HAVE A 1'-0" INSIDE DIAMETER OR LESS.

THE NUMBER OF PIPE OPENINGS IN A RISER SHALL BE DETERMINED BY THE DESIGNER. SPACING BETWEEN OPENINGS SHALL BE 6" MINIMUM. OPENINGS MAY BE CONSTRUCTED BY CASTING, REMOVING THE GREEN CONCRETE, OR BY DRILLING THE OPENINGS IN CURED CONCRETE.

WHEN A SEWER TRAP IS CALLED FOR ON THE PLANS, IT SHALL BE PLACED IN THE OUTLET SEWER LINE OF CATCH BASINS AND CONSTRUCTED ACCORDING TO STANDARD PLAN R-19-SERIES. SEWER TRAPS SHALL BE PAID FOR SEPARATELY AT THE CONTRACT UNIT PRICE, EACH.

PRECAST CONCRETE FOOTINGS OR BASES SHALL BE REINFORCED WITH #4 BARS SPACED AT 1'-0" BOTH WAYS OR WITH TWO LAYERS OF WELDED WIRE FABRIC OF EQUIVALENT CROSS SECTIONAL AREA LAID AT RIGHT ANGLES AND WIRED TOGETHER. REINFORCEMENT SHALL BE PLACED IN TOP OF FOOTING AND SHALL BE MARKED. STEEL REINFORCEMENT MAY BE OMITTED IN CAST-IN-PLACE CONCRETE FOOTINGS.

PRECAST CONCRETE FOOTINGS SHALL BE SUPPORTED BY A COMPACTED 6" GRANULAR SUBBASE.

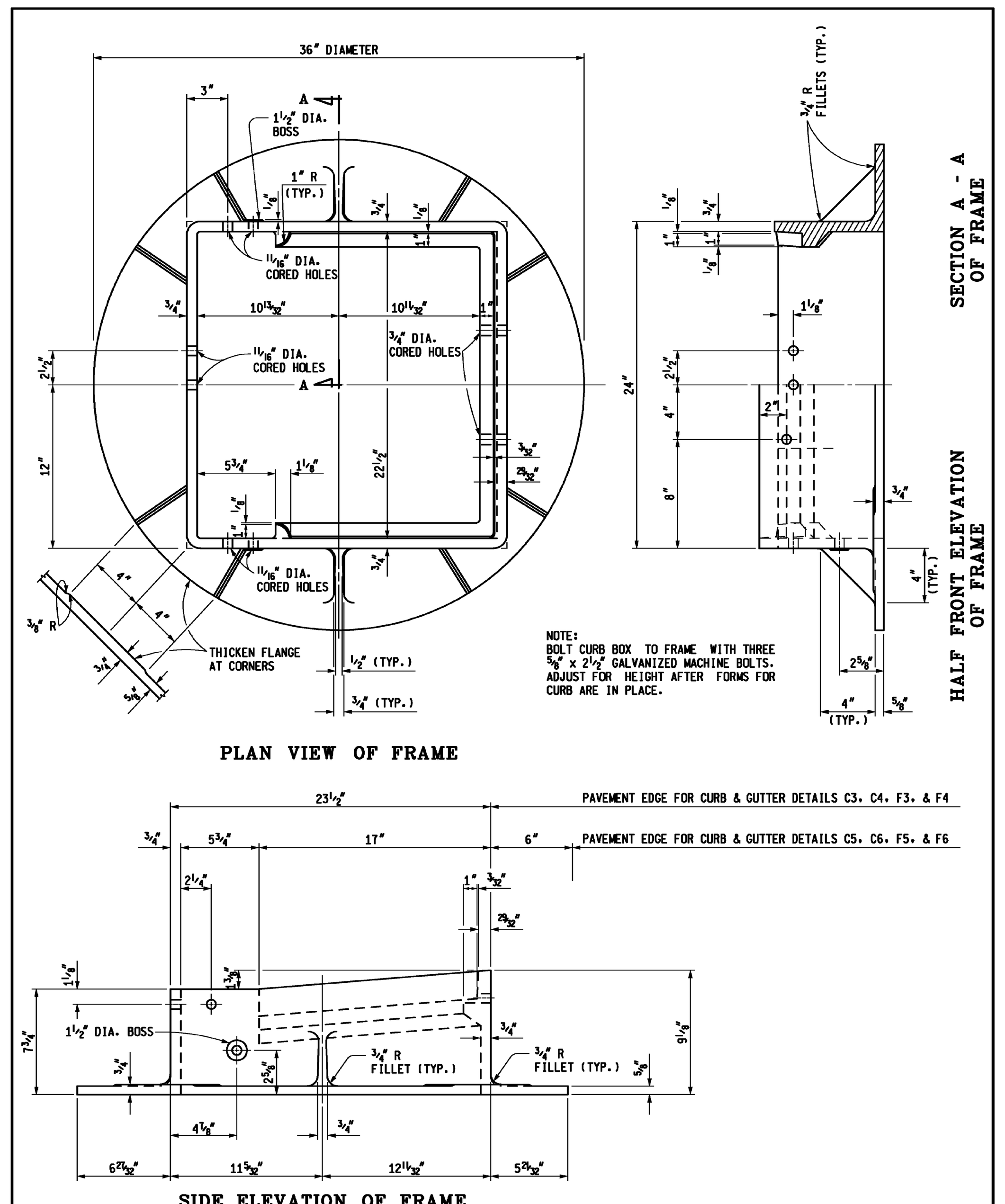
THE MINIMUM WALL THICKNESS FOR ALL 2'-0", 4'-0", 5'-0", AND 6'-0" DRAINAGE STRUCTURES USING CONCRETE BLOCK, BRICK, OR CAST-IN-PLACE CONCRETE SHALL BE AS SPECIFIED IN TYPICAL WALL SECTIONS.

THE CONICAL SECTION OF MANHOLES OR CATCH BASINS CONSTRUCTED OF BLOCK OR BRICK SHALL BE SHROUDED WITH GEOTEXTILE FABRIC TO A MINIMUM DEPTH OF 5'-0" OR THROUGH THE FROST ZONE. ENOUGH GEOTEXTILE MATERIAL SHALL BE LEFT ON THE TOP (8" OR MORE) TO ROLL OVER THE TOP OF THE CONE.

PREFORMED HIGH DENSITY POLYSTYRENE FILLER PIECES MAY BE USED TO CHANNEL FLOW IN THE BOTTOM OF MANHOLES PROVIDED THEY HAVE AT LEAST 2" OF CONCRETE COVER. THE USE OF THIS MATERIAL FOR CHANNEL FLOW IS RESTRICTED TO MANHOLES WHERE THE BOTTOM SECTION IS NOT SUBJECT TO FREEZING. THE USE OF THIS MATERIAL MUST BE APPROVED BY THE ENGINEER.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRAINAGE STRUCTURES

9-16-2009 F.H.W.A. APPROVAL | 4-16-2009 PLAN DATE | R-1-E | SHEET 5 OF 5




NOTE:
BOLT CURB BOX TO FRAME WITH THREE 5/8" x 2 1/2" GALVANIZED MACHINE BOLTS. ADJUST FOR HEIGHT AFTER FORMS FOR CURB ARE IN PLACE.

PLAN VIEW OF FRAME

SIDE ELEVATION OF FRAME

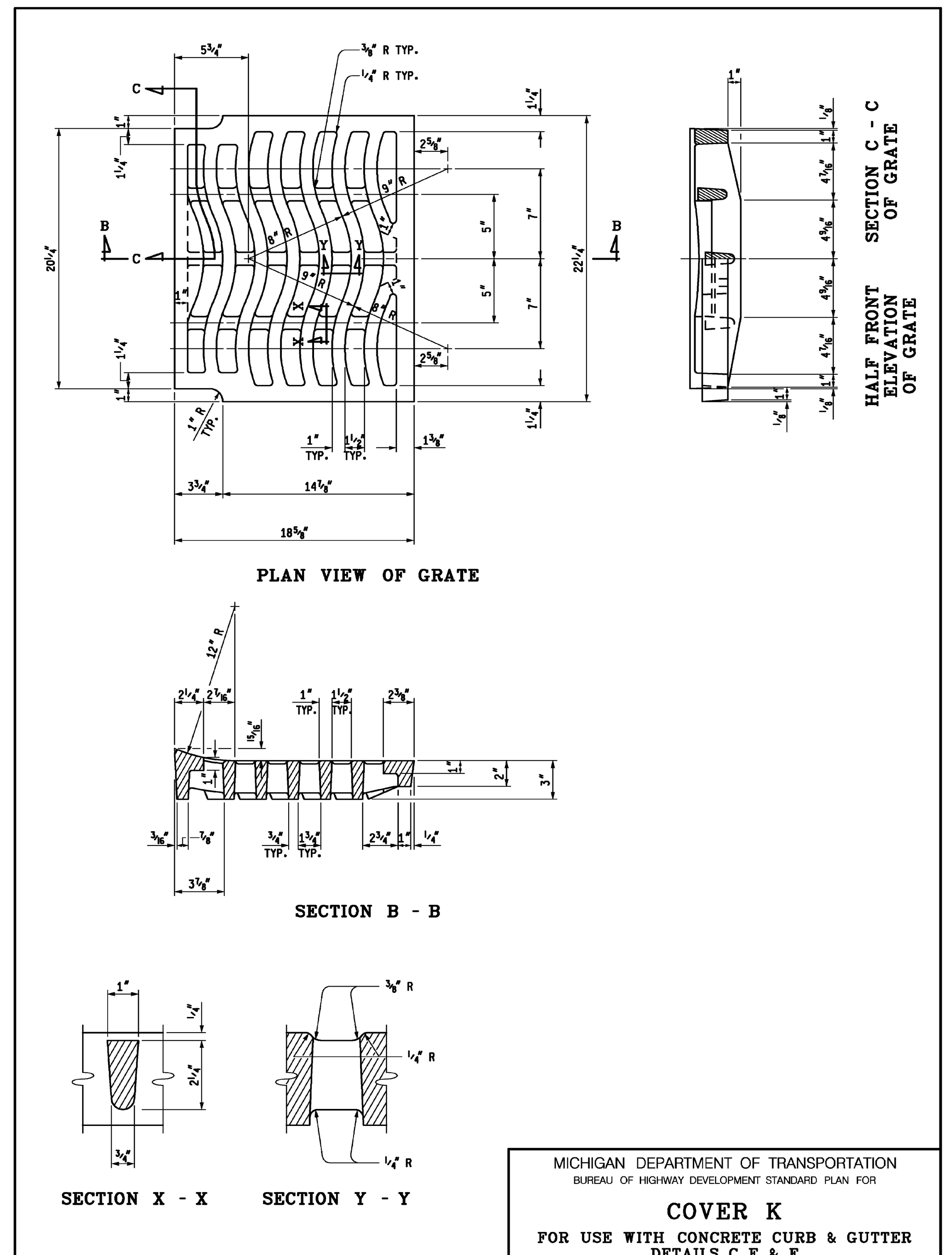
MDOT — PREPARED BY DESIGN DIVISION
DRAWN BY: B.L.T. CHECKED BY: W.K.P.
DEPARTMENT DIRECTOR Kirk T. Steudle
APPROVED BY: ENGINEER OF DELIVERY
APPROVED BY: ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

## COVER K

FOR USE WITH CONCRETE CURB & GUTTER DETAILS C, E & F

9-16-2009 F.H.W.A. APPROVAL | 6-16-2009 PLAN DATE | R-15-E | SHEET 1 OF 3




PLAN VIEW OF GRATE

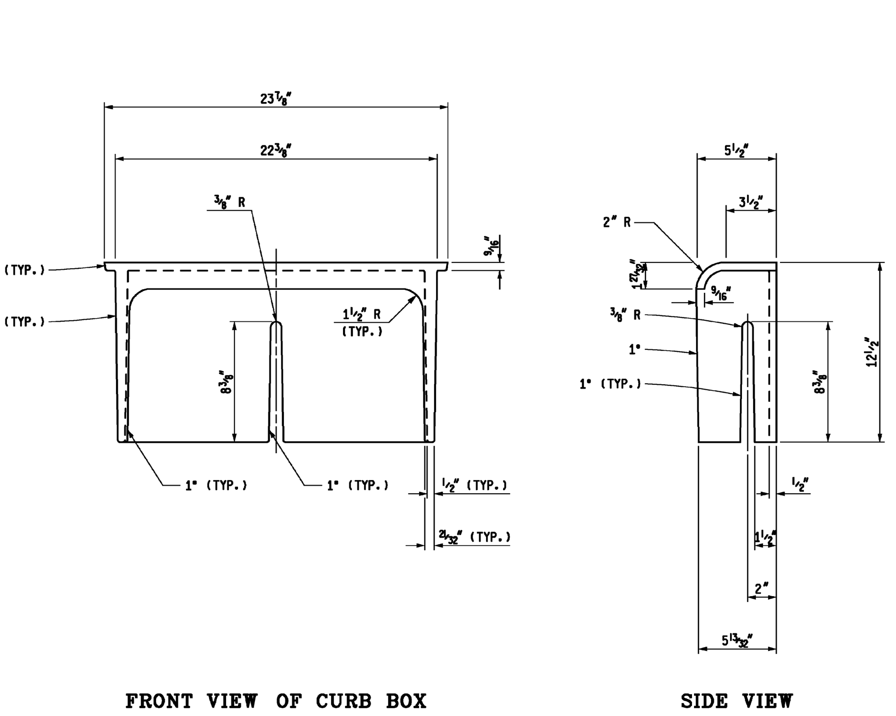
SECTION B - B

SECTION X - X

SECTION Y - Y

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
COVER K
FOR USE WITH CONCRETE CURB & GUTTER DETAILS C, E & F

9-16-2009 F.H.W.A. APPROVAL | 6-16-2009 PLAN DATE | R-15-E | SHEET 2 OF 3




FRONT VIEW OF CURB BOX

SIDE VIEW

NOTES:

THE CASTINGS SHALL MEET THE REQUIREMENTS OF THE CURRENT STANDARD SPECIFICATION FOR GRAY IRON CASTINGS.

ALL CASTINGS SHALL BE CLEANED BY CURRENT APPROVED BLASTING METHODS.

THE SEATING FACE OF THE GRATE AND THE SEAT FOR THE SAME ON THE FRAME SHALL BE GROUND OR MACHINED SO THAT THE GRATE WILL HAVE AN EVEN BEARING ON ITS SEAT TO PREVENT ROCKING OR TILTING.

THE CASTINGS SHALL BE FREE OF POURING FAULTS, BLOW HOLES, CRACKS AND OTHER IMPERFECTIONS. THEY SHALL BE SOUND, TRUE TO FORM AND THICKNESS, CLEAN AND NEATLY FINISHED, AND SHALL BE COATED WITH COAL TAR PITCH VARNISH.

THE CURB BOX AND FRAME SHALL BE SHIPPED ASSEMBLED.

THIS COVER IS DESIGNED TO FIT ON ANY INLET, CATCH BASIN OR ON ANY EXISTING SIMILAR STRUCTURE WHEN SO DESIGNATED ON THE PLANS.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
COVER K
FOR USE WITH CONCRETE CURB & GUTTER DETAILS C, E & F

9-16-2009 F.H.W.A. APPROVAL | 6-16-2009 PLAN DATE | R-15-E | SHEET 3 OF 3

XREF: L:\2012143\DWG\TOPOBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE-12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK-12143.DWG

REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments (No Changes this Sheet) | 04/28/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal (No Changes this Sheet) | 02/14/14 |
| 1 | PB | JPB | Revised per City & MDOT Review (No Changes this Sheet) | 04/02/13 |

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Fax: (248) 689-1044
website: www.peainc.com

GREENTREE INVESTMENT COMPANY
440 LAKE PARK
BIRMINGHAM, MICHIGAN, 48009

# M.D.O.T. STANDARD DETAILS
# HAZEL STREET VACATION

34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

DES. PB | DN. PB | SUR. KTR | P.M. JPB

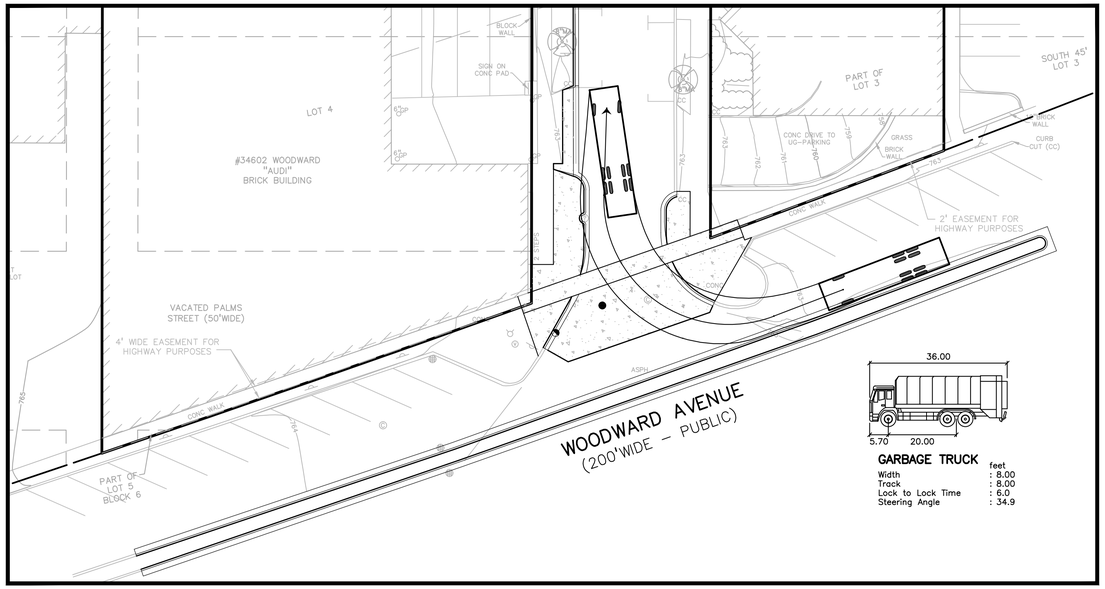
S:\PROJECTS\2012\2012143 HAZEL STREET VACATION\Dwg\CONSTRUCTION\(C-6.1)MDOT-12143.dwg

ORIGINAL ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

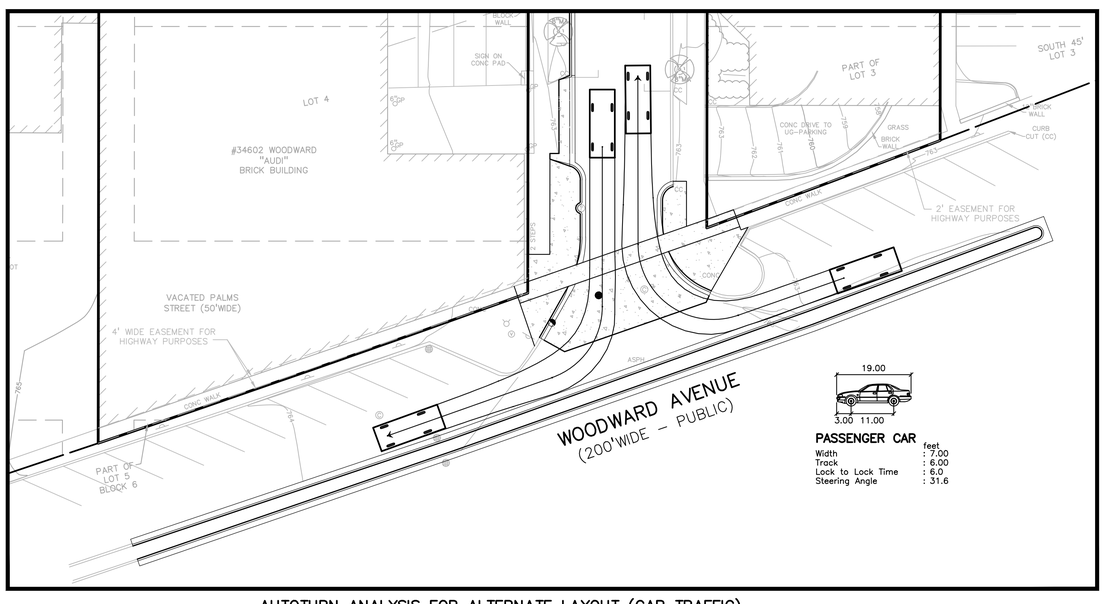
SCALE: NONE

DRAWING NUMBER:
C-6.4



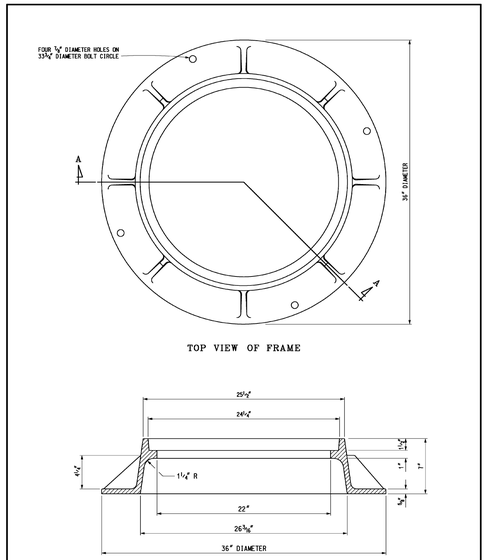

AUTOTURN ANALYSIS FOR ALTERNATE LAYOUT (GARBAGE TRUCK)

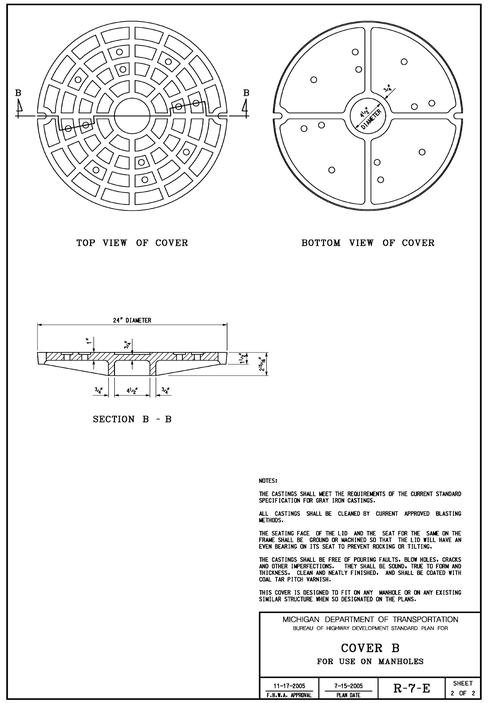
SCALE: 1"=20'




AUTOTURN ANALYSIS FOR ALTERNATE LAYOUT (CAR TRAFFIC)

SCALE: 1"=20'

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THIS COVER IS DESIGNED TO FIT ON ANY MANHOLE OR ON ANY EXISTING SIMILAR STRUCTURE WHEN SO DESIGNATED ON THE PLANS.

MDOT Michigan Department of Transportation

PREPARED BY DESIGN SUPPORT AREA

DRAWN BY: R.L.T.
CHECKED BY: R.L.T.

DEPARTMENT DIRECTOR
Gloria J. Jeff

APPROVED BY: ENGINEER OF DELIVERY

APPROVED BY: ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

COVER B
FOR USE ON MANHOLES

| 11-17-2005 | 7-15-2005 | R-7-E | SHEET |
|---|---|---|---|
| F.H.W.A. APPROVAL | PLAN DATE | | 1 OF 2 |

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

COVER B
FOR USE ON MANHOLES

| 11-17-2005 | 7-15-2005 | R-7-E | SHEET |
|---|---|---|---|
| F.H.W.A. APPROVAL | PLAN DATE | | 2 OF 2 |

REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3 | PB | JPB | Revised per City Comments. (No Changes this Sheet) | 04/28/14 |
| 2 | PB | JPB | Revised for Hazel St Utility Removal (No Changes this Sheet) | 02/24/14 |
| 1 | PB | JPB | Revised per City & MDOT Review. (This Sheet Added) | 04/02/13 |

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M.D.O.T. STANDARD DETAILS
HAZEL STREET VACATION
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | DN. | SUR. | P.M. |
|---|---|---|---|
| PB | PB | KTR | JPB |

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ORIGINAL
ISSUE DATE: NOV. 13, 2012

PEA JOB NO. 2012-143

SCALE: NONE

DRAWING NUMBER:

C-6.5

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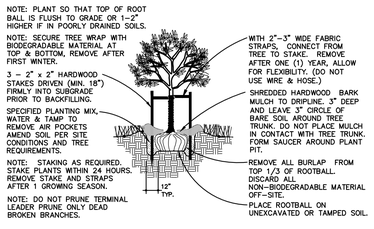
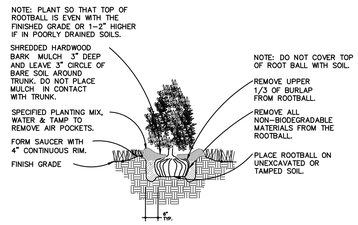


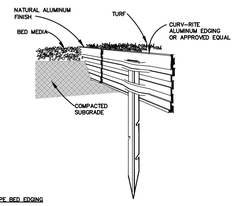

## DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE




## SHRUB PLANTING DETAIL

NOT TO SCALE




SPECIFICATION FOR LANDSCAPE BED EDGING

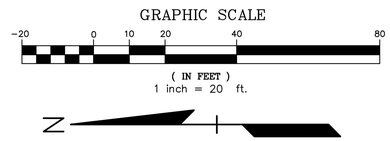
LANDSCAPE BED EDGING SHALL BE CURV–RITE DESIGN 2 (CRD2) (OR APPROVED EQUAL) AS MANUFACTURED BY CURV–RITE INC. WAYLAND, MICHIGAN 1 – 800 366 – 2878.

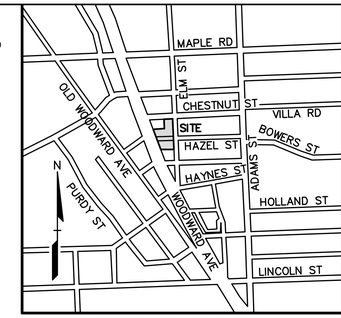
EIGHT (8) OR SIXTEEN (16) FOOT SECTIONS SHALL BE USED WITH ONE STAKE PER (38) INCHES OF EDGING
EDGING SHALL BE ALUMINUM ALLOY 6063 – T6 WITH STAKES BEING 6061 – T6.
STAKE SHALL SECURELY ENGAGE EDGING AND SHALL BE ENTIRELY BELOW TOP SURFACE OF EDGING.
EDGING SHALL HAVE A MINIMUM OF (2) INCHES OF INTERLOCKING OVERLAP BETWEEN SECTIONS.

INSTALL AS PER MANUFACTURER'S SPECIFICATIONS WITH TOP OF EDGING 1/4" TO 1/2" ABOVE COMPACTED FINISH GRADE. FINISH GRADE TO BE COMPACTED ON EITHER SIDE OF EDGING TO MAINTAIN STABILITY.

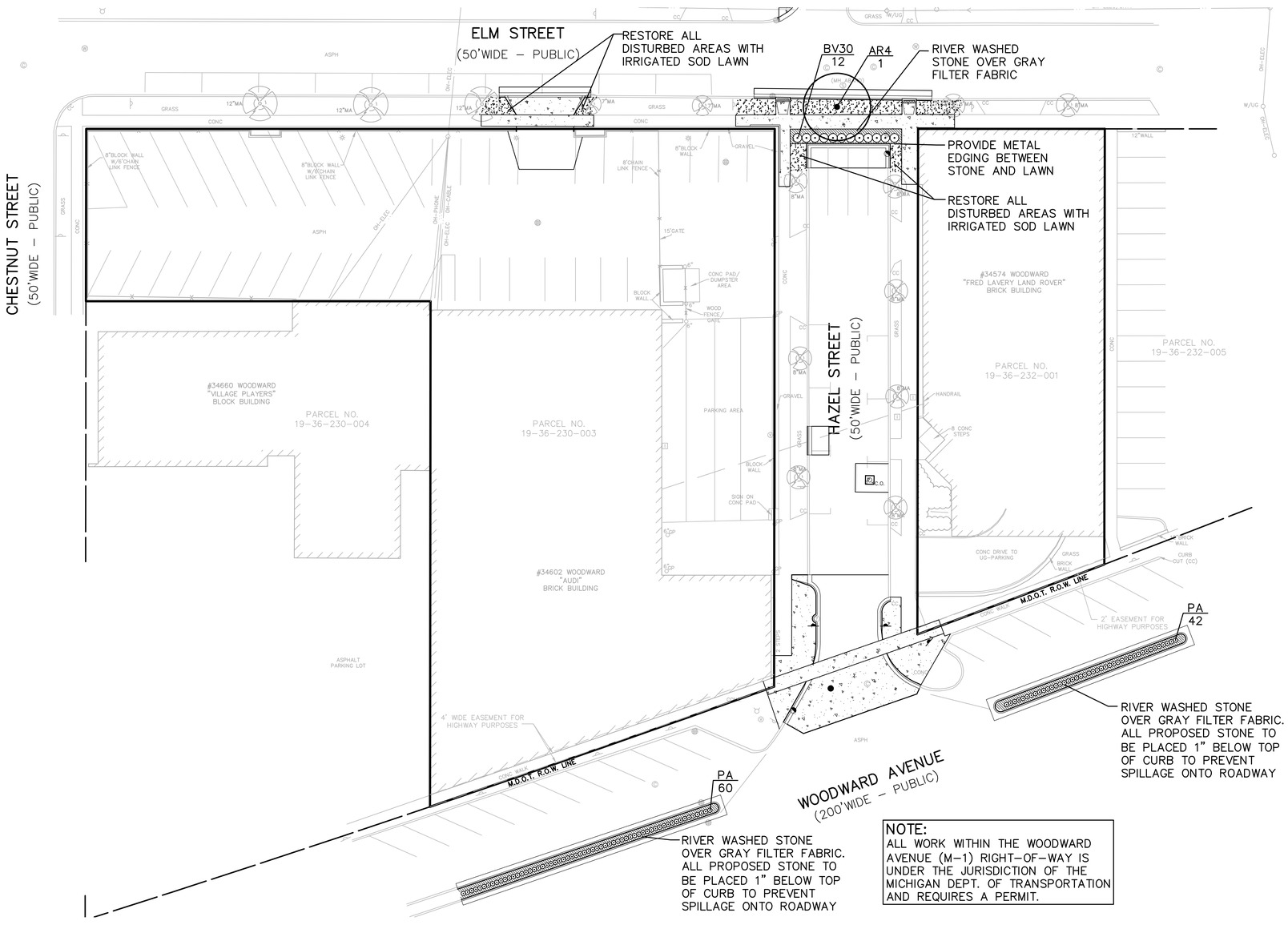
## METAL EDGING DETAIL

NOT TO SCALE




LOCATION MAP NOT TO SCALE




NOTE:
ALL WORK WITHIN THE WOODWARD AVENUE (M–1) RIGHT–OF–WAY IS UNDER THE JURISDICTION OF THE MICHIGAN DEPT. OF TRANSPORTATION AND REQUIRES A PERMIT.

**TREE PLANT LIST:**

| QUANTITY | KEY SYMBOL | COMMON NAME | SCIENTIFIC NAME | SIZE | SPEC |
|---|---|---|---|---|---|
| 1 | AR4 | Armstrong Red Maple | *Acer rubrum 'Armstrong'* | 4" Cal. | B&B |

**SHRUB PLANT LIST:**

| QUANTITY | KEY SYMBOL | COMMON NAME | SCIENTIFIC NAME | SIZE | SPEC |
|---|---|---|---|---|---|
| 12 | BV30 | Green Velvet Boxwood | *Buxus x 'Green Velvet'* | 30" Ht. | Cont. |

**PERENNIAL PLANT LIST:**

| QUANTITY | KEY SYMBOL | COMMON NAME | SCIENTIFIC NAME | SIZE | SPEC |
|---|---|---|---|---|---|
| 102 | PA | 'Little Spire' Russian Sage | *Perovskia atriplicifolia 'Little Spire'* | 1 Gal. | Cont. |

'Little Spire' Russian Sage maximum growth height 18–24"

= IRRIGATED SOD LAWN, RESTORE ALL DISTURBED AREAS

= RIVER WASHED STONE OVER GRAY FILTER FABRIC

GENERAL PLANTING NOTES:

1. Landscape contractor shall visit site, inspect existing site conditions and review proposed planting and related work. In case of discrepancy between plan and plant list, plan shall govern quantities. Contact Landscape Architect with any concerns.
2. Contractor shall verify locations of all on site utilities prior to beginning construction on his/her phase of work. Electric, gas, telephone, cable television may be located by calling MISS DIG 1–800–482–7171. Any damage or interruption of services shall be the responsibility of Contractor. Contractor shall coordinate all related activities with other trades on the job and shall report any unacceptable job conditions to Owner's Representative prior to commencing.
3. All plant material to be premium grade nursery stock and shall satisfy American Association of Nurserymen standard for Nursery Stock. All landscape material shall be Northern Grown, No. 1. Grade.
4. Contractor is responsible for verifying all quantities shown on landscape plan prior to pricing the work.
5. The owner's representative reserves the right to reject any plant material not meeting specifications.
6. All single stem shade trees to have straight trunks and symmetrical crowns.
7. All single trunk shade trees to have a central leader; trees with forked or irregular trunks will not be accepted.
8. All trees to have clay or clay loam balls, trees with sand balls Will Be Rejected.
9. No machinery is to be used within the drip line of existing trees; Hand grade all lawn areas within the drip line of existing trees.
10. All tree locations shall be staked by Landscape Contractor and are subject to the approval of the landscape Architect prior to installation of the plant material.
11. It is mandatory that positive drainage is provided away from from all buildings.
12. All planting beds shall receive 4" shredded hardwood bark mulch, see specifications. Shredded palette and died mulch will not be accepted.
13. All landscaped areas shall receive 3" compacted topsoil.

XREF: L:\2012143\DWG\TOPOBASE–12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\CBASE–12143.DWG
XREF: L:\2012143\DWG\CONSTRUCTION\TBLK–12143.DWG

REVISIONS

| No. | BY | CHK | DESCRIPTION | DATE |
|---|---|---|---|---|
| 3. | PB | JPB | Revised per City Comments | 04/29/14 |
| 2. | PB | JPB | Revised for Hazel SJ Utility Removal | 02/14/14 |
| 1. | PB | JPB | Revised per City & MDOT Review | 04/09/13 |

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LANDSCAPE PLAN
HAZEL STREET VACATION
34574 & 34602 WOODWARD AVENUE
CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, 48009

| DES. | PB | DN. | PB | SUR. | KTR | P.M. | JPB |
|---|---|---|---|---|---|---|---|

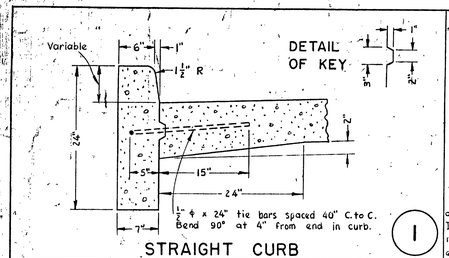
S:\PROJECTS\2012\2012-143 HAZEL STREET VACATION\Dwg\2012-143 LL-1.03LANDSCAPE-12143.dwg

ORIGINAL
ISSUE DATE: NOV. 13, 2012

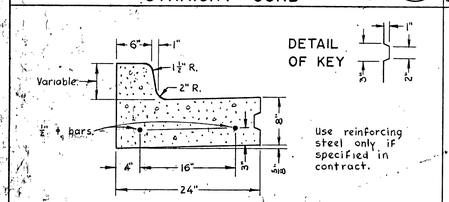
PEA JOB NO. 2012-143

SCALE: 1" = 20'

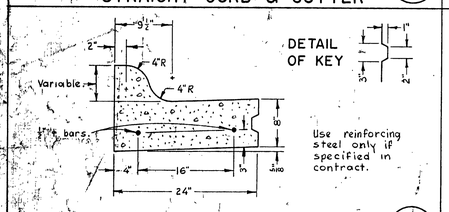
DRAWING NUMBER:
L-1.0



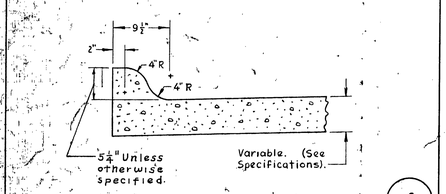

STRAIGHT CURB (1)



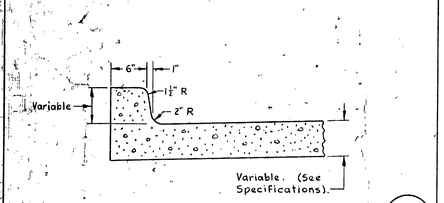

STRAIGHT CURB & GUTTER (2)



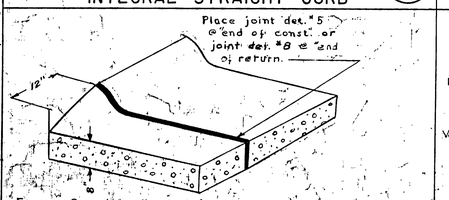

ROLL CURB & GUTTER (3)



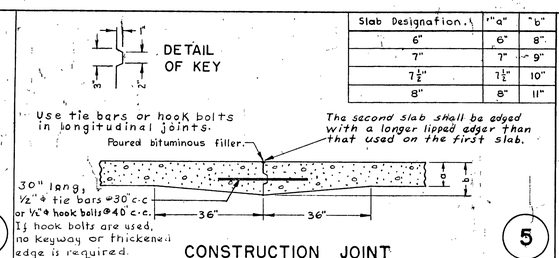

INTEGRAL ROLL CURB (4)




INTEGRAL STRAIGHT CURB (4A)

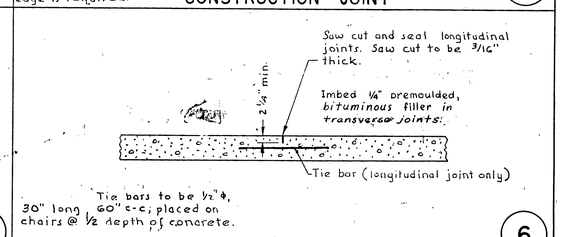



END HEADER (10)

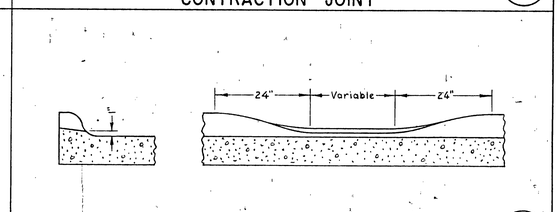



| Slab Designation. | "a" | "b" |
|---|---|---|
| 6" | 6" | 8" |
| 7" | 7" | 9" |
| 7½" | 7½" | 10" |
| 8" | 8" | 11" |

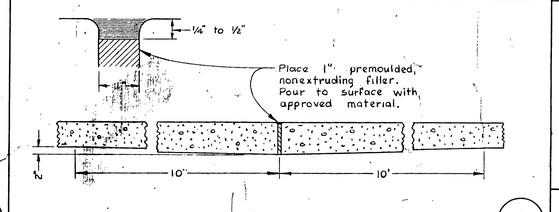
CONSTRUCTION JOINT (5)



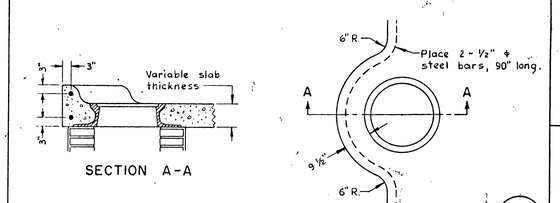

CONTRACTION JOINT (6)



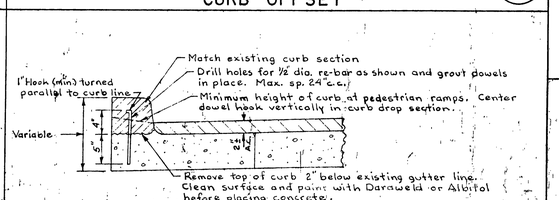

DRIVEWAY OPENING (7)




EXPANSION JOINT (8)




CURB OFFSET (9)




CURB REPAIR (11)

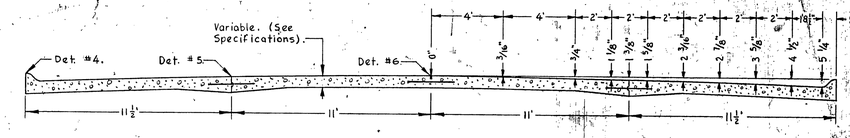
| PAVEMENT WIDTH | DISTANCE FROM ℄ OF CROWN | CROWN INCHES | CROWN FEET |
|---|---|---|---|
| | 0 | 0 | .0000 |
| | 1 | 0 | .0009 |
| | 2 | 1/16 | .0038 |
| | 3 | 1/8 | .0084 |
| | 4 | 3/16 | .0150 |
| | 5 | 1/4 | .0234 |
| | 6 | 3/8 | .0338 |
| | 7 | 9/16 | .0459 |
| | 8 | 3/4 | .0600 |
| | 9 | 15/16 | .0759 |
| | 10 | 1 1/8 | .0938 |
| | 11 | 1 3/8 | .1134 |
| 25' 8/8 | 11.71 | 1 9/16 | .1286 |
| | 12 | 1 5/8 | .1350 |
| 27' 8/8 | 12.71 | 1 13/16 | .1514 |
| | 13 | 1 7/8 | .1584 |
| 29' 8/8 | 13.71 | 2 1/8 | .1762 |
| | 14 | 2 3/16 | .1838 |
| 31' 8/8 | 14.71 | 2 7/16 | .2029 |
| | 15 | 2 1/2 | .2109 |
| 33' 8/8 | 15.71 | 2 3/4 | .2314 |
| | 16 | 2 7/8 | .2400 |
| | 17 | 3 1/4 | .2709 |
| 37' 8/8 | 17.71 | 3 1/2 | .2940 |
| | 18 | 3 5/8 | .3038 |
| | 19 | 4 1/16 | .3384 |
| 41' 8/8 | 19.71 | 4 3/8 | .3642 |
| | 20 | 4 1/2 | .3750 |
| | 21 | 4 15/16 | .4134 |
| 45' 8/8 | 21.71 | 5 5/16* | .4419 |
| | 22 | 5 7/16 | .4538 |

* Use 5 1/4"

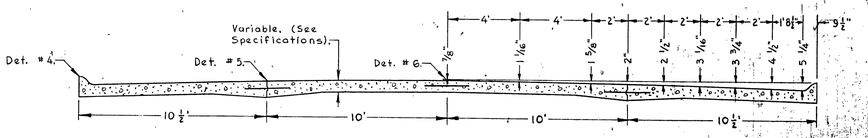
$$Y = .0009375\ X^2$$

Max. X = 22.22'; then use ½" per ft. Y (feet) is the crown at X (feet) from the ℄.

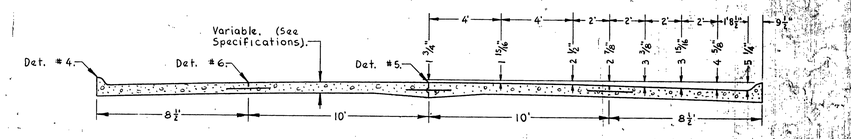
PAVEMENT PARABOLA



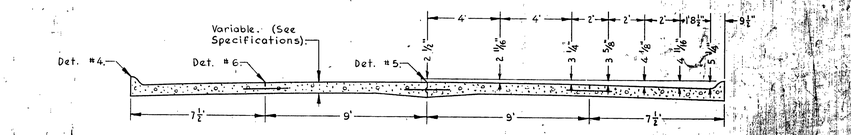

TYPICAL SECTION - 45' PAVEMENT



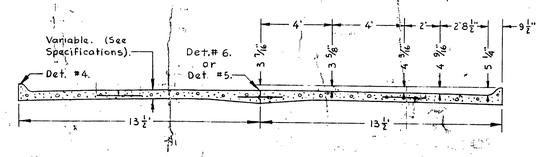

TYPICAL SECTION - 41' PAVEMENT



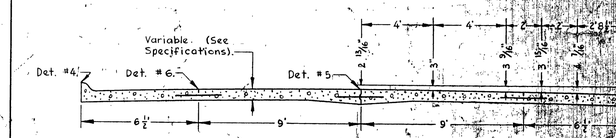

TYPICAL SECTION - 37' PAVEMENT



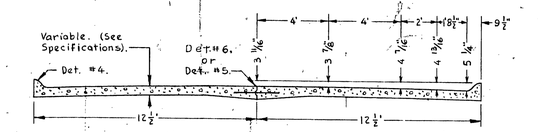

TYPICAL SECTION - 33' PAVEMENT



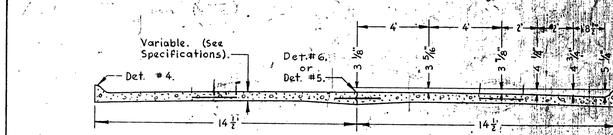

TYPICAL SECTION - 27' PAVEMENT



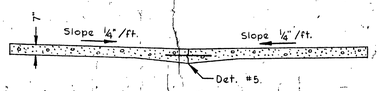

TYPICAL SECTION - 31' PAVEMENT



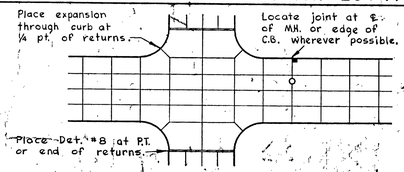

TYPICAL SECTION - 25' PAVEMENT




TYPICAL SECTION - 29' PAVEMENT




TYPICAL SECTION - ALLEY PAVEMENT




Note: Place transverse joints, Det. #6, at intervals of 15' ft., and Det. #8, where abutting existing pavements and structures.

TYPICAL JOINT LAYOUT

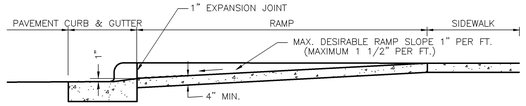
| REVISIONS | | |
|---|---|---|
| NO. | DATE | BY |
| 1 | 3-27-58 | R.H. |
| 2 | 5-27-58 | R.L.H. |

CITY OF ARLINGTON, MICHIGAN
ENGINEERING DEPARTMENT

PAVING DETAILS

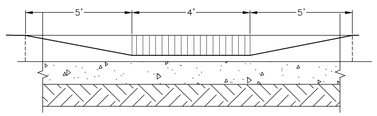
MASTER
DO NOT CHANGE
FOR
PRINTS ONLY

DRAWN BY: 3-14-58 APPROVED BY: [signature] CITY ENGINEER
CHECKED BY: D.E.M. 3-31-58
DATE: 6-19-58



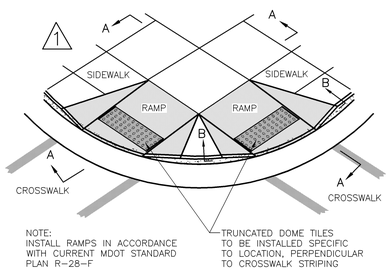

## SECTION A–A

N.T.S.




## SECTION B–B

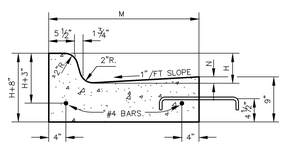
N.T.S.




## SIDEWALK RAMP TYPE 1

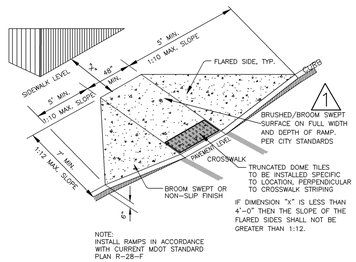
(TWO RAMPS ARE SHOWN)

N.T.S.



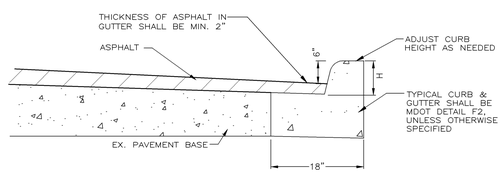

THE "H" DIMENSION SHALL BE AS SPECIFIED, TO ENABLE A MINIMUM 6" CURB HEIGHT. H = TBD

| DETAIL | DIMENSIONS M | DIMENSIONS N | LANE TIES | CONCRETE CU. YD./LIN. FT. |
|---|---|---|---|---|
| F1 | 1'–6" | 7/8" | AS SHOWN | 0.0484 |
| F2 | 1'–6" | 7/8" | OMITTED | 0.0484 |




## CURB RAMP FOR DISABLED

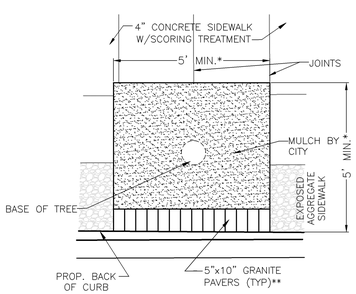
N.T.S.




## MDOT DETAIL F

(WITH ASPHALT OVERLAY)

N.T.S.



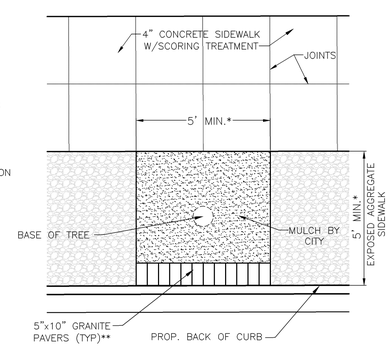

NOTE:
INSTALL 2 – 2" PVC SLEEVES BETWEEN TREE WELLS FOR FUTURE UNDERGROUND IRRIGATION, AS REQUIRED. INSTALLATION PER THE CITY OF BIRMINGHAM STANDARDS. TIE INTO PROPOSED WATER METER PITS.

*TREE WELL NOTE:
TREE WELL DIMENSIONS CAN BE MODIFIED BASED ON RIGHT-OF-WAY CONSTRAINTS.

**GRANITE PAVER NOTE:
GRANITE PAVER INSTALLATION SHALL APPLY FOR TREE WELLS ADJACENT TO PARALLEL PARKING SPACES ON A STREET. GRANITE PAVERS SHALL BE 'CARNE LIAN' (COLOR) BY COLD SPRING GRANITE COMPANY SET IN A FULL MORTAR BED WHERE INDICATED ON THE DRAWINGS. SUBMIT SAMPLES OF PAVERS (FOR COLOR AND FINISH) AND GROUT COLOR TO CITY OF BIRMINGHAM ENGINEERING FOR APPROVAL. LAYOUT PATTERN IS AS NOTED IN THE PLANS.

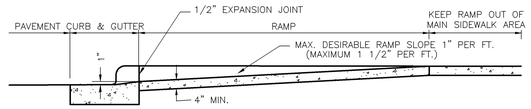
## TREE WELL DETAIL #1

N.T.S.



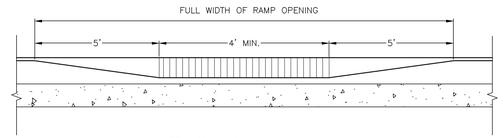

## TREE WELL DETAIL #2

N.T.S.



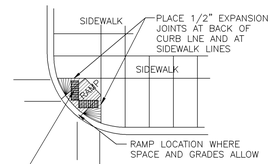

## SECTION G–G

N.T.S.



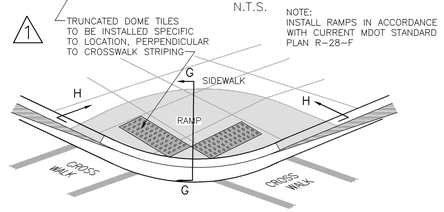

## SECTION H–H

N.T.S.



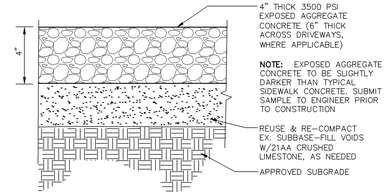

## PLAN VIEW

N.T.S.




## SIDEWALK RAMP TYPE 3

N.T.S.




**EXPOSED AGGREGATE SIDEWALK PROCEDURE:**

1. SURFACE RETARDANT: EXPOSED AGGREGATE FINISH SHALL BE EXPOSED BY USE OF SURFACE RETARDANT "PRECO EAC-S" OR APPROVED EQUAL.

2. CONCRETE SHALL BE PLACED, LEVELED & FLOATED IN A NORMAL FASHION (SEEDING WILL NOT BE PERMITTED)..

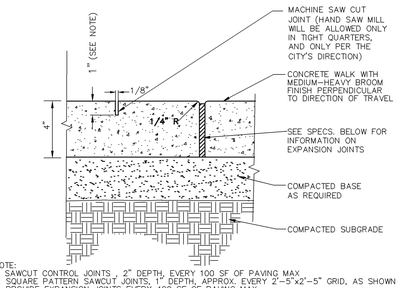
3. IMMEDIATELY AFTER THE SLAB HAS BEEN SCREENED AND DARBLED, THE AGGREGATE SHALL BE WASHED IN A UNIFORM MANNER UNTIL ENTIRE SURFACE IS EXPOSED. A THOROUGH "EXPOSING" OF THE EMBEDDED AGGREGATE SHALL BE PERFORMED UNTIL ALL AGGREGATE IS LEFT JUST ABOVE THE SURFACE, LEAVING NO HOLES OR OPENING IN THE SURFACE.

4. THE SURFACE SHALL THEN BE BRUSHED AND WASHED UNTIL ALL THE AGGREGATE IS EXPOSED AND FREE OF CEMENT FILM.

5. AFTER INITIAL CURING, THE EXPOSED AGGREGATE SIDEWALK SHALL BE SEALED WITH TRANSPARENT CONCRETE SEALER, AS APPROVED BY THE ENGINEER.

## EXPOSED AGGREGATE WALK DETAIL

N.T.S.




NOTE:
1. SAWCUT CONTROL JOINTS , 2" DEPTH, EVERY 100 SF OF PAVING MAX.
2. SQUARE PATTERN SAWCUT JOINTS, 1" DEPTH, APPROX. EVERY 2'–5"x2'–5" GRID, AS SHOWN
3. PROVIDE EXPANSION JOINTS EVERY 400 SF OF PAVING MAX.

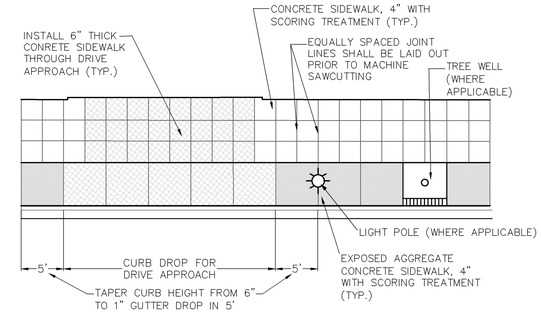
EXPANSION JOINT MATERIAL SPECS:
1. EXPANSION JOINT MATERIAL: RESILIENT, NON-EXTRUDING TYPE PREMOLDED BITUMINOUS IMPREGNATED FIBERBOARD.

2. SEALANT BACKER ROD: COMPRESSIBLE ROD STOCK OF POLYETHYLENE FOAM OR OTHER FLEXIBLE, PERMANENT, DURABLE NON-ABSORPTIVE MATERIAL AS RECOMMENDED FOR COMPATIBILITY BY SEALANT MANUFACTURE. TEMPORARILY INSTALL ABOVE FIBER BOARD TO CREATE SPACE FOR JOINT SEALANT AT THE APPROPRIATE GRADE. REMOVE PRIOR TO INSTALLING JOINT SEALANT.

3. JOINT SEALANT: TWO PART POLYSULFIDE SEALANT, SELF LEVELING, LIGHT GRAY COLOR. SUBMIT COLOR SAMPLE FOR APPROVAL. FEDERAL SPECIFICATIONS TT-S-0027E, TYPE 1, DOW CORNING #780 OR EQUAL. INSTALL AFTER REMOVING BACKER ROD TO COMPLETELY COVER FIBER BOARD.

## SAWCUT AND EXPANSION JOINT DETAIL FOR CONCRETE SIDEWALK

N.T.S.




## CONCRETE DRIVE APPROACH & SIDEWALK JOINT LAYOUT

N.T.S.

**CONCRETE SIDEWALK MIX DESIGNS:**

PLAIN CONCRETE MIX:

SAND: 2NS SAND, ASTM C-33 1350 POUNDS
COURSE AGGREGATE: 6AA LIMESTONE PRESQUE ISLE
ASTM C-33 1680 POUNDS
CEMENT: TYPE 1, ASTM C150 588 POUNDS
WATER: CITY TAP WATER 31.5 GALLONS
ADMIXTURE: ASTM C260, DAREX A.E.A.
BY W.R. GRACE CO. 11.3 OZ./CU. YD.

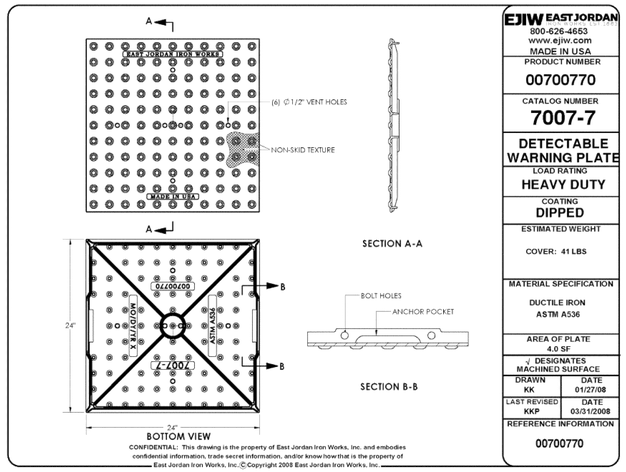
EXPOSED AGGREGATE CONCRETE MIX:

SAND: 2NS SAND, ASTM C-33 1080 POUNDS
COURSE AGGREGATE: 17A
ASTM C-33 1980 POUNDS
CEMENT: TYPE 1, ASTM C150 588 POUNDS
WATER: CITY TAP WATER 31.5 GALLONS
ADMIXTURE: ASTM C260, DAREX A.E.A.
BY W.R. GRACE CO. 11.3 OZ./CU. YD.

* PEBBLE, WASHED, SUBMIT SAMPLE

CONCRETE STRENGTH SHALL BE 3,500 PSI AT 28 DAYS, WITH 6% + OR – ENTRAINED AIR. MIX DESIGN SHALL NOT HAVE LESS THAN 6.25 SACKS OF CEMENT PER CUBIC YARD AND SHALL BE APPROVED BY THE CITY OF BIRMINGHAM ENGINEERING.

## 2 HANDICAP TRUNCATED DOMES

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## NOTES:

1. SURFACE TEXTURE OF SIDEWALK RAMPS SHALL BE THAT OBTAINED BY A COURSE BROOMING, TRANSVERSE TO THE SLOPE OF THE RAMP.

2. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON SIDEWALK RAMPS, FREE OF SAGS AND SHORT GRADE CHANGES.

3. IF POSSIBLE, DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. EXCEPT WHERE EXISTING DRAINAGE STRUCTURES ARE BEING UTILIZED IN THE NEW CONSTRUCTION, LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER LOCATION OF DRAINAGE STRUCTURE.

4. SIDEWALK RAMP 3 SHALL BE INSTALLED ONLY AT THE CITY'S DIRECTION.

5. REMOVE AND REPLACE CONCRETE CURB AND GUTTER SECTION AT CURB DROPS ON NON-ASPHALT SURFACED GUTTERS. USE EXISTING JOINTS OR SAW CUT FOR JOINTS. SAW CUT AT 18" FROM BACK OF CURB (FOR CURVED SECTIONS SAW CUT AT MINIMUM OF 12" AND AT A MAXIMUM OF 24" FROM BACK OF CURB). TIE NEW CONCRETE SECTION TO EXISTING PAVEMENT WITH HOOK BOLTS OR RED HEADS AT MAXIMUM OF 40" C.C.

| REVISIONS REVISIONS No. | | DATE | BY |
|---|---|---|---|
| 1 | Added Truncated Dome details | 07-05-07 | City |
| 2 | Revised Truncated Dome details | 06-26-08 | City |

CITY OF BIRMINGHAM, MICHIGAN
ENGINEERING DEPARTMENT

CBD STREETSCAPE STANDARD DETAILS

SCALE: HORIZONTAL
VERTICAL
ACCT. NO.
DRAWN BY: NF
APPROVED BY
CHECKED BY
CITY ENGINEER
SHEET OF SHEETS
DATE: April 4, 2003

Comcast Cable Communications, LLC.
Construction Dept.
25626 Telegraph Rd.
Southfield, Michigan 48033

Date: August 14, 2014

**RE: Hazel St. – Woodward Ave to Elm St. – Reroute fiber-optic cable for Vacation of Street**

To the Attention of Shane Lavery

Listed below is an estimated cost to reroute existing Comcast fiber-optic cable in order to vacate Hazel St. in Birmingham as described above. This is an estimate based on the information provided by the City of Birmingham, and confirmed previously by Tim Koltun, whom we had worked with previously on this project. This estimate includes, but is not limited to; overlashing aerial fiber-optic cable and crossing Woodward Ave, pulling underground cable through conduit, and splicing new fiber-optic cable to existing nodes at each end.

Estimated Cost.....$20,690.62

Please send a check payable to Comcast, to the attention of the Construction Dept – Patrick Rinehart at the address listed above. Once the check is received, we will begin the construction process at that time.

If you have any other questions or concerns regarding this quote or the procedures, please feel free to contact me at (248) 809-2710.

Sincerely,

Patrick Rinehart
Construction Specialist 2

*The response contained in this letter is intended for the addressee only and may vary from other responses depending on geography, promotional campaigns or other factors. If you are not the intended recipient of this letter, please destroy this letter. Any unauthorized use or dissemination of the information contained in this letter is prohibited.*

25626 Telegraph Rd
Southfield, Michigan 48033
(248) 809-2757

July 22, 2013

Tim Koltun
#313-965-8326

RE: Hazel Ave – Woodward Ave to Elm St
reroute fiber-optic cable for Vacation of Street

Listed below is an estimated cost to reroute our existing fiber-optic cable in order to vacate Hazel Ave in Birmingham as described above. This is an estimate based on the information provided by the city of Birmingham, and confirmed by you. This estimate includes but is not limited to over-lashing aerial fiber-optic cable and crossing Woodward Ave, pulling underground cable through conduit, splicing new fiber-optic cable to existing nodes at each end.

**Estimated Cost ..... $20,891.11**

Please send a check payable to Comcast, to the attention of Lynne Bender at the address listed above. Once the check is received then construction will be scheduled.

If you have any questions, please contact me at # (248)809-2706.

Sincerely,

Karen Lauber

Karen Lauber
Construction Coordinator

Comcast Cable
25626 Telegraph Rd.
Southfield, MI 48033

# INVOICE

**Customer**

| | |
|---|---|
| Name | Clark-Hill |
| Address | |
| City | Birmingham State MI ZIP 48009 |
| Phone | Tim Koltun - #313-965-8326 (lawyer of customer) |

| | |
|---|---|
| Date | 5/31/2013 |
| Invoice No. | 13KML0061FR |
| Rep | Karen Lauber |
| Phone | (248)809-2706 |

| Qty | Description | Unit Price | TOTAL |
|---|---|---|---|
| | Relocate 6ct Fiber from splice located at Hazel St & Elm St to the otherside of Woodward Ave to existing pedestal location at Hazel St and Woodward Ave. | | |
| 1 | relocate CATV cables | $20,891.11 | $20,891.11 |

| | |
|---|---|
| Subtotal | $20,891.11 |
| Shipping & Handling | |
| Sales tax | |
| **TOTAL** | $20,891.11 |

**Payment Details**

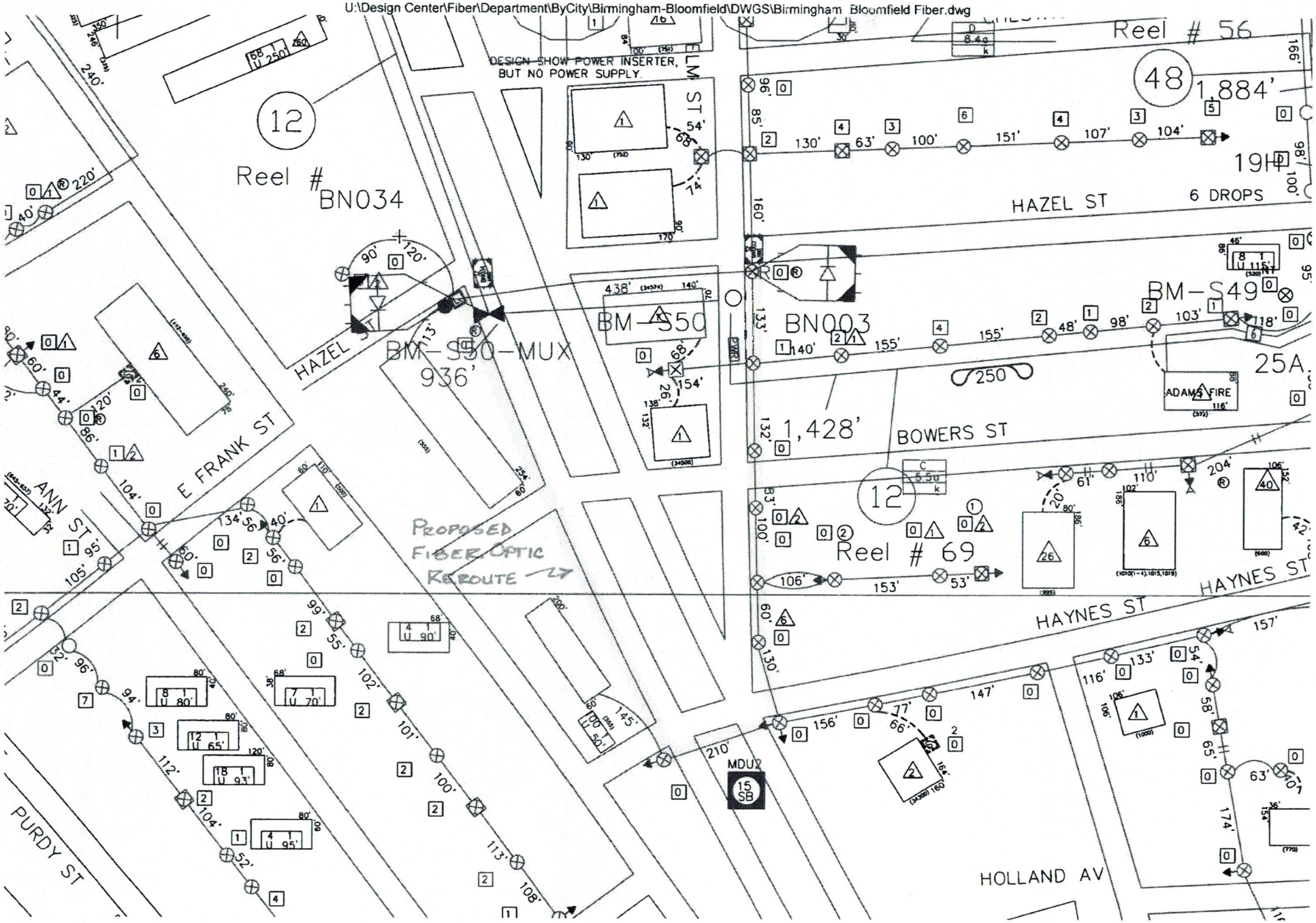
- ○ Other
- ○ Check

name
check #
date:

Office Use Only

*Please Pay Invoice Total Payable to COMCAST ~ Thank-you for your Payment !*

U:\Design Center\Fiber\Department\ByCity\Birmingham-Bloomfield\DWGS\Birmingham_Bloomfield Fiber.dwg



# MEMORANDUM

**DATE:** **March 27, 2012**

**TO:** **Robert J. Bruner, Jr., City Manager**

**FROM:** **Paul T. O'Meara, City Engineer**

**APPROVED:** **Robert J. Bruner, Jr., City Manager**

**SUBJECT:** **Hazel St. – Woodward Ave. to Elm St.**
**Proposed Vacation**
**Public Hearing**

At the meeting of March 5, 2012, the City Commission set a public hearing to consider the vacation of Hazel St. for one block, as noted above. The details of the vacation are described in the memo prepared for that meeting, attached.

Since then, notifications have been sent to the five utility companies, as well as all adjoining property owners. As described in the previous memo, Consumers Energy requested that an easement be maintained, since they own a gas main in this right-of-way. Since that memo was written, we have also received responses from Comcast, DTE Energy, and WOW! Comcast has installed a fiber optic communication cable underground in this right-of-way, so they are also asking that the easement be retained. DTE Energy and WOW! have no facilities within the subject area. The City owns and operates both a water main and a sanitary sewer in this right-of-way. Like Consumers Energy and Comcast, the Engineering Dept. also recommends that an easement be retained, in acknowledgement of the public utilities running through this property, and the need for continued maintenance. The easement, if created, would cover the entire subject right-of-way, and measure 50 feet wide.

No response has been received to date from AT&T. One resident of Hazel St. to the east of Elm St. has called to indicate their support of this idea.

At the meeting of March 5, Mayor Nickita noted that this portion of Hazel St. will now be acting as a private parking lot, and that a screen wall should be installed at the edge of the Elm St. right-of-way, in accordance with the zoning ordinance. It is true that after the vacation, this area will be private property. However, it will also be a fifty foot wide public utility easement. It is general policy of the City to not install footings or structures in rights-of-way or utility easements, particularly if they are going to conflict with underground utilities. In the case of Hazel St., there is currently an 8" sanitary sewer installed in 1927, the original 4" water main (installation date unknown), a newer 1¼" gas main, and a fiber optic communication line. Installation of a wall with a footing will cause risk of damage to all four during construction. Plus, in the future, should an excavation on these facilities be needed, there will be

additional costs and complication as a result of the wall. In reviewing the proposal with Consumers Energy, they indicated that the footing could be sleeved around the gas main. While they will not actively work to stop such a proposal, they would also prefer not to have such work done around the gas main. A phone call has been placed to Comcast to get their perspective, although input has not yet been received. To summarize, while there is no written prohibition to the installation of a wall in this location, it is not recommended. Should the Commission wish to add the installation of a screen wall, it is requested that the resolution below be modified to direct staff accordingly.

The Commission should also be aware that the subject property owner (Fred Lavery) has had the attached restrictive covenant document drafted that speaks to the ingress/egress stipulation that will be placed on this new property. The document is only signed by the owner, not the City. It has been reviewed by both the City Attorney and the City Engineer. Since it does not affect any rights of the City, nor obligate any action on our part, we have no objection to this document. The creation of the easement, both for public utilities, and for ingress/egress, will be established by submitting the survey as attached to the County Clerk for recording.

Also, Mr. Lavery's original request letter (dated January 10, 2012) attached, requested confirmation of three items. While two of the items are not an issue, the first one, asking that the tax assessment of the adjacent properties not be increased as a result of this vacation, cannot be confirmed. As is done with all properties, if the vacation results in a change of value to the adjacent properties, the tax assessment will have to change accordingly to reflect their true value. This issue has been reviewed with Mr. Lavery. He understands our position on this matter, and is willing to proceed regardless.

The Engineering Dept. recommends the vacation of Hazel St., from Woodward Ave. to Elm St., contingent upon a fifty foot wide easement being retained for public utilities, as described below.

**SUGGESTED RESOLUTION:**

**To authorize the vacation of Hazel St., from Woodward Ave. to Elm St., contingent upon a fifty foot wide easement being retained for public utilities over said right-of-way, and subject to the site plan as submitted by the adjoining property owner, Greentree Investment Co.**

# MEMORANDUM

**DATE:** **February 27, 2012**

**TO:** **Robert J. Bruner, Jr., City Manager**

**FROM:** **Paul T. O'Meara, City Engineer**

**APPROVED:** **Robert J. Bruner, Jr., City Manager**

**SUBJECT:** **Hazel St. – Woodward Ave. to Elm St.**
**Proposed Vacation**

As part of its 2011 Pavement Preventative Maintenance Program, the Engineering Dept. recommended that the above short segment of Hazel St. receive an ultra-thin asphalt overlay. Other streets in the immediate area, such as Elm St. and Chestnut St., were all built at the same time, and all were at the stage in their life where such maintenance would be appropriate. However, during discussions among staff, it was noted that this segment was recommended for eventual vacation in the Triangle Master Plan (under Circulation, page 18). Since the property on both sides of this block is owned by the same party (Fred Lavery Co.), discussions were started with the owner to determine his interest in this idea.

After meeting, Fred Lavery indicated that he would like to pursue the vacation. The work was deleted from the 2011 Maintenance Program (saving the City about $10,000) in anticipation of this potential action. Mr. Lavery submitted a suggested site plan, and "before" and "after" property line plans for the purposes of illustration. A $1,000 deposit was also received from Mr. Lavery to cover all costs by the City in administrating this effort. Since then, the following has transpired:

- Requests for comment were sent to the five utility companies that maintain facilities in this area (AT&T, Comcast, Consumers Energy, DTE Energy, and WOW!). A response was received from Consumers Energy, noting that a gas main is located in this area, and an easement must be maintained. WOW! indicated that they have no objection. No other responses were received, although we are not aware of any other utility present (other than City water and sewer) in this area.
- The presence of City water and sewer has been reviewed with the owner. The public lines' only purpose at this time is to service Mr. Lavery's building on the north side of the road. Both lines could ultimately be abandoned, if the service connections were relocated to similar facilities either on Woodward Ave. or Elm St. Since they will remain in service at the present time, an easement over the full right-of-way width is being recommended.
- Site plans as a result of a vacation do not fall under the jurisdiction of the Planning Board. However, the site plan as submitted received a courtesy

review by the Board at their meeting of February 8, 2012. Minutes of this review are attached for your information. As noted therein, the Board emphasized the importance of maintaining a pedestrian connection between Woodward Ave. and Elm St.

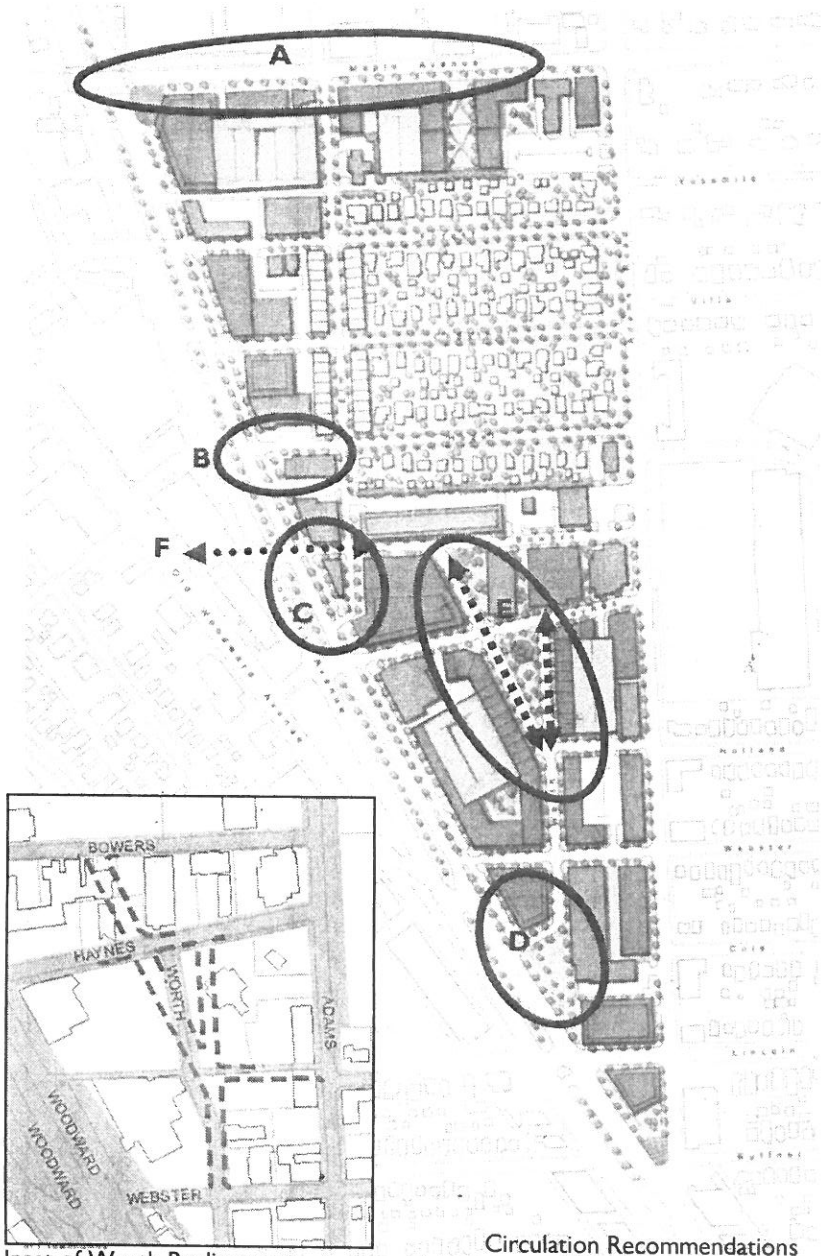
In accordance with state law, public rights-of-way that are no longer needed may be split in half, with adjoining properties each adding half of the street's width to their property. In this case, the two parcels would add an additional 25 feet of width, as shown on the attached sketches. The City receives no compensation for vacated rights-of-way.

Before this matter can proceed, the City must schedule a public hearing, in accordance with the City Charter. As part of the notification process, it is our internal policy to notify all utility companies with facilities in the general area, as well as all property owners within 300 feet. As noted above, the utility companies have been notified, however, the notification to the neighbors will be done once the public hearing date has been set.

The Engineering Department recommends that a public hearing be scheduled for Monday, April 9, 2012, at the regularly scheduled City Commission meeting, to consider the vacation of Hazel St., from Woodward Ave. to Elm St., with a 50 foot wide easement for public utilities and pedestrian ingress/egress being retained.

**SUGGESTED RESOLUTION:**

**To conduct a public hearing on Monday, April 9, 2012, at the regularly scheduled City Commission meeting, to consider the vacation of Hazel St., from Woodward Ave. to Elm St., with a 50 foot wide easement for public utilities and pedestrian ingress/egress being retained.**




Inset of Worth Realignment

Circulation Recommendations

## Circulation

To supplement the streetscape and walkability improvements, there are a number of roadway improvements recommended through the Triangle District. Some will enhance traffic operations and safety, while others are intended to make the district more walkable.

**Maple Road (A).** Maple Road between Woodward and Adams should be converted from two lanes in each direction to an imbalanced roadway configuration, for example with two westbound lanes, one eastbound lane and a center turn lane, as depicted in A1. This configuration would improve access into the Triangle along Elm Street and to the businesses along Maple without widening. Additionally, intersection improvements should be made at Elm and Maple to better emphasize this entrance to the Triangle District.

**Hazel Street (B).** The segment of Hazel between Woodward and Elm could be closed to minimize the number of access points along Woodward Avenue and minimize cut-through traffic in the residential neighborhood. The new space could be used as open space or could be conferred to a property owner or developer in a beneficial exchange.

**Woodward/Elm (C).** There are a number of options for the short block of Elm Street between Bowers and Woodward Avenue (C). Because of the slight angle from Woodward Avenue, traffic on Woodward Avenue tends to enter Elm at high speeds. In addition, the intersection with Bowers has limited sight distance because of building placements and a narrow right-of-way. The intersection of Elm at Woodward should be reconfigured to require traffic entering the District at Elm to make a right turning movement rather than merely veering right (C1). This would slow traffic and improve safety for pedestrians and motorists. Additionally, this portion of Elm south of Bowers could be converted to southbound traffic only with the former northbound lanes converted to angled street parking (C2). Alternatively, this segment could be vacated altogether and used as open space or developable land for an adjacent parcel (C3).

**Greentree Investment Company**
**34602 Woodward Avenue**
**Birmingham, MI 48009**
**248-723-7042**

January 10, 2012

Mr. Robert Bruner
City Manager
City of Birmingham
151 Martin Street
Birmingham, MI 48009

Dear Mr. Bruner:

Please accept this letter as the undersigned applicant's formal request to vacate Hazel Street between Woodward Avenue and Elm Sstreet in the Triangle District of the City of Birmingham, Michigan ("Hazel Street Property"). Attached to this letter are the following items as required under the "*City of Birmingham Procedure to Vacate Public Property*":

1. A detailed map and survey prepared by Mickalich and Associates, Inc. delineating the proposed Hazel Street Property and the properties to the north and south which are presently owned by the undersigned and leased to Fred Lavery Company for use as a new car dealership.

2. A site plan showing:

    a. Ownership of the Hazel Street Property and all adjacent properties;
    b. A history of the changes of status of the Hazel Street Property;
    c. The location and depth of all public utilities on the Hazel Street Property and utilities within 300 feet of the Hazel Street Property; and
    d. Information from quarter section maps and plats.
    e. Proposed improvement should Vacate occur.

With respect to items 3, 4 and 5 on the *City of Birmingham Procedure to Vacate Public Property",* applicant respectfully requests that the City of Birmingham obtain this information with any costs to be offset against the $1,000 deposit submitted by applicant with this letter.

This request for vacation of Hazel Street is based on the following considerations:

1. The proposed vacation will protect and maintain the residential nature of the surrounding neighborhood.

2. The proposed vacation will improve the general condition of the neighborhood immediately surrounding the dealership. The vacation would be consistent with the Triangle Overlay District Plan which is intended to improve the general appearance and character of the business district and the residential community and would achieve the traffic improvement objective of the Triangle District plan.

3. The proposed vacation would improve the public safety of the residential neighborhood immediately surrounding the dealership.

4. The proposed vacation would reduce the use of Elm Street for commercial purposes.

5. The proposed vacation would relieve the city of maintenance and capital improvement costs of the Hazel Street property.

6. The proposed vacation of the Hazel Street Property would be a public improvement and is in accordance with the recommendations in the Triangle District plan adopted by the City in 2007.

In consideration of the vacation of the Hazel Street property, the undersigned is willing to propose and implement a site beautification program covering the dealership property. Additional trees would be planted and improvements made along Woodward Avenue and Elm Street. The site beautification program would considerably enhance the beauty of the surrounding area. The increase in the area's aesthetic value, as well as the savings to the public in terms of reduced expenditures for maintenance of Hazel Street property, amount to a public improvement. The basic design and concept of our client's proposed site beautification program is contained in the proposed site plan documents which we have attached. All costs attributable to the implementation and maintenance of the site beautification program will be incurred by the undersigned and or its tenant Fred Lavery Company`.

As mentioned above, the undersigned and its tenant Fred Lavery Company are the parties whose realty abuts Hazel Street property. The vacation of the Hazel Street property and the implementation of the proposed site beautification program will produce the following benefits to those parties:

1. The proposed vacation of the Hazel Street property would permit Fred Lavery Company to maintain better control over the ingress and egress to and from the dealership facilities. As a result of this increased control, public safety would be increased.

2. The proposed vacation would permit Fred Lavery Company to maintain and develop improved security for its dealership property.

3. The proposed vacation would be consistent with the long range goals and requirements of the dealership.

4. The proposed vacation would improve the general appearance of the dealership facilities specifically and the business district in general.

In connection with the City Commission's approval of the vacation of the Hazel Street property, the applicant would like to confirm the following:

1. The real estate tax assessment for the adjacent properties will not be increased as a result of the vacation of the Hazel Street property;

2. The existing utilities will be subject to an easement for the benefit of the City of Birmingham until such time as the utilities are abandoned by the owner of the properties adjacent to the Hazel Street property; and

3. The Hazel Street property will be zoned B-2 General Business and may be used for any purpose allowed under such zoning designation.

Please contact us with any questions. Thank you.

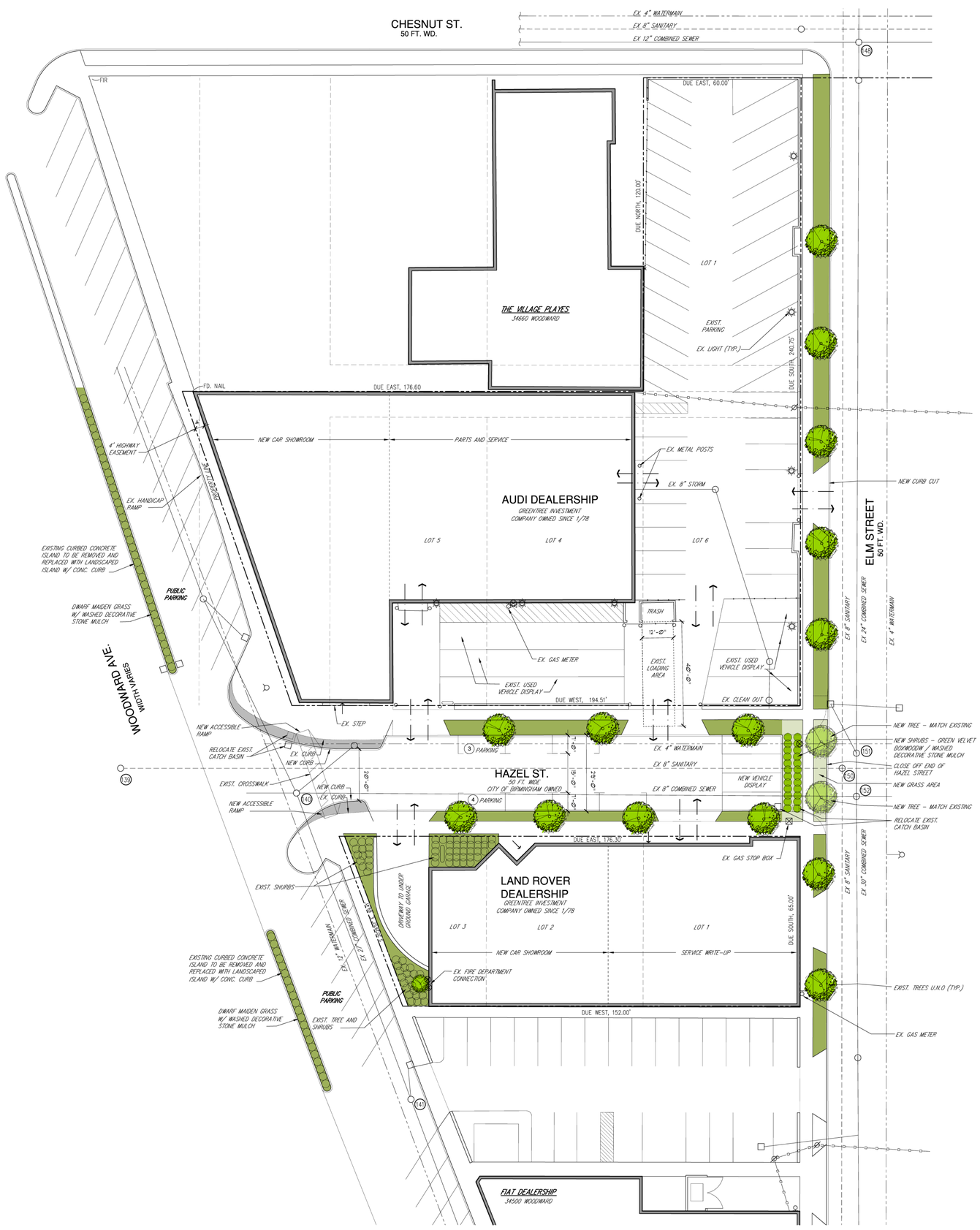
Sincerely,

GREENTREE INVESTMENT COMPANY

By: _____
Frederick A. Lavery, Jr.
Its: Partner

Enclosure

cc: Jana Ecker
Paul O'Meara
Howard Luckoff
Shane Lavery




NOTES:

- THIS SURVEY WILL NOT SHOW ALL EASEMENTS OF RECORD UNTIL AN UPDATED TITLE POLICY HAS BEEN FURNISHED TO THE SURVEYOR BY THE OWNER.
- THE LOCATION OF THE EXISTING UTILITIES AS SHOWN WERE OBTAINED FROM MUNICIPAL AND UTILITY COMPANIES RECORDS. NO GUARANTEE CAN BE MADE REGARDING THE COMPLETENESS OR EXACTNESS OF THE UTILITIES LOCATION. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY IN THE FIELD THE LOCATION OF ALL UTILITIES. ANY POTENTIAL CONFLICT SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT MISS DIG 3 WORKING DAYS PRIOR TO CONSTRUCTION.

LEGAL DESCRIPTION
NORTH PARCEL

Land in the City of Birmingham, County of Oakland, State of Michigan, described as;

Lots 4 & 5, Block 7, of CAMPBELL'S SUBDIVISION, together with the southerly 10 feet 1 inch of vacated alley lying Northerly of and adjoining said Lots, together with that portion of vacated Palm Street lying northerly of the North line of Hazel Street, Easterly of Hunter Boulevard and Southerly of the centerline of vacated Alley extended to Hunter Boulevard, ALSO that portion of Lot 5, Block 6, CAMPBELL'S SUBDIVISION and the Southerly 10 feet and 1 inch of the vacated alley north of an adjoining the same lying easterly of the east line of Hunter Boulevard: the above parcel III is described by metes and bounds as follows: Beginning at the intersection of the Easterly line of Hunter Boulevard and the northerly Line of Hazel Street; thence Easterly along the Northerly line of Hazel Street 135.45 feet to a point; thence Northerly along the Easterly line of Lot 5, Block 7, CAMPBELL'S SUBDIVISION, extended 120 feet 1 inch to a point; thence Westerly on a line 1 inch North of the centerline of vacated alley 176.60 feet to the Easterly line of Hunter Boulevard; thence Southerly along the Easterly line of Hunter Boulevard 126.18 feet, more or less, to the point of beginning.

ALSO
Lot 1, Block 7 and a 10 foot strip immediately to the rear of said lot 1, as measured on the side lot lines extended, being part of the vacated alley of CAMPBELL'S SUBDIVISION, being part of the Northeast 1/4 of Section 36, T2N., R10E., according to the plat thereof as recorded in Liber 4 of plats, page 30, Oakland County Records; and Lot 6, Block 7 and a 10 foot strip immediately to the rear of said Lot 6 as measured on side lot lines extended, being part of the vacated alley of said CAMPBELL'S SUBDIVISION. Said Lot 6, BLOCK 7 and the 10 foot strip immediately to the rear of said Lot 6 and said Lot 1, Block 7, and the 10 foot strip immediately to the rear of said Lot 1, together comprise a parcel of land bounded on the North by Chestnut Avenue, on the East by Elm Street, on the South by Hazel Street, and on the West by the East line of parcel 3 and the extension thereof.

All described as being at the intersection of the north line of Hazel Street (50 feet wide) and the west line of Elm Street (50 feet wide); thence from this point of beginning along said north line of Hazel Street (South 89°51'West) record (due west) measured 194.51 feet to the easterly line of South Hunter Blvd. (200 feet wide); thence along said easterly line on arc distance of 127.88 feet, whose central angle is 1°04'53", radius 6775.55 feet, whose chord bears North 19°13'05" West 127.88 feet; thence (North 89°51' East) record (due East) measured 176.60 feet; thence due North 120.00 feet to the South line of Chestnut Street (50 feet wide); thence along the south line (North 89°51 East) record (due East) measured 60.00 feet to the West line of Elm Street; thence along said west line due South 240.00' record 240.75 feet measured to the point of beginning.
Parcel Containing 0.7608 acres (33139.1451 SQ. FT.) of land

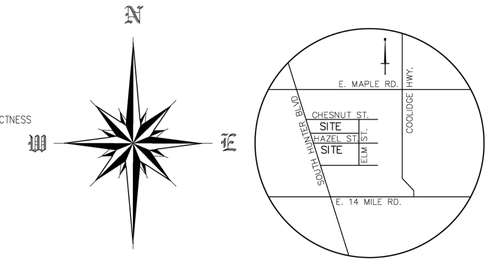
SOUTH PARCEL

Land In the City of Birmingham, County of Oakland, State of Michigan, described as:
Parcel I: Lots 1 & 2, Block 10, of CAMPBELL'S SUBDIVISION, being part of the Northeast 1/4 of Section 36, Town 2 North, Range 10 East, Village(Now City) of Birmingham, Township of Bloomfield, Oakland County, Michigan, according to the plat thereof as recorded in Liber 4 of plats, Page 30, Oakland County Records, except the Southerly 45 feet thereof.
Parcel II: All that part of Lot 3, Block 10, of said CAMPBELL'S SUBDIVISION, which lies Easterly of and adjacent to a line 100.00 feet Easterly of and parallel to the centerline of Highway US 10(Hunter Boulevard, 200 feet wide) as now established, except the Southerly 45 feet thereof.

All described as beginning at the intersection of the South line of Hazel Street( 50 feet wide) and the West line of Elm Street(50 feet wide); thence from this point of beginning along said West line of Elm Street, due South 65.00 feet; thence (S 89°51'W) record (Due West) measured, 152.00 feet to the Easterly line of South Hunter Boulevard(200 feet wide); thence along said Easterly line an arc distance of 69.39 feet, whose central angle is 0°35'12", radius 6775.55 feet, whose chord bears N 20°29'57" W, 69.39 feet to the South line of Hazel Street; thence along said South line( N 89°51' E) record (Due East) measured 176.30 feet to the point of beginning.
Parcel containing 0.2451 ACRES (10674.6786 SQ. FT.) of land.

STRUCTURE TABLE

| | | | |
|---|---|---|---|
| 139 R. 764.70<br>E. 757.17 | 142 R. 763.49<br>N. 750.13<br>S. 749.98 | 150 R. 762.31<br>N. 755.06<br>E. 755.27<br>S. 755.06<br>W. 755.56 | 152 R. 762.49<br>N. 750.60<br>S. 750.54<br>W. 757.23 |
| 140 R. 763.27<br>E. 758.24<br>S. 750.49<br>N. 750.52 | 148 R. 764.47<br>N. 753.54<br>E. 754.08<br>S. 753.37<br>W. 754.10<br>S.E. 758.14 | 151 R. 762.53<br>N. 751.03<br>S. 750.74<br>E. 751.73 | |




LOCATION MAP
NO SCALE

0' 20' 40' 60'

SCALE 1" = 20'

LEGEND

| | |
|---|---|
| EX. GRADE | +870.00 |
| EX. INDEX CONTOUR | |
| EX. CONTOUR | |
| EX. WATER MAIN | |
| EX. STORM SEWER | |
| EX. SANITARY SEWER | |
| EX. OVERHEAD | |
| EX. GAS | |
| EX. UNDERGROUND | |
| EX. FENCE | |
| EX. RAILROAD | |
| EX. WALL | |
| EX. ℄ OF DITCH | |
| EX. WETLAND | |
| HYDRANT | |
| CATCH BASIN | |
| MANHOLE | |
| SIGN | |
| GATE VALVE | |
| LIGHT POLE | |
| UTILITY POLE | |
| METAL LIGHT POLE | |
| TOP OF BERM | TB |
| TOE OF BERM | TOE |
| TREE TAC | |
| TOP OF CURB | TC |
| GUTTER | GU |
| TOP OF ASPHALT | TA |
| TOP OF WALK | TW |
| TOP OF WALL | TOP |
| FOUND IRON ROD | FIR |
| SET IRON ROD | SIR |

Seal


Luckenbach Ziegelman Architects PLLC
36800 Woodward Suite 100
Bloomfield Hills, Michigan 48304
248.644.0600


Project
HAZEL ST. VACATION

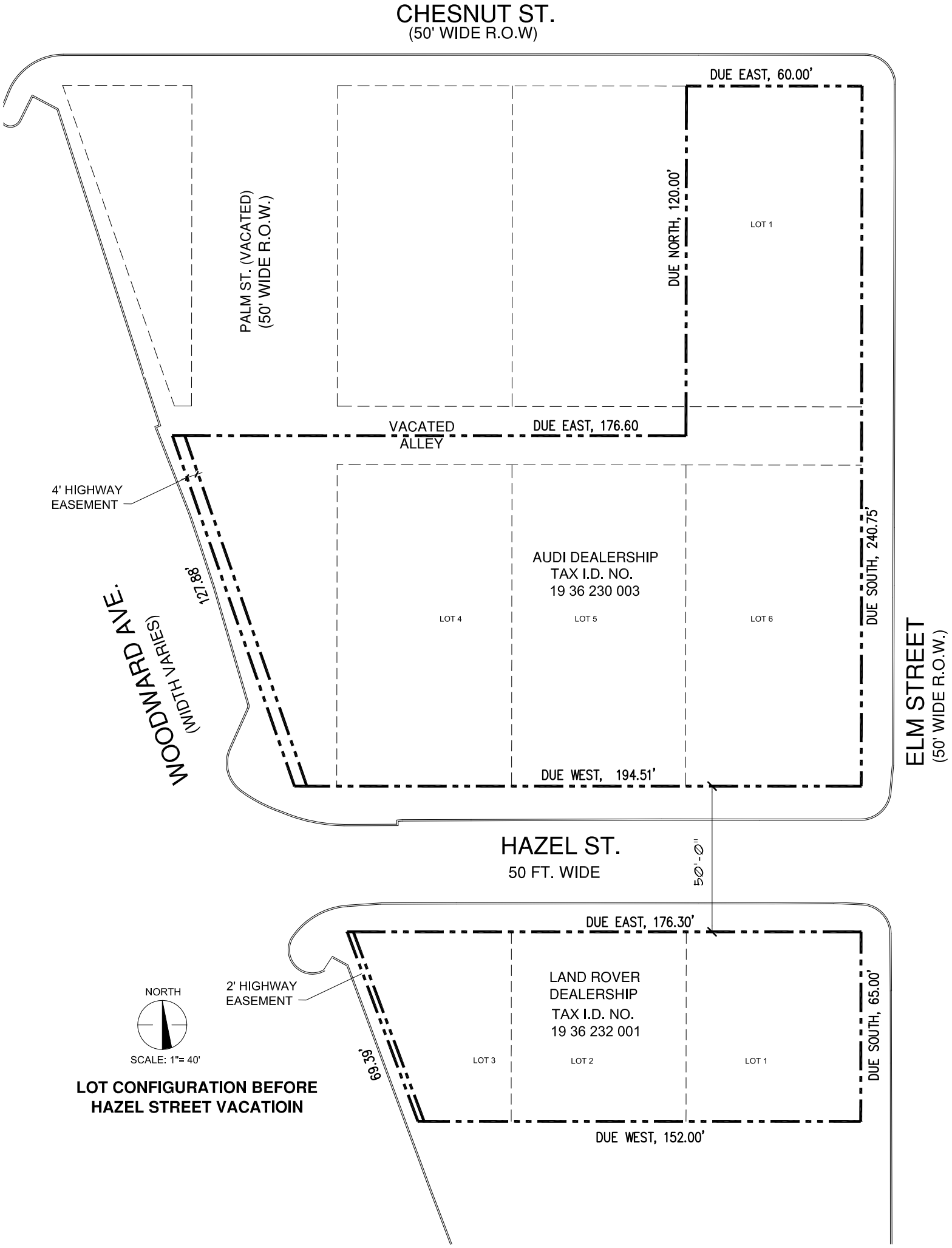
BIRMINGHAM, MI.

Sheet Title
SITE PLAN

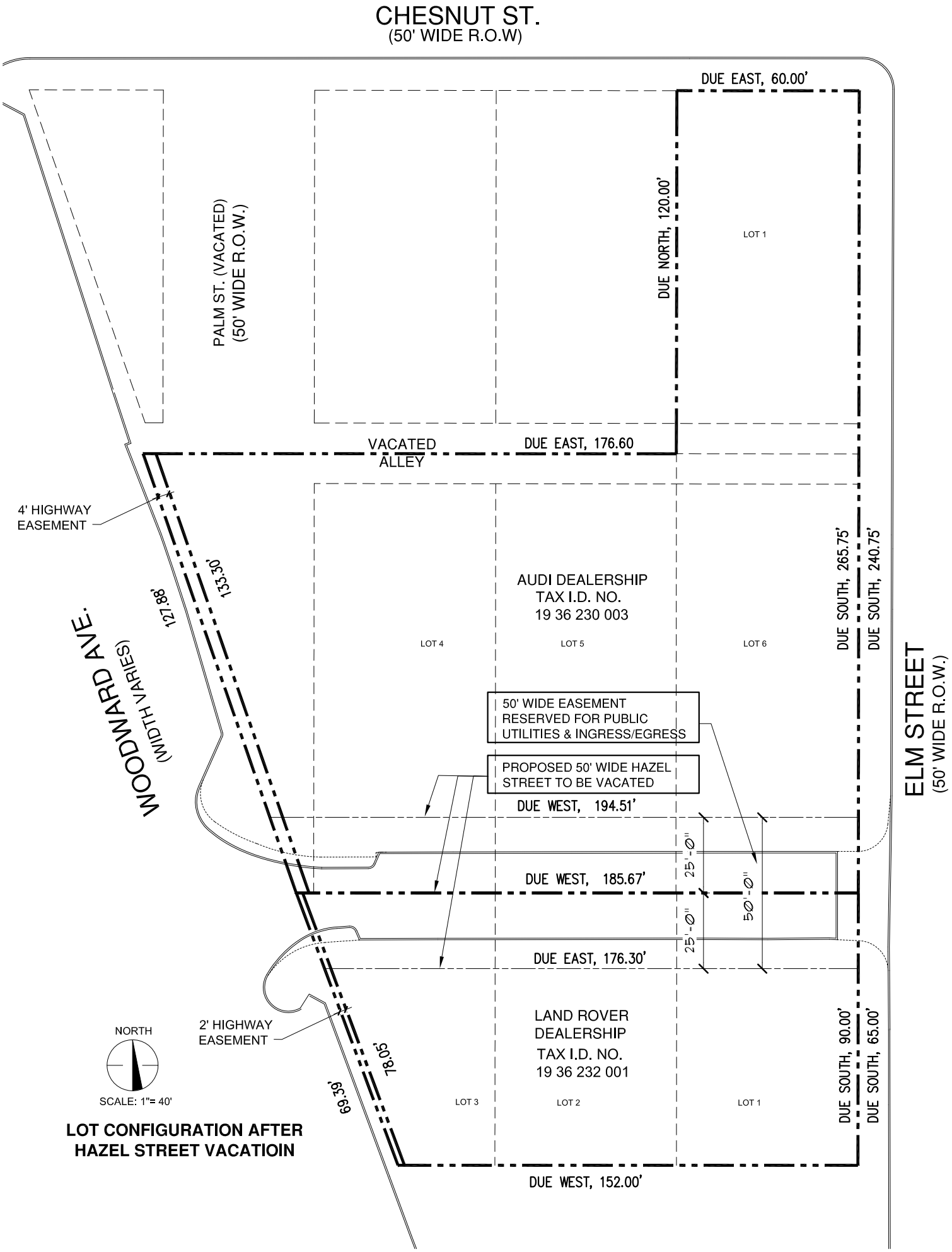
Date Issued
City Commision Review
01.09.12
Owner Review
02.14.12

Project Number
1107

Sheet Number
A0.01




**LOT CONFIGURATION BEFORE HAZEL STREET VACATIOIN**




**LOT CONFIGURATION AFTER HAZEL STREET VACATIOIN**

January 17, 2012

TO: AT&T
Comcast
Consumers Energy
DTE Energy
WOW!

RE: **Proposed Street Vacation**
**Hazel Ave. – Woodward Ave. to Elm St.**
**Section 36**

Dear Utility Representative,

The City of Birmingham has received a request to vacate the 50 ft. wide public street in the above noted area. An attached survey of the current lot lines, as well as the proposed right-of-way closure at both ends (added in red) are attached for your information. Note that the same land owner owns both sides of the block, so there is only one property owner affected by this proposal. The Engineering Dept. has no objection to this proposal, and will recommend approval, provided the entire 50 foot wide area becomes an easement, reserved for public utilities. With respect to the public utilities owned by the City of Birmingham, both the water and sewer systems present could be abandoned at the time utility connections are changed by the adjacent property owner. We ask that should you wish to maintain existing utilities in this right-of-way for the time being, that would be fine, with the goal that eventually all utilities could be phased out, allowing the need for the easement to be removed some day as well. We ask that you speak to the importance of this right-of-way to your facilities in the long term, as well as the present, when you respond to this request.

As a part of the vacation, the adjacent property owner plans to close the existing street connection to Elm St., but maintaining access to both sites from Woodward Ave.

A public hearing when approval the right-of-way vacation will be considered is tentatively scheduled for March 19, 2012, at 7:30 PM in the City Commission Room of the Birmingham Municipal Building, 151 Martin St., Birmingham, MI 48009.

We request that you respond to this proposal in writing stating any concerns or objections that you may have. Please respond in writing as well if you have no objections. NOTE! A similar request was sent to all five companies listed above last July, and NO response was received from AT&T, Comcast, and WOW! We consider vacations of this sort a serious matter, that affect not only the City, but you as utility companies as well, and your response, even if you have no objection, is considered an important element in this process. We ask for participation.

If you have any concerns relative to either the alley vacation, or the construction of a privacy wall within the proposed and existing easement, please contact the undersigned with details of your objection as soon as possible.

Feel free to contact me if you have any questions, at 248-530-1836.

Sincerely,

Paul T. O'Meara, P.E.
City Engineer

Send to:

Mr. Larry Zdan
AT&T
54 N. Mill St.
Pontiac, MI 48342

Mr. Bobby Drake
Comcast Cable
25626 Telegraph Rd.
Southfield, MI 48033

Mr. John Hill
Consumers Energy Co.
4600 Coolidge Hwy.
Royal Oak, MI 48073

Mr. James Hammond
DTE Energy Co.
37849 Interchange Dr.
Farmington Hills, MI 48335

WOW!
Facilities Administrator
Birmingham Area
32650 Avis Dr.
Madison Heights, MI 48071

Consumers Energy

A CMS Energy Company

4600 Coolidge Hwy, Royal Oak, MI 48073

January 19, 2012

City Of Birmingham
151 Martin St
PO Box 3001
Birmingham, MI 48012

Attn: Paul O'Meara

RE: Proposed Street Vacation on Hazel Ave from Woodward Ave to Elm St..

Dear Paul O'Meara,

Consumers Energy received a letter dated 1/19/2012 requesting the Hazel Ave Street Vacation.

Per our records, Consumers Energy has active natural gas facilities in the current Hazel St R.O.W. and would require an easement for the proposed street vacation. Be aware, that no enclosed structures can be built over Consumers Energy facilities. However, these facilities can be relocated at the cost of the requesting party.

If you have any other questions or concerns, please feel free to contact me.

Thank you,

John Hill
Project Coordinator
Office: (248) 433-5618
E-Mail: jbhill@cmsenergy.com

It's that kind of experience.

January 20, 2012

TO: Paul O'Meara

RE: Proposed Street Vacation
Hazel Ave. – Woodward Ave. to Elm St.
Section 36

Dear Paul O'Meara,

WOW! Internet Cable Phone has no objections to the above mentioned street vacation.

Sincerely

Dave Johnson
Construction Manager

32650 North Avis • Madison Heights, MI 48071 • 248-677-9000 • Fax 248-677-9021 • wowway.com

Construction Department
25626 Telegraph Rd
Southfield, Michigan 48033

RECEIVED
MAR 08 2012
CITY OF BIRMINGHAM
COMMUNITY DEVELOPMENT DEPARTMENT

March 6, 2012

City of Birmingham
151 Martin Street
P.O. Box 3001
Birmingham, MI 48012-3001

Attn: Paul T. O'Meara, P.E.
City Engineer

RE: Proposed Street Vacation
Hazel Ave – Woodward Ave to Elm St
Section 36

Comcast has reviewed the proposed vacation prints your office provided and has no objection to this proposal provided a 50ft easement is reserved for public utilities. Comcast has an existing 6ct fiber cable running underground from across Woodward Ave to a riser pole on Elm St. If a total vacation is required, there will be rerouting costs involved. Comcast's estimated cost is viable for six months from the date of this letter; and is subject to change if project start is beyond six months.

| | |
|---|---|
| Labor Cost . . . . . | $12,510.49 |
| Material Cost . . . . . | 8,380.62 |
| | $20,891.11 |

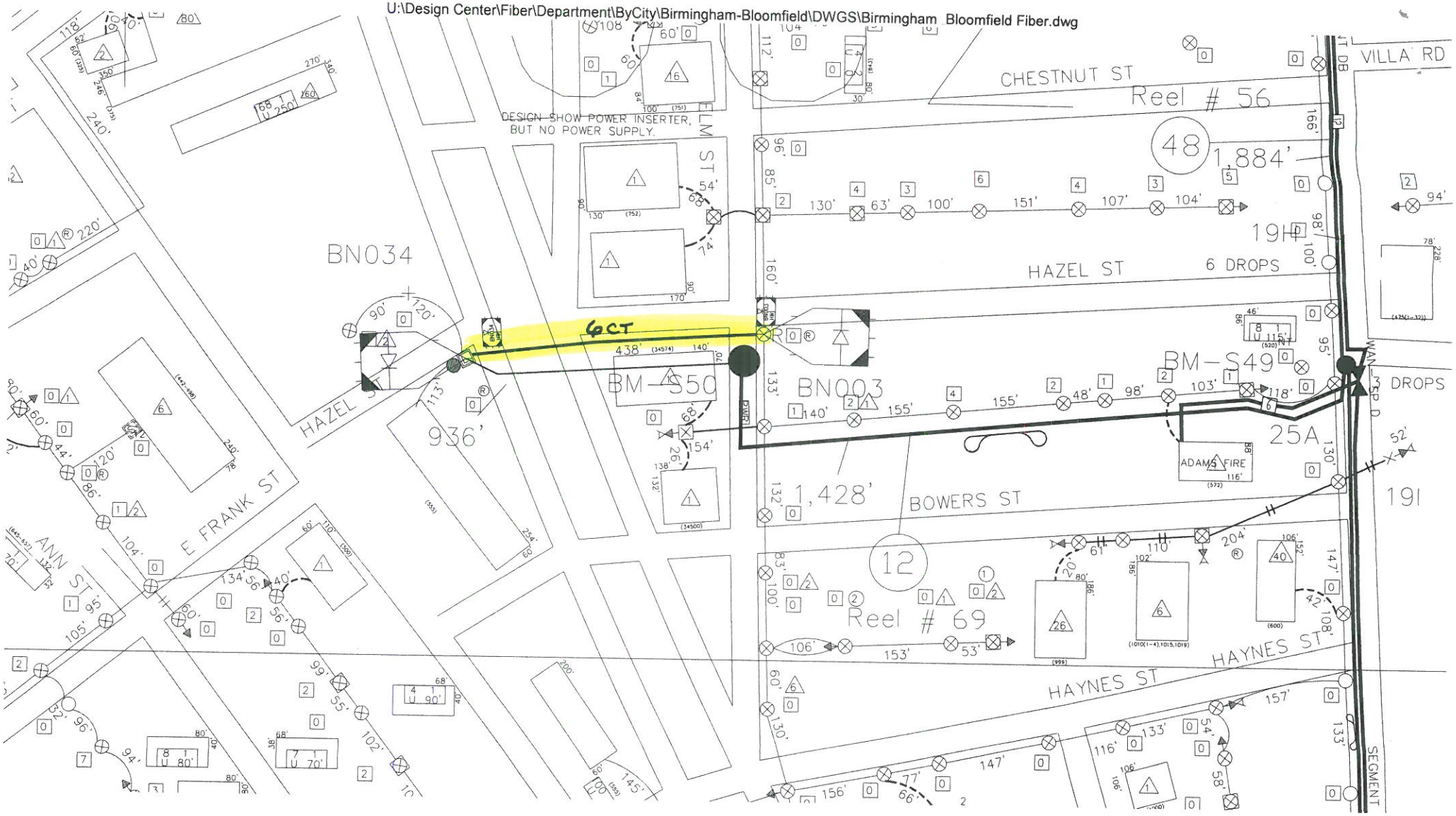
Attached you will find a copy of our design print highlighting the route of our fiber-optic cable. If you have any questions please feel free to contact me at (248) 809-2706.

Sincerely,

Karen Lauber

Karen Lauber
*Construction Coordinator*

U:\Design Center\Fiber\Department\ByCity\Birmingham-Bloomfield\DWGS\Birmingham Bloomfield Fiber.dwg



**CITY OF BIRMINGHAM**
**PLANNING BOARD ACTION ITEMS**
**OF WEDNESDAY, FEBRUARY 8, 2012**

| Item | Page |
|---|---|
| **2. STUDY SESSION**<br>**Woodward Ave. Action Association Transit Oriented Development ("TOD") Task Force Presentation of Final Report for review and comment** | **5** |
| **Motion by Mr. DeWeese**<br>**Seconded by Mr. Williams to recommend acceptance of the Woodward TOD Corridor Study by the City Commission as the plan supports multi-jurisdictional planning efforts along the Woodward Corridor that seek to develop the corridor in a manner consistent with the existing goals and objectives of the City of Birmingham.** | **7** |
| **Motion carried, 6-0.** | **7** |
| | |
| | |

APPROVED

**CITY OF BIRMINGHAM**
**REGULAR MEETING OF THE PLANNING BOARD**
**WEDNESDAY, FEBRUARY 8, 2012**
**City Commission Room**
**151 Martin Street, Birmingham, Michigan**

Minutes of the regular meeting of the City of Birmingham Planning Board held February 8, 2012. Chairman Robin Boyle convened the meeting at 7:31 p.m.

**Present:** Chairman Robin Boyle; Board Members Scott Clein, Carroll DeWeese, Bert Koseck, Janelle Whipple-Boyce, Bryan Williams; Student Representative Kristen Thut

**Absent:** Board Member Gillian Lazar

**Administration:** Matthew Baka, Planning Intern
Jana Ecker, Planning Director
Paul O'Meara, City Engineer
Carole Salutes, Recording Secretary
Susan Weckerle, City Planner

**02-19-12**

**APPROVAL OF THE MINUTES OF THE REGULAR PLANNING BOARD MEETING HELD JANUARY 25, 2012**

Mr. DeWeese:
Page 5 - First sentence under "Other Business," add an "e" to "Complet."

**Motion by Mr. DeWeese**
**Seconded by Mr. Clein to approve the Minutes of the Regular Planning Board Meeting of January 25, 2012 as corrected.**

**Motion carried, 6-0.**

VOICE VOTE
Yeas: DeWeese. Clein, Boyle, Koseck, Whipple-Boyce, Williams
Nays: None
Absent: Lazar

**02-20-12**

**CHAIRPERSON'S COMMENTS**

APPROVED

Absent: Lazar

**02-25-12**

**3. STUDY SESSION**
**Triangle District Plan Implementation**
**Courtesy Review of the Hazel St. vacation**

Ms. Ecker advised the request for the vacation of Hazel St. was submitted by Mr. Fred Lavery, the property owner both north and south of Hazel St. between Woodward Ave. and Elm St. This application is coming before the Planning Board for a courtesy review of the proposal prior to consideration by the City Commission.

The Triangle District Urban Design Plan ("Triangle Plan") was adopted by the City Commission in 2007 to establish a vision for the redevelopment of the Triangle District. One of the key circulation recommendations outlined in the Triangle Plan was to close the segment of Hazel St. between Woodward Ave. and Elm St. to minimize the number of access points along Woodward Ave. and to minimize cut-through traffic in the neighborhood.

The Triangle Plan suggests that this area could be used as open space or could be conferred to a property owner or developer in a beneficial exchange. Key circulation and streetscape improvements, including the vacation of Hazel St., were recommended for implementation in the first phase after the Triangle Plan was adopted.

Based upon this recommendation, the City approached Mr. Lavery about applying to vacate the segment of Hazel St. between Woodward Ave. and Elm St. Mr. Lavery met with City staff on numerous occasions and has now requested a vacation in accordance with the Triangle Plan recommendations. Mr. Lavery has agreed to close off Hazel St. at Elm St., and install a continuous sidewalk, street trees and grass along Elm to soften the commercial edge of his property for the benefit of the neighbors to the east. Mr. Lavery is also proposing to narrow the entrance off of Woodward Ave. by installing landscaped bump-outs that will slow traffic and improve the aesthetics of the Woodward Ave. right-of-way. This will provide a greater buffer between Woodward Ave. and the neighborhood.

***This request will go to the City Commission on February 13, 2012 for review and consideration.***

Mr. DeWeese said that full pedestrian connectivity needs to be maintained and Mr. Williams concurred.

Mr. Lavery explained the area that is designated for new vehicle display is where they mass park their vehicles for display and is not a part of the minimum parking requirement for the buildings that now exist. Discussion contemplated that with the vacation there will be a net loss of two parking spaces.

APPROVED

Mr. Lavery observed that presently the street works fine for him. The vacation doesn't necessarily harm or help in his existing use of the property. However, at some point in the future if these parcels are developed in accordance with the Triangle District Master Plan, then having this property will be beneficial in achieving that objective.

Mr. Koseck thought there should be something to terminate Hazel St. as opposed to a short hedge. He would give up the four parking spaces and create a berm or node which has some substantial significance, defines a terminus going west on Hazel, and doesn't look like the end of Chester as one drives south.

Mr. Clein announced he thinks this recommendation of the Triangle Plan does not add any benefit and makes no sense to him. The chairman noted it makes the simple transfer of some of Mr. Lavery's cars between his facility and the storage on Bowers more difficult.

There were no members of the public that wished to comment on at 9:30 p.m.

**02-2612**

**4. STUDY SESSION**
**Planning Board Action List**

Ms. Weckerle advised the Action List was updated as a result of Planning Board input from the last meeting. Ms. Ecker indicated that some of the City commissioners have expressed a desire to re-do the Master Plan as a whole. Therefore staff has been encouraged to put a review of the Master Plan in the budget for next year. In the budget for this year they are looking at doing the Multi-Modal Complete Streets plan.

Mr. DeWeese did not think the City has the money or the political will to re-do the Master Plan at this time. But an incremental plan could be done, and maybe as part of that a re-write or a cleanup would work.

Mr. Williams said he would hate to embark upon this as a priority if the City Commission is not in accord with it as part of the whole review of Woodward Ave. Chairman Boyle asked if conversations between City staff and the city manager might reveal the intent of the Commission. Ms. Ecker agreed they could try that approach.

Mr. Koseck thought if the board directs attention to the Woodward Ave. corridor between Fourteen Mile and Lincoln then maybe developers will, and that is important. Mr. DeWeese said the neighborhood needs to get involved so they will have security as to what will happen.

Chairman Boyle summed up the discussion and made recommendations. The board will focus its attention on Item (1), Woodward Ave. Gateway Plan. Item (2), Complete Streets. will be moving ahead in many areas. Staff will be asked to reconsider the

APPROVED

## DECLARATION OF RESTRICTIVE COVENANT

**THIS DECLARATION OF RESTRICTIVE COVENANT** (the "Declaration") is made this __ day of _____, 2012, by Greentree Investment Company, a _____ corporation, whose address is 34602 Woodward Avenue, Birmingham, Michigan 48009 ("Declarant").

**W I T N E S S E T H:**

**WHEREAS,** Declarant is the owner of certain real property (the "Property") located in the City of Birmingham (the "City"), Oakland County, Michigan, as more particularly described on Exhibit A attached hereto and made a part hereof.

**WHEREAS,** the public street known as "Hazel Street" abuts the Property;

**WHEREAS,** Declarant submitted to the City an application (the "Application") to vacate that portion of Hazel Street between Woodward Avenue and Elm Street (the "Vacated Property"), as more particularly described on Exhibit B attached hereto and made a part hereof; and

**WHEREAS,** as a condition for approval of the Application, the City has imposed certain restrictions with respect to a pedestrian walkway to be located on the Vacated Property.

**NOW, THEREFORE,** in consideration for City's approval of the Application, and other good and valuable consideration, receipt of which is hereby acknowledged, Declarant agrees that the Vacated Property shall hereafter be held, transferred, sold and conveyed subject to the following covenants and restrictions (the "Covenants"):

1. A pedestrian walkway (the "Walkway") shall be constructed across the Vacated Property and situated so as to reasonably facilitate public pedestrian traffic between Woodward Avenue and Elm Street.

2. The Walkway shall be maintained in a generally safe condition and, notwithstanding any temporary closures to effect repairs, prevent a public dedication or for other reasonable business purposes, it shall be kept open and accessible to the public at all times, subject to reasonable rules and regulations imposed by Declarant.

3. At the discretion of the Declarant, the location, construction and configuration of the Walkway may be altered or modified from time to time, including, without limitation, relocating the

Walkway to an area north or south of the Vacated Property, provided that such changes do not materially and adversely affect the pedestrian use of the walkway for an unreasonable length of time.

4. The covenants contained herein shall be deemed to run with the land in perpetuity and shall be binding upon and inure to the benefit of all parties having an interest in the Property, including Declarant, its successors and assigns.

5. The interpretation and performance of this Declaration shall be governed by the laws of the State of Michigan

6. In the event any of the covenants or provisions herein is determined to be invalid by judgment or court order, the remaining provisions hereof shall not be affected and shall continue in full force and effect.

7. These covenants shall not be taken as permitting any action or thing prohibited by the applicable zoning laws, or any laws, ordinances or regulations of any governmental authority, or by specific restrictions otherwise imposed.

8. This Declaration shall expire and have no further force or effect after December 31, 2099.

GREENTREE INVESTMENT COMPANY,
a _____ corporation

_____
By: _____
Its: _____

**Drafted by and when recorded return to:**
Howard N. Luckoff, Esq.
Honigman Miller Schwartz and Cohn LLP
39400 Woodward Avenue
Suite 101
Bloomfield Hills, MI 48304-5151

## ACKNOWLEDGEMENT

STATE OF MICHIGAN )
) ss.
COUNTY OF _____ )

The foregoing instrument was acknowledged before me this ____ day of _____, 2012, by _____, the _____ of GREENTREE INVESTMENT COMPANY, a _____ corporation, on behalf of such corporation.

_____
_____ Notary Public
_____ County, Michigan
Acting in _____ County, Michigan.

My Commission expires: _____

**EXHIBIT A**
**LEGAL DESCRIPTION**