



April 23, 2021

Mr. Kevin Reidy, CWCB
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Meridian Metropolitan District Municipal Water Efficiency Plan Final Submittal

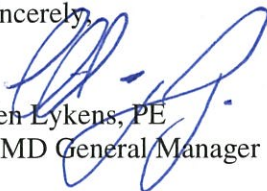
Dear Mr. Reidy,

The Meridian Metropolitan District (MMD) uploaded the draft Water Efficiency Plan to the District website and informed their customers that the Plan was available for review and comment. The comment period ended on January 31, 2021 and no comments were received. CWCB reviewed the same draft Water Efficiency Plan and provided conditional approval upon addressing the CWCB comments summarized in the table below. This table also explains how the CWCB comments were addressed and where to find the new language in the plan.

Comment	Response
Past Water Conservation Goals: The previous plan had a goal of 135 afy reduction. What was the result of this last planning period? How much was implemented and what would have been the difference if nothing was implemented from the last plan?	See the new section 4.2 added to summarize the previous Plan's goals and realized savings in 2020.
Single Family Goals: Could you rewrite the residential goal in a way that makes it more definite? What would happen if you rolled back all the water budget work and rate structures and irrigation standards? What would demand look like then? It would be helpful to have some kind of line graph that illustrates this in the plan.	See the new line graph added to Section 4.3, along with accompanying text.
Land Use: There is a sentence about this at the end of the water supply, but it doesn't really describe what Meridian is doing. There is a lot in your development review process and water budgeting/tap fees, turf restrictions that could be added to this. I suggest devoting a paragraph to this and explaining the DC connection a bit more.	See the new paragraph added to end of Section 4.1.

The MMD Board reviewed and adopted the Final Water Efficiency Plan at their Board Meeting on April 13, 2021. The Final 2021 MMD Water Efficiency Plan is attached for your review and approval. At your earliest convenience, please provide confirmation of CWCB formal approval or contact Jennifer Knapp at Jen.Knapp@jacobs.com or me at ken.lykens@sheapropties.com with questions.

Sincerely,



Ken Lykens, PE
MMD General Manager



Water Efficiency Plan



Meridian Metropolitan District

Douglas County, Colorado

April 2021

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- MMD Rules and Regulations
- MMD Design Control Committee Design Criteria and Submittal Procedures
- MMD Residential Landscape Guidelines
- Meridian Village Residential Example Water and Sewer Bill
- MMD Water Supply Status Updated March 2020
- SMWSA Public Education/Water Ambassador Program
- Public Review Notice

List of Abbreviations

ABBREVIATION	DESCRIPTION
AF	Acre-foot. Unit of volume to measure water, equivalent to an acre of area covered with one foot of water (325,850 gallons)
AFY	Acre-feet per year
AWWA	American Water Works Association
C.R.S	Colorado Revised Statute
CWCB	Colorado Water Conservation Board
E-T	Evapotranspiration, a combination of water evaporation from soil and exposed surfaces and plant transpiration which is the loss of water from plants
GPM	Gallons per minute
GPCD	Gallons Per-Capita per Day
H.B.	House Bill
IWA	International Water Association
MG	Million gallons
MGD	Million gallons per day
MMD	Meridian Metropolitan District
SMWSA	South Metro Water Supply Authority
SWSI	Statewide Water Supply Initiative
WEP	Water Efficiency Plan
WISE	Water Infrastructure and Supply Efficiency
WWTP	Wastewater Treatment Plant

Section 1: Introduction

1.1 Purpose

The **Meridian Metropolitan District (MMD or the District)** is a quasi-municipal corporation and a political subdivision of the State of Colorado that was created for the purpose of providing numerous public services including water supply and sanitary sewer service for the MMD service area.

The Water Conservation Act of 2004 (HB04-1365) requires all covered entities (retail water providers that sell 2,000 acre-feet (AF) or more on an annual basis) to have a State-approved water efficiency plan (WEP or Plan). MMD has historically had less than 2,000 AF of water sales per year but has previously developed, submitted, adopted, and implemented a Water Conservation Plan on a voluntary basis.

This WEP is an update to the MMD 2012 Water Conservation Plan. This WEP was developed to be consistent with the Colorado Water Conservation Board’s (CWCB) Municipal Water Efficiency Plan Guidance Document (July 2012) (Guidance Document) and follows the Addendum to the 2012 Guidance Document - *Best Practices for Implementing Water Conservation and Demand Management through Land Use Planning Efforts* (January 2019). This WEP is also consistent with the State’s emphasis on regional planning in the Statewide Water Supply Initiative (SWSI) efforts.

Specifically, this WEP meets the required water efficiency plan elements (§37-60-126 (4) C.R.S, 2019) as shown in the following section.

1.2 Organization

In keeping with the CWCB Guidance Document, this Plan is organized as follows:

1. Introduction
2. Profile of Existing Water Supply System
3. Profile of Water Demands and Historical Demand Management
4. Integrated Planning and Water Efficiency Benefits and Goals
5. Selection of Water Efficiency Activities
6. Implementation and Monitoring Plan
7. Adoption of New Policy, Public Review, and Formal Approval
8. References

In addition, each required item specified in the Guidance Document is listed in Table 1-1 along with the corresponding location in this WEP where the required item has been provided.

*Table 1-1
Summary of WEP Requirements and Locations*

C.R.S. 37-60-126 (4) Requirement	Location in Water Efficiency Guidance Document	Location in MMD Water Efficiency Plan
Provider’s location with respect to areas of current and future water needs as identified by the Statewide Water Supply Initiative (SWSI) and other regional planning efforts	Section 1.2 Water Supply Reliability	Section 2.1.1 District Formation and Location
Summary of water supply system limitations and future challenges water managers have for planning and operating their systems	Section 1.3 Supply-Side Limitations and Future Needs	Section 2.3 Supply-Side Limitations and Future Needs

C.R.S. 37-60-126 (4) Requirement	Location in Water Efficiency Guidance Document	Location in MMD Water Efficiency Plan
Description of how the provider intends to address its water supply system limitations and future challenges	Section 1.3 Supply-Side Limitations and Future Needs	Section 2.3 Supply-Side Limitations and Future Needs
Description of customer categories	Section 2.1 Demographics and Key Characteristics of the Service Area	Section 3.2 Historical Water Demands
Describe any limitations associated with the availability of the demand data	Section 2.2 Historical Water Demands	Section 3.2 Historical Water Demands
Total annual distributed treated water	Section 2.2 Historical Water Demands	Section 3.2.1 Potable Water Production
Total annual raw distributed non-potable water and reclaimed water	Section 2.2 Historical Water Demands	Section 3.2.2 Reclaimed and Non-Potable Water Production
Annual unaccounted water	Section 2.2 Historical Water Demands	Section 3.2.4 Potable Unaccounted Water
Water demand by customer categories	Section 2.2 Historical Water Demands	Section 3.2.3 Monthly Water Demands
Monthly and annual treated metered water use by customer category	Section 2.2 Historical Water Demands	Section 3.2.3 Monthly Water Demands
Estimate of the amount of water saved through previous demand management efforts as a percentage or in acre-foot increments.	Section 2.3 Past and Current Demand Management Activities and Impact to Demands	Section 3.3.8 Projected Water Savings Goals from Previous Efforts
List of demand management activities implemented prior to adoption of this plan and the date of initial implementation	Section 2.3 Past and Current Demand Management Activities and Impact to Demands	Section 3.3 Past and Current Demand Management Activities and Impacts to Demands
Projected water savings/goals developed from previous efforts and whether or not the water savings were achieved	Section 2.3 Past and Current Demand Management Activities and Impact to Demands	Section 3.3.8 Projected Water Savings Goals from Previous Efforts
Identify planning horizon for this plan	Section 2.4 Demand Forecasts	Section 3.4 Demand Forecasts
Unmodified forecasted water demands based on the provider's existing water efficiency program through the planning horizon	Section 2.4 Demand Forecasts	Section 3.4 Demand Forecasts
A description of how long-term water savings garnered through water efficiency activities are incorporated into water supply planning and decision making	Section 3.1 Water Efficiency and Water Supply Planning	Section 4.1 Water Efficiency and Water Supply Planning

C.R.S. 37-60-126 (4) Requirement	Location in Water Efficiency Guidance Document	Location in MMD Water Efficiency Plan
Modified forecasted water demands through the planning horizon incorporating the provider’s projected water savings	Section 3.1 Water Efficiency and Water Supply Planning	Section 4.1 Water Efficiency and Water Supply Planning
List of water efficiency goals for this plan and methods by which the success of the goals will be measured	Section 3.2 Water Efficiency Goals	Section 4.2 Water Efficiency Goals
List of final selected water efficiency activities included in the new water efficiency plan	Section 4.1 Summary of Selection Process	Section 5 Selection of Water Efficiency Activities
Summary of the identification, screening and evaluation process used to select the final activities and that demonstrate full evaluation	Section 4.1 Summary of Selection Process	Section 5 Selection of Water Efficiency Activities
An estimate of the amount of water that will be saved through water efficiency when the plan is implemented as either a percentage or in acre-feet	Section 4.2 Demand Management Activities	Section 5 Selection of Water Efficiency Activities & Section 3.3.8 Projected Water Savings Goals from Previous Efforts
Description of current and planned metering programs	Section 4.2.1 Foundational Activities	Section 3.3.2 Operational Utility Side Measures
Modifications and/or new metering programs selected as a result of this water efficiency planning effort	Section 4.2.1 Foundational Activities: Metering	Section 3.3.2 Operational Utility Side Measures & Section 5 Selection of Water Efficiency Activities
Evaluation of billing systems designed to encourage water efficiency in a fiscally responsible manner including improvements/upgrades to the existing billing system to improve data collection	Section 4.2.1 Foundational Activities: Metering	Section 3.3.1 Pricing Structure
Description of demand data available through the billing system	Section 4.2.1 Foundational Activities: Demand Data Collection and Billing Systems	Section 3.3.2 Operational Utility Side Measures
Frequency of billing	Section 4.2.1 Foundational Activities: Demand Data Collection and Billing Systems	Section 3.3.1 Pricing Structure
Description of modifications to the data collection and billing systems as a result of this water efficiency planning effort	Section 4.2.1 Foundational Activities: Demand Data Collection and Billing Systems	Section 3.3.1 Pricing Structure, Section 3.3.2 Operational Utility Side Measures & Section 5 Selection of Water Efficiency Activities
Evaluation of water rate structures designed to encourage water efficiency in a fiscally responsible manner	Section 4.2.1 Foundational Activities: Water Efficiency Oriented Rates and Tap Fees	Section 3.3.1 Pricing Structure
Description of the proposed or existing water rate structure and frequency of billing	Section 4.2.1 Foundational Activities: Water Efficiency Oriented Rates and Tap Fees	Section 3.3.1 Pricing Structure

C.R.S. 37-60-126 (4) Requirement	Location in Water Efficiency Guidance Document	Location in MMD Water Efficiency Plan
Description of proposed adjustments to water rate structure and/or rates	Section 4.2.1 Foundational Activities: Water Efficiency Oriented Rates and Tap Fees	Section 3.3.1 Pricing Structure & Section 5 Selection of Water Efficiency Activities
Existing water rate structures by customer category	Section 4.2.1 Foundational Activities: Water Efficiency Oriented Rates and Tap Fees	Section 3.3.1 Pricing Structure
Evaluation of distribution system leak identification and repair designed to encourage water efficiency in a fiscally responsible manner	Section 4.2.1 Foundational Activities: System Water Loss Management and Control	Section 3.3.3 Water Loss Control Program
Description of current and planned system water loss management and control programs	Section 4.2.1 Foundational Activities: System Water Loss Management and Control	Section 3.3.3 Water Loss Control Program
Evaluation of water-efficient fixtures and appliances; incentives to implement water efficiency techniques; low water use landscapes, drought resistant vegetation, and efficient irrigation; water-efficient industrial and commercial water-using processes; and re-use systems	Section 4.2.2 Targeted Technical Assistance and Incentives	Section 5.1.2 Targeted Incentives Not Selected
Estimated water savings due to implementation of water-efficient fixtures and appliances; incentives to implement water efficiency techniques; low water use landscapes, drought resistant vegetation, and efficient irrigation; water-efficient industrial and commercial water-using processes; and re-use systems	Section 4.2.2 Targeted Technical Assistance and Incentives	Section 5.1.2 Targeted Incentives Not Selected
Description of the implementation plan for each activity for Utility/Municipal Facility Water Efficiency	Section 4.2.2 Targeted Technical Assistance and Incentives: Level 1 Utility/Municipal Facility Water Efficiency	Section 3.3.2 Operational Utility Side Measures, Section 3.3.5 Indoor Efficiency & Section 3.3.6 Outdoor Efficiency
Description of the implementation plan for each activity for Management of Largest Customer Demands	Section 4.2.2 Targeted Technical Assistance and Incentives: Level 2 Management of Largest Customer Demands	Section 3.3.1 Pricing Structure, Section 3.3.2 Operational Utility Side Measures, Section 3.3.5 Indoor Efficiency & Section 3.3.6 Outdoor Efficiency
Description of the implementation plan for each activity for Management of Remaining Customer Demands	Section 4.2.2 Targeted Technical Assistance and Incentives: Level 3 Management of Remaining Customer Demands	Section 3.3 Past and Current Demand Management Activities
Evaluation of regulatory activities designed to encourage water efficiency	Section 4.2.3 Ordinances and Regulations	Section 3.3 Past and Current Demand Management Activities
Estimated water savings due to implemented regulatory activities	Section 4.2.3 Ordinances and Regulations	Section 3.3.8 Projected Water Savings Goals from Previous Efforts

C.R.S. 37-60-126 (4) Requirement	Location in Water Efficiency Guidance Document	Location in MMD Water Efficiency Plan
Description of the implementation plan for the regulation(s) selected to target the general service area and/or specific customer categories	Section 4.2.3 Ordinances and Regulations: Level 1 Existing Service Area	Section 3.3 Past and Current Demand Management Activities
Description of the implementation plan for the regulation(s) selected for new construction and targeted customer categories	Section 4.2.3 Ordinances and Regulations: Level 2 New Construction Regulations	Section 3.3 Past and Current Demand Management Activities
Description of the implementation plan for the regulation(s) selected for existing building stock and targeted customer categories	Section 4.2.3 Ordinances and Regulations: Level 3 Point of Sales Ordinances on Existing Building Stock	Section 3.3 Past and Current Demand Management Activities
Evaluation of dissemination of information regarding water efficiency activities	4.2.4 Education Activities	Section 3.3.4 Education and Public Information
Estimated water savings due to dissemination of information regarding water efficiency activities	4.2.4 Education Activities	Section 3.3.4 Education and Public Information & Section 3.3.8 Projected Water Savings Goals from Previous Efforts
Description of the implementation plan for one-way education activities within the targeted customer category	4.2.4 Education Activities: Level 1 One-Way Education Activities	Section 3.3.4 Education and Public Information
Description of the implementation plan for one-way education with feedback activities within the targeted customer category	4.2.4 Education Activities: Level 2 One-Way Education with Feedback	Section 3.3.4 Education and Public Information
Description of the implementation plan for two-way education activities within the targeted customer category	4.2.4 Education Activities: Level 1 Two-Way Education	Section 3.3.4 Education and Public Information
Implementation plan for all State approved water efficiency plans including description and details of the steps the provider will use for implementing each of the water efficiency activities	5.1 Implementation Plan	Section 6 Implementation and Monitoring Plan
List of selected water efficiency activities	5.1 Implementation Plan	Section 3.3 Past and Current Demand Management Activities, Section 5.1 Summary of the Selection Process & Section 5.2 Demand Management Activities
Anticipated period of implementation and timeline	5.1 Implementation Plan	Section 6 Implementation and Monitoring Plan
Actions necessary to implement each activity and milestone goals	5.1 Implementation Plan	Section 4.2 Water Efficiency Goals
Estimated water provider costs and avoided costs	5.1 Implementation Plan	Section 3.3.8 Projected Water Savings Goals from Previous Efforts

C.R.S. 37-60-126 (4) Requirement	Location in Water Efficiency Guidance Document	Location in MMD Water Efficiency Plan
Discussion on how reductions in water use could impact revenue and actions taken to help mitigate negative impacts	5.1 Implementation Plan	Section 3.3.8 Projected Water Savings Goals from Previous Efforts, Section 5 Selection of Water Efficiency Activities
Steps used to monitor the water efficiency plan	5.2 Monitoring Plan	Section 6.2 Monitoring Plan
List of demand data to be collected during the monitoring period/process	5.2 Monitoring Plan	Section 6.2 Monitoring Plan
List of other relevant data specific to the implementation of the water efficiency activities	5.2 Monitoring Plan	Section 6 Implementation and Monitoring Plan
Summary of the process to communicate monitoring and evaluation results to decision-makers including the frequency of communication	5.2 Monitoring Plan	Section 6.3 Plan Refinement
Frequency of data collection	5.2 Monitoring Plan	Section 6.2 Monitoring Plan
Public review process	6.2 Public Review Process	Section 7 Adoption of New Policy, Public Review, and Formal Approval
Description of the public review process and how the public assessed the plan	6.2 Public Review Process	Section 7.2 Public Review Process
Summary of public comment along with how the comments were addressed and details of the meetings held during the water efficiency plan development process	6.2 Public Review Process	Section 7.2 Public Review Process
Official adoption of the water efficiency plan	6.3 Local Adoption and State Approval Process	Section 7.3 Efficiency Plan Approval
Steps used to review and revise the water efficiency plan	6.4 Periodic Review and Update	Section 6.3 Plan Refinement
Process of how monitoring results will be incorporated into updated plans	6.4 Periodic Review and Update	Section 6.2 Monitoring Plan & Section 6.3 Plan Refinement
Anticipated date of next water efficiency plan update	6.4 Periodic Review and Update	Section 6.3 Plan Refinement

Section 2: Profile of Existing Water Supply System

2.1 Overview of Existing Water Supply System

2.1.1 District Formation and Location

MMD is a quasi-municipal corporation and political subdivision of the State of Colorado formed in 1976 for the purpose of providing public sewer, water and street improvements in the MMD service area. The purposes of the District were broadened in 1981 to also manage all park and recreation areas within the service area. The MMD service area is located in north central unincorporated Douglas County with its northernmost point bordering County Line Road and westernmost point bordering I-25. The service area is shown in Figure 2-1.

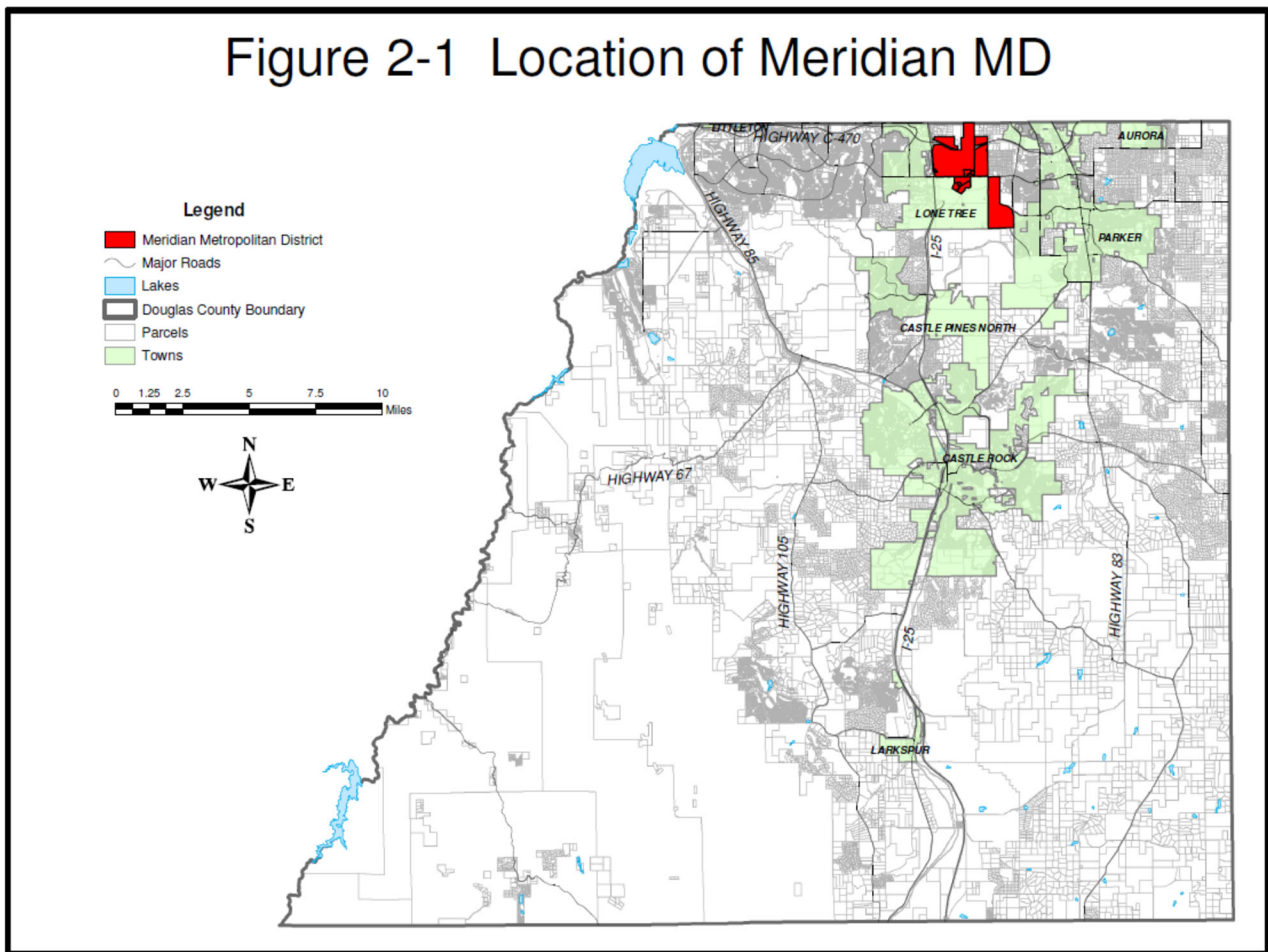


Figure 2-1
Location of MMD

The MMD service area consists of the approximately 1,300-acre Meridian International Business Center and 400-acre Cordillera Business Park with primarily commercial customers, and the approximately 800-acre Meridian Village with primarily residential customers. Permitted uses in MMD include residential, office buildings, commercial retail/hotels, research, development and light manufacturing, golf course and open space. The District has an estimated transient and non-transient population of 20,250 people which includes services to numerous office building complexes, a golf course, several hotels and multi-family complexes and single family residential developments.

2.1.2 Water System Facilities Overview

The MMD water system consists of groundwater wells, well supply pipelines, groundwater disinfection facilities, a water distribution system including potable water pipelines, two booster pump stations and two storage tanks. The wastewater system includes wastewater collection pipelines, lift stations, and a wastewater treatment plant (WWTP). The effluent from the wastewater treatment plant is delivered through reclaimed water pipelines to two storage reservoirs, one is located on the nearby Meridian Golf Course and the other is located near the intersection of East Mainstreet and Chambers Road. The reclaimed irrigation water is currently used for outdoor irrigation for the golf course, commercial properties, parks and common areas.

2.1.3 Water Supply Sources

A summary of MMD’s current water supply sources are shown in Table 2-1. MMD also has a Water Infrastructure and Supply Efficiency (WISE) subscription of 300 acre-feet per year (AFY) that will increase to 775 AFY after 2024. The annual yield and water rights of the major water sources for MMD are summarized in Table 2-1 and discussed in the following sections.

*Table 2-1
Summary of Major Water Sources*

Type of Supply	Source of Supply	Water Rights (AFY)	Comments
Inside District Groundwater Wells	Upper Dawson	300	All groundwater supplies are from wells drilled in different aquifers within the Denver Basin.
	Lower Dawson	626	
	Denver	1,264	
	Arapahoe	1,535	
	Laramie Fox Hills	922	
Outside District Sources	Hock-Hawking Mine Portal Surface Water	25	Dedicated to post-pumping depletions per District's augmentation plan.
	WISE Subscription	775	WISE supplies increase from 145 AF in 2019 to 775 AF after 2024.
Reclaimed Water for Irrigation	Treated Effluent from Wastewater Treatment Plant	All water rights listed above are 100% reusable.	District reuses all of the treated effluent generated within the District’s service area for irrigation within the service area.
Total	---	5,422 AF	Hock-Hawking supply not included in total since supply is dedicated to outside service area augmentation requirements.

MMD also has agreements with neighboring utilities (Denver Water, Inverness, and Parker Water and Sanitation District) to construct interconnects to provide emergency supplies in the event of a system failure.

2.1.3.1 Groundwater Sources

MMD’s existing groundwater supplies are derived from wells drilled in the Denver Basin. The Denver Basin aquifers underlying the service area include the Upper and Lower Dawson, Denver, Arapahoe and Laramie-Fox Hills formations. Figure 2-2 is an illustrative cross-section of the Denver Basin aquifer formations.

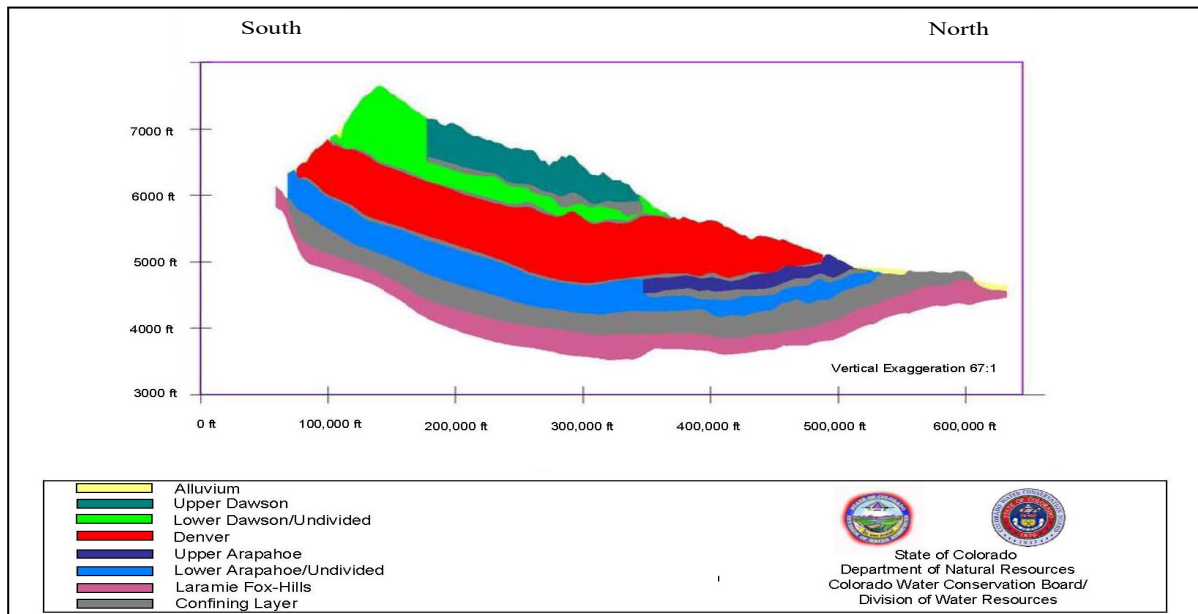


Figure 2-2
Denver Basin Aquifer South-North Cross Section
South Platte Basin
 (Source: CWCB South Platte DSS)

All groundwater development to meet MMD’s water demands occurs within the District boundaries. Wells are drilled incrementally as necessitated by growing demands. If all of the groundwater wells decreed for use by MMD were drilled, connected to the system and producing their decreed amount, the aggregate yield would be approximately 4,647 AFY. The Denver Basin groundwater supplies require minimal treatment to meet drinking water standards. Treatment to meet regulatory requirements is limited to disinfection prior to delivery to the potable water system.

2.1.3.2 Outside District Sources

MMD owns Hock Hocking Mine portal surface water shares, which have some of the most senior water rights within the South Platte River Basin. MMD allows this water to flow down the South Platte River and then uses the flow to meet augmentation requirements associated with pumping Denver Basin groundwater. MMD does not directly use this water as a supply to meet demands within the District’s boundaries.

MMD also has a subscription for 775 AFY of WISE water. WISE water is delivered to WISE members based on a commitment from Denver Water and Aurora Water. WISE water is therefore highly reliable and fully reusable. WISE water is delivered to MMD as potable water and upon completion of near-term planned infrastructure, MMD can direct the water to the potable water system for direct consumption by MMD customers or direct the water to Denver Basin wells for aquifer storage and subsequent recovery.

2.1.3.3 Reclaimed Irrigation System

MMD installed an extensive reclaimed irrigation system during the original development of the infrastructure within the service area and reclaimed water is used for nearly all non-residential irrigation in MMD. In fact, the District functions as a “closed system” with no wastewater discharge to surface streams. All wastewater generated within the MMD service area is conveyed to the MMD WWTP for treatment and is then pumped to two storage reservoirs. The District can also pump Denver Basin water into the reservoirs to supplement its reclaimed irrigation system, if needed. MMD’s foresight to install an extensive non-potable reclaimed system significantly reduces the total new water supplies needed to meet the demands within the MMD service area and effectively recycles 100% of MMD’s water.

2.1.3.4 Reuse of Wastewater Return Flows

As discussed above, the District fully reuses all of its wastewater and has no return flow to a surface stream.

2.2 Water Supply Reliability

MMD resides in the South Platte Basin. According to the SWSI effort, the South Platte Basin has the largest gap between supplies and demands in all of Colorado. To ensure reliability of water supplies, MMD has conducted numerous water supply and demand studies. Based on these analyses, MMD does not foresee an absolute necessity to acquire additional water in the future to meet projected buildout demands. However, MMD understands that the Denver Basin groundwater is a non-renewable water source and a reduction in pumping rates could occur over time. To limit the number of additional wells that may need to be installed to maintain MMD's existing decreed groundwater production rates and to diversify the MMD supply portfolio, MMD subscribed to 775 AF of WISE water. The source of WISE water is reusable effluent from senior water rights owned by Denver Water and Aurora Water. Although the source of the WISE water supply is reliable, the WISE agreement does allow Denver Water and Aurora Water to increase and decrease WISE deliveries (within limits) to provide Denver Water and Aurora Water operational flexibility. To manage the variable deliveries of WISE water, MMD has developed a WISE firming plan. During periods of higher than average WISE deliveries, WISE water is stored in the local groundwater aquifer. During periods of lower than average (or no) WISE deliveries, MMD can withdraw the stored water from the aquifer. This aquifer storage and recovery program is a key component that results in WISE water being a firm water supply.

MMD continues to participate in other regional studies and could elect to acquire additional renewable water supplies in the future. MMD also plans to construct interconnections with neighboring communities to receive and provide emergency supplies of up to 6,500 gpm, if needed.

2.3 Supply-Side Limitations and Future Needs

As stated previously, MMD does not foresee supply limitations to meet their current and projected buildout demands.

Section 3: Profile of Water Demands and Historical Demand Management

3.1 Demographics and Key Characteristics of the Service Area

The MMD service area consists of the approximately 1,300-acre Meridian International Business Center, 400-acre Cordillera Business Park and 800-acre Meridian Village.

3.1.1 Commercial Land Use, Accounts, and Building Stock

Currently, there are 186 commercial, industrial, and institutional water accounts in MMD with a significant portion of the land still available for future development. Typical uses in the non-residential areas include office buildings, commercial retail/hotels, research, development and light manufacturing, golf course and open space. Most office buildings in the MMD service area were constructed after 1996 and therefore there are limited opportunities for the presence of pre-1996 water fixtures within the service area. All indoor water use for these buildings is fully reused and almost all landscape areas around these commercial buildings are irrigated with reclaimed water.

3.1.2 Residential Land Use, Accounts, and Building Stock

Currently, there are 2,160 single family homes and 162 multi-family homes in MMD with limited land remaining for future development. These units are mostly a mix of homes built between 2004 and 2019 with modern high efficiency water use fixtures. Landscaping in these relatively new development areas also use contemporary low water use landscape designs due to adoption of the MMD Residential Landscape Guidelines (included in the Appendix of Exhibits).

3.1.3 Residential and Employee Population

The District has an estimated transient (employee) and non-transient (local residents) population of 20,250 people.

3.1.4 Relevant Water Use Considerations

It is important to note that MMD tracks the number of water customers on an annual use allotment basis. Allotments are specified for each site development when the connection and service application is approved for each site. Potable water allotments are based on the average expected annual demands for the users specified for the residential site and are based on the net floor retail area of the building served for non-residential sites. Non-potable irrigation is required for all outdoor irrigation uses except residential and are based on an allowance of 3.74 gallons per square feet of parcel area per year. This amount is roughly equal to twenty percent of the gross parcel area, which is the typical percent of total parcel area designated to irrigated landscape for non-residential parcels in the District. For more detail, see the MMD Irrigation Allotments and Fee Schedule in Rules and Regulations, and in the Design Control Committee Design Criteria and Submittal Procedures included in the Appendix of Exhibits.

3.2 Historical Water Demands

Table 3-1 summarizes residential and non-residential water sales for potable and non-potable water supplies. The number of accounts for each customer class are also shown. 2018 water use data was selected because it is fairly recent, has complete data readily available, and was a relatively average year with regard to precipitation. Demands as a percentage of total potable and non-potable water production are shown in Figure 3-1 (including non-revenue water losses).

Table 3-1
Annual Water Use in 2018 by Customer Class

General Class	2018 Total Sales (in 1,000 gal)	% of Total Sales (2018)	Service Taps							Total Taps
			3/4"	1"	1.5"	2"	3"	4"	6"	
Potable Water										
Single Family Residential	196,289	28.8%	2,160	---	---	---	---	---	---	2,160
Multi-Family Residential	60,687	8.9%	---	46	63	51	1	1	---	162
Residential Subtotal	256,976	37.7%	2,160	46	63	51	1	1	---	2,322
Commercial, Industrial, Institutional	154,425	22.7%	---	62	49	52	20	3	---	186
Potable Water Subtotal	411,401	60.4%	2,160	108	112	103	21	4	---	2,508
Non-Potable Water										
Irrigation for Parks	80,019	11.8%	---	---	5	10	---	21	---	36
Irrigation for Commercial	100,069	14.7%	4	15	24	10	4	---	---	57
Irrigation for Golf Course	89,175	13.1%	---	---	---	---	2	---	1	3
Non-Potable Water Subtotal	269,263	39.6%	4	15	29	20	6	21	1	96
Total Potable and Non-Potable	680,664	100.0%	2,164	123	141	123	27	25	1	2,604

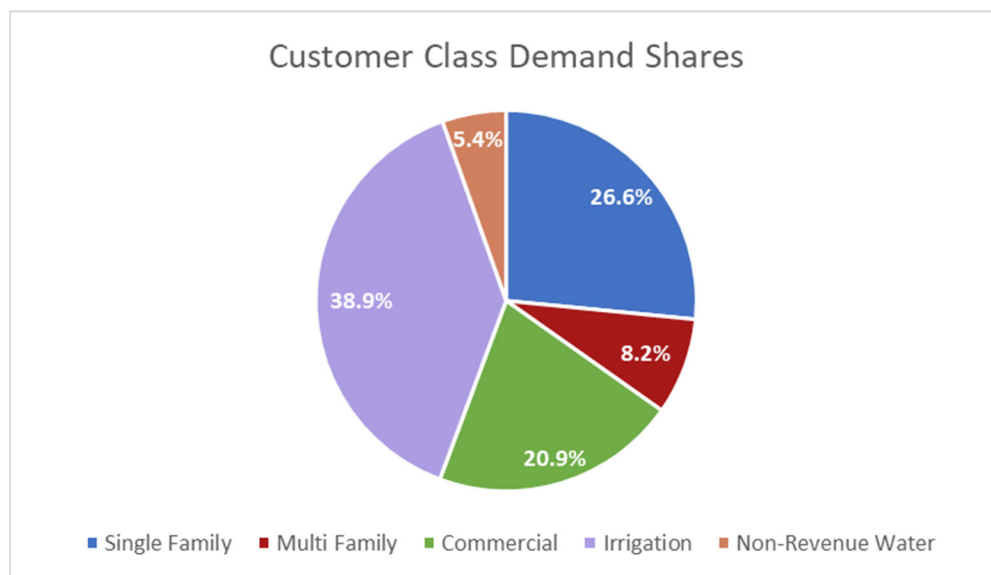


Figure 3-1
Percent of Annual Water Use in 2018 by Customer Class

The following sections provide a more detailed description of historical water demands broken out by potable water production, non-potable water production, and unaccounted water. Currently, there are no limitations associated with the availability of the demand data.

3.2.1 Potable Water Production

The total annual volume of treated water pumped into the potable water distribution system for 2014 through 2018 is shown in Figure 3-2. As shown, demand increased 35 percent from 2014 to 2018, increasing from 289 million gallons (MG) to 446 MG annually; an increase of almost 158 MG largely associated with growth and new construction.

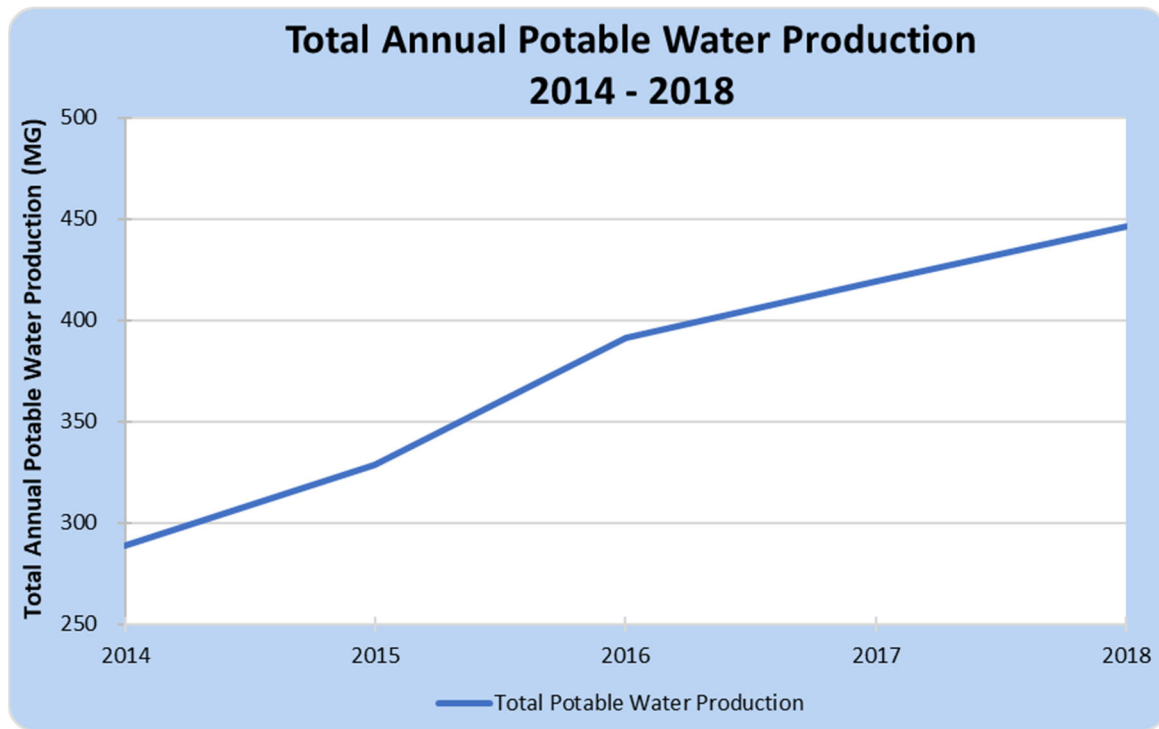


Figure 3-2
Total Annual Potable Water Production

3.2.2 Reuse and Non-Potable Water Production

Total annual reuse and non-potable water pumped into the non-potable water system for 2014 through 2018 is shown in Figure 3-3. Non-potable demand decreased in 2015; however non-potable demands have remained relatively consistent between 275 and 300 MG per year between 2014 and 2018. This is due to very little change in the amount of commercial development and open space during this time period.

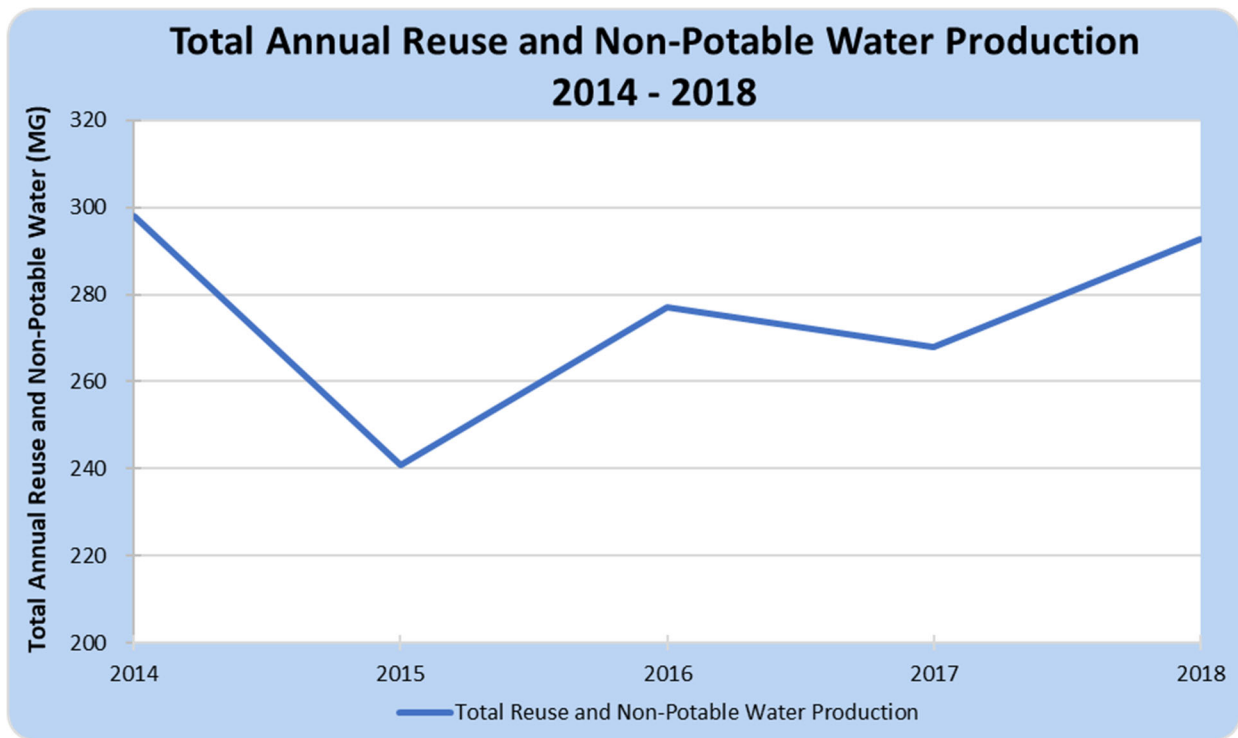


Figure 3-3
Total Annual Reuse and Non-Potable Water Production

3.2.3 Monthly Water Demands

Monthly water production for 2014 through 2018 is shown in Figure 3-4. The peak month production/demand for 2018 occurred in July. The peak month to average month ratio in 2018 was 1.9. It is important to note that MMD has an 18-hole golf course in the service area and a relatively low residential population with a total of 2,322 single family and multi-family accounts. The limited population uses relatively low water volumes in the non-irrigation months and the golf course along with public parks and green belts have significant water needs during the peak irrigation month. This combination of unique service area characteristics is a significant driver in the peak month to average month water demand ratio. Figure 3-5 shows the monthly 2018 potable and non-potable demand by customer type. Potable demands are shown in solid and non-potable demands are shown as hatched.

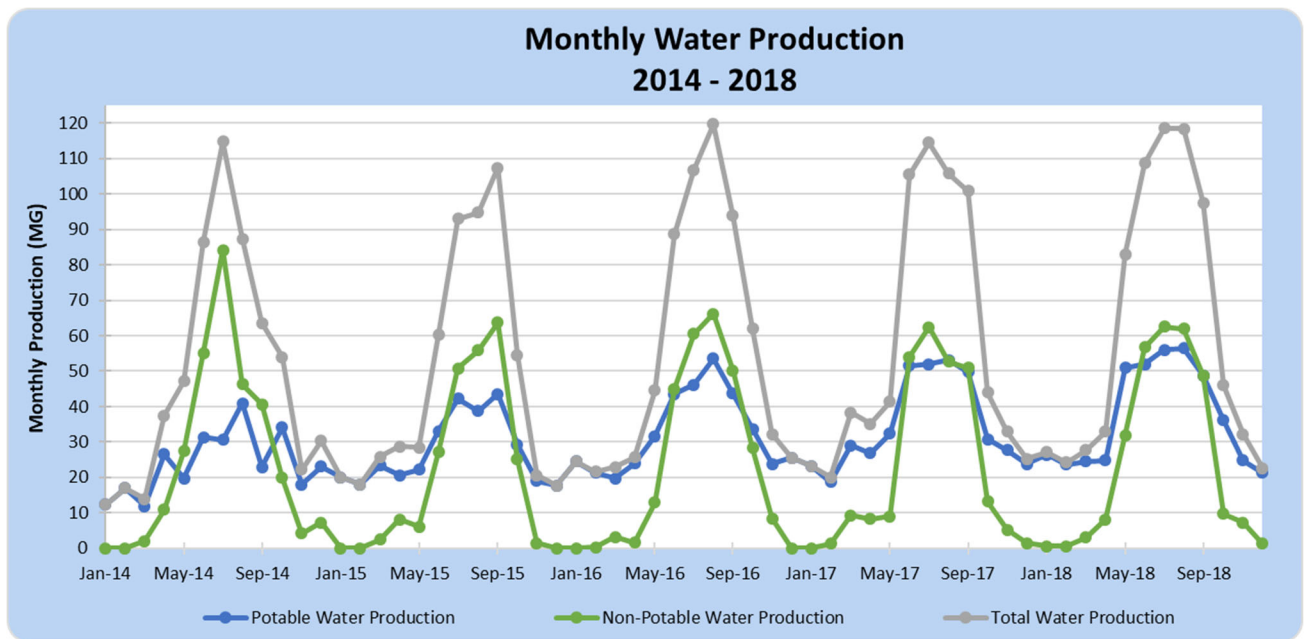


Figure 3-4
Monthly Water Production 2018

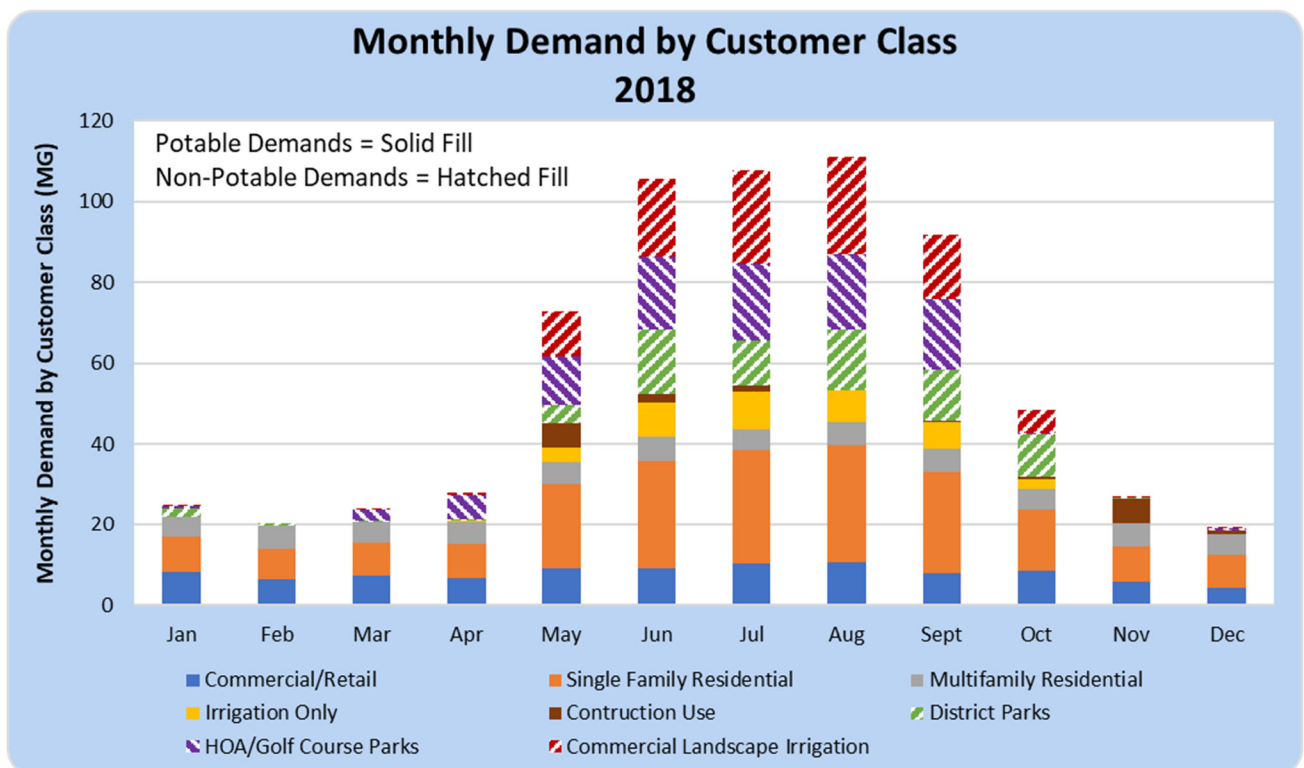


Figure 3-5
Monthly Demand by Customer Class 2018

3.2.4 Potable Unaccounted Water

Total water pumped into the potable water system represents total potable water production. Total potable water production is compared to total potable water billed to determine unaccounted water. Unaccounted water includes water losses (leaks). Although AWWA now recommends evaluating unaccounted water without reference to percentage of water produced, such a reference has been a standard practice in the industry for many years ("Water Wiser," 2010) (Angers, 2001). At the level of analysis in this water efficiency

plan, it is helpful to consider the District’s water system with respect to the accepted benchmark of up to 15 percent water loss. The annual potable unaccounted water as a percent of total potable production for 2014 through 2018 is shown in Figure 3-6. MMD’s potable unaccounted water over the last five years was generally declining, averaging 7.4% in the last four years, and declining to 3.8% in 2018. This is within the industry standard.

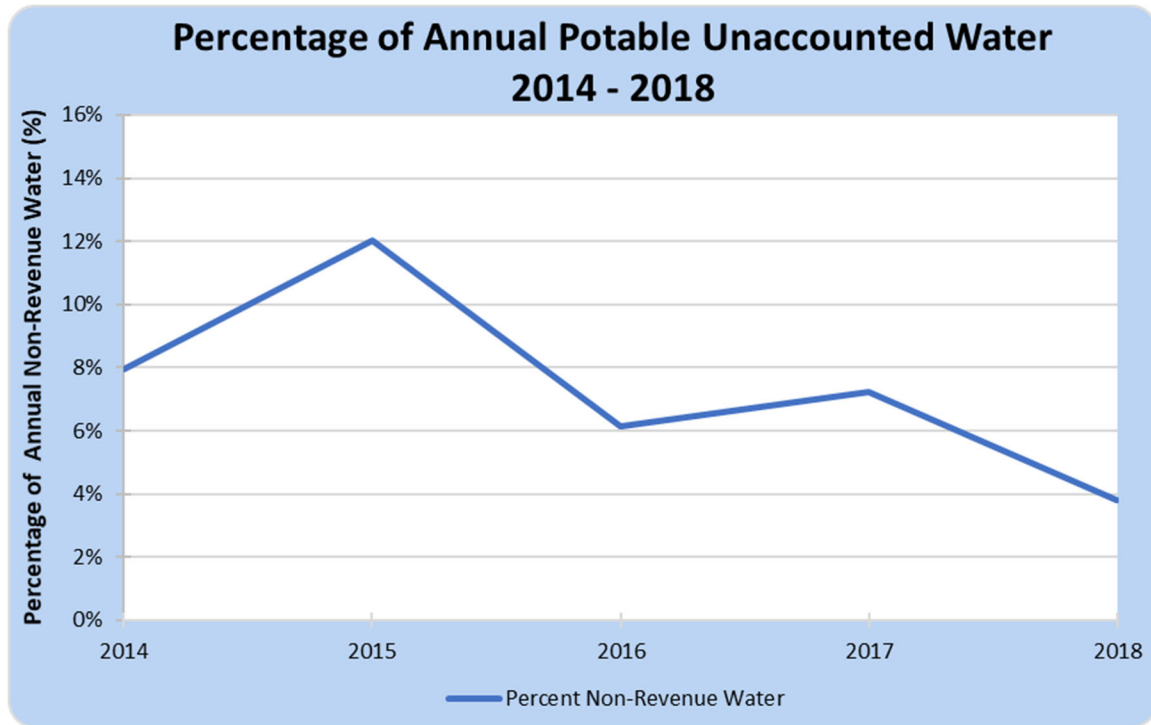


Figure 3-6
Percentage of Annual Potable Unaccounted Water

There are several categories of unaccounted water that are considered in a typical water balance assessment, which are shown in Figure 3-7 below.

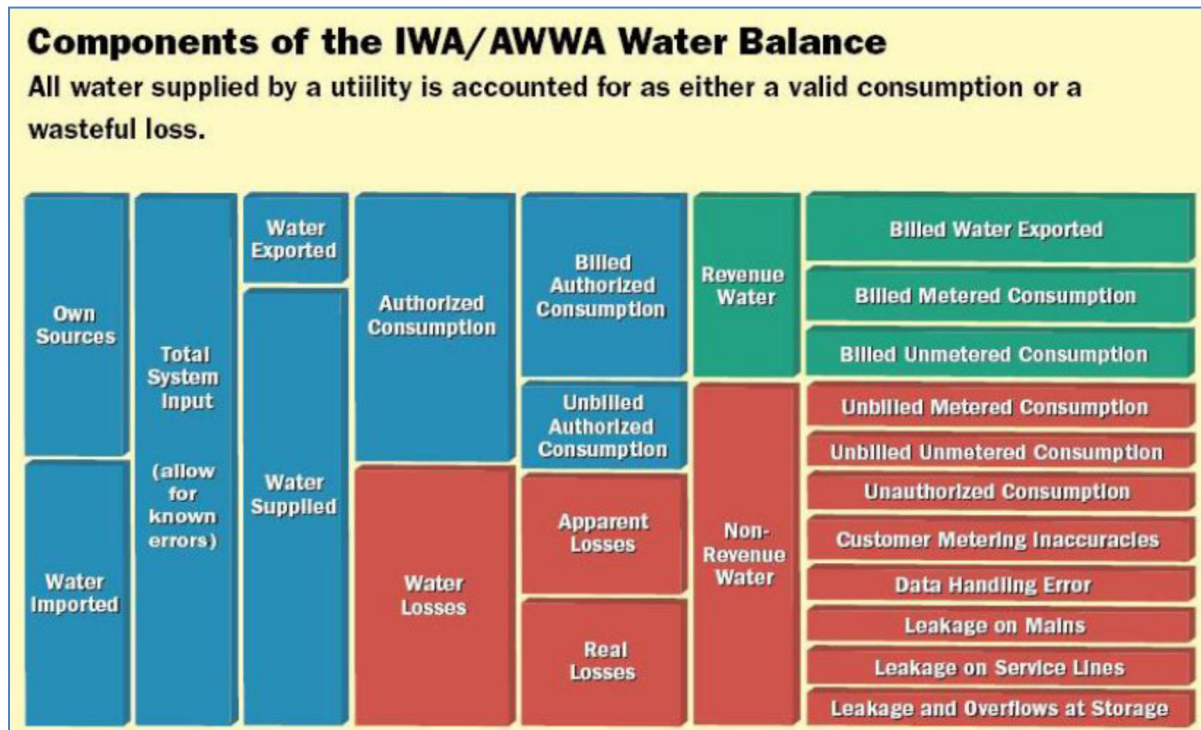


Figure 3-7

IWA/AWWA Water Balance Summary

(Source: AWWA Publication, Opflow, October 2007)

All of MMD’s customer water use is metered and billed. There are no customers that receive water that is unbilled, and all metered water use is considered revenue water as defined in the IWA/AWWA water balance. The non-revenue water for the MMD system includes:

- Unbilled consumption not by customers (see below)
- Customer metering inaccuracies
- Data handling errors
- Leakage on mains
- Leakage on service lines
- Leakage and overflows at storage

Unbilled consumption not by customers includes the following:

- Annual waterline and fire hydrant flushing program conducted by MMD
- Fire department operations filling fire trucks for firefighting. These fire departments are separate from MMD.

3.2.5 Unit Water Use

The CWCB Municipal Water Efficiency Plan Guidance Document encourages the WEP to include a per capita water demand calculation, expressed in gallons per capita/day (gpcd), calculated as the total water production divided by total population in the service area. However, water suppliers with a large portion of their land area dedicated to business parks and limited areas dedicated to residential housing will have a non-typical ratio of commercial water use to population that will adversely affect the gpcd calculation. Also, water suppliers with a golf course and large office campuses with limited residential housing are another example of a non-typical ratio of water use versus population. The MMD service area has both of these characteristics and therefore calculating gpcd as total water use divided by total population is simply not comparable to other communities.

MMD does separately track the water use by single family customer class, and MMD has 2,160 single family units that used a total of 196.3 million gallons in 2018. Assuming an average of 3 people per single family home, this equates to 83 gpcd for a typical single family home in the MMD service area. For perspective, the average water use for single family homes in the Denver Water Service Area in 2014 (per Water Research Foundation Project #4554) was 100 gpcd. The lower use in the MMD service area is due to newer housing stock that contain more efficient fixtures and appliances, and MMD landscape ordinances.

3.3 Past and Current Demand Management Activities and Impacts to Demands

MMD has used both design and water efficiency measures and programs to manage water demands and conserve water since it was formed. The MMD water efficiency program offers a diverse range of programs and measures targeted at all water customer classes. Demand management strategies have included measures designed to manage peak day demands and reduce total annual demands. MMD’s Rules and Regulations are based on these strategies. Additionally, planning, design and approval are controlled by covenants and are strictly enforced by the Design Control Committee.

It is important to note that as a water district, MMD does not have land use or building permit regulatory authority. As a result, MMD does not have the regulatory authority to require certain water conservation measures. However, the State of Colorado has passed various legislation in the past 10 years (e.g. HB 10-1358, Senate Bill 14-103, and others) which requires builders to install and retailers to sell only water efficient fixtures. With the assistance of State and county regulations, the water efficiency programs and measures implemented within the District are included in Table 3-2. A more detailed description of each of these water efficiency measures and programs is provided in the following sections.

*Table 3-2
Past and Current Water Efficiency Measures and Programs*

Past and Current Water Efficiency Measures and Programs	Implementation Date
Pricing Structure	
Monthly Billing	Since inception
High Use Customers Water Use Monitoring	Since inception
Increasing Block Rate Structure	Since inception
Operational Utility Side Measures	
Integrated Resources Planning	Since inception
Full Metering	Since inception
Demand Data Collection	Since inception
Conservation Coordinator	Prior to Residential Development
Water Use Based Irrigation Tap Fees	Since inception
Mandatory Watering Days	Prior to Residential Development
Water Surveys and Evaluations (Targeted at High Demand Customers)	Since inception
Water Loss Control Program	
Tracking of Water Losses	Since inception
Education and Public Information	
Conservation Public Information Campaign	Since inception
School Education Programs (via SMWSA)	2015
Indoor Efficiency	
Water Budgets for In-Building Accounts	Since inception
Rules for New Construction	Since inception
Outdoor Efficiency – Landscapes and Irrigation	
Water Budgets for Irrigation Accounts	Since inception
Irrigation System Water Conservation Requirements and Certification of Landscape Professionals	2015

Past and Current Water Efficiency Measures and Programs	Implementation Date
E-T Irrigation Controllers	2011
Limits on Turf Landscaping for New Construction	Since Inception via Allotment Process
Specialized Non-Residential Surveys, Audits, and Equipment Improvements	Since inception
Water Reuse Systems	
Non-Potable Irrigation System	Since inception
Reuse of Consumable Effluent Return Flows	Since inception

3.3.1 Pricing Structure

Monthly Billing – To increase customer awareness of water use, MMD has monthly billing for all accounts. MMD provides an annual water allotment for each water user and the monthly bills show the customers remaining allotment. An example monthly bill is included in the Appendix of Exhibits.

High-Use Customers – Through monitoring performance with respect to water budgets, MMD identifies those customers that use more water than allocated. When allotments are exceeded, the District imposes a rate surcharge. Also, annual meetings are held with large users, as required. If the annual irrigation allotment is exceeded by 100% for non-residential commercial clients, the District will increase the rate to a multiple of five times the normal rate and may terminate service unless a plan and timetable of remediation are presented to the MMD Board. Since District staff also perform maintenance on all common areas, they are able to observe irrigation water usage within the District. If staff believe there to be an incidence of overwatering, the District may fine the user \$250 per occurrence and can include termination of service.

Increasing Block Rate Structure – Since inception, MMD has implemented a tiered, increasing-block rate structure with water budgets in order to promote water conservation through pricing. The 2020 version of the MMD increasing-block rate structure is shown in the following table.

Table 3-3
2020 Water Rate Tiers

Rate Type	2020 Monthly Base Rate	Monthly Use Fees (per 1,000 gal)	Surcharge for Excessive Use (Overages)
Single-Family Residential Rates	\$15.00 for 4,000 gallons use	\$6.77	For use over 170,000 gal/yr: <ul style="list-style-type: none"> • up to 50% Overage = 2X rate • 51% to 100% Overage = 3X rate • more than 100% Overage = 5X rate
Multi-Family Residential Rates	\$45.00 for 8,000 gallons use	\$6.77	For unit use over 61,750 gal/yr: <ul style="list-style-type: none"> • up to 50% Overage = 2X rate • 51% to 100% Overage = 3X rate • more than 100% Overage = 5X rate
Commercial Rates	1" Tap: \$25 for 4,000 gallons use 1.5" Tap: \$45 for 8,000 gallons use 2" Tap: \$65 for 12,000 gallons use 3" Tap: \$135 for 24,000 gallons use 4" Tap: \$265 for 48,000 gallons use	\$6.77	For the following uses: <ul style="list-style-type: none"> • Commercial Building - over 20.5 gal/yr/SF • Restaurant – over 153.3 gal/yr/SF • Office Warehouse - over 10.25 gal/yr/SF The following surcharge is applied for overage: <ul style="list-style-type: none"> • up to 50% Overage = 2X rate • 51% to 100% Overage = 3X rate • more than 100% Overage = 5X rate and service termination.

3.3.2 Operational Utility Side Measures

Integrated Resources Planning – MMD has practiced integrated resources planning as part of its overall water supply and demand management strategy. The proof is evident in that all available reclaimed water has been used as a water supply since the District’s inception. As implemented by MMD, the integrated resources planning approach is a comprehensive planning effort that incorporates water conservation as a key component for meeting future needs.

Full metering – All MMD customers and associated water use has been metered and billed since inception. Having a fully metered system assists in improved leak detection and customer engagement. The District also implements an active meter inspection and replacement program. In the first phase, technicians are dispatched throughout the year in response to customer inquiries. The meters are checked for leaks and functionality and replaced if needed. In the second phase, all meters are routinely checked on a rotating basis. This way all meters within the District are routinely checked within a three-year period.

Demand Data Collection – The District switched to a more sophisticated billing program several years ago. This program tracks the unique allotment of every account and reports the monthly total usage for comparison to the annual allotment amount.

Conservation Coordinator –MMD has a designated person which serves as the District’s water conservation coordinator. MMD is also a member of the South Metro Water Supply Authority (SMWSA) and draws on the conservation and education resources provided by SMWSA.

Water Use Based Irrigation Tap Fees – All irrigation tap fees are based on tap sizes which are based on allotments predicated on lot size and Colorado agronomic application needs regardless of irrigated area and planting materials. Higher fees are required for larger tap sizes and irrigators are not allowed to add additional water taps to irrigate more landscaping. The allotments are fixed, certified and the users are required to abide by them as demonstrated during planning and design approval.

Mandatory Watering Days – The District currently restricts residential irrigation to 6 pm to 6 am, three days a week.

Water Surveys and Evaluations, Targeted at High Demand Customers – MMD has an existing water budget program and increasing water block rates that limit water use and discourage high water users. The District contacts high water users and assists them with better management of demands.

3.3.3 Water Loss Control Program

Tracking of Water Loss –Total water production is compared to total water billed to determine water losses monthly. When meter readings do not match the total water production or when meters are electronically flagged for a reading error, the District dispatches its on-staff meter technician and/or hires a company with monitoring equipment to locate leaks.

The District is described as a pressure sustaining system. This means that there are not water storage tanks downstream of the pump stations that pump water into the distribution system. These pump stations are equipped with pressure and flow sensors to maintain pressure and the system will send an alarm if unexpected pressure drop and/or excessive flow is detected. The alarms are monitored 24/7 and answered by the operator on duty. Since the system does not have water tanks within the distribution system, leaks are usually readily apparent upon inspection of the District in the event an alarm is received. One hundred percent of the District’s system is monitored.

The District has an active annual fire hydrant and valve exercise program. In this program, fire hydrants and water valves are located and checked for functionality. Routine replacement of valves and hydrants are funded through the District's annual budget.

The District has an active meter inspection and replacement program which is managed in two phases. In the first phase, technicians are dispatched throughout the year in response to customer inquiries. The meters are checked for leaks and functionality and replaced if needed. In the second phase, all meters are routinely checked on a rotating basis. This way all meters within the District are routinely checked within a three-year period.

3.3.4 Education and Public Information

Conservation Public Information Campaign – Water conservation information is disseminated via bill inserts, brochures and website. Water conservation topics include information on irrigation management, landscaping tips from the Colorado State University extension program and SMWSA conservation and education program as well as other water saving tips. Staff responds to residential and commercial customers with water use or billing questions and requests for water conservation information. Additionally, under Colorado Regulation 84 Permit, MMD conducts annual training, education and authorization of reuse (reclaimed) water users.

School Education Programs – MMD is a member of the SMWSA and the education resources of SMWSA are available to its members. The SMWSA website is www.southmetrowater.org. Education programs are tailored to elementary, middle and high school students. The website also lists resources and papers geared toward water topics and technical information. An example of the SMWSA Water Ambassador Program is included in the Appendix of Exhibits.

3.3.5 Indoor Efficiency

Water Budgets for In-Building Accounts – Water budgets for in-building use were first implemented in 1982. Water allotments are set according to the schedule, attached in the Appendix of Exhibits under Rules and Regulations and Design Control Committee Design Criteria and Submittal Procedures. The allotments are set on an annual basis, so surcharges typically are applied later in the year if allotments are exceeded.

Rules for New Construction – Rules for new construction are governed by State and County building codes. This is more effective since the District does not have legal means to dictate local building code.

The District has enforced an allotment system for indoor and outdoor use since inception of the district in the 1980s. The allotment system commits the building to a water budget at the beginning of the design process rather than at the end when purchasing water and sewer taps.

Furthermore, since the District collects all of the sewage within its boundaries and reclaims 100% of the wastewater for reuse as landscape irrigation, the impact of wasteful or inefficient sewer generation on water supplies is lessened. Nonetheless, the District discourages inefficient use and, therefore, the volume of sewage generation is closely monitored through the wastewater treatment process.

The vast majority of commercial construction within MMD began after 1996. Since the commercial buildings are relatively new, many of the buildings have high efficiency type fixtures and process equipment. The District has considered a rebate program and found that it may not be cost effective at this time and will not be part of this planning cycle. Rebates may be re-evaluated in the next planning cycle.

3.3.6 Outdoor Efficiency - Landscapes and Irrigation

Water Budgets for Irrigation Accounts – Water allotments for irrigation accounts have to be accompanied by a potable water account and attendant allotment. Irrigation allotments are based on an allowance of 3.74 gallons per square foot parcel area per year which provides for an “equivalency” of a maximum of 20 percent of the gross parcel area of each development site to be “irrigated” landscape. See the Appendix of Exhibits for Irrigation Allotments in Rules and Regulations.

Irrigation System Water Conservation Requirements and Certification of Landscape Professionals – Irrigation design and water use requirements have been established as a performance standard. All irrigation system demands must be submitted for review and approval prior to the issuance of an irrigation tap for all properties. Landscape plans are designed and approved during site plan review and inspected during installation. See the Appendix of Exhibits for Landscape Irrigation Demand Certification in Rules and Regulations.

E-T Irrigation Controllers – The District requires rain sensors for all commercial irrigation accounts and encourages the use of evapotranspiration (E-T) controllers by large accounts. MMD has switched to E-T controllers on all common park areas. All irrigation controllers must have battery backup or be unaffected by a power interruption and be secured to prevent tampering.

Limits on Turf Landscaping for New Construction – The planning and design of all landscaping is strictly controlled through covenants as approved by the Design Control Committee. Code enforcement is also handled by the Design Control Committee.

Specialized Non-Residential Surveys, Audits and Equipment Efficiency Improvements – The District provides non-residential customer surveys and audits which typically include meter functionality checks, system inspections, evaluation of the original allotment calculations, and comparison of site layout to approved plans including landscaping.

3.3.7 Water Reuse Systems

Non-Potable Irrigation System – As described throughout this WEP, the District reuses all of the wastewater generated within the MMD service area. The irrigation system includes pumping of treated effluent from its onsite wastewater treatment facility to two storage reservoirs, approximately 500 AF and 170 AF, to serve irrigation needs throughout the District. Non-potable reclaimed water can be supplemented with well water, if needed, to meet the current irrigation demands in the District. At full build-out, the irrigation demand will be met 100% with reclaimed water.

Reuse of Consumable Effluent Return Flows – MMD will continue to reuse all of its treated wastewater flows with no effluent discharge.

3.3.8 Projected Water Savings Goals from Previous Efforts

The CWCB Municipal Water Efficiency Plan Guidance Document encourages the calculation of estimated water savings and costs or avoided costs resulting from each individual water efficiency measure previously implemented. For the MMD system this is simply not possible. Many of the above listed water efficiency activities have been present since the inception of the District, therefore, there is no comparative data available prior to implementation of the activities. The water efficiency measures added after the District’s inception were added in the early 2000s and are focused on residential water efficiencies. These residential efficiency measures were largely adopted prior the construction of the first residential units within the MMD service area.

In summary, MMD’s significant water conservation measures that have been in place since their inception demonstrate the District’s ongoing commitment to water efficiency and conservation. These measures include key actions such as achieving single family water use rates below 90 gpcd and reuse of all the wastewater flows in the District to minimize the need for new water supplies.

3.4 Demand Forecasts

The District has a defined service area and all areas adjacent to the service area are already served by neighboring water providers. Therefore, the service area boundary is not expected to change in the future. In addition, the future use of all lands within the District’s service area have been defined as part of the Douglas County Zoning Plan Development process. Therefore, the amount of single family, multi family, and commercial development has been previously estimated. Through the plan review process, Douglas County accepted the following minimum water supplies be reserved for the planned development:

- 0.52 AF per single-family unit
- 0.29 AF per multi-family unit
- 0.39 AF per detached townhome unit
- 0.63 AF per ten-thousand square feet of office, commercial, retail building space
- 0.32 AF per ten-thousand square feet of warehouse, light industrial, public facilities
- 1.85 AF per acre of irrigated parks and open space
- Total demand increased by 10% to account for system losses

Based on this information, MMD’s estimated buildout potable water demands as compared to the current potable water demands are shown in Table 3-4. MMD expects to reach buildout demand by 2050. As stated previously, all buildout non-potable demands will be met by reuse effluent.

*Table 3-4
MMD Potable Water Demands*

Demand Type	MMD Potable Water Demands	
	2018 Actual ¹	Buildout Allotment ²
Annual Demand (AFY)	1,370	4,410 ³
¹) 2018 actual potable water production includes billed water plus non-revenue water. ²) Douglas County allotment values include allowance for 10% system loss. ³) Buildout annual demand is consistent with the MMD Water Supply Status updated March 2020.		

Section 4: Integrated Planning and Water Efficiency Benefits and Goals

4.1 Water Efficiency and Water Supply Planning

Within this section, the WEP Guidance Document encourages a description of potential modifications to planned water acquisitions and capital improvements as a result of water efficiency activities. For the MMD system, the largest reduction in potential future capital spending associated with the on-going water efficiency actions described in previous sections would be reduced wastewater treatment capacity needs and, to a lesser degree, reduced numbers of future drilled groundwater wells.

The WEP Guidance Document also encourages a description of how water supply planning and decision making is impacted by long-term water savings related to implementation of water efficient activities. For MMD, lower water use rates result in MMD being able to make decisions to meet a larger percentage of demands with renewable WISE water. By making this decision, the life of each groundwater well is potentially extended.

Lastly, the WEP Guidance Document encourages a modified water demand forecast (from that shown in Section 3.4) be developed considering the benefits of implementing water efficiency actions. As noted throughout this WEP, actual MMD water use is regularly below the water allotments shown in Section 3.4. For example, in 2018 a total of 2,160 single family accounts utilized a total of 196.3 million gallons or 0.28 AF per home. This is 54% of the 0.52 AF of minimum supply required to be reserved for a single-family home by the Douglas County zoning process.

MMD is committed to reserving the required water agreed to through the Douglas County zoning process but expects to continue to see demands significantly lower than the minimum reserve amount due to MMD's ongoing implementation of the water efficiency actions described herein. Although an estimate could be made on how much lower MMD's actual future demands will be as compared to the demands required to be estimated by the Douglas County zoning process, a large percentage of the future demand growth in the MMD service area is associated with future commercial building construction, and MMD does not believe it is prudent to make assumptions contrary to the Douglas County recommended water demand forecast if the exact type of water use in the future commercial buildings is somewhat unknown.

It is also worth noting that MMD has worked with Douglas County to directly link land use planning to water supply planning in a new and unique manner. Specifically, MMD and Douglas County developed a method where the amount of water use between different land uses can be directly compared and if MMD changes land uses within the service area there is a net zero increase in water demands within the service area.

In addition to linking land use planning with water use planning, MMD development review process is designed to confirm that new development follows turf area restrictions and other landscape guidelines that drive water efficiency. Next, each water customer receives a water allotment and each monthly bill indicates water use versus their remaining water allotment, which ensures that after initial development each water customer remains aware of their water use and allotment.

4.2 Previous Water Efficiency Goals

The 2012 MMD Water Conservation Plan estimated that the resulting water conservation from the actions described in that plan would reduce water use within residences and commercial buildings by 135 AFY by the year 2020. The following describes the estimated actual water savings accomplished:

Residential Water Savings: The 2012 MMD Water Conservation Plan noted that all residences within the MMD service area were constructed after 2004 and the only known change to the plumbing code was the pending 2011 new efficiency requirements for clothes washers. The previous plan estimated that the 372 single family homes in MMD in 2008 would use 53 AFY less water by 2020 due to conversion to more efficient clothes washers. Upon review, the calculations must have included an error, since even with the most optimistic assumptions of all 372 units being replaced with anew washing machine that reduces water use from 45 gallons to 15 gallons per load and each washing machine runs 300 loads per year, the maximum theoretical savings would be 10 AFY. For these reasons, a savings of less than the theoretical maximum of 10 AFY is more realistic.

Review of indoor residential water use shows a reduction between 2008 and 2020 from 145 gallons per day per single family unit to 133 gallons per day per single family unit, or an 8% reduction. This savings applied to the 372 single family homes that existed in the district in 2008, results in 7 AFY of reduced water use.

An 8% reduction in single family indoor water use in meaningful and MMD met the intent of the previous goal.

Commercial Water Savings: The 2012 MMD Water Conservation Plan also estimated that implementation of commercial water budgets for the 77 commercial accounts that existed in 2008, would result in a savings of 82 AFY of water by 2020. Between 2008 and 2020 the average commercial water use declined from 3.4 AFY per account to 2.6 AFY per account, or a 24% reduction. This reduction in water use applied to the 77 accounts that existed in MMD in 2008, results in 65 AFY of reduced water use.

Total Water Savings: The total reduction in water use due to conservation measures implemented by the 2012 Water Conservation Plan is estimated to be about 72 AFY. Single family indoor water use reduction of 8% and commercial water use reductions of 24% show MMD had meaningful reductions in water use due to implementation of previous conservation programs.

4.3 New Water Efficiency Goals

The WEP Guidance Document encourages the following water efficiency goals to be developed:

Target Residential Water Savings Goal. Figure 4-1 shows the water allotment for single family residences in the MMD service area per Douglas County allotments (blue line), the estimated water use if MMD had never implemented the water conservation programs described throughout this efficiency plan (orange line), and the historical use (gray line). The graph also shows estimated future use based on current water use trends and future use if the number of people per residential unit increased slightly in the future (yellow line).

The orange line is based on typical water use by a single family detached home in northern Douglas County prior to 2011, which is estimated to be 0.45 acre-feet per year per unit. This value is based on analysis of two water providers in the northern Douglas County area as noted by the Civil Design Group letter provided in support of the 2012 MMD Water Conservation Plan.

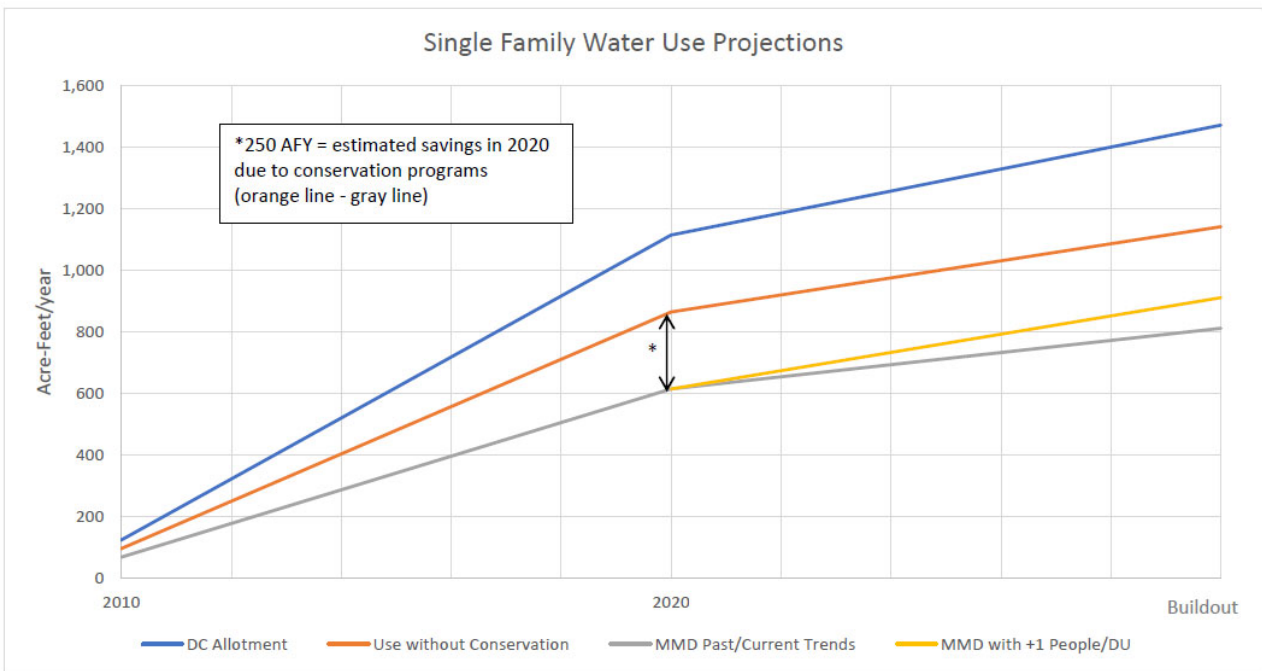


Figure 4-1
Single Family Water Use Projections

Comparing the difference between the use without conservation to past use, the MMD implemented conservation measures are estimated to have resulted in a savings of around 250 AFY in 2020. The graph also shows that as additional dwelling units are added and if current trends continue, this savings could increase to about 330 AFY at buildout. Actual amount of savings will vary based on a large number of factors that are outside of the control of MMD.

Target Commercial Water Savings Goal. Although an estimate could be made on how much lower MMD’s actual commercial demands might be as compared to the Douglas County recommended water demand forecast, MMD does not recommend selecting a contrary water demand target at this time since the exact type of water use in the future commercial buildings is somewhat unknown.

Target Common Area Irrigation Water Savings Goal. At buildout, MMD is expected to meet 100% of this demand with reclaimed non-potable water supplies and does not have plans to change this goal.

Target Water Loss Management Water Savings Goal. The MMD system is still relatively new at this time, which is partially why MMD has historically seen potable unaccounted water less than 4% of total potable produced water. As the system ages, MMD will remain committed to water loss management and has set a goal of staying below 10%.

Section 5: Selection of Water Efficiency Activities

5.1 Summary of the Selection Process

For MMD, the process used to select which water efficiency activities to implement was simple. All activities were selected for implementation unless an activity was obviously not applicable to the MMD service area based on judgment of experienced water conservation planners.

The following lists all activities not selected and the justification for non-selection.

5.1.1 Foundational Activities Not Selected

Water Line Replacement Program. At this time, the oldest pipelines in the MMD service area still have a minimum of 35 years of useful life remaining. When these pipelines get closer to the end of their useful life or if MMD begins to see regular leaks or potable unaccounted water greater than 10%, MMD may begin to consider a water line replacement program.

5.1.2 Targeted Incentives Not Selected

Retrofits and Rebates for Indoor Water Fixtures. The great majority of commercial construction has occurred in the MMD service area after 1996 and residential construction after 2006; therefore, there is limited value in doing retrofits at this time. MMD will reevaluate this potential opportunity during future updates of the WEP.

Rebates for Commercial Indoor Fixtures and Appliances. See response above.

Removal of Phreatophytes. There are limited phreatophytes in the MMD service area and none of MMD water supplies come from local drainages, so phreatophyte removal would not change the MMD water balance.

Requirement of E-T Controllers. E-T controllers are used in all parks and common area landscaping. Rain sensors are required for all commercial users and E-T controllers are encouraged. Outdoor water budgets encourage low outdoor water use in other areas. With that said, a broader requirement of E-T controllers may be considered in the future.

Turf Replacement Programs/Xeric Incentives. Design Control Committee Guidelines combined with water budgets have been in place since original development has occurred, which has resulted in extensive use of xeric landscape as part of the original development areas. Water efficient landscape designs are required and enforced by the DCC, therefore, incentive programs by MMD are not needed.

5.1.3 Ordinances and Regulations Not Selected.

Commercial Cooling and Process Water Requirements. Commercial cooling and process water design is governed by local building codes. However, efficient use of process water is encouraged through MMD implementation of water budgets. Additional MMD ordinances are not needed at this time.

5.1.4 Education Activities Not Selected.

Citizens Advisory Boards. There has not been a request by the citizens to develop a water specific advisory board. However, citizens can reach out to the Design Control Committee Community Services Manager in regards to land use design criteria that may impact water use, and MMD staff are in regular communication with citizens throughout the District.

Xeric Demonstration Gardens. MMD has not developed a demonstration garden as Douglas County, in cooperation with CSU Extension Office, maintains a Xeric demonstration garden for the greater County at the County Fairgrounds.

5.2 Demand Management Activities

In addition to evaluating water efficiency measures listed in the C.R.S. 37-60-126 (4), MMD also evaluated water efficiency measures outlined in the Colorado WaterWise Guidebook of Best Practices for Municipal Water Conservation in Colorado (Best Practices Guidebook) (Colorado WaterWise, 2010). A summary of activities that the District will continue to implement over the next seven years is summarized in Section 3 and shown in Table 5-1.

*Table 5-1
Selected Water Efficiency Program Activities*

Water Efficiency Measure	Existing - to be Continued	MMD has Regulatory Authority?	Best Practices Guidebook #
Foundational Activities			
Monthly Billing	Yes	Yes	1
Modifications to Increasing Block Rate Structure	Yes	Yes	1
Full Metering	Yes	Yes	1
Demand Data Collection	Yes	Yes	2
Water Use Based Irrigation Tap Fees	Yes	Yes	1
Water Loss Control Program	Yes	Yes	3
Targeted Technical Assistance and Incentives			
Integrated Resources Planning	Yes	Yes	2
High Use Customers	Yes	Yes	2
Conservation Coordinator	Yes	Yes	4
Water Surveys and Evaluations (Targeted at High Demand Customers)	Yes	Yes	13
Specialized Non-Residential Surveys, Audits, and Equipment Improvements	Yes	Yes	14
Water Budgets for In-Building Accounts	Yes	Yes	1
Water Budgets for Irrigation Accounts	Yes	Yes	7
Rain Sensors Required for Large Commercial Users and E-T Irrigation Controllers Used in all Parks and Common Area Landscaping	Yes	Yes	9
Non-Potable Irrigation System	Yes	Yes	
Reuse of Consumable Effluent Return Flows	Yes	Yes	
Ordinances and Regulations			
Mandatory Watering Days	Yes	Yes	1
Rules for New Construction - Building Codes Requiring High Efficiency Fixtures and Process Equipment	Yes	No	11/12
Irrigation System Water Conservation Requirements and Certification of Landscape Professionals	Yes	Yes	8
Limits on Turf Landscaping for New Construction	Yes	Yes	9
Educational Activities			
Conservation Public Information Campaign	Yes	Yes	6
School Education Programs (via SMWSA)	Yes	Yes	6

Section 6: Implementation and Monitoring Plan

6.1 Implementation Plan

MMD will continue implementing its current water efficiency programs summarized in Section 3.

6.2 Monitoring Plan

MMD will continue to track the impacts of the WEP annually. Monitoring of total and billed water usage, including by customer class, will provide information on water use and progress toward the water efficiency goals. Additionally, MMD will continue to monitor and record demand data specifically required per C.R.S. 37-60-126 (4.5) for annual reporting to the State.

As described previously, MMD switched to a more sophisticated billing program several years ago. This program tracks the unique allotment of every account and reports the monthly total usage for comparison. High water users are notified by letter if they have exceeded the allotment. These letters often require a follow up meeting with the water customer. Discussion items in this meeting include meter functionality checks, customer system inspections/audits, evaluation of the original allotment calculations, and comparison of site layout to approved plans including landscaping.

It should be noted that residential customers are reminded annually by mail and posted on the District website of residential landscape watering of three days per week. New residents are sent landscape guidelines developed by SMSWA and Colorado State University to aid with landscape design.

6.3 Plan Refinement

MMD will continue to periodically evaluate its program and implementation for conformance with this Plan. The time period will be every five years, not to exceed a period of seven years. The monitoring data described above will allow trends and comparisons to be made in which any results that impact the Plan will be communicated and discussed as needed with MMD decision-makers for resolution. The District may also adjust the programs identified in this Plan as warranted due to new technology or analysis of the effectiveness of individual programs.

During the next refinement cycle the District will consider an active low-flow fixture rebate program for residential housing. In the meantime, replacement of fixtures will occur naturally in future years providing the advantage of passive savings. Future natural replacement may also take advantage of more efficient fixtures that are not currently available.

During the next refinement cycle, the District will consider a rebate program for high efficiency type fixtures and process equipment for commercial properties. At this time, many of the properties are relatively new, being built within the last 15-20 years, and include high efficiency type fixtures already.

Section 7: Adoption of New Policy, Public Review, and Formal Approval

The following table summarizes the WEP adoption process and dates of significant review.

*Table 7-1
Significant Review and Adoption Dates*

WEP Significant Review and Adoption Dates	
Review and Adoption Process	Date Occurred
CWCB Cursory Review	September 15, 2020
Public Review	December 1, 2020
CWCB Conditional Approval	December 21, 2020
MMD Board Review & Adoption	April 13, 2021
CWCB Formal Approval	To Be Provided After Board Adoption

7.1 CWCB Review Process

On September 15, 2020, MMD submitted the WEP to CWCB Office of Water Conservation and Drought planning for a cursory review. A total of three comments were received during the 90-day comment period. To the extent possible, comments were addressed in the revised WEP.

7.2 Public Review Process

On December 1, 2020, the MMD WEP was posted on the District website (www.meridiandistrict2.org). No public comments were received during the 60-day comment period. Copies of public notice announcements and the official plan adoption resolution are provided in the exhibits.

7.3 Efficiency Plan Approval

As documented in Table 7-1.

Section 8: References

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Colorado Water Conservation Board. Municipal Water Efficiency Plan Guidance Document. Denver, CO: Colorado Water Conservation Board. 2012. Print.

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D'Audney, L. & Mayer P. (2010) "Guidebook of Best Practices for Municipal Water Conservation in Colorado", Fort Collins, CO: Fort Collins Utilities. Presentation

South Metro Water Supply Authority. Education Resources. Retrieved November 4, 2019, from <https://southmetrowater.org/education>.

Appendix of Exhibits

MMD Rules and Regulations

**MERIDIAN METROPOLITAN DISTRICT
OPERATING RULES AND REGULATIONS**

REVISED JUNE 13, 2017

Website:

www.meridiandistrict.org

**MERIDIAN METROPOLITAN DISTRICT
OPERATING RULES AND REGULATIONS**

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A. INTRODUCTION

MERIDIAN METROPOLITAN DISTRICT

MERIDIAN METROPOLITAN DISTRICT

INTRODUCTION

Meridian infrastructure is managed and controlled by the Meridian Metropolitan District (District), a political subdivision of the State of Colorado and a quasi-municipal corporation. The District has been in existence since 1976 and is responsible for most of the infrastructure at Meridian. It services principally the area within the boundaries of the Meridian International Business Center.

The District was formed to construct and operate certain public improvements necessary to supply services to the property within its boundaries. Authorized services include potable water supply and distribution, sanitary sewer (wastewater collection and treatment), non-potable irrigation water distribution, street construction and maintenance, construction and maintenance of public parks and recreation facilities, installation of safety control devices on streets, and public transportation.

The District derives its revenues from a mill levy on real and personal property, and operating and development fees for services. The District's mill levy, fees and charges are considered competitive.

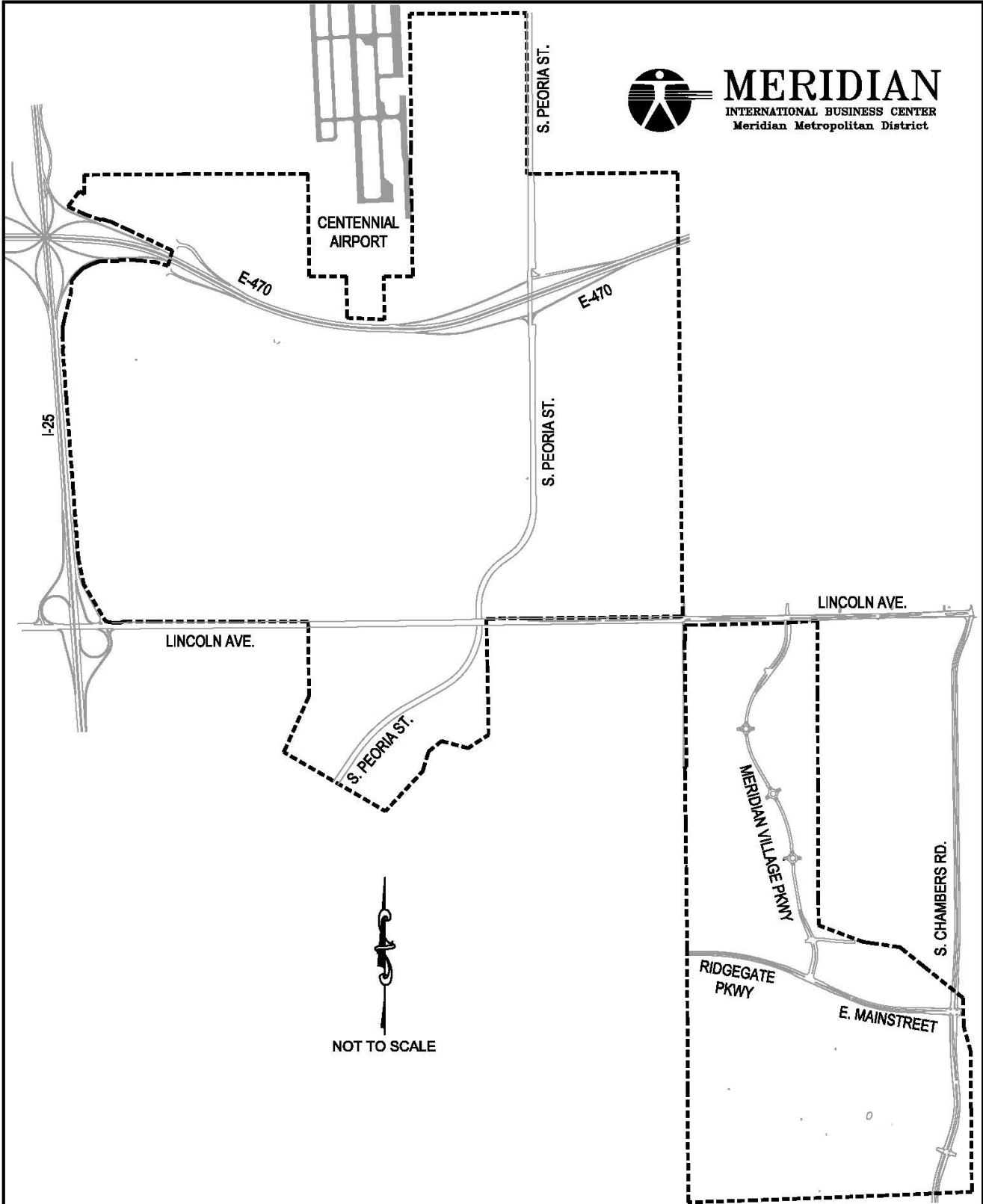
The District has a governing board of five Directors, who meet regularly with the Manager and other retained consultants to manage the District's affairs. This document sets forth the basic operating regulations for the District as established by the Board of Directors and administered by the District Manager.

Inquiries regarding any information contained herein may be made through the General Manager for the District.

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MERIDIAN
INTERNATIONAL BUSINESS CENTER
Meridian Metropolitan District



MERIDIAN METROPOLITAN DISTRICT

----- SERVICE AREA BOUNDARY

UPDATED: MAY 2, 2017

B. OPERATING RULES

MERIDIAN METROPOLITAN DISTRICT

MERIDIAN METROPOLITAN DISTRICT
RULES AND REGULATIONS

ARTICLE I

100 GENERAL PROVISIONS

.01 SCOPE: Except where revised or as agreed otherwise by the Board, these Rules and Regulations ("Rules"), effective September 1, 1993, (revised 7/1/17) are the continuing and comprehensive guide for the operations of the Meridian Metropolitan District ("District") and supersede all previous District rules. The Rules serve the public in securing the health, safety, prosperity, security, and general welfare of the inhabitants of the District. Compliance with these Rules is the responsibility of all persons utilizing, extending, modifying, or maintaining the District's systems.

.02 AMENDMENT: These Rules are subject to change without notice by action of the Board.

These Rules and Regulations may be revised, supplemented or otherwise amended through amendments to the body hereof, or declarations set forth in the minutes of the meetings of the Board, or by virtue of the entry by the Board into, or the amendment of, any agreement, or by other resolution of the District. Such amendments shall be of full force and effect from the date of such declaration, agreement, or resolution whether or not confirming language is inserted in the body of this document, its exhibits and/or appendices.

The District Manager has the authority to make interim decisions concerning these Rules, their interpretation and application. Such interim decisions shall be binding unless and until altered by the Board.

.03 PREFERRED INTERPRETATION: The preferred interpretation of the Rules shall allow the Board the maximum legislative discretion allowed by Colorado law.

a. No Rights Conferred: No provision of these Rules, nor any amendment thereof, shall be construed as conferring any right, property or other, upon any individual or entity other than the District.

b. Use of Words, Headings, and Severability: The singular includes the plural, the plural the singular, and one gender includes all genders. "May" is permissive, "shall" is mandatory. The headings used herein are for convenience only and in no way expand or contract the meaning or scope of any section. The provisions hereof are severable.

.04 AUTHORITY: These Rules and Regulations are promulgated by the Board of Directors of the Meridian Metropolitan District pursuant to the authority of the District under the Colorado Special District Act, specifically Sections 32-1-1001(1)(m) and (n), C.R.S.

ARTICLE II

200 DEFINITIONS

Unless the context indicates otherwise, the meaning of terms used herein shall be as follows:

- .01 BOARD AND BOARD OF DIRECTORS: The duly elected or appointed Board of Directors of the District, which acts as the governing body of the District.
- .02 CHARGES: All rates, fees, tolls, charges, surcharges, liens and assessments and penalties of whatever nature imposed for services, facilities, or programs furnished by the District. All such charges shall, until paid, constitute a perpetual lien on and against the property served, and may be foreclosed in the manner provided by law. Such charges may in addition be the subject of actions for collection against the Customer, individually.
- .03 CONFINED SPACE: As defined in the provisions of the Occupational Safety and Health Administration regulations concerning confined spaces, located at 29 CFR Part 1910 ("OSHA Regulations").
- .04 CONNECTION: The connecting of a service line to a District main or facility and the structure which it is to serve or, in context, the connecting of a District Utility to any user facility.
- .05 CUSTOMER: Any person authorized by the District to use the District's potable water, sanitary sewer, non-potable irrigation, data acquisition, storm drainage, recreation, street or transportation systems. Where the Customer and the owner of the property served are different, these rules and regulations shall apply equally to both the customer and the owner of the property and, where appropriate, to the property itself.
- .06 CONDUIT SYSTEM: The system used by the District and third parties for Telecommunication data.
- .07 DISTRICT: The Meridian Metropolitan District, a quasi-municipal corporation, political subdivision, and local government of the state of Colorado.
- .08 DISTRICT ENGINEER OR ENGINEER: The person or entity who has been designated by the Board and under contract to the District to provide engineering services for the District.
- .09 DISTRICT MANAGER OR MANAGER: The person or entity who has been designated by the Board and under contract to the District to provide management, administrative, operational oversight and quality control services for the District. The Manager may designate representatives to carry out the services defined by the Board.
- .10 FEE SCHEDULE: The schedule of charges provided for in these rules and regulations in Section C "Schedules". The Fee Schedules shall have the force and effect afforded to fees, rates, tolls, penalties, and charges by Section 32-1-1001 C.R.S. and may be amended at any time without notice.
- .11 MAINS: Any pipe, piping or system of piping owned by the District and used as a conduit in the District's potable water, sanitary sewer, non-potable irrigation, storm drainage and data acquisition system and owned by the District.

- .12 MANUAL: The District's Engineering Standards, Section D of these Rules, which may be amended at any time without notice. The contents of the Manual shall be considered advisory in nature, and are intended to place all on notice of the general requirements of the District as to the specifications under which additions, modifications, or deletions to, or use of, the District's Utility System are to occur. Prior to the commencement of any such activity it shall be mandatory that the person intending to conduct such activity shall consult with the District Manager and the District Engineer in order that such person be informed of the specific requirements of the District with respect to the activity in question.
- .13 PERMIT: The Application for Site Connection and Service and the Application for Temporary Use of District Facilities or Fire Hydrant water usage attached to and made a part of these Rules, which may be amended at any time without notice, evidencing written permission of the Board or the Manager to connect or otherwise deal with the Utility System or other District property pursuant to the Rules.
- .14 PERSON: Any individual, firm, company, limited liability company, society, corporation, association, partnership, group, or governmental unit other than the District.
- .15 PRETREATMENT FACILITIES: Structures, devices or equipment used to remove deleterious wastes (i.e., any wastes contained in special sewage that would be harmful to the District's sewer mains or to the sewage treatment works to which the mains connect) from special sewage before it enters a District sewer main or any facilities directly or indirectly connected to the system.
- .16 RESIDENTIAL: Living units, including but not limited to single and multi-family units and rooming houses.
- .17 SERVICE CONNECTION: The connection of a service line to the main.
- .18 SERVICE LINE: Any line, pipe, conduit, system of lines or piping, and appurtenances, used as a conduit for sanitary sewage, potable water, non-potable irrigation water, storm drainage, or data acquisition service between a building (or, a lot or parcel) and a connection with the District's Utility System.
- .19 SANITARY SEWAGE: Organic or inorganic material in suspension or solution originating from a service connection.
- .20 SITE CONNECTION AND SERVICE FEES: The payment to the District of a fee for the privilege of connecting to and/or otherwise using the District's Utility System.
- .21 SLUG: A mass of water or concentration that causes an impact to the wastewater system.
- .22 USER: Any person, whether a Customer or not, and including owners and renters, who uses the District's Utility System, whether pursuant to a permit or not.
- .23 UTILITY SYSTEM: The entire existing and future network of plants, buildings, equipment, pipes, mains, lines, wires, parks, streets, and their appurtenances owned, used, or controlled by the District in the provision of services.

ARTICLE III

300 OPERATION OF THE BOARD, AGENTS, AND DISTRICT MANAGER

.01 BOARD OF DIRECTORS:

- a. Management: The business and affairs of the District shall be managed as directed by the Board.
- b. Performance of Duties: Pursuant to Statute, a Director shall perform the duties of office, including duties as a member of any committee of the Board, in good faith, in fulfillment of the oath, in a manner reasonably believed to be in the best interests of the District, and with such care as an ordinarily prudent person in a like position would use under similar circumstances.

.02 MEETINGS OF THE BOARD:

- a. Public Meetings: All regular, continued and special meetings of the Board shall be held in accordance with Colorado law and these rules and regulations.
- b. Quorum and Conflict of Interest: At Board meetings, a majority of the number of Directors serving on the Board, or a majority of the members of a committee, as the case may be, shall be necessary to constitute a quorum for the transaction of business. If a quorum is present, the act of the majority of Directors in attendance shall be the act of the Board, unless the act of a greater number is required by law.
 - (1) If at any meeting at which a quorum is present, one or more members of the Board abstain or believe they should abstain from voting on an issue because of a potential conflict of interest, then the presence of the member or members shall not be counted for purposes of determining whether there continues to be a quorum at the meeting. Should the application of this rule result in a failure of the quorum for purposes of the meeting, the issue in question shall be tabled until such time as the member or members are able to qualify themselves to act, but the meeting shall continue for purposes of considering such other matters as may properly come before the Board.
 - (2) Any Director may bring the lack of a quorum under this rule to the attention of the Board.
 - (3) If a quorum is not in attendance to begin any duly called regular or special meeting, then the Director or Directors present may, by a voice-vote, continue the meeting to another time and place and shall, if the meeting is to be continued, notify the other Directors of such continuance, and shall post notice of such continuance prominently at the place the meeting was to occur so that anyone who might have attended the meeting will see it.
- c. Continuances: Any meeting and any public hearing which is a part of a meeting, may be continued to another time and/or place at the discretion and upon a majority vote of the Board members present at the meeting. Meetings (and public hearings to be held during such meetings) may also be continued, in advance of the meeting to be held, by the District Manager upon the verbal consent of a majority of the Board, and upon posting of a notice of continuance prominently at the place at which the meeting to be continued was to be held, so that persons who might have attended the meeting will see it.

d. Meeting Attendance and Security:

- (1) All persons attending meetings of the Board, including members of the Board, are required to sign an attendance sheet at the beginning of the meeting or as they enter the meeting. The attendance sheet shall ask for and it shall be a requirement of meeting attendance that attendees provide their name and residence address. All persons attending meetings may also, in the discretion of the Board, be subject to search by wand metal detector or other device acceptable to the Board.
- (2) All persons not known personally to the members of the Board shall be required, in addition to completing the attendance sheet, to show a valid driver's license, passport, or other means of identification acceptable to the Board which includes a picture of the person, their name and residence address.
- (3) Any person wishing to speak to any issue on the agenda for the meeting attended, and before speaking, must also indicate that desire on the attendance sheet and the specific agenda item to be addressed.
- (4) Meetings of the Board are business meetings and, except for such time as the Board may agenda from time to time for public comment, generally, and except for public hearings held as required by law, the attending public are not permitted to speak during meetings unless requested to do so.
- (5) Any person acting contrary to the guidelines set forth above, or otherwise acting in an intrusive, obstructive or other manner which causes the Board, in its sole opinion, to be unable to effectively conduct the business before the Board, or which in the sole opinion of the Board might otherwise endanger the members of the Board or the attending public, will be requested to leave the meeting. Failure or refusal of the person to do so will result in the suspension of the meeting in order that appropriate security or law enforcement personnel may be summoned to remove the person in question, after which the meeting may resume at the Board's discretion.

.03 OFFICERS AND AGENTS:

The officers of the District shall consist at a minimum of a president/chairman of the Board, a secretary and a treasurer, or a secretary/treasurer. The secretary need not be a member of the Board. All members of the Board not the president or secretary, treasurer or secretary/treasurer shall be, automatically, assistant-secretary.

.04 DISTRICT MANAGER:

The functions and duties that are to be performed by District Manager, which is the person selected by the Board to provide comprehensive management services, are as set forth in an agreement for management services entered into between the District and the District Manager, as the same may be amended from time to time. The agreement and amendments thereto are on file at the District office for inspection by interested persons.

ARTICLE IV

400 SERVICE CONNECTIONS AND FACILITIES

.01 UTILITY SYSTEM: The Utility System of the District includes all water wells, potable and non-potable irrigation water, storm sewer, sanitary and/or sewer mains, water and sewage treatment works and data acquisition system components within dedicated street rights of way and/or District easements.

- a. Potable Water and Sanitary Sewer Facilities. With the exception of potable water and/or non-potable irrigation meters, which are the property of the District, that portion of all existing and future potable water and/or non-potable irrigation service lines extending from the curb stop to each building or unit, are the property of the customer. Fire mains between the property line valve at the street right-of-way line and the building are the property of the Customer. Should the potable water service line and fire sprinkler line be the same pipe, customer ownership shall be from the property line valve -- which the District requires to be installed at the street right-of-way line -- to the building.

Should the potable water and/or non-potable irrigation service connection be made to an existing District main stub under the street, said connection shall include a curb stop and meter, whereupon that portion of the water service line extending from the curb stop to the building or unit is the property of the customer, except for the meter, which is the property of the District.

That portion of all existing and future sanitary sewer service lines extending from the main to each unit or building for each customer are the property and responsibility of the customer.

- b. Street Facilities, Traffic Controls, Safety Facilities, Sidewalks, Landscaping Design Features, and Parks/Open Space. The public streets, street lighting, safety facilities, and traffic controls constructed by, or dedicated to and accepted by, the District are the property of the District unless the same have been dedicated to and accepted by another unit of government, such as Douglas County. The District has no responsibility for any street, street lighting, safety facility, traffic control facility, sidewalk, landscaping design feature, park, or open space not expressly accepted by the District by action of the Board.

Streets, street lighting, safety devices, traffic controls, sidewalks, landscaping design features, and parks and open space constructed by private persons are the property of such persons until and unless they are offered to and accepted by the District or another unit of government.

- c. Data Acquisition Systems. With the exception of the meters, which are the property of the District, that portion of all existing and future Data Acquisition Systems extending from the meter to each building or unit, is the property and responsibility of the customer.

.02 MAINTENANCE RESPONSIBILITY:

- a. Customer Responsibilities, Service Lines

- (1) Customers Must Repair Service Lines: Each Customer shall be responsible for maintaining the entire length of his privately-owned potable water, sanitary sewer,

non-potable irrigation and Data Acquisition Systems Service Lines, which include the privately-owned curb box and shut-off valve. A leak or break in a Service Line shall be repaired by the Customer within seventy-two (72) hours from the time of notification of such condition by the District. The Customer shall also be responsible for maintaining the fire mains and fire hydrants between the street right-of-way line and building. If satisfactory progress toward repairing a leak has not been accomplished within such time period, the District may shut off the service until the leak or break has been repaired, or the District in its discretion may proceed to repair the leak or break and charge the full cost therefore to the Customer.

- (2) Cross-Connection and Backflow Prevention:
 - (a) Interconnection Control-Separate Systems: Interconnection or cross-connection of services is prohibited.
 - (b) Back-flow Control: The back-flow of non-potable water, other liquids or foreign materials into the District potable water distribution system is prohibited unless approved by the District. Any such connections, if approved by the District, are to have an approved back-flow device installed inside and at the point of entry into the structure. All devices which have an effect on inter-connection and cross-connection control shall meet those standards described in the Manual.
 - (c) Underground Irrigation Systems: All underground non-potable irrigation systems (sprinkler systems) shall where prescribed by the Manual have approved back-flow prevention devices installed.
 - (d) Dual Water Supply Premises: Dual water supplies (i.e., water supplied to a single Customer from a District water source and any other water source) are prohibited.
 - (e) Back Flow Definitions: Definitions for all terms pertaining to back-flow and back-flow prevention procedures and devices are set forth in the Colorado Department of Public Health and Environmental Requirements for Backflow Prevention and Cross-Contamination Control Program.
- (3) Repair and Replacement of Meters: Immediately upon installation, the District shall own the meter and gauges. The Customer shall pay for repair and/or replacement necessitated by any damage or normal wear. After installation, no Customer shall keep, tamper with, maintain, open, alter, repair or replace any meter.
- (4) Access: The Customer shall, as a condition to the provision of service, allow the District to have access to each lot, parcel and/or building served for the purpose of exercising its authority under these Rules, state, and federal law.
- (5) Prohibited Sanitary Sewer System Discharge: Except as hereinafter provided, no person shall discharge, or cause to be discharged, to any sanitary sewer main, any special or prohibited sewage (as hereinafter defined) or any harmful waters or wastes, whether liquid, solid, or gas, capable of causing obstruction to flow, damage

or hazard to structures, equipment and personnel of the sanitary sewage treatment works, or other interference with the proper operation of the sanitary sewage system. No water or waste shall be discharged into the District's sanitary sewer system if such discharge would violate any District, state, or federal law, rule, or regulation.

(6) Classification of Wastes: This section of the Rules shall provide the basic policies of the District for classification of wastes and for control of discharge of wastes into the sanitary sewerage system. It shall be the policy of the District to classify wastes into three main categories, termed "normal sewage," "special sewage," and "prohibited sewage," as hereafter defined. The classification of wastes shall otherwise be the responsibility of the District and shall follow any recommended procedures of the State Department of Health.

(a) Normal Sewage: Normal sewage shall mean sewage which can be treated without pretreatment and within normal operating procedures, and which, when analyzed shows by weight a daily average of not more than 200 parts per million of suspended solids, not more than 250 parts per million B.O.D., and has concentrations less than those outlined in Part 10 of this article. Upon approval from the District, discharges may exceed the limits of suspended solids and B.O.D. set forth herein with a surcharge fee as outlined in the District's fee schedule.

(b) Special Sewage: Special sewage shall mean any sewage which does not conform to the definition for Normal Sewage, but which can be accepted by the District after pretreatment by the user, including industrial wastewater discharges. Industrial wastewater dischargers shall be subject to the following effluent limitations:

Pollutant or Pollutant Property	Maximum Concentration at Any Time (mg/l)
CN (cyanide)	2.0
Cr+6 (hexavalent chromium)	0.25
Cr, total (chromate)	5.0
Cu (copper)	1.0
Ni (nickel)	1.0
Zn (zinc)	2.0
Pb (lead)	0.5
Cd (cadmium)	0.05
As (arsenic)	0.1
Be (beryllium)	0.5
B (boron)	1.0
Fe (iron)	25.0
Se (selenium)	0.1
Hg (mercury)	0.05
Al (Aluminum)	20.0
Chlorinated Hydrocarbons	.02
Cresols	2.0

Fluorides	25.0
Formaldehyde	2.0
Mn (manganese)	0.1
Mo (molybdenum)	0.05
Organic Solvents	20.0
Phenols	1.0
pH	5.5-8.5

Effluent limitations and pretreatment standards promulgated pursuant to the Federal Water Quality Control Act and to the Colorado Water Quality Control Commission Pretreatment Regulations as amended shall apply in any instance where they are more stringent than those in this section. Subsequent limitations shall apply as promulgated in accordance with the Act. The District shall endeavor to give reasonable notice of the applicability of such standards and limitations to users which may be affected thereby.

- (c) Prohibited Sewage: Prohibited sewage shall mean any sewage which may reasonably be anticipated to have a deleterious effect upon the sanitary sewerage system or any person or property, and therefore, in the opinion of the District, cannot be accepted by the District. Prohibited sewage encompasses but may not be limited to the following:
- i. Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid or gas.
 - ii. Any waters containing toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to contaminate the sludge of any municipal system, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance or create any hazard in or have an adverse effect on the waters receiving any discharge from the treatment works.
 - iii. Any waters or wastes having a pH lower than (5.5) or higher than (8.5), or having any other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the wastewater works.
 - iv. Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the wastewater facilities such as, but not limited to: ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, paper dishes, cups, milk containers, etc., either whole or ground by garbage grinders.
 - v. Radioactive wastes or isotopes.

- vi. Wastewater having a temperature higher than 150^E Fahrenheit (65^E Celsius).
- vii. Wastewater containing more than 25 milligrams per liter of petroleum oil, nonbiodegradable cutting oils or product of mineral oil origin.
- viii. Wastewater from industrial plants containing floatable oils, fat or grease.
- ix. Any garbage that has not been properly shredded. Garbage grinders may be connected to sanitary sewers from homes, hotels, institutions, restaurants, hospitals, catering establishments or similar places where garbage originates from the preparation of food in kitchens for the purpose of consumption on the premises or when served by caterers. Any institution with food preparation facilities shall be required to have a grease interceptor to remove grease and oils prior to discharge to the sewer systems.
- x. Any waters or wastes containing iron, chromium, copper, zinc and similar objectionable or toxic substances to such degree that any such material received in the composite wastewater at the wastewater treatment works exceeds the limits established by the District for such materials.
- xi. Any waters or wastes containing odor-producing substances exceeding limits which may be established by the District.
- xii. Quantities of flow, concentrations, or both which constitute a "slug" as defined herein.
- xiii. Waters or wastes containing substances which are not amenable to treatment or reduction by the wastewater treatment processes employed, or are amenable to treatment only to such degree that the wastewater treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.
- xiv. Any water or wastes which, by interaction with other water or wastes in the public sewer system, release obnoxious gases, form suspended solids, which interfere with the collection system, or create a condition deleterious to structures and treatment processes.
- xv. Clear water injected into the sewerage system by means of a drainage collection system. Said drainage water is detrimental to the sewage system since it interferes with the District's volume capacity and with the biological process necessary to proper

treatment.

- (d) Information Requirements: The District may require a discharger to provide information needed, from time to time, to determine compliance with the District's rules and regulations. These requirements may include but are not necessarily limited to:
- i. Wastewater discharge peak rate and volume over a specified time period.
 - ii. Chemical analyses of wastewaters.
 - iii. Information on raw materials, processes and products affecting wastewater volume and quality.
 - iv. Quantity and disposition of specific liquid, sludge, oil, solvent or other materials important to sewer use control.
 - v. A plot plan of sewers of the user's property showing sewer and pretreatment facility locations.
 - vi. Details of wastewater pretreatment facilities.
 - vii. Details of systems to prevent and control the losses of materials through spills to the municipal sewer.

In any case all Customer's shall immediately disclose to the District, as they occur, any and all inquiries, investigations, inspections, claims, complaints or requirements imposed and/or conducted by any local, state or federal government or agency thereof, pertaining or in any way relating to the Customer's actual, expected or potential discharge of sewage into the District's systems.

- (e) Control of Waste Discharge: All measurements, tests and analyses of the characteristics of waters and wastes to which reference is made shall be determined in accordance with the latest edition of "Standard Methods for Examination of Water and Wastewater," published by the American Public Health Association. Sampling methods, location, times, duration and frequencies are to be determined on an individual basis subject to approval by the District Manager. If any waters or wastes are discharged, or are proposed to be discharged to the District's sanitary sewer system, which waters contain the substances or possess the characteristics which would constitute special or prohibited sewage and which in the judgment of the District Manager may have a deleterious effect upon the wastewater facilities, create a hazard to life or constitute a public nuisance, the District may:
- i. Reject the wastes,

- ii. Require pretreatment to an acceptable condition for discharge to the public sewers,
- iii. Require control over the quantities and rates of discharge, and/or,
- iv. Require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges.

When considering the above alternatives, the District shall give consideration to the economic impact of each alternative on the discharger, and shall give said discharger notice of the District's deliberations and an opportunity to be heard. If the District permits the pretreatment or equalization of waste flows, the design and installation of the plants and equipment shall be subject to the review and approval of the District. Where pretreatment or flow-equalizing facilities are provided or required for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner(s) at their expense. The District shall, at its discretion, test any pretreatment processes for compliance with regulations at the discharger's expense.

- (f) Penalty for Unacceptable Discharge: Should the user's pretreatment facility fail to operate properly or the user discharges sewage which violates the limits of discharge as set forth in this article causing the District to fail to meet its discharge requirements, the user shall pay for all fines the District may incur. The District shall also charge the user for all costs the District incurs related to the treatment of unacceptable sewage discharged by the user.

- (7) Interceptors: Interceptors (including grease, oil and sand interceptors, etc.) shall be provided for the proper handling of liquid wastes containing grease, flammable wastes, sand, solids, acid or alkaline substances or other ingredients harmful to the sanitary sewer system or which detrimentally affect the sewage treatment process.

- (a) Grease interceptors are required on all premises, other than residential, where food is prepared or processed, or when an industrial process deals with organic waste.
- (b) A grease interceptor shall be installed on the discharge line of every dishwashing sink, dishwashing machine, and every fixed receptacle or plumbing fixtures designed, intended or used for the purpose of washing dishes or cooking utensils in a restaurant, cafe, cafeteria, lunchroom, hotel kitchen, hospital kitchen, sanitarium kitchen and/or similar establishment that serves, or has capacity to serve, one hundred (100) or more meals per day or where necessary to prevent the discharge of considerable amounts of grease-containing liquids to the sewer system.

Capacity to serve one hundred (100) or more meals per day shall be determined by the serving or seating capacity of fifteen (15) or more patrons at any time.

- (c) The International Plumbing Code will be used to size interceptors.
 - (d) Interceptor plans shall be submitted to and approval obtained from the District prior to installation.
 - (e) All interceptors shall be located outside the building on private property and shall be so installed and connected that they shall be at all times easily accessible for inspection and cleaning.
 - (f) All drains from the kitchen, food preparation, and dishwashing areas shall be connected to the grease interceptor.
 - (g) Garbage grinders shall not be used for disposal of grease. The discharge from garbage grinders shall not be connected to the grease interceptor.
- (8) Enforcement:
- (a) The responsibility of cleaning and maintaining all grease interceptors, sand and oil traps shall be the Customer's and/or User's responsibility. Grease interceptors and sand and oil separators may be inspected as often as needed by the District and if not properly maintained, the District may initiate procedures to obtain compliance with these rules and regulations.
 - (b) The charge for these inspections to the Customer and/or User shall be a direct pass-on of the expense to the District and shall be billed directly by the District for all costs incurred by the District in inspecting the property.
 - (c) Discharge of sewage in any manner in violation of the rules and regulations is hereby declared a public nuisance and may be corrected or abated as directed by the District.
 - (d) Whenever a discharge of sewage or the operation of a grease interceptor or sand or oil trap is in violation of the provisions of these Rules and Regulations or otherwise causes or threatens to cause a condition of contamination, pollution or nuisance, the District may issue a 72 hours' written notice to correct the practice. If the practice is not corrected within such time, the District may notify the Colorado Department of Public Health and Environment or effect disconnection of the sanitary sewage service line from the District's system, until such time as the District has received adequate assurances that any and all violations of the District's rules and regulations will cease and will not occur in the future. In addition, all of the costs of the aforementioned proceedings shall be charged against the property and, until paid shall constitute a perpetual lien against the property.
 - (e) When a discharge of wastes causes an obstruction, damage or any other impairment to the District facilities, the District may assess a charge against the Customer and/or User for the work required to clean or repair the

facility and add such charge to the Owner and/or Lessee's sewer service charge, and the District shall have such remedies for the collection of such costs as it has for the collection of sewer service charges until paid shall constitute a perpetual lien against the property.

b. District Responsibilities, Potable Water and Sanitary Sewer:

- (1) District to Maintain Hydrants: The District shall have the authority to test and inspect all public and private hydrants in the District; provided that the District shall only maintain public hydrants.
- (2) Service Connections: Use of the District's Utility System may only be initiated and carried on pursuant to a Permit evidencing the approval and providing for the continuing oversight of the District.
- (3) Powers and Authority of Agents: The Manager or any duly authorized employee of the District, bearing proper credentials and identification, shall be permitted to enter upon all properties for the purpose of repairs, inspection, observation, measurement, sampling, and testing, or any other reasonable purpose in accordance with these Rules.

Except to the extent specifically authorized by the Board pursuant to Section 300.04, no such agent or employee shall have any authority to bind the District in any manner, commit to do anything on behalf of the District, admit to any negligence, failure or indiscretion on the part of the District, or in any manner speak for and on behalf of the District.

c. Customer Responsibilities, Street Facilities, Traffic Controls, Sidewalks, Landscaping Design Features, and Parks/Open Space.

- (1) Private Facilities: The owner of private street facilities, traffic controls, sidewalks, landscaping design features, and parks/open space shall be solely responsible for their construction, operation, repair, maintenance and replacement. Such facilities as are subject to control by the Meridian Architectural Control Committee shall meet the standards of such committee.
- (2) Public Facilities: The District encourages private persons to notify the District of any public or private facility which is needed or which is in need of repair, maintenance, or replacement.
- (3) Sidewalks: The owner of the property adjacent to a sidewalk, whether such sidewalk is located upon land owned by the owner or is located upon public land, shall remove ice there from upon accumulation and shall remove snow from such sidewalk within 24 hours following an accumulation of one inch or more.

d. District Responsibilities, Street Facilities, Traffic Controls, Sidewalks, Landscaping Design Features, and Parks/Open Space.

- (1) Private Facilities: The District has no responsibility for any private facility.

- (2) Public Facilities: In the discretion of the Board and subject to the availability of funds, the District may repair, maintain, or replace any public facility owned by the District to standards which the Board determines are compatible with the needs of the District.
- (3) Sidewalks: In the event that an owner of the property adjacent to a sidewalk, whether such sidewalk is located upon land owned by the owner or is located upon public land, fails to remove snow and ice from such sidewalk as required by these Rules, the District shall have the right to effect the removal and collect costs from the Customer, which costs shall be a charge of the District.
- (4) Streets: It is anticipated that to the extent not maintained by Douglas County the streets within the District and related components such as medians and common area landscaping may be maintained by the District.

.03 CONFINED SPACE: Any District Contractor or other entity who contracts with the District, or otherwise wishes to access the District's confined spaces, shall, as a condition of entry into any of the confined spaces, and to provide services to the District, meet the following requirements:

- a. Acknowledge that the subject facilities are a confined space; and
- b. Agree to abide by the OSHA regulations, including the establishment of an OSHA required safety program; and
- c. Release and indemnify the District in connection with the confined space access; and
- d. Provide the District with a copy of the contractor's written permit space entry program that complies with OSHA regulations; and
- e. Debrief the District's assigned personnel regarding the permit space program followed and regarding any hazards confronted or created in permit spaces during the entry operations, when such hazards are found.

The District shall maintain, on file in the District offices, a current listing of all District confined space facilities.

.04 CONNECTIONS, ALTERATIONS: No person shall tamper with, maintain, open, alter, repair or uncover, or make any connection with or opening into or otherwise use or disturb any District Facility without first obtaining a Permit to do so.

- a. Procedural Requirement for making service connections to the District utility system.
 - (1) Water Taps (Irrigation and Potable).
 - (a) Water service connections shall utilize existing stubs when possible. If stubs are not available wet tapping will be required so as not to disrupt existing mains.

Differential sizes are not permitted; the meter must be the same size as the service line connection.

- (b) Tap locations and materials shall be approved by the District engineers prior to tapping.
- (c) Subsequent to the approval by the District, the Contactor shall notify the District 48 hours in advance of a physical connection.
- (d) All physical connections to the District sewer system must be witnessed by the District.
- (e) Prior to final acceptance, the Owner is required to supply the district with an as built plan within one week after the tap has been completed.
- (f) It shall be the responsibility of the Contactor to verify the existence and location of all underground utilities in the area of the tap and line work. Should any utility be damaged, the Contractor shall immediately notify the Owner of such utility, and unless authorized in writing by the Owner of the utility, the Contractor shall not attempt to make repairs.
- (g) The contractor shall be solely and completely responsible for the conditions at the site of the tap and line work, including facilities of all persons and property during the performance of the work. This requirement will apply continuously and will not be limited to normal working hours. It is the Contractor's responsibility to see that all facility conditions conform to all applicable Federal, State, County and local laws, ordinances, and codes.
- (h) Before commencing work under the contract, the Contractor shall furnish the District with certificates of insurance, showing the type, cost, class of operation coverage, effective dates, and date of expiration of policies. The Contractor shall not commence work until he has obtained the insurance required by the District, nor shall the Contractor allow any sub-Contractor to commence work on his sub-contract until all similar insurance required for that portion of the work has been so obtained and reviewed.

The Contractor shall be required to have worker's compensation and employee liability insurance, public liability (including automotive) and property damage insurance in an amount not less than \$1,000,000 each for each occurrence, underground utility insurance, and any insurance coverage for special conditions such as blasting.

- (i) The Contractor shall indemnify and hold harmless the MERIDIAN METROPOLITAN DISTRICT, and each of its officers, employees and agents.
- (j) All materials used shall conform to Meridian Metropolitan District Regulations.

- (k) Meters and meter locations must be installed to conform to District Rules and Regulations and must be inspected prior to initiation of service.
- (l) Before service is initiated, taps must be approved and accepted by the District.
- (m) Re-inspections caused by non-conformance with District Rules and Regulations shall be billed at charges of \$150.00 per occurrence and paid prior to service.
- (n) ONLY DISTRICT EMPLOYEES SHALL BE RESPONSIBLE FOR THE OPERATION OF CURB STOP VALVES.

(2) Sewer Taps:

- (a) Sewer service connections shall utilize existing stubs when possible; if stubs are not available a mechanical wye will be required.
- (b) Tap locations and materials shall be approved by the District engineers prior to tapping.
- (c) Subsequent to the approval by the District, the Contractor shall notify the District 48 hours in advance of a physical connection.
- (d) All physical connections to the District sewer system must be witnessed by the District.
- (e) Prior to final acceptance, the Owner is required to supply the District with an as built plan within one week after the tap has been completed.
- (f) It shall be the responsibility of the contractor to verify the existence and location of all underground utilities in the area of the tap and line work. Should any utility be damaged, the Contractor shall immediately notify the Owner of such utility, and unless authorized in writing by the Owner of the utility, the Contractor shall not attempt to make repairs.
- (g) The Contractor shall be solely and completely responsible for the conditions at the site of the tap and line work; including facilities of all persons and property during the performance of the work. This requirement will apply continuously and will not be limited to normal working hours. It is the Contractor's responsibility to see that all facility conditions conform to all applicable Federal, State, County and local laws, ordinances, and codes. Where any of these are in conflict, the more stringent requirements shall be followed.

The duty of the District to conduct inspection of the tap is not intended to include the review of the Contractor's safety measures, in, on, or near the site of the tap.

- (h) Before commencing work under the contract, the Contractor shall furnish the District with certificates of insurance, showing the type, cost, class of operating coverage, effective dates, and date of expiration of policies. The Contractor shall not commence work until he has obtained the insurance required by the District, nor shall the Contractor allow any sub-Contractor to commence work on his sub-contract until all similar insurance required for that portion of the work has been so obtained and reviewed.

The Contractor shall be required to have worker's compensation and employee liability insurance, public liability (including automotive) and property damage insurance in an amount not less than \$1,000,000 each for each occurrence, underground utility insurance, and any insurance coverage for special conditions such as blasting.

- (i) The Contractor shall indemnify and hold harmless the MERIDIAN METROPOLITAN DISTRICT, and each of its officers, employees and agents.
- (j) All materials used shall conform to Meridian Metropolitan District Operating Rules and Regulations.
- (k) Before service is initiated, taps must be approved and accepted by the District.

(l) Re-inspections caused by non-conformance with District Rules and Regulations shall be billed at charges of \$150.00 per occurrence and paid prior to service.

.05 VIOLATIONS: Any person violating any of the provisions of these Rules and Regulations shall become liable to the Board for any expense, loss or damage including attorneys' fees and costs incurred or occasioned by reason of such violation.

ARTICLE V

500 APPLICATION FOR SERVICE

.01 RULES APPLICABLE: Service will be furnished only to persons who and properties which are subject to the Rules.

.02 APPLICATION FOR SITE CONNECTION AND SERVICE PERMIT:

- a. Application Required: In addition to the proper fees, the Customer seeking service shall submit a written application to the District in such form as the District may prescribe.
- b. Permits and Assignability: Upon approval by the District, a Permit will be issued to the Customer, which shall, unless otherwise agreed by the District, designate the specific property to be served. Service connections are for use only on the property designated in the Permit. Permits and the rights enjoyed thereunder shall run with the property, and shall be automatically transferred by the owner of a property upon the sale or transfer of the property to a subsequent owner.
- c. Failure to Connect/Nonuse: A Permit may be revoked if more than one year has elapsed between the date of the issuance of the permit unless the Customer either connected a service line to the District's Utility System pursuant to the permit, or has purchased a permit pursuant to a valid Agreement between the Customer and the District which specifies otherwise. Should any Permit become, through nonuse, destruction or abandonment of the property to which a service line is connected, inactive for a period of five years, the Permit may be revoked by the District.

Holders of permits may apply to the Board for a one-year extension, or reactivation, of the connection period. In the case of an application for extension of time such application shall be accompanied by a statement of facts that the Customer has proceeded with the development of the property with due diligence and has reasonable grounds to expect that a service line may be connected within the one-year extension period.

All applications for time extensions or reactivation shall be accompanied by a fee in the amount of the difference between the District's then current Site Connection and Service Fee and that previously paid by the Customer for the permit. The fee accompanying the application for extension shall be refunded in full if the Board fails to grant the extension of the connection period.

.03 DENIAL OF APPLICATION FOR SERVICE: The District may refuse to authorize service for any of the following reasons:

- a. Misrepresentation: There has been misrepresentation in the application as to the extent of service required (demand), or the use to be made of the District's system;
- b. Cross Connection: The Connection of the system to applicant's existing or planned connection would constitute a cross-connection;
- c. Excessive Demand: The service would create an excessive demand on the District's facilities;

- d. No Property Ownership: The applicant for the permit does not own property in the District;
- e. Prohibited Discharge: The discharge would be prohibited by these Rules;
- f. Inadequate Line or Facilities: The planned Service Line, Connection, or facilities are not, in the opinion of the District, adequate to service the property in question;
- g. Emergencies: The Board finds an emergency exists;
- h. Other Reasons: Other reasons determined by the Board to serve the best interests of the District, including but not limited to the nonpayment of fees or any other noncompliance with or violation of these Rules.

.04 ALLOTMENTS: Annual use allotments are specified for each site development at the time of site connection and service application approval as follows:

a. Potable Water Allotments:

Potable water allotments are based on average expected annual demands for the uses specified and are based on the net floor retail area of the building served for all uses except residential which are based on a per unit basis as follows:

Office /Retail: Other Commercial	20.5 gal/sq. ft. gross building floor area/year
Warehouse	10.75 gal/sq. ft. gross building floor area/year
Single Family Detached Residential	170,000 gals/year/unit (includes irrigation)
Multifamily Residential	61,750 gals/year/unit (does not include irrigation)

b. Irrigation Allotments:

Non-potable irrigation is required for all uses except residential, unless otherwise approved by the Board due to mitigating conditions.

Non-potable allotments for all uses (except residential without separate irrigation meter) are based on an allowance of 3.74 gal/sq ft parcel area/yr which generally provides for an "equivalency" of 20% of the gross parcel area of each development site to be "irrigated" landscape.

c. Tiered District Utility Rates:

Rates are tiered, as set forth in the District's fee schedule, will apply in the event of use in excess of the specified annual use as follows: Up to 50% over allotment, 2x base rate; in excess of 50% over allotment, 3x base rate.

d. Curtailment of Service Due to Exceeding Annual Allotments:

Service may be terminated in the event of annual overages in excess of 100% of allotments without a plan and timetable of remediation approved by the Board.

e. Grow-in Period:

Variations of up to 50% overage of annual irrigation allotment may be granted for grow-in period of one full growing season for initial site landscaping.

f. Moisture Sensors:

All commercial and multifamily residential property irrigation systems shall provide for each irrigation controller to be monitored by an adjustable moisture sensor; adjustable for rainfall quantities in amounts of 1/8", 1/4", 1/2", 3/4" and 1". Monitoring capability shall be by direct wire or remote wireless methods such that the sensor shall act to break the circuit to the solenoid valves once moisture readings reach a preset level. The sensor wiring shall not affect the electronic or mechanical timer of the controller function, and allow the internal switch to return the circuit to normal operations once moisture levels drop to designated levels.

.05 IRRIGATION ONLY SERVICE CONNECTIONS:

Irrigation only service connections, i.e. without corresponding potable and wastewater use connections may only be approved by special request to and approval of the Board as to a hardship or unusual mitigating circumstance. If such connections are approved, the following will apply:

Connection fee: Charged on same basis as full service fee; i.e. meter size and site area

Use fee: Charged at 2x potable rate

Allocation: Based on same formulae as for office commercial sites; note this may require multiple connections/fees

.06 PLAN REVIEW/SITE INSPECTION PROTOCOL:

Plan Review/Site Connection/Service Application

- a. Construction plans, signed by an engineer, licensed in the State of Colorado, must be submitted for all proposed District owned facilities and approved in writing by the District prior to initiation of construction. Plans must contain sufficient information to assure compliance with the District's Rules and Regulations, including design criteria and construction specifications, as well as estimate of cost.
- b. Application for Site Connection and Service along with required payment for same, must be made prior to or coincident with any plan submittals and approval of same will be made a condition of any plan approvals.
- c. Verification of the above is required prior to initiation of any construction of same, including site service connections (taps)
- d. 48 hours advance notice must be made to the District office prior to any service connection or meter installation.

e. The following elements require on-site observation and verification by a District representative:

- (1) Service tap
- (2) Meter installation
- (3) Trench bedding
- (4) Pipe material
- (5) Backfill compaction
- (6) Surface condition
- (7) Flow/pressure testing
- (8) Chlorination/disinfection

Plan review/approval or field observations by District representatives do not relieve applicant or their engineer or contractor of design or construction compliance responsibilities or of attendant warrant requirements.

ARTICLE VI

600 FEES, CHARGES AND BILLING

The information contained in this Section is pertinent to all charges of the District. The charges shall be set forth in the current Fee Schedule which shall remain in effect until modified. Nothing contained herein shall limit the District from, at any time and without notice, modifying the Fee Schedule, its method or methods of calculating fees, or any classification set forth in these Rules.

.01 APPLICATION OF THIS SECTION: The rates, charges and other information shown herein shall apply only to Customers inside the District. Service to properties outside of the District's boundaries, or to tax exempt properties within or without those boundaries, shall be subject to such other arrangements and requirements as the District, in its sole discretion, may specify as such service is requested.

.02 CONNECTION AND SERVICE FEE: Prior to Connection, a Site Connection and Service Fee shall be assessed for accessing and using the District's Utility System, and for the District to recoup the cost of the materials and labor incurred in facilitating such access.

Site service connection fee payments become the property of the land parcel for which the fee is paid. No refunds are granted.

.03 SERVICE CHARGE: The District imposes a charge for all service. Potable water and sanitary sewer service charges commence upon the activation of a service connection. All potable water and non-potable irrigation service shall be metered.

.04 METER READINGS AND TESTING: No special charge is imposed for regular periodic meter readings within the District for regular billing. The Fee Schedule may include charges for final or special meter reading or meter testing.

.05 PAYMENT OF SERVICE CHARGES:

Statements for charges for all fees shall be rendered on such periodic basis as the Board shall deem appropriate. Charges for late payments, turn-on, turn-off, etc., shall be added to the bills. Bills will be mailed by the District periodically, and shall be payable within fifteen (15) days of the statement date. A five percent (5%) delinquency charge per billing shall be added to the unpaid balance of all bills which have not been paid within thirty (30) days from the date of mailing. No delinquency charges shall exceed a total of twenty-five percent (25%) of the amount due. Interest shall accrue on the original unpaid balance, excluding any delinquency charges, at the rate of one per cent (1%) per month until paid. When such statements are thirty (30) days delinquent, they shall be declared "overdue" and a shut-off notice shall be mailed by first class mail, advising that payment must be made within fifteen (15) days, or service will be disconnected. If payment is not made in accordance with such notice, the District may without further notice discontinue service to the subject property. The deposit for service, if any, shall be applied against the outstanding bill.

.06 REVOCATION OF SERVICE: Service shall be revocable by the District upon non-payment of charges (as set forth in Section .09 of this Article) or upon failure to comply with these Rules. In the event of non-compliance with the Rules other than non-payment of fees, the Customer shall be given ten days' written notice of revocation to provide an opportunity for correction of such non-compliance.

- .07 SERVICE THROUGH FIRE HYDRANTS: This section applies to all hydrants, regardless of ownership.

Except for emergency use in the suppression of fires, no hydrant, whether public or private, shall be turned on without prior District permission and then only following the grant of a permit as specified in Section C. Permits shall be issued on an individual basis as approved by the District prior to water use, and service shall be metered at locations selected by the District. Persons requesting the use of hydrant water through a privately owned hydrant shall first present the signed written approval of the hydrant owner with the application for a District permit. Use of hydrant water pursuant to a permit shall be subject to available operating capacity only and shall cease for the duration of any fire within the District or any other fire which, in the opinion of the Fire Chief, should be suppressed in part by use of the District's water system. Any damage to the hydrant, meter, or other property of the District shall be paid for by the user. The owner for which the work is being done is solely responsible for the fees and usage if not paid by the contractor. The water usage will be billed every 30 days at twice the normal water rate as set forth in the Fee Schedule.

- .08 MISCELLANEOUS COSTS AND EXPENSES: All costs and expenses incident to the provision, installation, inspection, and connection of District services shall be borne by the Customer. The Customer shall indemnify the Board for any loss or damage that may directly or indirectly be occasioned by the installation of potable water or sanitary sewer service. The District also requires that all excavations in public rights-of-way or utility easements to be done under the supervision of the District and paid for by the Customer.

- .09 LIABILITY FOR PAYMENT, LIEN, FORECLOSURE FEES, COSTS: Until paid, all rates, tolls, fees and charges shall constitute a first and perpetual lien on or against the property served and any such lien may be foreclosed in the manner provided by law. At any time the District determines, following efforts to collect tardy payments of any fee, rate, toll or charge assessed by the District under these Rules and/or Colorado law, to initiate foreclosure proceedings as allowed by C.R.S. Section 32-1-1001(1)(j), the District shall in each such case assess a foreclosure fee against the subject property, in the amount as set forth in the Fee Schedule, which fee shall be payable in full upon assessment and shall be included in the amount then being foreclosed. Payment of said foreclosure fee and any and all other fees outstanding against the subject property shall be a precondition to the resumption of service to that property.

The District shall have the right to assess any Customer who is tardy in payment of his account all legal, court and other costs necessary to or incidental to the collection of said account and/or the foreclosure of the property in question. All such costs shall be deemed a charge of the District.

All costs incurred by the District relating to service to a Customer's property, including but not limited to the costs of collection, enforcement, shut-off, inspection, and miscellaneous items shall, until paid, constitute a first and perpetual lien on and against the property served and any such lien may be foreclosed in the manner provided by law. If the District determines that a foreclosure is necessary to obtain payment, a foreclosure fee shall be assessed against the property plus the costs of prosecuting such foreclosure and such foreclosure fee shall also constitute a first and perpetual lien on the property.

The property, the Customer, and the property owner and the occupant if not the Customer, are hereby deemed equally liable for charges of the District. The District assumes no responsibility hereby for

any agreement made between owners and occupants including landlord, and tenants regardless of how made or whether the District was notified of such agreement. The District will hold all such parties jointly and severally liable for all charges appurtenant to potable water, sanitary sewer and/or non-potable irrigation water service at the address where the bills are sent.

In addition to any other means provided by law, the District may elect, by resolution, at a public meeting held after receipt of notice by the Customer (and property owner if different than the Customer), to have certain delinquent fees, rates, tolls, penalties, charges, or assessments made or levied solely for potable and non-potable water, sanitary sewer, or such water and sewer services certified to the Douglas County Treasurer to be collected and paid over by the Douglas County Treasurer in the same manner as taxes are authorized to be collected and paid over pursuant to section 39-10-107, C.R.S. In such event, the Board shall pay to Douglas County at least once a year an amount which shall be just and reasonable compensation for the extra labor imposed upon the Douglas County Treasurer by the District and an amount for the District's proportion of the expense of advertising the sale of lands for said delinquent fees, rates, tolls, penalties, charges, or assessments in each year, said amounts to be certified to the Board by the Douglas County Treasurer. Any amounts so paid to Douglas County to collect a particular Customer's account shall be charged to such Customer. Any such fee, rate, toll, penalty, charge, or assessment shall total at least one hundred fifty dollars per account and shall be at least six months delinquent. The Douglas County Treasurer may also to charge and retain a penalty at the rate of thirty percent, or thirty dollars, whichever is greater, on the delinquent sum due and owing to defray the costs of collection.

In addition to the foregoing, the District may pursue any other means of collecting amounts owing the District, including but not limited to direct collection actions against the Customer, the owner of the property in question if different than the Customer, against any tenant thereof and against any User.

- .10 RESPONSIBILITIES OF PERSONS SELLING AND BUYING PROPERTY WITHIN THE DISTRICT: It shall be the joint responsibility of both the seller and buyer of property to notify the District for final and start meter readings and completion bills. It shall be the responsibility of the buyer to ascertain whether charges have been paid by the seller. Regardless of ownership or of the failure of the District to collect charges at the time of issuance of permits or any other act or omission of the District, unpaid charges shall constitute a first and perpetual lien on and against the property, which lien may be foreclosed as provided by law.
- .11 UNAUTHORIZED CONNECTION PENALTIES: An unauthorized connection penalty equal to twice the normal fee due shall be payable by persons connecting to a District line without prior approval of such connection.
- .12 TURN-OFF FEE: If services are discontinued at the request of the Customer, or due to delinquency, a "turn off" fee will be charged, which will also cover the "turn on" request provided the curb box and shut-off valve are in working order. If they are not, repair of same will be at the expense of the Customer. In any case minimum service billing will be in effect.
- .13 PENALTY FOR "UNAUTHORIZED ACTIVATION": No person other than agents of the District is authorized to activate or initiate District services. Nothing herein shall limit or waive any other remedies available to the District, including the opportunity to file criminal charges. The District shall make charges of this violation in Court, and all costs relating thereto shall be paid by the violator.

.14 PENALTY OR SURCHARGE FOR PROHIBITED OR SPECIAL SEWAGE: The Board may assess a penalty or surcharge against anyone who discharges Prohibited Sewage or Special Sewage into the District's Utility System in violation of these Rules.

.15 CHANGE BY CUSTOMER: No change in a Customer's equipment, service or the nature or use of the property shall be made without prior notice to and the approval of the District, as evidenced by the issuance of an amended Application for Site Connection and Service. Requests for change in equipment or service may be denied for any reason, or no reason. Prior to making any change in service or meter installation, the Customer shall file an amended application for a Site Connection and Service Permit with the District at least forty-eight (48) hours prior to making the change and shall pay such additional Fees as may be necessitated by the change.

Any Customer not notifying the District of such change shall be assessed and notified of all additional Fees as soon as practicable after determination by the Board that there has been a change. Such additional Fees shall be considered due and payable as of the date the change in question occurred (as ascertained by the District,) shall be doubled as a penalty for an unauthorized change, and shall carry interest from the date of change at the rate of one per cent (1%) per month until paid. A statement shall serve as notice that such additional Fees are past due and must be paid within ten (10) days. Any Customer shall have the right to a hearing to determine whether a change necessitating additional fees has occurred. Such hearing shall be held at the next regular meeting of the Board following request for a hearing. Before a requested hearing is held, all additional Fees shall be deposited with the District, in full. Failure to make such deposit shall cause an automatic denial of the Customer's appeal, and the District shall proceed with collection of the additional fees in accordance with these Rules.

.16 CONDUIT USE: Use of the Districts DAS conduit system is required for telecommunications service extensions into Meridian in order to minimize disruption to existing street surfaces and landscaping areas.

Such use is on a space available basis only, and terms and conditions will be through negotiated contractual agreements with the parameters as shown in Schedule 6, CONDUIT USE FEE SCHEDULE.

ARTICLE VII

700 INCLUSIONS AND OUT-OF-DISTRICT SERVICE

- .01 INCLUSION: Except as hereafter provided, service will be furnished only to Customers whose property is included within and subject to the Rules and Regulations and to taxation by the District. All petitioners for inclusion must, as a condition to inclusion, dedicate to the District rights to sufficient water to serve the projected development property to be included or, at the discretion of the Board and in lieu thereof, if the water rights are in the opinion of the District insufficient to serve the property the petitioner may, with the District's approval, make payments to the District, in cash or as otherwise approved by the Board, in an amount sufficient to compensate the District for the lack of such water rights. Inclusions shall be at the discretion of the Board, and nothing herein shall be deemed to limit the Board's authority to impose other lawful conditions on inclusion or to deny inclusion when, in the determination of the Board, it is appropriate.

It shall be incumbent upon the Petitioner to furnish satisfactory evidence of inclusion whenever such evidence is requested by the District. Satisfactory evidence shall consist of tax receipt, or certificate in lieu thereof, received from, and signed by, the County Treasurer.

A person owning land within or without the exterior boundaries of the District, who desires service, must include all of the person's land contiguous to the parcel upon which service is desired into the District unless the District permits otherwise.

Inclusions of property shall be accomplished, in accordance with the provisions of 32-1-401, C.R.S., as amended, and all costs in connection therewith, including legal and engineering fees and publication costs, shall be borne by the Petitioner. Inclusions shall only be processed pursuant to Inclusion Agreements which are in a form acceptable to the District and which, in the sole determination of the District, are in the best interests of the District and its constituency. Nothing herein shall be deemed or construed to be a grant to any third party of any right to have any property included within the boundaries of the District.

- .02 SERVICE OUTSIDE THE DISTRICT: The District may, if it seems advantageous to the District, furnish service to properties located outside the boundaries of the District. No service shall ever be provided to properties located outside the boundaries of the District except upon the express written consent of the District.

Charges for furnishing service outside the District shall be at the discretion of the Board of Directors, who may take into account, among other things, the District's debt obligations and the estimated mill levy for which such property would be responsible if it were a part of the District and may be higher than for properties located in the District.

These Rules and Regulations shall be applicable to all property owners outside the District who are furnished service by the District, and no provision of District services shall be permitted until the property owner shall have agreed to abide by the Rules and Regulations; provided, however, that the Board of Directors in its discretion, may charge higher fees for properties not located within the District.

In every case where the District furnishes service to properties outside the District, the District reserves the right to discontinue the service when, in the judgment of the Board of Directors, it is in the best interest of the District to do so, and such service shall be considered a revocable license.

ARTICLE VIII

800 MAIN LINE EXTENSIONS

- .01 MAIN LINE SIZES: The minimum size potable water, sanitary sewer, irrigation, storm drainage and data acquisition main lines shall be as specified by the District as the case requires.
- .02 LINE EXTENSIONS BY THE DISTRICT: All Mains shall be constructed in accordance with District specifications and pursuant to District supervision.
- .03 CONSTRUCTION OF MAIN LINES BY THIRD PARTIES: In the discretion of the Board, the Board may permit third parties ("constructor") to construct Mains for the purpose of connecting them to the Utility System in lieu of their construction by the District. The constructor shall enter into a Line Extension Agreement with the District in a form acceptable to the District. No such construction or connection shall be permitted in the absence of such an Agreement.
- .04 LOCATION OF MAIN LINE EXTENSIONS AND ADDITIONS: Main extensions shall be installed in roads or streets accepted for maintenance as public right-of-way or in easements granted to the District which afford the District rights at least equal to rights it would enjoy in a dedicated street.
- .05 SPECIAL STRUCTURES: Special structures required to ensure proper operation of Main extensions shall be constructed from designs of the Engineer and the cost of construction and engineering fees shall be the responsibility of the constructor.
- .06 OVERSIZING: The District may, at its option, require the construction of lines and facilities larger than the minimum sizes specified by the District for the purpose of serving properties other than those intended to be served through the constructor's efforts. Participation by the District in the cost of installation of oversized mains and facilities shall be at the sole discretion of the Board.
- .07 PRESERVATION OF GRAVITY SEWER SYSTEM: In those instances where pumping stations and force mains are required, the sewerage system shall be so designed as to permit eventual connection into a gravity system with a minimum of expense. Where practicable, easements shall be provided and lines constructed to tie into the gravity system. The District may, in its discretion, require deposits to ensure the eventual construction of gravity lines.
- .08 EXTENSIONS TO PROPERTY LINES: The District may require extensions constructed under this section to serve a property to be installed to the far side of the property in order that the Utility System may continue unimpeded.

ARTICLE IX

900 PARKS AND RECREATION

.01 GENERAL: The District's park and recreation facilities are open to the general public, however as financing of these facilities occurred through the District, priority as to use will be given to District taxpayers and tenants within the District. The District further reserves the right to regulate and monitor the use of its facilities through a permitting system. Payment of such fees as the District deems appropriate may be a condition to the issuance of such permits or the use of such facilities, which may also be accompanied by such operating or use restrictions as the District, in the exercise of its sole discretion, deems appropriate. At a minimum, such restrictions shall include insurance at a level and with companies deemed adequate by the Board, and such waivers of liability and indemnities as may be required by the Board.

.02 PERMITS: A permit may be required prior to the use of any District park or recreational facility in the following circumstances.

- a. By any group of more than five people.
- b. Any commercial activity.
- c. Any advertising or solicitation activity.
- d. The erection of temporary or permanent structures or facilities such as tents, signs, stages, audio equipment, amusement rides, or other equipment.
- e. The use of any water facility for any purpose.
- f. Equestrian activities of any kind.
- g. Parking of vehicles.
- h. Any sporting event, parade, demonstration, or procession.
- i. Any other event that the District, in its sole discretion, finds might affect the District's facilities to any degree and in any fashion.

The District reserves the right to permit, or not to permit, any activity, and if permitted to place such restrictions or conditions on the activity as the District believes appropriate. Nothing herein shall be construed as a right on the part of any individual or entity to use the District's park and recreation facilities for any purpose.

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE MERIDIAN METROPOLITAN DISTRICT**

WHEREAS, the Board of Directors (the "Board") of the Meridian Metropolitan District (the "District") met in a regular session on August 6, 2002, at 8:30 am at 5750 DTC Parkway, Suite 200, Greenwood Village, Colorado 80111; and

WHEREAS, continuing extraordinary dry conditions and attendant irrigation demands exist in the state of Colorado; and

WHEREAS, the District may experience shortfalls in its water storage and production; and

WHEREAS, in order to allow the District to maintain an acceptable availability of its water supply in the near and foreseeable future, it is in the best interest of the District and the property owners and residents of the District for the Board to adopt and implement proposed Emergency Water Supply Procedures (the "Procedures") attached hereto; and

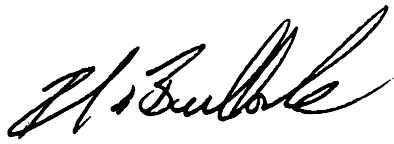
WHEREAS, the Procedures will benefit water users in the District, compliment the statewide effort to support wise water use practices, and affirm the District's commitment to actively encourage its residents to conserve water;

NOW, THEREFORE, BE IT RESOLVED BY THE MERIDIAN METROPOLITAN DISTRICT, THAT:

1. The District hereby adopts the above referenced Emergency Water Supply Procedures.
2. Such Procedures shall be effective immediately.
3. Such Procedures shall become a part of the Rules and Regulations of the District until such time as the Procedures are revised or deleted from the Rules and Regulations.

Adopted and approved this 6th day of August, 2002.

MERIDIAN METROPOLITAN DISTRICT

By 

Raymond A. Bullock
General Manager and Secretary

(S E A L)

Meridian Metropolitan District Emergency Water Supply Procedures

The purpose of this document is to provide a guide for dealing with water shortages at Meridian due to excessive demand during drought periods or supply shortfalls due to system malfunctions.

Meridian will follow a program of progressive restrictions to assure a reasonable balance between supply and demand in such situations. These restrictions will of necessity give priority to potable drinking water continuity to buildings vs. irrigation of landscaping, the one exception is that the Meridian Golf Club, due to the nature of its business, will receive priority in terms of being allowed to sustain reasonable irrigation usage; provided however that in no event will potable supplies be curtailed to allow continued irrigation.

Phase I: Status: Normal Operating Conditions

Objective: Maintain Normal Operations
Targets: Keep reuse irrigation use at or below annual potable drinking water demand over irrigation season

Meridian will follow good water conservation practices through the following means:

- Reuse or recycling of wastewater for irrigation where allowable by law
- Promulgation of landscape design standards to achieve target irrigation allotments through the Meridian Design Control Committee.
- Use of a progressive rate schedule wherein rates are increased for excessive usage over designated allotments; including termination of service for flagrant disregard of same
- Use of an “allotment” for both potable and irrigation water usage based on normal demands
- Annual correspondence with property owners that exceed designated allotment re-advising them of allowable operating parameters (see attached sample)
- Use of comparable practices for all District landscaping

Phase II: Status: High Potential of Excessive Irrigation Demand Due to Climate Conditions

Objective: Avoid Mandatory Use Restrictions Due to Excessive Demand
Target: Keep reuse irrigation use at or below annual potable drinking water demand over irrigation season

- Issuance of an **irrigation alert** to all customers asking for voluntary cooperation in irrigation practices including three day watering cycles, night irrigation, and rain adjustments (see attached sample); include reference to DWB irrigation advisory website.
- District initiates three day cycle on medians and park areas; limited irrigation in I/25 interchange and designated native areas; posts “well-irrigation” signage on heavily traveled streets with median landscaping for PR purposes); minimizes use of “construction” water by contractors; delays any scheduled District landscaping installations (until after August).

Phase III: Status: High Potential of Irrigation Reservoir Shortage (ie. Less than 100 AFT Storage Balance in Irrigation Reservoir)

Objective: Avoid Potential for More Severe Irrigation Cutbacks
 Target: Achieve 20% Reduction in Peak Day Irrigation Demand

- Issuance of a notice of initiation of **mandatory irrigation restrictions** including three day week allowable watering cycle (T., Th., S.) maximum 15 minute cycles; restricted nighttime only irrigation hours (6 p.m. – 6 a.m.); progressive fines for violations (see attached sample)
- Increased patrol for violations by District personnel
- Shut off of irrigation pumping station outside allowable hours if lack of compliance is evident
- Issuance of irrigation advisory to Golf Course reference overall supply status reaffirming 300 AF maximum allotment; request voluntary cooperation on water conservation
- District same as Stage II; also stops irrigation of I/25 interchange and designated native areas; restricts watering in park and ball fields to 2 days/week.

Phase IV: Status: Reservoir Storage Projected to Fall Below 100 aft Storage

Objective: Avoidance of Termination of Irrigation
 Target: Achieve 50% Reduction in Peak Day Irrigation Demand

- Issuance of a notice of **more stringent mandatory irrigation restrictions** including two day/week allowable watering cycle (Monday and Friday); in addition to all Phase III provisions
- Terminate use of water for new construction, decorative fountains, car washes; delay new landscape installations
- Mandatory April 15 Startup/October 15 Irrigation Shutdown
- Increase fine levels for violation; including termination of irrigation service for continued noncompliance

- Issuance of irrigation notice to Golf Course advising of storage status and mandatory cutback on watering of driving range, practice holes and any native areas
- District goes to same restrictions including termination of irrigation in parks, ball fields

Phase V: Status: High Potential for Potable Service Cutbacks

Objective: Avoidance of Potable Service Cutbacks
 Target: Achieve 100% Termination Irrigation; Balance Non

Potable Irrigation with Waste Water Effluent Daily Flows for Golf Course

- Termination of all irrigation services*
- Restrict Golf Course to wastewater reuse inflows; use pump station shutoff to control

Phase VI: Status: Interruption of Potable Service

Objective: Sustain Fire Protection Capacity; Then Keep Residential and Crucial
 Commercial Properties Operational
 Target: Sustain 3.0MG Level in Storage Tank

- Telephone alert to Fire District
- Email alert to all property owners
- 24 hour communication availability to assure property owner access to service restoration status
- Continue to restrict Golf Course irrigation to wastewater reuse flows.

* Potable irrigation is required in residential areas and can account for 30-50% of Meridian's potable demand during the irrigation season

Note that as long as potable service is achievable, there will be an equivalent amount of reuse water available for irrigation. The Golf Course, due to being an operating business will be given preference to extent that play can be maintained. Other areas will be allowed the balance on a proportionate basis with attendant irrigation periods allowed. This will be achieved through control on the irrigation pump station.

Phase I Notice

**MERIDIAN
Metropolitan District**

12111 East Belford Avenue
Englewood, Colorado 80112
303-779-4550
303-804-3912

NOTICE OF IRRIGATION ALLOTMENT OVERAGE

Addressed to those who have "substantially" exceeded their irrigation allotments

Date

Dear _____ :

In reviewing your site irrigation usage through October, we note a significant overrun in your allotment as follows:

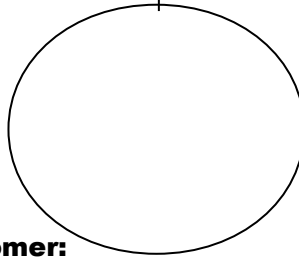
Parcel Annual Irrigation Allotment	_____ Gallons
Use Through October, 2001	_____ Gallons; Overage ___%
Year 2000 Use	_____ Gallons; Overage ___%

As you should be aware, a "surcharge" applies for use in excess of annual allotments. This year your surcharges have amounted to \$_____.

The irrigation allotments are based on reasonable average demands for irrigated turf in Colorado. While some overages could be expected to occur with year-to-year seasonal variations, usages at your rate seem to indicate issues with irrigation monitoring and management by landscape maintenance personnel.

The District simply cannot, nor will not, allow a continuation of such overages. We again ask that you review your usages and maintenance practices in this light.

Please be advised that effective January 1, 2002, an even more stringent surcharge will be in effect as shown on the attached rate sheet. Note also that continued overages in excess of 100% of an allocation may result in a termination of irrigation service until acceptable remediation is achieved.



Dear Customer:

Our personnel have observed unnecessary or excessive use of lawn irrigation at this location.

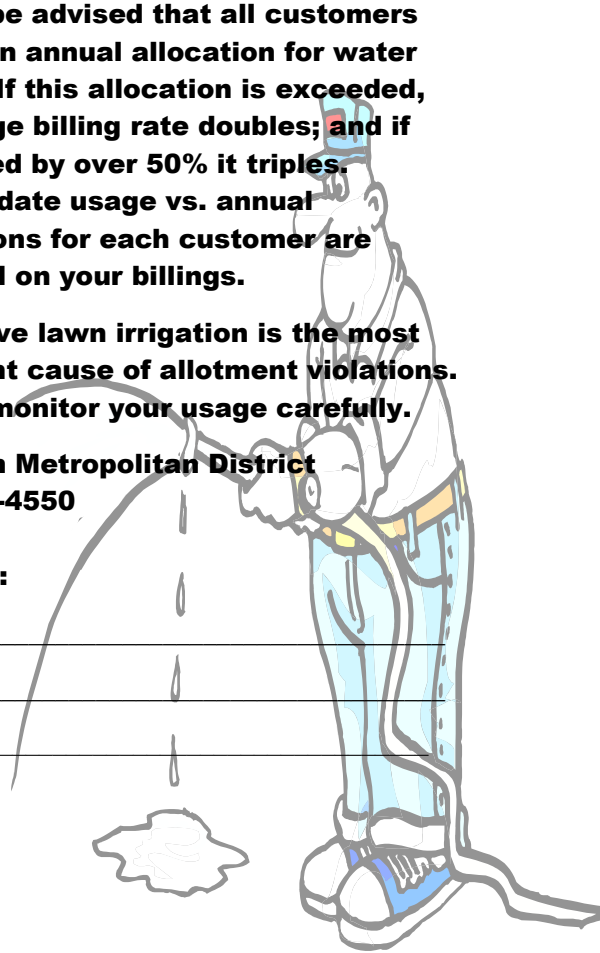
Please be advised that all customers are on an annual allocation for water usage. If this allocation is exceeded, the usage billing rate doubles; and if exceeded by over 50% it triples. Year to date usage vs. annual allocations for each customer are provided on your billings.

Excessive lawn irrigation is the most prevalent cause of allotment violations. Please monitor your usage carefully.

**Meridian Metropolitan District
303-779-4550**

Address:

Date: _____



Phase II Alert

MERIDIAN Metropolitan District

12111 East Belford Avenue
Englewood, Colorado 80112
303-779-4550
303-804-3912

NON-POTABLE IRRIGATION WATER CONSERVATION ALERT

Date

Dear Meridian Customer:

As a result of the extremely dry weather conditions this year, many properties have activated their landscape irrigation earlier than usual. Application rates also appear to be running well above normal.

While there is no concern relative to potable water use, we are asking your cooperation in closely monitoring your landscape irrigation to avoid the potential for overtaxing our nonpotable storage reserves.

Please limit your watering schedule to every third day and irrigate only as much as absolutely necessary. Irrigation schedules should be closely monitored and adjusted to accommodate changed weather conditions (for example do not irrigate coincident with a rainfall).

While the District has the authority to impose mandatory irrigation restrictions in the event circumstances dictate, hopefully, with good cooperation and improved weather, this will not be necessary. In the event such restrictions do become necessary, you will receive immediate written notification of the specifics thereto.

Note: Up to date information on turf irrigation needs can be obtained through the Denver Water Board's web site www.denverwater.org

Phase III Restriction

MERIDIAN Metropolitan District

12111 East Belford Avenue
Englewood, Colorado 80112
303-779-4550
303-804-3912

NOTICE OF MANDATORY LANDSCAPE IRRIGATION RESTRICTIONS

Date

This is to advise you that, due to the continuing extraordinarily dry conditions this season, and resultant demands on our irrigation storage reserves, effective(date) the following mandatory use restrictions will apply until further written notice:

- Landscape irrigation will be allowed only 3 times per week. Permitted irrigation times for your parcel are Tuesday, Thursday, and Saturday only, between the hours of 6 p.m. and 6 a.m.
- Allowable irrigation time per zone is 15 minutes; duplicate cycles or recycling is not permitted during same 24-hour period.
- A fine will be added to monthly billings in the event of a violation (\$50 for single family residential; \$250 for all other accounts). Fines for repeat violations will be doubled for each occurrence.

The District will attempt to remove these restrictions as soon as conditions permit. In the meantime, your cooperation with these water conservation measures during this unusual period will be appreciated.

Meridian Metropolitan District

Note: Up to date information on turf irrigation needs can be obtained through the Denver Water Board's web site www.denverwater.org

Phase IV Increased Restrictions

MERIDIAN Metropolitan District

12111 East Belford Avenue
Englewood, Colorado 80112
303-779-4550
303-804-3912

NOTICE OF ADDITIONAL MANDATORY LANDSCAPE IRRIGATION RESTRICTIONS

Date

This is to advise you that due to the continuing extraordinary dry conditions and attendant irrigation demands we are now experiencing shortfalls in our irrigation water storage and production. In order to allow us to sustain some degree of landscape irrigation supply for the balance of this season the following mandatory restrictions are effective immediately:

- Landscape irrigation will be allowed only two times per week. Permitted irrigation times for your parcel are Monday and Friday only between the hours of 6 p.m. and 6 a.m.
- Permitted irrigation times for your parcel are Monday and Friday only, between the hours of 6 p.m. and 6 a.m.
- Allowable irrigation time per zone is 15 minutes; duplicate cycles or recycling is not permitted.
- The following activities are prohibited until further notice: car wash facilities, installation of new landscaping, annual flower planting, decorative fountains
- A fine will be added to monthly billings in the event of a violation (\$100 for single family residential; \$500 for all other accounts). Fines for repeat violations will be doubled for each occurrence

Note: Up to date information on turf irrigation needs can be obtained through the Denver Water Board's web site www.denverwater.org

C. APPLICATIONS/FEE SCHEDULES/PERMITS

MERIDIAN METROPOLITAN DISTRICT

1. APPLICATION AND FEE SCHEDULE FOR SITE CONNECTION AND SERVICE
2. LANDSCAPE IRRIGATION DEMAND CERTIFICATION
3. TEMPORARY FIRE HYDRANT WATER USAGE PERMIT
4. APPLICATION FOR TEMPORARY USE OF DISTRICT FACILITIES
5. UTILITY PLAN REVIEW / INSPECTION FEE SCHEDULE
6. CONDUIT USE FEE / SCHEDULE
7. GREASE INTERCEPTOR / BACKFLOW PREVENTION COMPLIANCE INSPECTION REPORTING FORM
8. APPLICATION AGREEMENT FOR UTILITY EXTENSIONS

MERIDIAN METROPOLITAN DISTRICT

12111 East Belford Avenue
 Englewood, Colorado 80112
 Phone: 303-790-0345 Fax: 303-790-1754

APPLICATION FOR SITE CONNECTION AND SERVICE

APPLICANT:

Name _____ Date _____

Address _____

Phone _____ Fax _____

Parcel Address/Legal Description _____

CERTIFICATION:

I, _____, certify that I am the owner or an authorized agent of the owner of the herein above described property, and the information provided on this application is correct to the best of my knowledge, and do grant the District the right to access the above described property for the purposes of inspection and/or maintenance of the service meters and any sanitary sewer pretreatment facilities.

Date: _____ Signature: _____

MERIDIAN VILLAGE FILING NO. 7C

System Development Fee: \$10,000 ___ YES \$ _____ ___ NO

SITE DATA:

Parcel Area (Square Feet)		Building Floor Area (Square Feet)	Gross	Net
Impervious	Open			
Open	_____	Office Retail/Comm.	_____	_____
Irrigated	_____	Warehouse	_____	_____
Non-irrigated	_____	Other (specify)	_____	_____
Sub Total	_____	Sub Total	_____	_____
Total	_____	Total	_____	_____

SERVICE DATA:

	Meter/Connection Size (inches)	Estimated Demand (gallons/yr)	Allotment (see fee schedule) (gallons/yr)
Potable Water			
Peak Hour	_____	_____	_____
Peak Day	_____	_____	_____
Annual	_____	_____	_____
Non-potable Irrigation			
Peak Hour	_____	_____	_____
Peak Day	_____	_____	_____
Annual	_____	_____	_____
Sanitary Sewer	_____		

FEE SCHEDULE

<u>Meter Size</u> ⁽¹⁾	<u>Connection and Service Fee</u> ⁽²⁾ (Gallons)	Min. Monthly Charge/Use	<u>Use Fees</u> ⁽³⁾		
			<u>Potable Water</u>	<u>Sewer</u>	<u>Non-Potable Irrigation</u>
SF Residential	\$18,500	\$12.50/4,000	\$5.85	\$45/month	N/A
MF Residential	\$ 3,900	\$45/8,000	"	\$5.45 ⁽⁴⁾	\$5.46
Commercial:	\$ 9,500 per acre plus				
1"	\$43,000	\$25/4,000	"	\$5.45 ⁽⁴⁾	\$5.46
1.5"	\$73,000	\$45/8,000	"	"	"
2"	\$113,000	\$65/12,000	"	" "	"
3"	\$220,000	\$135/24,000	"	"	"
4"	\$333,000	\$265/48,000	"	"	"

Surcharges apply for usages in excess of the following "allotments":

Water:

<u>Use:</u>	<u>Potable Water</u>	<u>Non-potable Irrigation</u>
Office/retail/other commercial building	20.5 gal/yr/sq. ft. ⁽⁵⁾	3.74 gal/yr/sq. ft. ⁽⁶⁾
Restaurant ⁽⁷⁾	153.3 gal/yr/sq. ft.	3.74 gal/yr/sq. ft.
Office warehouse	10.25 gal/yr/sq. ft.	3.74 gal/yr/sq. ft.
Single family residential	170,000 gal/yr (per unit-detached)	N/A
Multifamily residential	61,750 gal/yr (per unit attached)	3.74 gal/yr/sq. ft.

The surcharge rate for exceeding the above allotments is: up to 50% overage...@ 2X applicable rate
in excess of 50% overage...@3X applicable rate
in excess of 100% overage...@5X applicable rate (irrigation only) or; termination of irrigation (only) service until reconciliation

Fire flow testing and temporary hydrant usage @ 2x potable rate

Sewer:
Concentrations in excess of 5.2% BOD mg/l and 0.14% SS mg/l over 250 and 200 mg/l respectively will be subject to surcharges @ 2X applicable rate

Notes:

- ⁽¹⁾ Based on potable water meter
- ⁽²⁾ This is a one-time fee payable prior to connection and is inclusive of potable water, sewer, and, where applicable, non-potable irrigation services
- ⁽³⁾ Monthly fees, per thousand gallons
- ⁽⁴⁾ Sewer fees based on potable water consumption
- ⁽⁵⁾ Based on net floor area of building with potable service
- ⁽⁶⁾ Based on gross land area of parcel with building with potable service
- ⁽⁷⁾ With independent tap and meter

SITE CONNECTION AND SERVICE FEE:

Potable meter	=	\$ _____	Check Received By	_____
_____ Acres @ \$9,500	=	\$ _____	Check Number	_____
Total Fee Due	=	\$ _____	Check Date	_____

Any future property or connection alterations, expansions or reactivations after more than one year in activity may be subject to added fees. All District fees, and the use by applicant of the District's systems, are subject to the District's Rules and Regulations, which are in turn subject to amendment from time to time as the Board of Directors of the District may, in its sole discretion, deem appropriate.

AUTHORIZATION:
The Meridian Metropolitan District hereby acknowledges that applicant has paid all applicable site connection and service fees and is hereby authorized to make the referenced connections. This authorization is valid for a period of one year from the date it is signed by the District. If actual connection is not made within that period, this authorization shall automatically terminate and all fees shall be subject to forfeiture or adjustment.

Not Valid unless District Seal is applied.

Meridian Metropolitan District
By _____
As General Manager
Dated _____

Note: The District requires 48 hrs. notice prior to a service connection being made. MMD Connection and Service Application



**Design Control Committee
Meridian International Business Center**

LANDSCAPE IRRIGATION DEMAND CERTIFICATION

PROJECT:

Name _____
 Address _____
 Owner _____
 DCC Site Plan Approval date _____

IRRIGATION DEMAND:

	Square Feet	% Parcel	Annual Consumption gallons
Open Space		(%)	_____
Irrigated Turf	_____	(%)	_____
Irrigated Shrub/Flower Beds	_____	(%)	_____
Native	_____	(%)	_____
Hardscape	_____	(%)	_____
Other (specify)	_____	(%)	_____
TOTAL	_____	(%)	_____

IRRIGATION ALLOTMENT:* _____

*Based on gross land area of site with building with potable metered service
 Office/retail/warehouse/other commercial @ 3.74 gal/yr/sq ft

CERTIFICATIONS/ACKNOWLEDGEMENTS:

- A. The undersigned **landscape architect**, licensed to practice in the state of Colorado, certifies that, to the best of my knowledge, belief and professional opinion, that:
- I have reviewed and fully understand the Meridian DCC Design Criteria relative to landscape irrigation as referenced in the DESIGN CRITERIA MANUAL and Meridian Metropolitan District Rules and Regulations applicable at the time of this certification;
 - The landscape design submitted in the above-referenced site plan fully complies with said criteria, including limitations relative to allowable irrigation consumption/demand;
 - The above data is complete and accurate with respect to said plan.

NAME: (type) _____ Colorado Registration No.: _____

COMPANY: _____

ADDRESS: _____

SIGNATURE: _____ DATE: _____

- B. As the legally designated **representative of the owner** of the above-referenced development, I acknowledge the following:
- I have reviewed the above information and attest that, to the best of my knowledge, the information presented herein is a true and accurate representation of the owner's intended landscape consumption;
 - I am fully aware that adherence to this allotment is a condition of continued irrigation service and, in the event the landscape irrigation allotment is exceeded on an annual basis, that the owner is subject to surcharges and penalties including termination of service in the event of continued noncompliance, per the service rules and regulations of the Meridian Metropolitan District.

OWNER'S REPRESENTATIVE NAME: (type) _____

BUSINESS ADDRESS: _____

SIGNED BY: _____ DATE: _____

- C. Acknowledged by: Design Control Committee

SIGNED: _____ DATE: _____

Note: A fully executed and certified copy of the above must be submitted to the Meridian Metropolitan District along with a site connection and service application as a condition of service activation.

MERIDIAN METROPOLITAN DISTRICT

12111 East Belford Avenue
 Englewood, Colorado 80112
 Phone: 303-790-0345 Fax: 303-790-1754

WATER DEMAND ANALYSIS FOR SINGLE FAMILY RESIDENTIAL SUBDIVISIONS

Date: _____

Plat Reference: _____

Total Land Area: _____

Number of lots: _____

Potable:	Acres	Allotment [aft/yr]*	Est demand [aft/yr]	Differential [aft/yr]
In house		_____	_____	_____
Lot area coverage:				
impervious	_____			
Landscape**	_____		_____	
streetscape adj to lots	_____		_____	
total	_____	_____	_____	_____
Non Potable Reuse: (parks/open space)				
irrigated	_____	_____***	_____	_____
non irrigated	_____			
total	_____			

* Potable; sfr = 170,000 gal/yr/unit; mfr = 95,000 gal/yr/unit both inclusive of adj streetscape irrigation needs;
 ** Maximum allowable landscape area per lot = 50% of lot area; Maximum of 60% of lot "landscape" area can be irrigated turf; balance must be drip irrigated shrubs or native grasses
 *** Non Potable Reuse; park/open space = 24"/yr (i.e. 2 af/acre/yr)

Comments: _____

Certification (Landscape Architect) _____ Date: _____

Show date of approval: _____

MERIDIAN METROPOLITAN DISTRICT

12111 East Belford Avenue

Englewood, Colorado 80112

Phone: 303-790-0345 Fax: 303-790-1754

TEMPORARY FIRE HYDRANT WATER USAGE PERMIT

The following Applicant has requested the use of a District owned Fire Hydrant:

APPLICANT:
 Name _____ Date _____
 Address _____

 Phone _____ Fax _____

OWNER/DEVELOPER:
 Name _____ Date _____
 Address _____

 Phone _____ Fax _____
 Job Site _____ Supt./Foreman _____ On Site Phone _____

Water will be used for:
 Moisture control for soil compaction _____ Masonry and/or concrete work _____ Other _____
 (please describe)
 Maximum Flow Rate **150** (150 GPM is District Max) Maximum Gallons per Day **60,000**
 Hours of Use **7:00 a.m. to 5:00 p.m.**
 Water Usage: Estimated Amount: _____

Uses outside these parameters will be cause for Revocation of Permit and Deposits.

Fees:
 Hydrant and Meter Damage/Maintenance Fee: (NON-REFUNDABLE) **\$150.00 **** (Fee will be waived if signed by Owner/Agent)
 Replacement or repair costs for damaged meter and/or hydrant up to \$1,500.00
TOTAL FEES DUE: _____

2014 Rate is \$10.56/1,000 gallons to be billed monthly

Check Number: _____ Account No. _____ Meter No. _____
 Meter shall be checked in by: _____ Checked in by: _____
 Meter Reading Out: _____ Meter Reading in: _____

The Fire Hydrant SHALL NOT be used at flows above 150 GPM. Use above this flow rate shall be cause for removal of the meter, and revocation of permit. Failure to return the meter beyond the check-in date will result in the same action as violation of the flow rate. In case of damage to the meter and/or fire hydrant, charges up \$1,500.00 may be assessed. The meter shall not remain on a hydrant overnight. In the event the applicant does not render full payment within 30 days, the Owner/Developer is solely responsible for the charges accrued. Further non-payment will be subject to collections procedures including, but not limited to, filing a lien on the property.

The use of any fire hydrant on the District's system shall be at the convenience of the District and as such the District may stop the usage at any time based on system demands.

Accepted and Agreed to by: Applicant _____ Title _____ Date _____
 Owner/Agent _____ Title _____ Date _____
 Approved By: _____ Title: _____ Date: _____

Meridian Metropolitan District
5750 DTC Parkway, Suite 200
Greenwood Village, Colorado 80111
Phone: 303-773-1700 Fax: 303-740-6954

APPLICATION FOR TEMPORARY USE OF FACILITIES

APPLICANT:

Name: _____ Date: _____
Address: _____
Phone: _____ Fax: _____ Cell: _____

CERTIFICATION:

I, _____, certify that I am the authorized agent for the applicant and that the information provided on this application is correct.

Date: _____ Signature: _____

FACILITY USE DATA:

Description of facility area requested for use: _____

_____ (use attached map to show location)

Description of activity: _____

Dates requested: _____

What time will the "use" be activated? _____ Time discontinued? _____

Estimated number of participants: _____ Spectators: _____

Comments: _____

CONDITIONS TO THE PERMIT:

____ Certificate of Insurance must be provided by an AX (A ten) or better company as rated in the Best Guide; required coverages are: Commercial General Liability — \$1,000,000; Automobile Liability — \$1,000,000; Workers Compensation, Coverage A statutory, Coverage B — \$500,000; Liquor or Host Liquor Liability of \$1,000,000 under an umbrella policy if alcohol is to be served; the following entities are to be named as additional insureds: MERIDIAN METROPOLITAN DISTRICT, AND _____

(CERTIFICATE MUST BE SUBMITTED NO LATER THAN TWENTY (20) DAYS PRIOR TO THE SCHEDULED USE).

- | | |
|---|--|
| ____ Sanitation _____ | ____ Sprinkler System needs _____ |
| ____ Litter Control/Clean-up _____ | ____ Power Needs _____ |
| ____ Traffic Control _____ | ____ Notification of City/County Officials _____ |
| ____ Parking _____ | ____ Heavy vehicles/equipment _____ |
| ____ Security _____ | ____ Fees _____ |
| ____ Release of Liability & Indemnification _____ | ____ Damage Deposit _____ |
| ____ Sound Systems _____ | ____ Lighting _____ |
| ____ Other _____ | |

Meridian Metropolitan District
APPLICATION FOR TEMPORARY USE OF FACILITIES

COMPLETE RELEASE AND AGREEMENT TO INDEMNIFY AND DEFEND

RECITALS: The Undersigned desires and Meridian Metropolitan District, a quasi-municipal corporation and political subdivision of the State of Colorado, permits the Undersigned to temporarily occupy property located in the Meridian International Business Center (the "Property") on _____, _____ subject to the terms and conditions as herein defined.

AGREEMENTS: In consideration for use of the Property, the Undersigned hereby agrees as follows:

1. **Release.** While fully acknowledging the inherent possible risks in connection with the Event, the Undersigned, for itself and its successors and assigns, hereby waives, discharges and releases Meridian Metropolitan District, their successors and assigns, and their owners, directors, officers, employees, managers and agents (all collectively denominated "District") from any claims, causes of action, damages, losses, liabilities and demands of any nature including without limitation attorney's fees and costs incurred, that the Undersigned may have or allege and that arise in connection with the Event, whether caused by the negligence of District or otherwise.
2. **Indemnification and Agreement to Defend.** The undersigned also undertakes and agrees to indemnify District against all liabilities, losses and damages of any nature from claims, demands, costs, judgment or other expenses (including without limitation attorneys' fees and costs incurred) arising out of the Undersigned's participation in the Event. In addition, should District be subject to a lawsuit or other claim for relief arising out of the Undersigned's participation in the event the Undersigned agrees to defend and hold harmless from any and all attorney's fees and costs incurred in the course of such lawsuit and from any and all liabilities that may result therefrom.
3. **Severability.** If any provision of this Complete Release and Agreement to Indemnify and Defend or the application thereof to any person or situation, to any extent, shall be held invalid or unenforceable, the remainder of this Complete Release and Agreement to Indemnify and Defend, and the application of such provision to persons or situations other than those to which have been held invalid or unenforceable, shall not be affected thereby, but shall continue valid and enforceable to the fullest extent permitted by law.

IN WITNESS WHEREOF, the Undersigned, after reading and fully understanding this Complete Release and Agreement to Indemnify and Defend, voluntarily executes and delivers the Agreement as of the date written below.

Signed by: _____ Date: _____

Its: _____

AUTHORIZATION:

Meridian Metropolitan District hereby acknowledges that the applicant is authorized to make temporary use of the herein described facility or area upon the terms and conditions specified herein.

FOR MERIDIAN METROPOLITAN DISTRICT USE ONLY

_____ Certificate of Insurance submitted and approved

_____ Site Plan attached

APPLICATION APPROVED BY MERIDIAN METROPOLITAN DISTRICT

Signed by: _____ Date: _____

Its: _____

Meridian Metropolitan District
5750 DTC Parkway, Suite 200
Greenwood Village, Colorado 80111
Phone: 303-773-1700 Fax: 303-740-6954

TEMPORARY USE OF FACILITIES
INSURANCE REQUIREMENTS

Meridian Metropolitan District is pleased to provide its facilities for your use. As a condition of use, however, we require you to provide us with evidence of insurance. Our insurance requirements are listed below:

Your insurance company must be rated AX (A ten) or better in the “Best Guide”.

Commercial general liability policy		<u>Coverage</u> \$ 1,000,000
Automobile liability:	to cover all vehicles, whether owned or hired or non-owned	\$ 1,000,000
Workers compensation:	Coverage A Coverage B — employer’s liability	Statutory \$ 500,000
Liquor or host liquor liability:	if you are planning to serve liquor at the function	\$ 1,000,000
Umbrella liability		\$ 1,000,000

We must receive your certificate of insurance **NO LATER THAN TWENTY (20) DAYS PRIOR** to your scheduled event.

The following entities are to be included in your coverage as additional insureds for your event (including set-up and clean-up):

Shea Colorado, LLC, d/b/a/ Meridian International Business Center
Meridian Metropolitan District

MERIDIAN METROPOLITAN DISTRICT

12111 East Belford Avenue
Englewood, Colorado 80112
Phone: 303-790-0345 Fax: 303-790-1754

CONDUIT USE FEE/SCHEDULE

1/1/2017

Access Fee: \$8.67 lineal. ft.; inflated annually based on CPI*; one-time payment up front.

Annual operation/maintenance/replacement fee: \$1.74 lineal ft.; inflated annually; payable annually in advance; due January 1 of effective year.

Minimum lease: 10,000 lineal feet

* July of 2016

MANDATORY COMPLIANCE INSPECTION REPORT:
GREASE INTERCEPTORS // BACKFLOW PREVENTION DEVICES

DEAR CUSTOMER:

Water and sewer service to your property is provided via the Meridian Metropolitan District. The District's Rules and Regulations require annual inspections of all grease interceptors and backflow prevention devices within buildings. This is done as a health and safety measure for protection of our customers' drinking water quality and to enable adequate treatment of waste water. You are required to:

- ↻* report the proposed installation of any such devices to the District and obtain their review and approval;
- ↻* provide the District with a copy of an updated inspection by a licensed contractor or District annually, prior to March 1; (see form on rear)
- ↻* take any needed remedial action required to assure proper function within 30 days thereof.

Failure to adhere to these requirements can result in a penalty of \$1,000 and termination of service until resolution is achieved.

**MERIDIAN METROPOLITAN DISTRICT
MANDATORY COMPLIANCE INSPECTION REPORT
GREASE INTERCEPTORS // BACKFLOW PREVENTION DEVICES**

PROPERTY MANAGEMENT REPRESENTATIVE:	NAME TYPED _____	
	SIGNATURE _____	
	DATE _____	
SERVICE ADDRESS _____		
CONTRACTOR NAME _____		
ADDRESS _____		
COLORADO LICENSE NO. _____	EXPIRATION DATE _____	

The following Inspection Report must be filed with the Meridian Metropolitan District at the above address annually, prior to March 1. If remedial action is needed, a reinspection report must be filed prior to June 1.

GREASE INTERCEPTOR: *

LOCATION #1 _____
 DATE OF LAST CLEANING _____
 CURRENT CONDITION _____
 PROPOSED REMEDIAL ACTION _____

LOCATION #2 _____
 DATE OF LAST CLEANING _____
 CURRENT CONDITION _____
 PROPOSED REMEDIAL ACTION _____

BACKFLOW PREVENTION DEVICE: *

LOCATION #1 _____
 DATE OF LAST TEST FOR PROPER FUNCTION _____

CURRENT CONDITION:	LEAK TIGHTNESS	SPRING TENSION
INFLOW VALVE _____	_____	_____
OUTFLOW VALVE _____	_____	_____
RELIEF VALVE _____	_____	_____
VACUUM BREAKER _____	_____	_____
BUFFER _____	_____	_____
AIR INLET _____	_____	_____
PROPOSED REMEDIAL ACTION _____	_____	

LOCATION #2 _____
 DATE OF LAST TEST FOR PROPER FUNCTION _____

CURRENT CONDITION:	LEAK TIGHTNESS	SPRING TENSION
INFLOW VALVE _____	_____	_____
OUTFLOW VALVE _____	_____	_____
RELIEF VALVE _____	_____	_____
VACUUM BREAKER _____	_____	_____
BUFFER _____	_____	_____
AIR INLET _____	_____	_____
PROPOSED REMEDIAL ACTION _____	_____	

* Note: use Xerox of this as supplemental page if additional number of devices in use

MERIDIAN METROPOLITAN DISTRICT

12111 East Belford Avenue
Englewood, Colorado 80112
Phone: 303-790-0345 Fax: 303-790-1754

APPLICATION AND AGREEMENT FOR UTILITY EXTENSIONS

Project I.D. No. _____

Approval Date _____

Applicants/Owner: _____

Address _____ Telephone _____

Contractor _____

Address _____ Telephone _____

AGREEMENT

For and in consideration of the rights herein granted by the Meridian Metropolitan District, a quasi-municipal corporation and political subdivision of the State of Colorado (the "District"), the Applicants/Owner identified above (the "Applicants") agree:

1. The facilities and appurtenances, as described on Schedule A attached hereto, shall be installed pursuant to and in conformance with the District's rules and regulations, including but not limited to applicable engineering standards, as the same may be amended from time to time.

2. To secure any and all easements necessary for the installation or construction of the facilities prior to commencement of work to be performed hereunder, said easements to be adjusted as necessary and recorded prior to preliminary acceptance of the facilities.

3. To include the following contractual provisions in the Applicants' contract for the construction of the facilities and to provide a copy of said contract to the District:

A. The Applicants hereby agree that they shall be responsible for a period of one (1) year subsequent to the District's preliminary acceptance of the facilities hereunder for the satisfactory correction, whether by repair or replacement, of all work and materials which are found to be defective or of poor workmanship and that all costs and expenses therefor shall be borne by the Applicants.

B. The Applicants additionally agree that during the one (1) year period subsequent to the District's preliminary acceptance of these facilities, they will promptly perform all work, and supply all materials, necessary to remove, replace, maintain, or repair the facilities constructed hereunder, when said work arises out of

any negligent or willful acts or omissions of the Applicants.

C. The Applicants hereby agree that any work required hereunder, whether performed by the Applicants or by the District in the event of the refusal or inability of the Applicants to perform the work during the aforesaid one (1) year period, shall not impair or void the Applicants' general warranty of materials and workmanship or any obligation or liability of the Applicants imposed by law or contract.

D. The Applicants agrees to post a **maintenance bond** in the amount of \$_____ (*10% of the total costs as shown in Schedule A*) to indemnify the District by reason of any defect in the materials or workmanship under the Applicants' general warranty referred to above and during the aforesaid one (1) year period. The Applicants further agree that the obligation imposed under the maintenance bond shall not be impaired or made void, notwithstanding that the Applicants may be required by the District to perform any work for any reason or cause upon the facilities constructed hereunder, or if the District performs said work upon the refusal or inability of the Applicants to perform the required work.

4. To maintain insurance coverage as follows:

A. Worker's Compensation Insurance for all employees who will be in any way connected with the work to be performed hereunder whether as employees of the Applicants or as employees of others. Employees of subcontractors shall be so covered unless the employees are covered by protection afforded by the subcontractor.

B. Liability Insurance:

(1) Comprehensive General Liability Insurance, including coverage for products, completed operations, blanket contractual liability, independent contractors coverage, and broad form property damage deleting any exclusion for explosion, collapse and underground hazards. Such insurance shall be in a minimum of \$150,000 per person, \$600,000 per occurrence, or a combined single limit of not less than \$600,000 per occurrence for bodily injury and property damage.

(2) Automobile Liability and Property Damage Insurance to include owned, non-owned and hired vehicles which are utilized under this Agreement, with minimum insurance coverage of \$150,000 per person, \$600,000 per occurrence, or a combined single limit of not less than \$600,000 per occurrence for bodily injury and property damage.

C. The Applicants shall provide certificates of insurance (and renewals thereof) in a form acceptable to the District, demonstrating that required coverages have been obtained, upon request of the District. The Applicants shall not allow any subcontractor, agent, or employee to commence work until appropriate certificates of insurance have been obtained. The Applicants will assume full legal responsibility for determining that required insurance coverages have been obtained by their subcontractors and agents. The Applicants have full responsibility for monitoring compliance with the insurance requirements of this Application and Agreement for Utility Extensions.

5. To observe and require all applicable laws and regulations, including building and construction codes, and to exercise necessary precautions and safeguards for the protection of persons and property in and about the contract area.

6. The Applicants hereby expressly agree to, insofar as they legally may, defend, indemnify and hold harmless the District, its officers, agents, employees and insurers against any liability, loss, damage, demand, action, cause of action or expense of whatever nature (including court costs and attorney's fees) which may result from any

loss, injury, death or damage allegedly sustained by any person, firm, corporation or other entity, which arises out of or is caused by any act or omission of the Applicants, their officers, agents, or employees (or the Applicants' subcontractors, or any said subcontractor's agents or employees) in connection with or in any way arising out of this Application and Agreement for Utility Extensions.

7. In order that the District may account for the facilities described in Schedule A, the Applicants shall provide all information required by the District relative to the cost of installation, location and type of materials, in such manner as may be required by the District.

8. No work shall be initiated hereunder without adequate notice to afford the District sufficient opportunity to inspect said work.

9. It is expressly understood and agreed that the facilities referenced and described in Schedule A shall be automatically conveyed to the Meridian Metropolitan District upon written final acceptance by the District as indicated on page 4 of this Application and Agreement for Utility Extensions. Transfer of all right, title and interest in facilities to the Meridian Metropolitan District shall be automatic and self-executing, with no additional transfer proceedings or documents being necessary.

10. All work to be performed by the Applicants shall be without cost to the District, except as provided herein.

11. The obligations and benefits of this Agreement shall be binding upon and inure to the heirs, successors and assigns, or the parties hereto.

12. This Agreement shall be deemed performable in Douglas County, Colorado, notwithstanding that the parties hereto may find it necessary to take some action in furtherance thereof outside said County, and venue for any action shall be the District Court in and for Douglas County, Colorado.

13. The parties hereto understand and agree that the District is relying upon, and has not waived, the monetary limitations and all other rights, immunities and protection provided by the Colorado Governmental Immunity Act, C.R.S. 24-10-101, *et. seq.*

MERIDIAN METROPOLITAN DISTRICT, a
quasi-municipal corporation and political
subdivision of the State of Colorado

APPROVED:

By _____
Title _____

APPLICANT(S)/OWNER

By _____

Date _____

PRELIMINARY ACCEPTANCE:

All facilities installed under this Application and Agreement have been inspected and preliminarily accepted by _____ on this date _____, 20____. The one (1) year warranty period referenced in this Application and Agreement extends to the following date: _____.

FINAL ACCEPTANCE:

All facilities installed under this Application and Agreement have been inspected and finally accepted by _____ on this date _____, 20____.

SCHEDULE A

**APPLICATION AND AGREEMENT FOR UTILITY EXTENSIONS
MERIDIAN METROPOLITAN DISTRICT**

WORK TO BE PERFORMED:

ADDRESS: _____

FACILITY (EXCLUDES PRIVATE SERVICES):

MAIN EXTENSIONS [INCLUDES HYDRANTS/VALVES]

	WATER	SEWER	IRRIGATION	
PIPE SIZE/LENGTH	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	TOTAL COST:
EST COST	\$ _____	\$ _____	\$ _____	\$ _____

OTHER; DESCRIBE:

EST TOTAL COST: \$ _____

PLAN REFERENCE:

ENGINEER: _____

_____ PLAN DATE/TITLE/DOC REF: _____

COMMENTS: _____

REVIEWED BY: _____

MERIDIAN METROPOLITAN DISTRICT [Name/Title/Date]

ACKNOWLEDGED BY: _____

APPLICANT(S)/OWNER [Name/Title/Date]

D. ENGINEERING STANDARDS

MERIDIAN METROPOLITAN DISTRICT

1. ENGINEERING STANDARDS: POTABLE WATER.....42
2. ENGINEERING STANDARDS: SANITARY SEWER.....44
3. ENGINEERING STANDARDS: NON-POTABLE IRRIGATION.....45
4. ENGINEERING STANDARDS: STORM DRAINAGE.....47
5. ENGINEERING STANDARDS: DATA ACQUISITION/METERING.....48
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SPECIFICATIONS

See Utility Details Manual online at www.meridiandistrict.org

for:

- a) Plan Set Checklist
- b) General Notes
- c) Standard Details

7. ENGINEERING STANDARDS: TYPICAL STREET / ROW XSEC DETAILS.....51

1. ENGINEERING STANDARDS: POTABLE WATER

a. Design/Construction Specifications

Design and construction of potable water facilities within Meridian shall conform to the applicable provisions of the Engineering Standards of the Board of Water Commissioners, Denver Water Department, latest edition, subject to adjustments where required to adapt to conditions specific to Meridian.

b. Supply

Source: Deep Aquifer Wells

c. Treatment

Plant Capacity	2.78 MGD
Pumping Capacity	5800 GPM @ 60 psi
Storage	3 MG

d. Distribution

Booster Pump Station #1:

Elevation	5945 feet
Discharge Pressure	61 psi min/84 psi norm/95 psi max
High Demand Pump	on @ 55 psi/off @ 63 psi; 500-3000 gpm
Jockey Pump	0-150 gpm
Variable Speed Pumps	4 @ 1450 gpm each

BPS #1 Flow Capacity:

Average day flow	1.34 mgd
Fire Flow	6000 gpm for 4 hours during Avg. daily flow
Flow factors	Max @ 4.70; Low @ 0.2
Operating Pressures	60 to 80 psi
Pipe	Min. Size: 8" diameter Materials: Ductile Iron Class 50, PVC AWWA C 900 Class 150 Minimum Cover: 4.5 feet

Booster Pump Station #2:

Elevation	5966 feet (NAVD 88)
Discharge Pressure	285 TDH or 122.5 psi
Pumps 1 & 2	2,500 gpm/ea
Pumps 3, 4 & 5	1,000 gpm/ea
Pumps 6, 7 & 8	300 gpm/ea
High Demand Pump	
Jockey Pump	None

BPS #2 Flow Capacity:

Average day flow	1.03 MGD (2,500 DU; 350,000 sf commercial)
------------------	--

Fire Flow	2000 gpm for 2 hours during avg. daily flow
Flow factors	Max @ 4.94
Operating Pressures	60 to 90 psi
Pipe	Min. Size: 8" diameter Materials: Ductile Iron Class 50, PVC AWWA C 900 Class 150 Minimum Cover: 4.5 feet

e. Quality

The District operates under a permit from the State of Colorado Department of Public Health and Environment, Water Quality Control Division and regulated standards apply. The District's policy is to periodically test water quality at both the well head (raw) and the distribution points (treated) according to the test data, parameters and schedule required by Colorado Public Water System Criteria.

2. ENGINEERING STANDARDS: SANITARY SEWER

a. Design/Construction Specifications

Design and construction of sanitary sewer facilities within Meridian shall conform to the applicable provisions of the City and County of Denver, Department of Public Works, Wastewater Management Division, Sanitary Sewer Design Technical Manual, latest edition, subject to adjustments where required to adapt to conditions specific to Meridian.

b. Treatment

Primary: Macerators
 Secondary: Aerated lagoon/sedimentation ponds
 Tertiary: Filtration/disinfection
 Resolution: Land application (irrigation)
 Capacity: Design @ 1.34 MGD, Permitted @ 1.25 MGD

c. Collection

Lift Stations	A	B	C	D	E	F	G
Design flow (gpm)	1600	100	1,400	275	940	550	1440
Dynamic head (ft)	105	31	90	60	110	130	135
Pump efficiency	79	50	76%	35%	75%	68%	86%
		%					
Wet well (gal)	3750	282	2@9,700 ea	2000	2000		206,500 ea.

Flow Criteria

Average Daily Flow

- 1. Commercial/Office/Retail 53.4 GPD/1000 s.f.
 - 2. Light Industrial/Warehouse 28.0 GPD/1000 s.f.
 - 3. Single Family Residential Unit 169.6 GPD
 - 4. Multi Family Residential Unit 125.0 GPD
- Peak Daily Flow Factors
 1&2 – 3.0
 3&4 – 3.65/
 (Average Daily Flow MGD) 0.17

Pipe

Minimum Slope 0.5%
 Manning’s Coefficient (PVC) <0.011
 Minimum Velocity 2 fps (10 fps max)
 Minimum Cover 4 feet
 Minimum Diameter 8 inch

d. Quality

The District operates under a permit from the State of Colorado, Department of Public Health and Environment, Water Quality Control Division and minimum standards apply. The District's policy is to test in accordance with the parameters.

Industrial discharge regulations of the State and EPA also are applicable and in some cases pretreatment requirements may be dictated per Article IV, Section 400.02(a) 8 of the District's

Rules and Regulations.

3. ENGINEERING STANDARDS: NON-POTABLE IRRIGATION

a. Design/Construction Specifications

Design and Construction of non-potable irrigation facilities within the District shall conform to the applicable provisions of the Uniform Building Code (UBC), American Society of Testing and Materials, American Society of Irrigation Consultants (minimum standards) and Underwriters Laboratories (for wires and cables), latest editions, subject to adjustments to adapt to conditions specific to the District.

b. MMD Supply

Source: Tertiary treated wastewater effluent
Deep aquifer wells

Storage: 486 acre feet reservoir
26 acres surface area
elevation: 5926 min - 5958 max

c. MMD Distribution

Pump Station

Maximum Output	4500 GPM @ 122 psi
Pumps	4 @ 100 HP; 1 @ 25 HP Vertical Turbines
Elevation	5962.5 ft
Efficiency	84% optimum

Flow Criteria

Projected Total Irrigated Area	414 acres
Annual Demand	2.89 acre/ft/yr (1"/hour @ 8 months)
Minimum Irrigated Area/Site	20% (or equivalent demand)
Operating Pressures	70-120 psi

Pipe

Minimum Size	4 inch diameter
Materials	PVC AWWA C 900 Class 150
Minimum Cover	4 feet
Service Connection Size	1-inch minimum; meter size to be at least as large as service

Pipe (Pressure Supply Lines)

Minimum Size	1" diameter
Materials	PVC Class 200 PVC BE
Minimum Cover	3 ft.

d. MVMD Supply

Source: Tertiary treated wastewater effluent
Deep aquifer wells

Storage: 170 acre feet; non-jurisdictional reservoir
17.5 acres surface area
Working Elevation: 5935 min to 5949 max (NAVD 88)
5948 Operating Elevation (NAVD 88)

e. MVMD Distribution

Pump Station

Maximum Output

Pumps

Elevation 5925 ft. (NAVD88)

Efficiency 84% optimum

Flow Criteria

Projected Total Irrigated Area 212 acres

Annual Demand 2.50 acre/ft/yr

Minimum Irrigated Area/Site 20% (or equivalent demand)

Operating Pressures 70-120 psi

Pipe

Minimum Size 4 inch diameter

Materials PVC AWWA C900 Class 150

Minimum Cover 4 feet

Service Connection Size 1-inch minimum; meter sized to be at least as large as service

Pipe (Pressure Supply Lines)

Minimum Size 1" diameter

Materials PVC Class 200 PVC BE

Minimum Cover 18 inches

f. Irrigation System

All materials and equipment incorporated into the irrigation system shall be of recognized standard quality. Materials shall be of a standard line from a brand name manufacturer, or must be approved.

The system components shall be designed to operate within the parameters of the non-potable irrigation source described above.

g. Testing

After backfilling and installation of all control valves, fill pressure supply line with water, and pressurize to 40 psi over the designated static pressure or 150 psi, whichever is greater, for a period of 2 hours. If applicable, distribution piping will be isolated and pressured to 150 psi.

4. ENGINEERING STANDARDS: STORM DRAINAGE

a. Design/Construction Specifications

Design and construction of storm drainage facilities within Meridian shall conform to the applicable provisions of the Douglas County Department of Public Works latest edition, subject to adjustments where required to adapt to conditions specific to Meridian.

b. Runoff Parameters

Site runoff shall be limited to historical undeveloped conditions under a 100-year storm frequency; provided that within certain basin areas supplementary discharge allowances for up to 55 per cent impervious (or 70% impervious in specific areas) area will be permitted. The balance of increased flows must be accommodated through detention.

c. Detention/Retention Area

Detention/retention areas must be integrated into and treated consistently with site landscaping programs.

d. Collection

Conveyance (i.e. pipes or channels) must carry a 10-year storm flow with routing for a 100 year fully developed flow without adverse ponding or flooding affects.

Open channels must be designed and treated as an integral part of and in a manner consistent with an overall site landscape program.

Pipe

Minimum Size	15 inches
Minimum Slope	1%
Minimum Velocity	3 fps
Minimum Cover	3 feet

Materials

Reinforced or non-reinforced concrete pipe with tongue and groove joints; polyethylene with bell and spigot; push-on joints and rubber gaskets; corrugated aluminum with angular coupling bands.

e. Quality

Application for erosion protection permit must be provided in accordance with Douglas County Erosion Protection Manual latest edition. Permit will be approved by Douglas County.

Sedimentation traps are to be provided in conformance with Douglas County criteria.

5. ENGINEERING STANDARDS: DATA ACQUISITION/METERING

a. General:

Potable water and non-potable irrigation services within Meridian are metered through standard cold water meters meeting the following criteria.

- (1) Meter: Sealed register, positive displacement or turbine type meters must be a minimum of ¾" inch service size. Meters shall conform to AWWA Standard C-700.
- (2) High Speed Pickup Register: The high-speed pickup register shall be permanently hermetically sealed; all registers of similar size and registration to have a standard ratio gear reduction so as to permit interchangeability. The register shall be assembled to measuring chamber in a tamper proof manner so removal can be made only after measuring chamber is removed from the main case. Test circle reading and odometer wheel details will conform to AWWA Standard C-701, as most recently revised. High-speed pickup register shall transmit a signal which is compatible with the touch read on radio RF transmitter.
- (3) The service line, meter, and meter set from the water main shall be the same size as the tap. The service line may be upsized a minimum of five feet away on the customer's side of the meter to prevent distortion of the flow through the meter.

b. Installation/Ownership

All of the components specified in 1 through 2 above must be purchased by the Customer, installed by a bonded plumber, and inspected, tested, and where appropriate numbered, by the District prior to backfilling and acceptance. Ownership will remain with the Customer until replacement or salvage, where upon ownership reverts to the District.

c. Meter Pits and Covers

Meter pits, if used, shall consist of four twelve-inch (12" vertically) precast concrete rings or one twelve-inch (12") ring and one thirty-six (36") ring. Precast manhole sections shall conform to ASTM C-478. Meter pit covers shall be airtight with a double cover. The meter pit cover shall have a cast iron, cap tight, top lid. The inner lid shall be cast iron, aluminum or rubber. The body of the meter pit cover shall be cast iron or aluminum. Aluminum shall have a polymer coating such as an epoxy. Refer to District Manual of Typical Details on district website.

d. Interior and exterior meter installations shall follow the details as shown in the Engineering Standards as referenced in Section I. Potable Water: Engineering Standards: Potable Water, Section A Design/Construction Specifications.

6. ENGINEERING STANDARDS: STREETS, TRAFFIC CONTROL, LANDSCAPING

a. Typical Street Sections/Sidewalk, Lighting/Utility Locations

Typical sections with commensurate standard utility locations for streets within Meridian are shown in Section 7 (Appendix B), Typical Street/ROW Cross Sections Details.

b. Design/Construction Specifications

Design and construction of streets and sidewalks within Meridian shall conform to the applicable provisions of the Douglas County Department of Public Works requirements, subject to conditions specific to Meridian or as further defined herein.

c. Permitting

Alterations or additions to streets or facilities within public rights of way within Meridian also require a permit from Douglas County Department of Public Works.

d. Landscape

Street landscaping adjacent to parcels shall conform to standards set forth by the Meridian International Business Center Design Control Committee.

e. Street Lighting

Street lighting shall conform to Typical Detail STL1 in the District Manual of Typical Details on district website.

TYPICAL DETAILS

REFER TO CURRENT MANUAL OF STANDARD PLAN NOTES AND UTILITY DETAIL DRAWINGS

AVAILABLE ON-LINE AT:

www.meridiandistrict.org

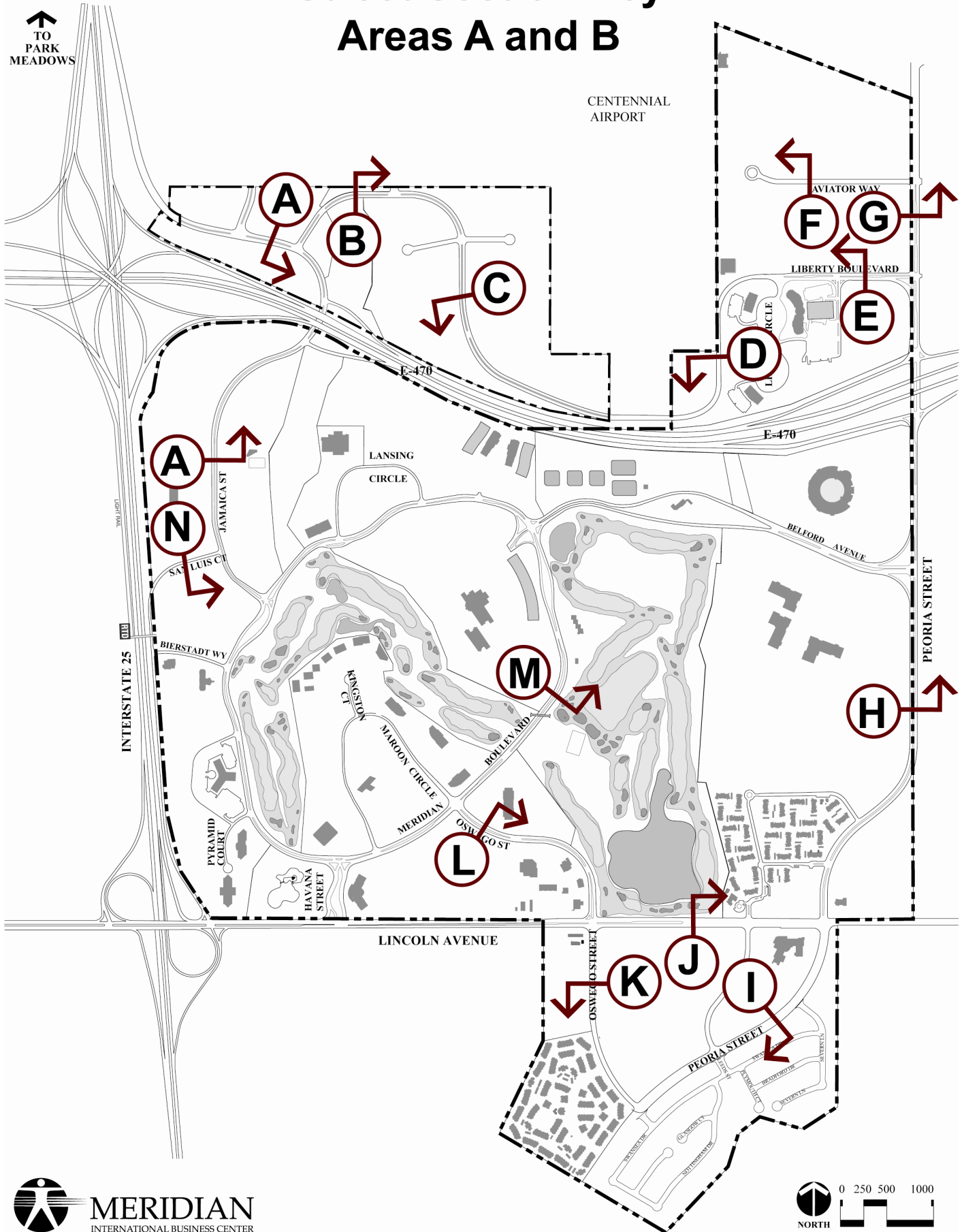
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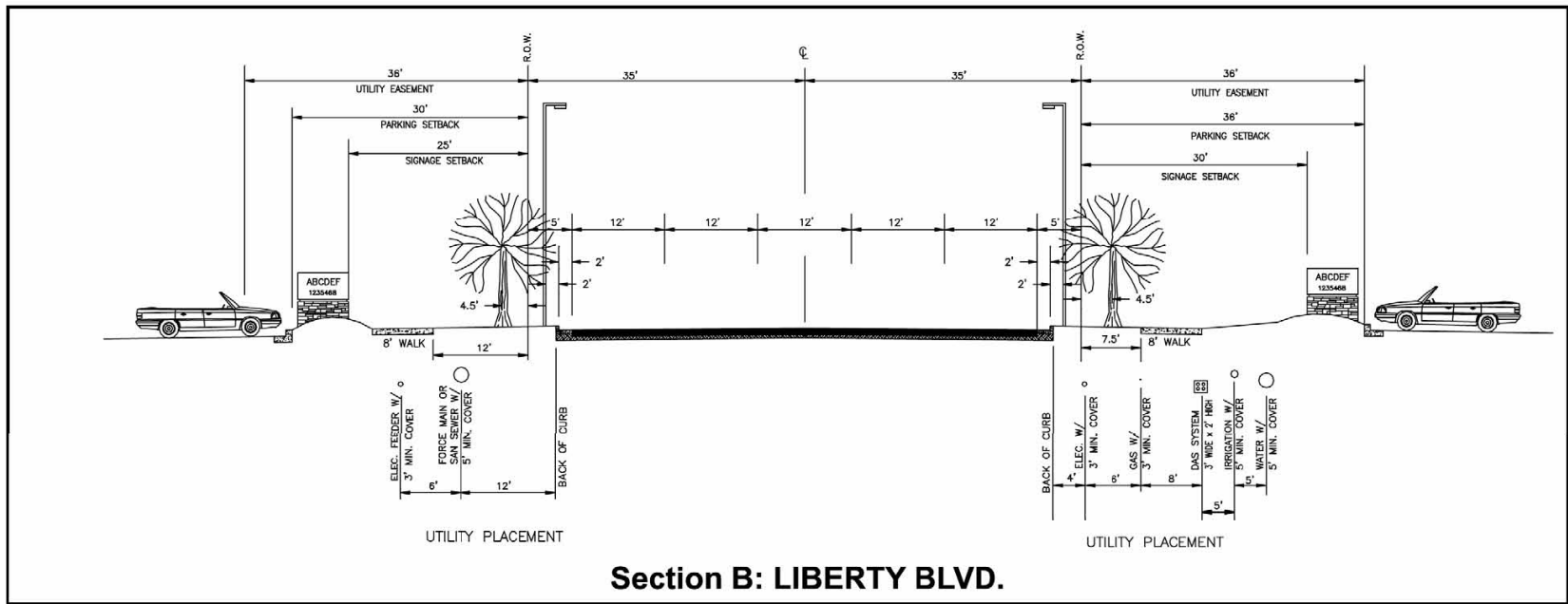
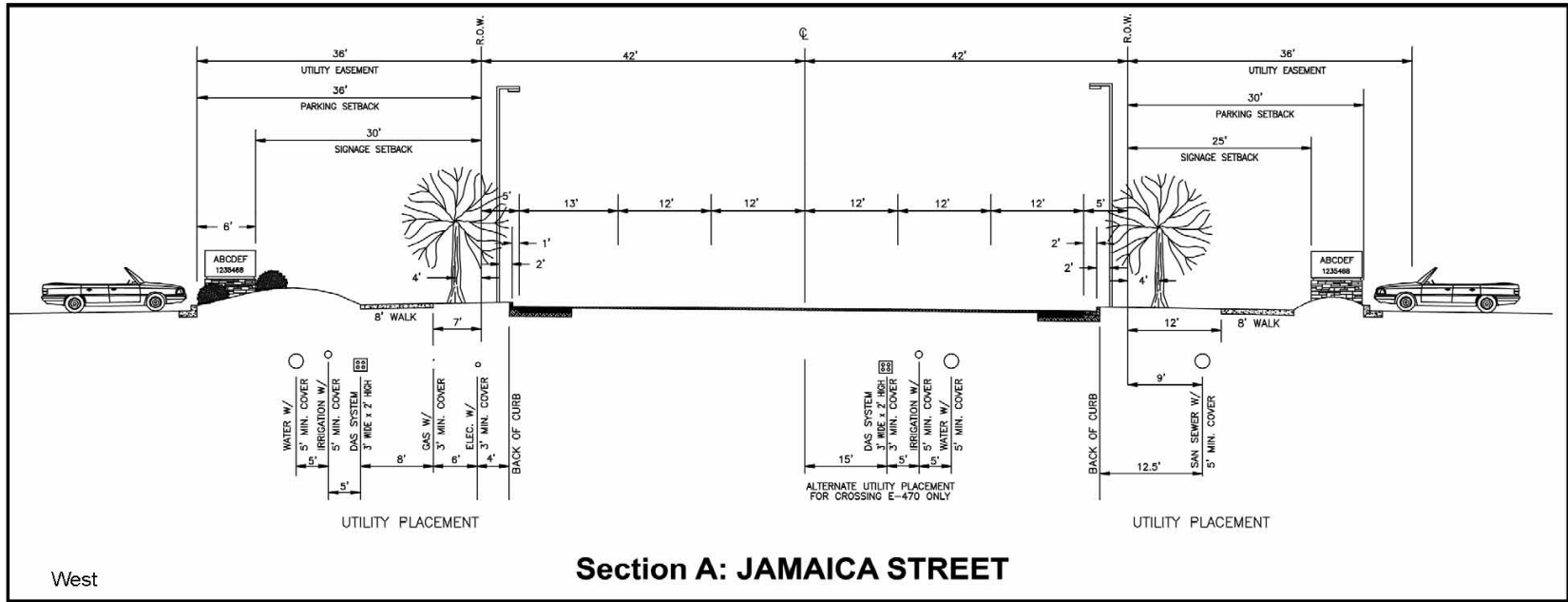
SECTION 7
ENGINEERING STANDARDS:
TYPICAL STREET / ROW XSEC DETAILS

Street Section Key Areas A and B

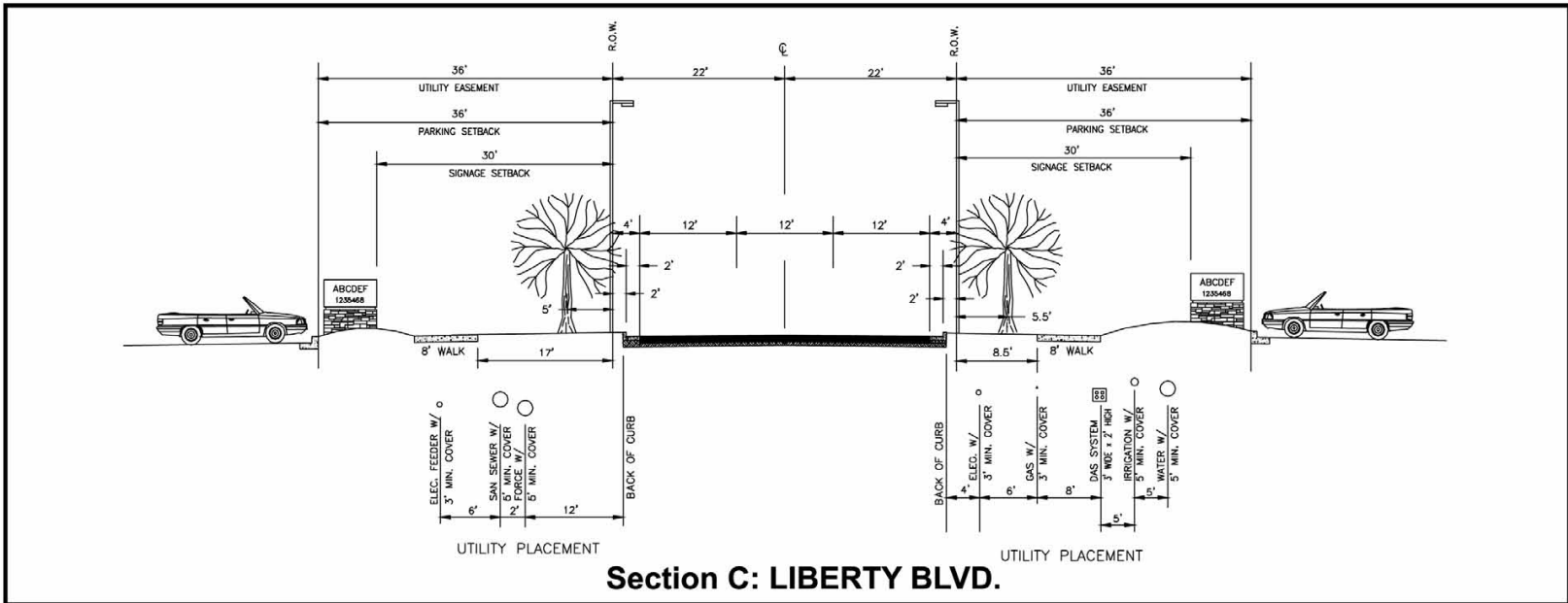
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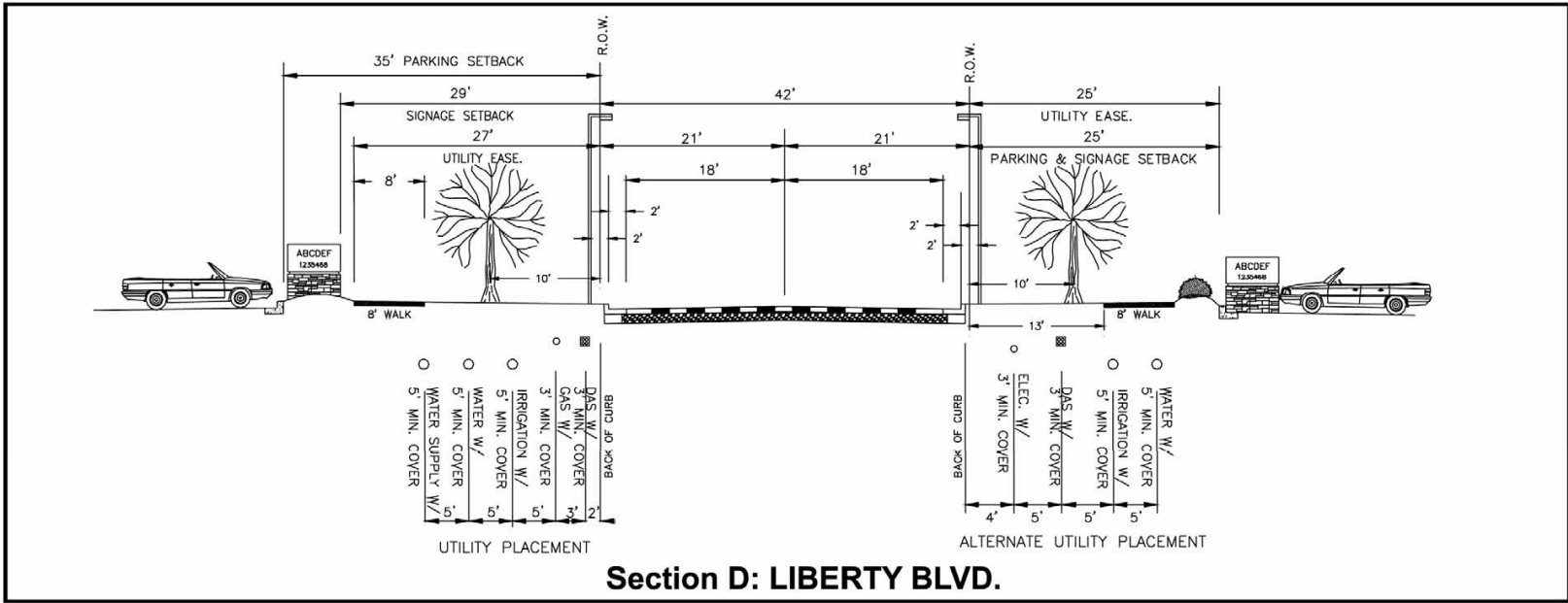




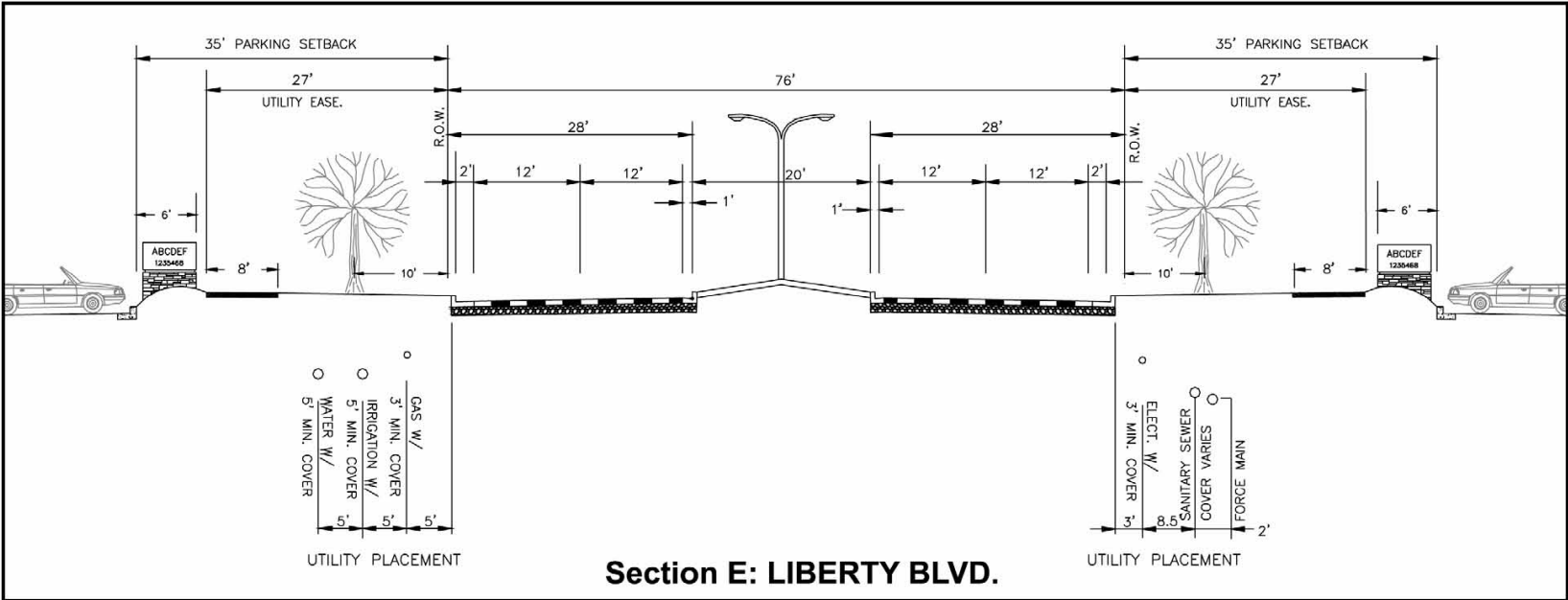
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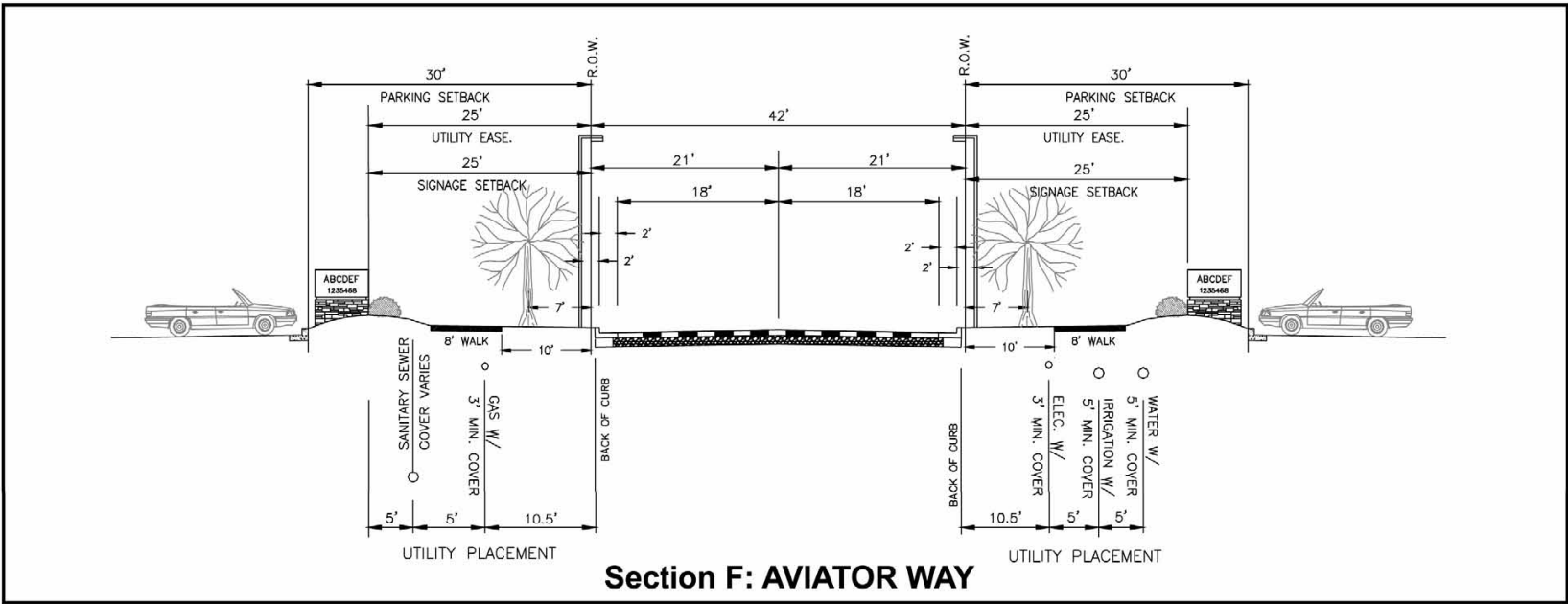
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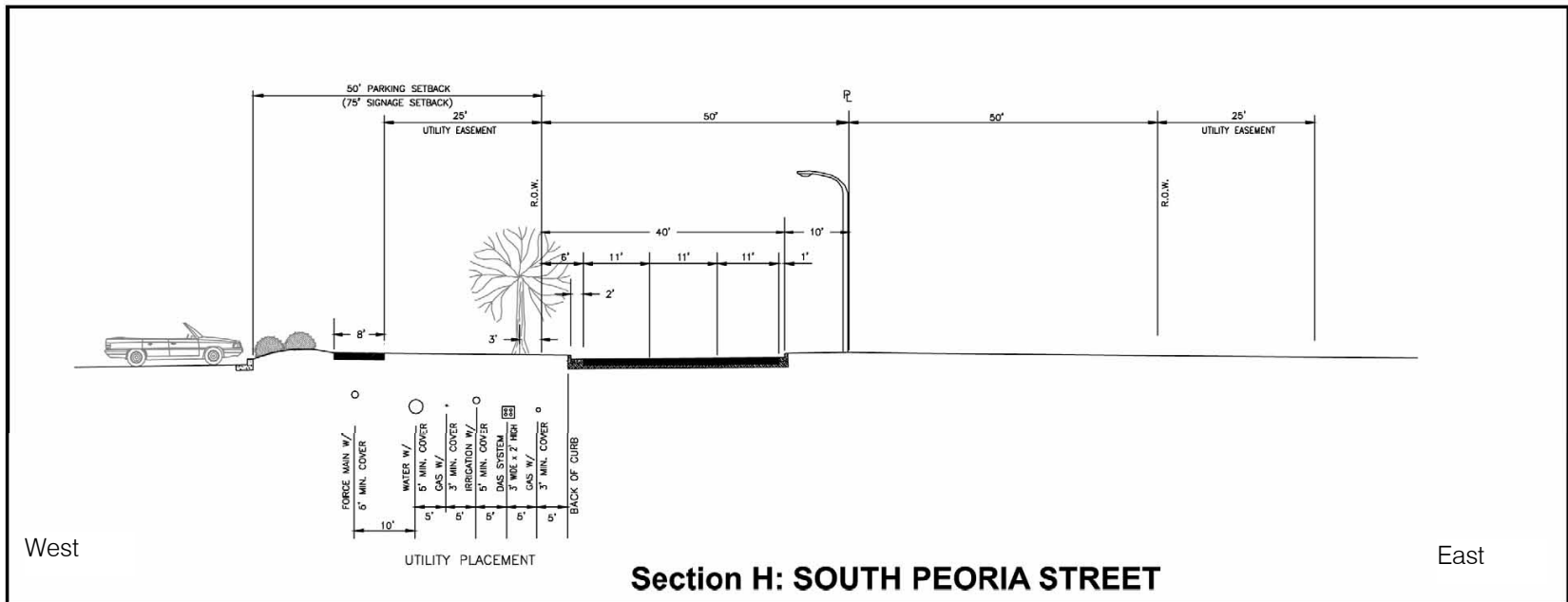
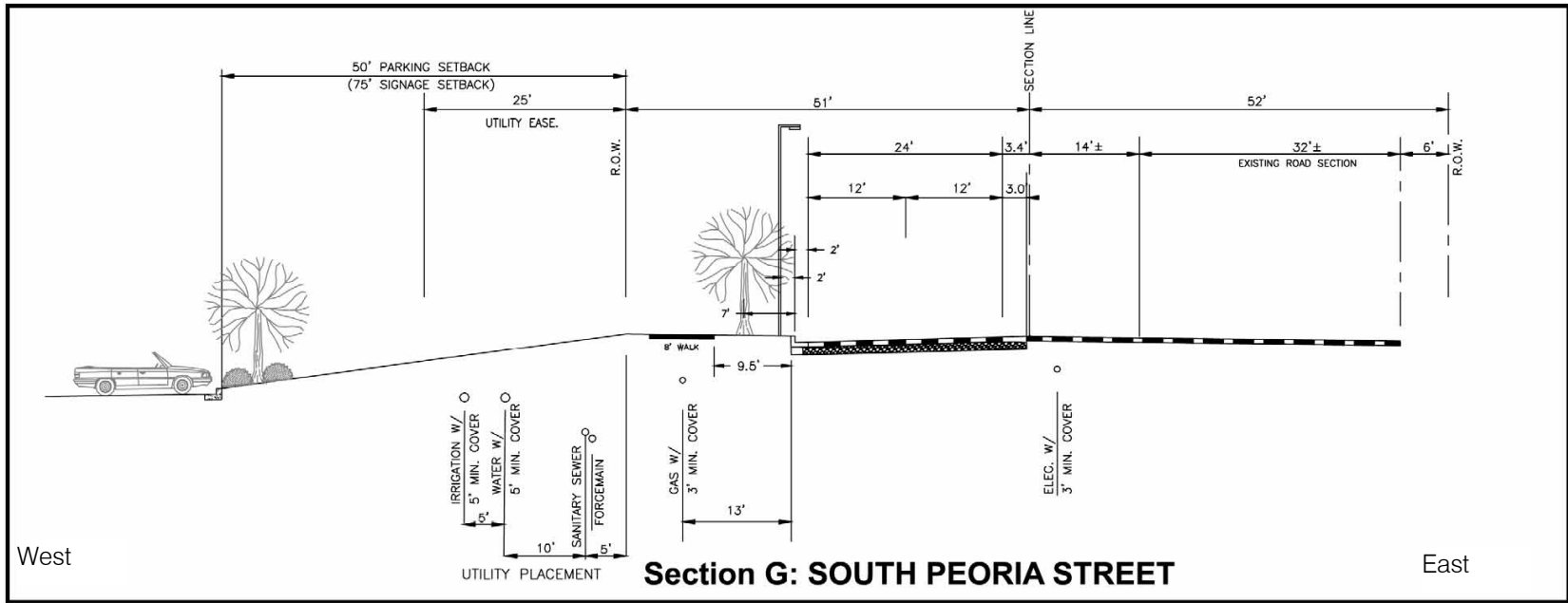


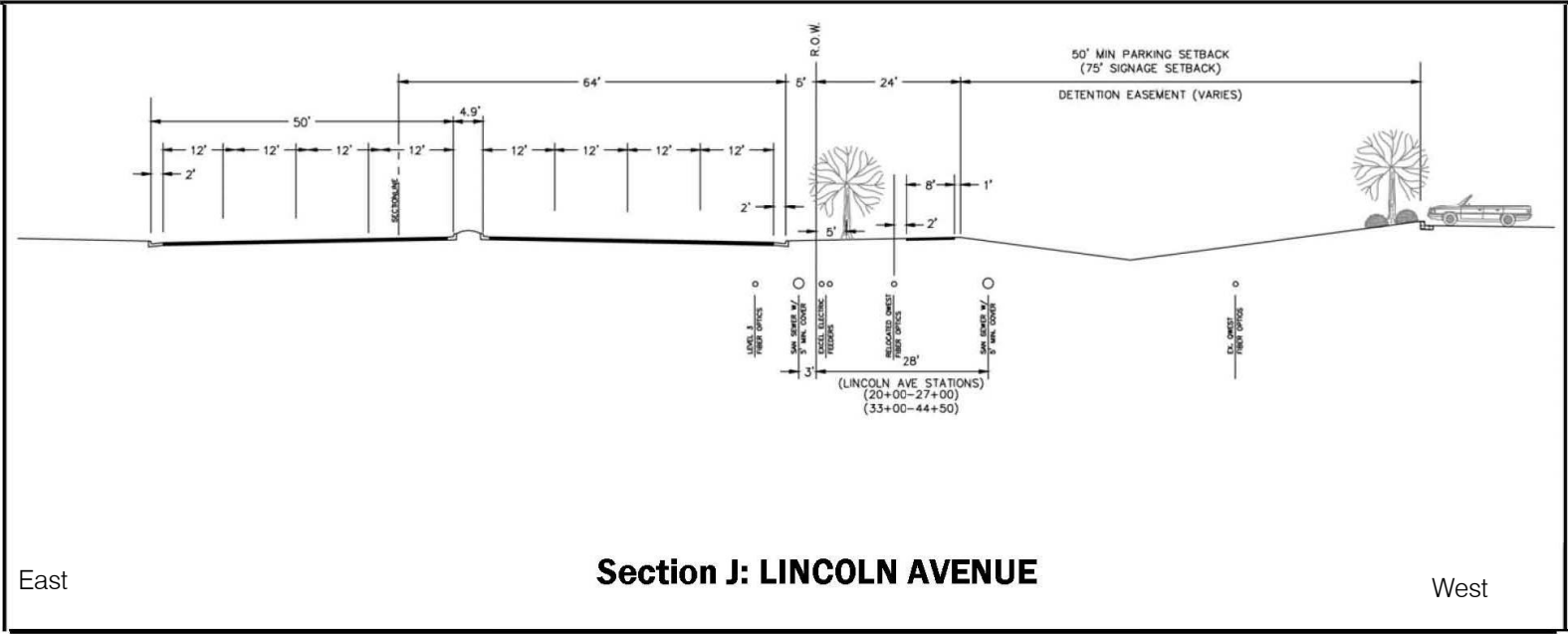
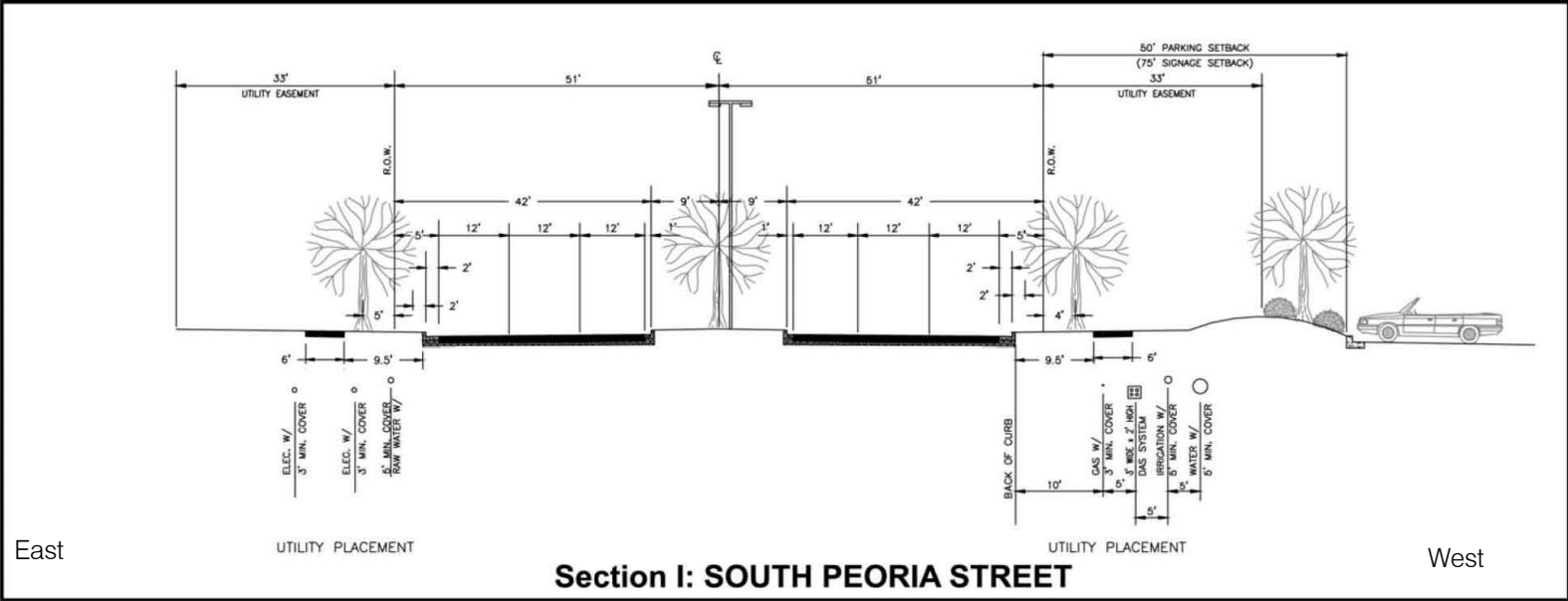
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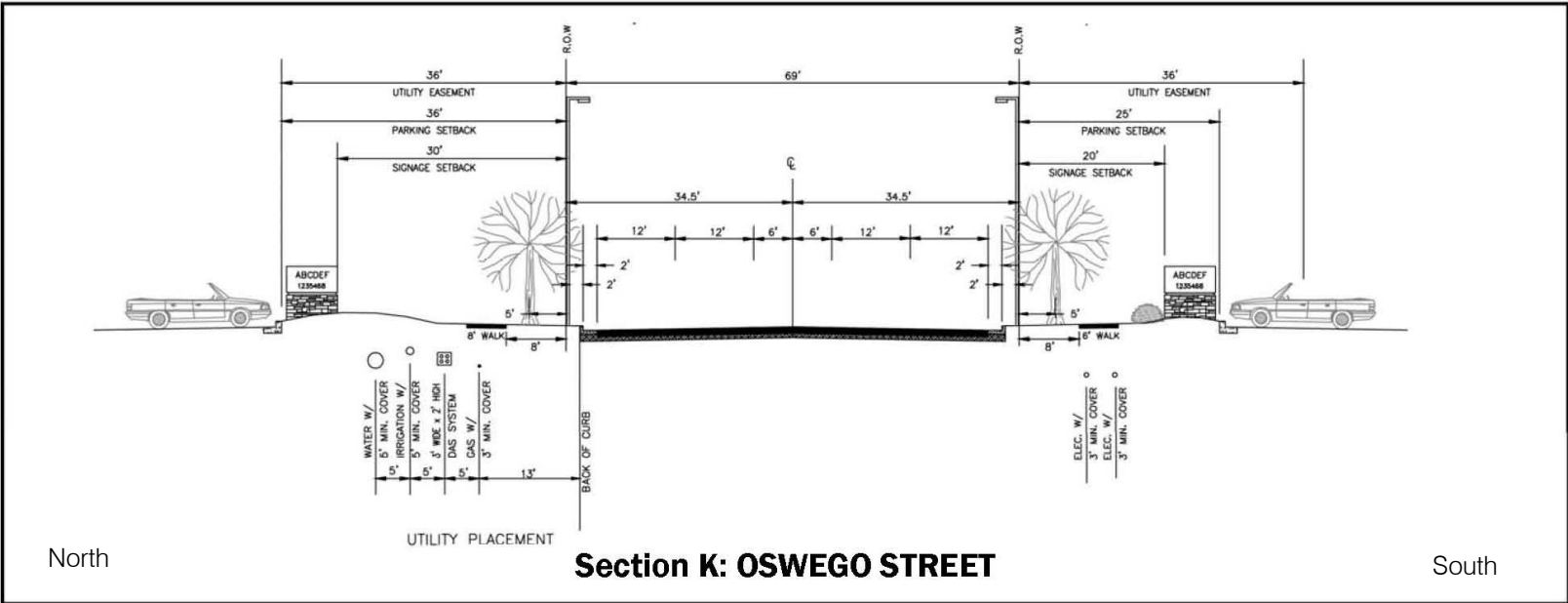


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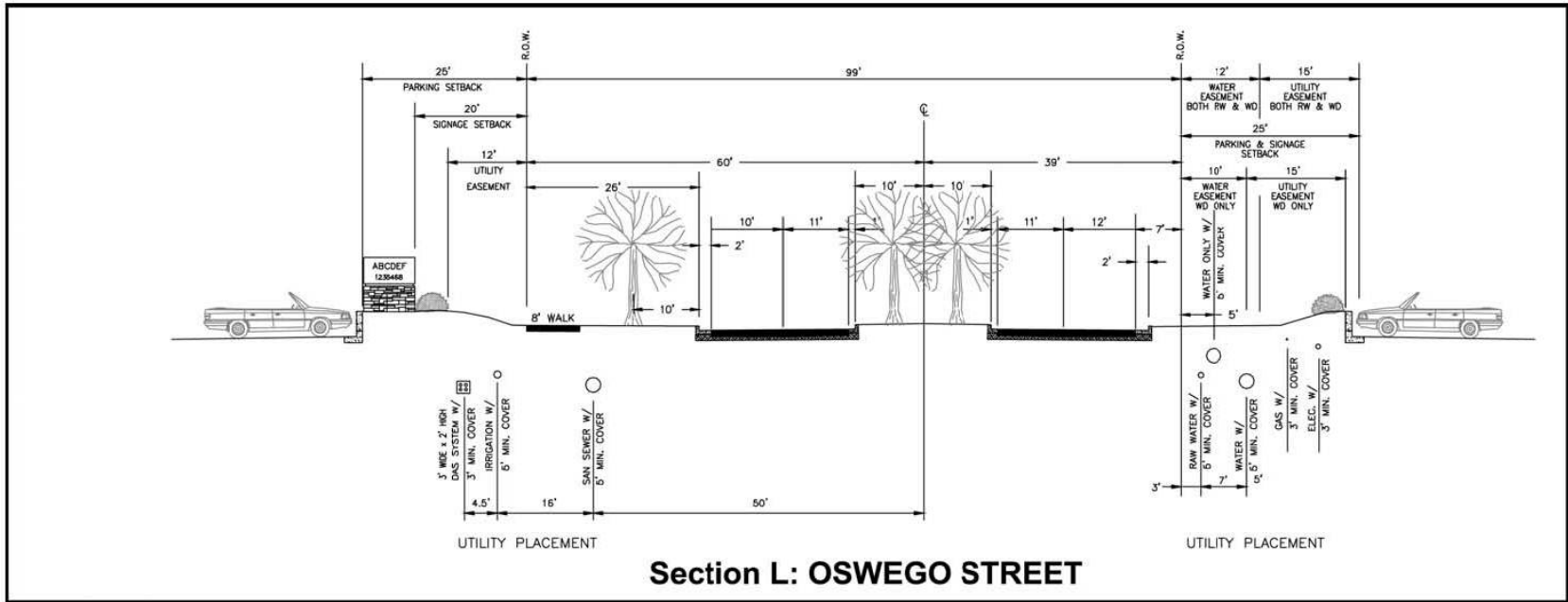




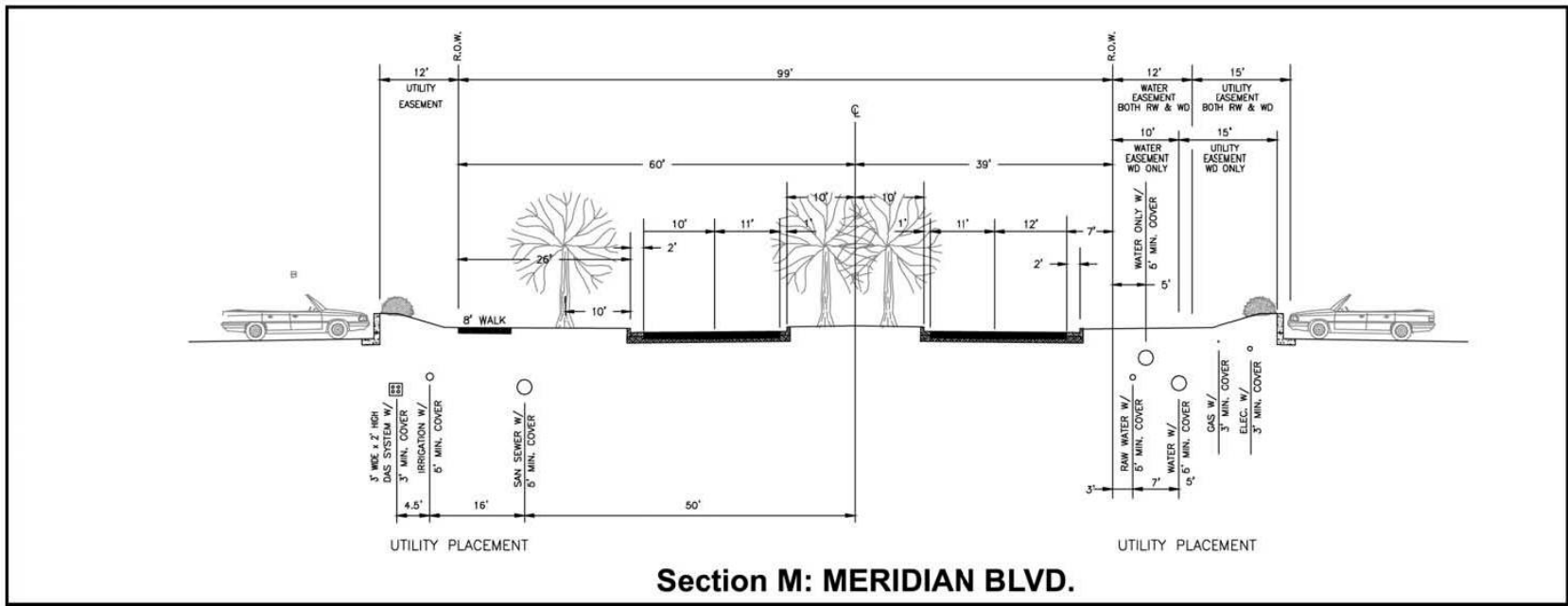
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Section K: OSWEGO STREET

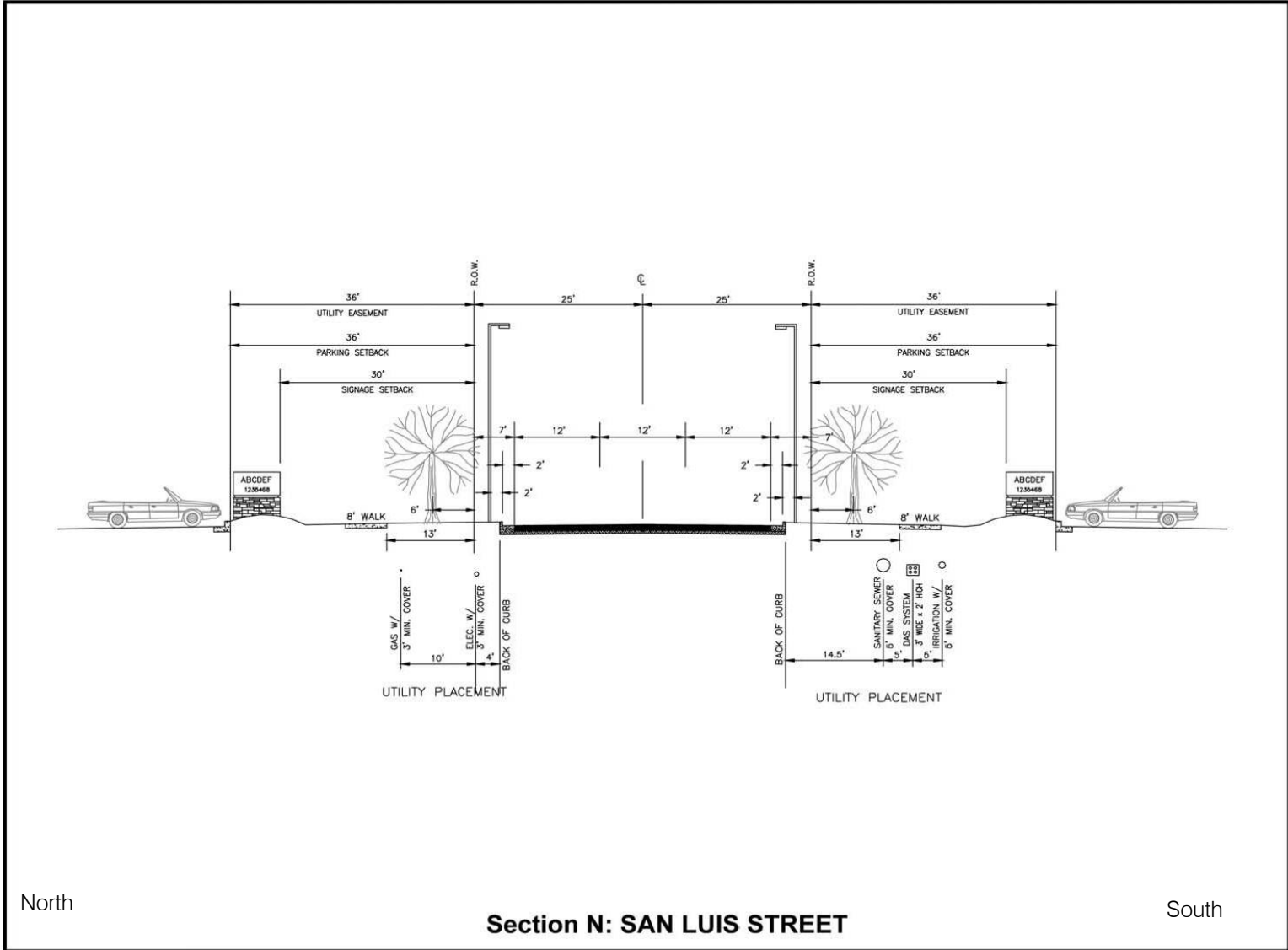
South



West



East



North

Section N: SAN LUIS STREET

South

E. STANDARD FORM OF EASEMENTS

**EASEMENT AGREEMENT
(to District)**

[NAME OF GRANTOR AND ADDRESS] (“Grantor”), for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, hereby grants, bargains, sells and conveys to Meridian Metropolitan District, a quasi-municipal corporation and political subdivision of the State of Colorado, whose address is 12111 East Belford Avenue, Englewood, Colorado 80112 (“District”), its successors, assigns and licensees, a perpetual and exclusive easement (“Easement”) in, through, on, above, under and across that parcel of real property described in Exhibit A hereto (“Easement Area”) for the purpose of allowing the District to undertake any and all activities that the District is legally entitled to undertake (“Activities”) in connection with the construction, operation, maintenance, repair, replacement or removal, as may be necessary, appropriate or convenient, of potable and nonpotable water lines, sanitary sewer lines, storm sewer lines, access improvements, signage, and all associated equipment and appurtenances [this list may be modified to suit the purpose of the easement] (“Improvements”) in the Easement Area, subject to the following terms and conditions:

1. Grantor Rights

a. Grantor shall have the right to continue to use the Easement Area in connection with Grantor’s use and occupancy of the real property owned by Grantor (“Grantor’s Property”), of which the Easement Area is a part, and to make such continued use and improvements of, on or to the Easement Area as is consistent with Grantor’s primary use of the Grantor’s Property; provided however if such continued use or improvements by Grantor will or may interfere with present or future District Activities or Improvements, Grantor will limit such continued use or improvements in such manner or degree as the District may require.

b. Grantor may transfer or assign its rights to this Easement or the Easement Area to any successor to Grantor and to any purchaser of or lender encumbering Grantor’s interest in Grantor’s Property, subject to the limitation that such transfer or assignment shall be subject to the District’s rights thereunder.

c. Grantor shall not grant to third parties additional easements or licenses or otherwise allow any use of or improvements to all or any portions of the Easement Area without first obtaining the specific written approval and consent of the District which the District may in its sole discretion grant or deny.

d. Grantor shall not excavate or fill, construct, place, plant, remove or replace any temporary or permanent improvement, structure, building or deep rooted shrub, plant or tree, in, on or under any part of the Easement Area or take any action which would impair the lateral or subjacent support for the Improvements, without first obtaining the specific written approval and consent of the District which the District may in its sole discretion grant or deny.

e. If in violation of the restrictions or limitations on Grantor’s Rights described above, Grantor uses or makes improvements on or to the Easement Area, or allows others to do so, which do or may interfere with or duplicate District’s Activities or Improvements, Grantor shall cease or remove the same or cause the third party to cease or remove the same, upon written demand by the District. Failure to do so shall, without more, grant to the District, in addition to such other remedies District may have available thereunder or under law, the right to engage in “self help” actions to cease and/or cause the removal of the violating use or improvements. The reasonable cost of such “self help” actions shall be an obligation of Grantor to be paid by Grantor to District upon demand by District, and shall be considered a penalty assessed by the District pursuant to Section 32-1-1001(1)(j), and until paid shall be a perpetual lien upon the Grantor’s Property which may be foreclosed in the manner provided by law.

f. The execution of this Easement does not create any right in Grantor or obligation on District to own, operate or maintain facilities for or provide services to or on account of Grantor.

g. If it is contemplated that the initial Activities and construction of the Improvements will be undertaken by the Grantor, then in that event:

- (1) The Grantor shall have the right to undertake the Activities, and to construct and

install the Improvements, provided that prior to commencement of any construction or installation Grantor shall have (1) submitted to and obtained prior written approval from the District of "preliminary" drawings of the proposed Improvements, such drawings to contain such detail and information of the Improvements and their construction and installation as the District may require, and (2) complied with all requirements of the Design Control Committee of the Meridian International Business Center. Grantor shall pay or cause to be paid all costs of the Improvements when they are due, so that no lien or claim can or will be made against the District, or any land owned by the District or the Easement Area. Subsequent to construction or installation Grantor shall submit to the District "as built" drawings containing such details and information as the District may require, together with a certificate from an engineer or surveyor acceptable to the District indicating that the Improvements were constructed or installed as shown on the preliminary plans and are within the Easement Area only. If they do not comply, or if during construction and installation other improvements located in the Easement Area are damaged, the District may require Grantor, at Grantor's sole cost and expense, to make such changes, repairs and corrections, including removal and reconstruction or reinstallation of the Improvements as the District, in the exercise of its sole discretion may determine are necessary.

(2) Grantor shall have the right to utilize its employees and, if approved in writing in advance by the District, third parties, to conduct the Activities, and to construct and install the Improvements. Such employees and third parties shall have reasonable access to the Easement Area in connection with their activities.

(3) If Grantor wishes to reconstruct, remove, replace, relocate or otherwise modify the Improvements, Grantor shall comply again with the requirements of 1. g. (1), above, as respects such removal, reconstruction, replacement, relocation or modification.

(4) Subject to obtaining the prior specific written approval of the District, which the District in its sole discretion may grant or withhold, Grantor may transfer or assign its rights under this subsection 1.g. to a third party whose rights hereunder shall be subject to the same limitations, restrictions and obligations as Grantor.

(5) Unless specifically approved through the District's approval of the plans as described above, Grantor shall not place, construct, or allow to remain any utility lines, or any ancillary or other improvements, above the surface of the Easement Area, except (a) on a temporary basis during the maintenance, repair or replacement of the Improvements, and (b) manhole covers, handholds or other equipment which are flush with the surface of the ground.

(6) Grantor shall keep all and every part of the Easement Area and adjoining property free and clear of any and all mechanic's, materialmen's and other liens for or arising out of or in connection with Grantor's Activities and/or Improvements on, in or about the Easement Area. Grantor shall promptly and fully pay and discharge any and all claims on which any lien may or could be based, and shall hold the District harmless against all such liens and claims of liens and suits or other proceedings pertaining thereto.

2. District's Rights.

a. This is a private and exclusive easement in favor of the District. No third party shall have any right of access to the Easement Area or right to undertake any Activities or use any Improvements unless the District agrees in writing to allow the same which District may in its sole discretion grant or deny.

b. Grantor warrants that it has full right and lawful authority to make the grant herein described free and clear of all liens, taxes, assessments and encumbrances of any kind. Grantor promises and agrees to defend District in the exercise and enjoyment of District's Rights against any defect in Grantor's title to the Easement Area and Grantor's right to make the grant herein described. Notwithstanding the foregoing, this Easement is granted subject to all easements, rights-of-way, encumbrances, reservations, restrictions and the lien for ad valorem taxes of record prior to the date of this Easement.

c. In connection with undertaking Activities, or creating, constructing, installing or using Improvements, District, its employees, contractors, agents and third parties engaged by District and its licensees,

assigns and successors, (1) shall have all reasonable right of access to the Easement Area, (2) shall enjoy the right of subjacent and lateral support to the extent reasonably necessary or desirable, (3) may undertake any and all reasonable activities and actions including but not limited to survey, construction, installation, operation, maintenance, repair, monitoring, use, control, replacement, enlargement, contraction, removal and/or abandonment, and with respect to any landscaping to plant, irrigate, fertilize, trim, maintain, replace and/or remove the same, and (4) may temporarily use so much of Grantor's Property adjacent to the Easement Area as is reasonably necessary to undertake the Activities and to construct or make the Improvements.

d. District may transfer, assign, and/or license all or any part of District's rights and interests thereunder to (1) any local governmental entity, any public or private utility or communication or transportation service provider, (2) any successor to District, and (3) any third party who will independently or join with District in undertaking or participating in Activities.

3. **Restoration.** If either the Grantor or the District in the exercise of their respective rights hereunder shall disturb the surface of the Easement Area or damage the Improvements, or if the District disturbs or damages the Grantor's Property, then the party responsible for such disturbance or damage shall, at its sole cost and expense and to the extent reasonably possible, promptly and properly restore the Easement Area, the Grantor's Property, or the Improvements to their condition prior to such disturbance or damage.

4. **Breach, Termination or Abandonment**

a. In the event of a breach of any provision of this Easement written notice of the breach, which shall include a reasonably specific description of what constitutes the breach and what corrective action or cure is required by the party giving the notice, shall be given by the non-breaching party. If within thirty [30] days after receipt of such written notice, the breaching party has not cured the breach, or if cure cannot be reasonably accomplished within thirty [30] days, has not commenced what curative measures are possible and is not prosecuting the same to timely completion in a commercially reasonable manner, the non-breaching party may, in addition to such contractual remedies as may be available, ask a court of competent jurisdiction to make a temporary and/or permanent restraining order, or an order for specific performance to compel the breaching party to perform in accordance with the terms and conditions hereof.

b. If during the term of the Easement District elects to abandon the Improvements, District shall have the option to remove, or to leave in place, the Improvements. If removal is the selected option, District shall have the Restoration obligation provided in "3. Restoration" above. Removal and restoration shall be accomplished in a timely and commercially reasonable manner. Failure to use the Improvements for an extended period shall not constitute an abandonment unless the District acknowledges in writing it has abandoned the Improvements. Abandonment of the Improvements shall not affect, nor interrupt the Grantor's then established right to receive District services in accordance with the District's rules, regulations, policies and procedures.

5. **Insurance.** The District and Grantor shall insure themselves separately against liability, loss and damages arising out of the Activities and the existence, use or operation of the Improvements.

6. **Notices.** Any notice, demand or election under this Easement Agreement shall be in writing and shall be given in person or by means of telecopy or mailed by registered or certified mail, addressed as follows:

If intended for Grantor, to:

With a copy to:

If intended for District, to:

Meridian Metropolitan District
12111 East Belford Avenue
Englewood, Colorado 80112
Attn: General Manager
Telecopier No. (303) 740-6954

or as otherwise provided by notice given as herein provided. All notices, demands or elections given in such manner shall be effective on the date of receipt thereof. The address to which notices are to be sent may be changed by providing notice as set forth in this paragraph

7. **Binding Effect.** Each and every one of the benefits and burdens of this Easement Agreement shall inure to and be binding upon the successors and permitted assigns of the District and the Grantor.

8. **Entire Agreement and Amendments.** This Easement Agreement supersedes all prior agreements and understandings and sets forth the entire agreement between the District and Grantee with respect to the subject matter hereof. Any modification, amendment or extension must be in writing signed by both the District and the Grantor.

9. **Governing Law.** This Easement Agreement shall be governed and construed in accordance with the laws of the State of Colorado.

10. **Severability.** Invalidation of any of the provisions of this Easement Agreement or of any paragraph, sentence, clause, phrase, or word herein, or the application thereof in any given circumstance, shall not affect the validity of any other provision of this Easement Agreement.

11. **No Third Party Beneficiaries.** It is the intent of the parties hereto that no third party beneficiary interest is created in this Easement Agreement. The parties hereto are not presently aware of any actions by them or any of their authorized representatives which would form the basis for interpretation construing a different intent, and in any event expressly disclaim any such acts or actions.

12. **No Waiver of Governmental Immunity.** The District, its directors, officials, officers, agents and employees are relying upon and do not waive or abrogate, or intend to waive or abrogate by any provision of this Easement Agreement the monetary limitations or any other rights immunities or protections afforded by the Colorado Governmental Immunity Act, C.R.S Section 24-10-101 et seq as the same may be amended.

13. **Venue.** Venue for any legal action relating to this Easement Agreement shall lie in the District Court in and for the County of Douglas, Colorado.

14. **Appropriation.** All financial obligations of the District under and pursuant to this Easement Agreement are subject to prior appropriations of monies expressly made by the District for the purposes of this Easement Agreement.

15. **No Personal Liability.** No elected official, director, officer, agent or employee of the District shall be charged personally or held contractually liable by or to the other party under any term or provision of this Easement Agreement or because of any breach thereof or because of its or their execution, approval or attempted execution of this Easement Agreement.

(Easement to Meridian Metropolitan District by _____)

In Witness hereof, the undersigned have executed this Easement Agreement this ____ day of _____, 20__.

GRANTOR:

By: _____
Authorized Signatory

DISTRICT:

MERIDIAN METROPOLITAN DISTRICT, a
quasi-municipal corporation and political subdivision of the
State of Colorado

ATTEST:

By: _____
Secretary

By: _____
President

State of Colorado)
) ss.
County of _____)

The foregoing was acknowledged before me this _____ day of _____, 20____
by _____ as authorized signatory of _____
_____, Grantor.

Witness my hand and official seal.

My commission expires: _____

(SEAL)

Notary Public

State of Colorado)
)
County of _____)

The foregoing was acknowledged before me this _____ day of _____, 20____, by
_____ as President and _____ as Secretary of
Meridian Metropolitan District, a quasi-municipal corporation and political subdivision of the State of Colorado.

Witness my hand and official seal.

My commission expires: _____

(SEAL)

Notary Public

EXHIBIT A

LICENSE AGREEMENT

THIS LICENSE AGREEMENT ("License") is made as of this ___ day of _____, 20___, by and between Meridian Metropolitan District, a quasi-municipal corporation and political subdivision of the State of Colorado, whose address is 12111 East Belford Avenue, Englewood, Colorado 80112, ("Licensor"), and _____ ("Licensee").

For good and valuable consideration received by each of the parties hereto, the receipt and adequacy of which are hereby acknowledged, Licensor and Licensee hereby agree as follows:

1. License and Licensed Property

(a) Licensor does hereby grant unto Licensee a license to enter upon those portions of Licensor's easements in Douglas County, Colorado shown on Exhibit A hereto ("Licensed Property"), for those purposes (the "Activities") and/or the installation and use of those improvements (the "Improvements") which are specifically described and only those specifically described in this License and its Exhibits.

(b) Licensor reserves all rights it has under its easements with respect to the Licensed Property which are not specifically described herein. In particular the Licensor may, with respect to the Licensed Property, conduct such uses and engage in such activities and/or to construct or to install such improvements, both surface and subsurface, as the Licensor deems necessary or desirable in the sole discretion of the Licensor, but subject to the terms of this License.

(c) The Licensor may grant additional license and/or easement rights to third parties which are not in violation of or inconsistent with Licensee's rights hereunder.

2. Term

This License shall continue in full force and effect for a term of 5 years from the date first written above, unless such time is extended by written agreement of the parties or sooner terminated as herein provided. At the end of said term if the same is not extended, Licensee shall undertake the vacation and restoration activities required as required by the Licensor pursuant to paragraph 20 of this License.

3. Payments

Licensee shall promptly pay for all reasonable costs and expenses of every kind incurred by Licensor to the extent caused by Licensee's use of the Licensed Property and all activities conducted thereon by Licensee.

4. Use

(a) The Licensee shall have the right to undertake the Activities, and to construct, install, operate, use, maintain and repair the Improvements as described in Exhibit B hereto, provided that prior to commencement of any construction or installation Licensee shall submit to and obtain prior written approval from the Licensor of "preliminary" drawings of the proposed Improvements, such drawings to contain such detail and information of the Improvements and their construction and installation as the Licensor may require. Subsequent to construction or installation Licensee shall submit to the Licensor "as built" drawings containing such details and information as the Licensor may require, together with a certificate from an engineer or surveyor acceptable to the Licensor indicating that the Improvements were constructed or installed as shown on the preliminary plans and are within the License Area only. If they do not comply, or if during the construction and installation other improvements located in the License Area are damaged, the Licensor may require Licensee, at Licensee's sole cost and expense, to make such changes, repairs and corrections, including removal and reconstruction or reinstallation of the Improvements. This License shall not constitute a valid and binding agreement unless and until the requirements of this paragraph 4.a. have been fully satisfied, in the sole determination of the Licensor as evidenced by record approval of the Licensor's

Board of Directors.

(b) Licensee shall comply with all the fire and sanitary laws, ordinances, rules, and orders of appropriate governmental authorities affecting the safety, cleanliness, occupancy, and preservation of the Licensed Property during the term of this License.

(c) In connection with the above-described use, Licensee shall abide by the following:

(1) Licensee will take all reasonable precautions to protect adjacent properties and public ways and facilities abutting or in the vicinity of the Licensed Property, and will promptly repair, restore or reimburse the appropriate party for any damage to the extent caused by Licensee to said properties, streets, sidewalks, curbs, gutters, landscaping, lighting, and any other common or governmental improvements.

(2) Licensee will require all contractors, subcontractors, materialmen and suppliers to operate (loading, unloading, covering, cleaning and other similar activities) their equipment in such a manner that trucking and spillage of dirt and debris in the vicinity of the Licensed Property is minimized, and that any such material shall be cleaned up within two days of occurrence, weather permitting. This obligation extends to control of dust and other wind-blown debris such as paper and cartons.

(3) Licensee will establish and maintain the Licensed Property in condition reasonably acceptable to Licensor that will as a minimum provide for the following:

(i) The surrounding areas shall be kept free of any debris or spilled material from the site.

(ii) Licensee shall in all respects comply with the protective covenants burdening the Licensed Property and the current rules and regulations promulgated in connection therewith.

(iii) Licensee, at its sole cost and expense, shall be obligated to restore the surface of the Licensed Property and to repair all damage to other installations of the Licensor or third parties within or under the Licensed Property that are disturbed, disrupted or damaged by Licensee or its employees or approved third parties. Failure to do so shall, without more, grant to the Licensor, in addition to such other remedies as the Licensor may have available hereunder or under law, the right to engage in "self help" actions to accomplish the restoration or repair required. The reasonable cost of such "self help" actions shall be an obligation of Licensee to be paid by Licensee to the Licensor upon demand by the Licensor, and shall be considered a penalty assessed by the Licensor pursuant to C.R.S. Section 32-1-1001(1)(j), and until paid shall be a perpetual lien upon the Licensee's Property which may be foreclosed in the manner provided by law.

(iv) If Licensee wishes to reconstruct, remove, replace, relocate or otherwise modify the Improvements, Licensee shall comply again with the requirements of paragraph 4.a., above, as respects such removal, reconstruction, replacement, relocation or modification.

(d) The Licensee shall have and exercise the right of subjacent and lateral support to whatever extent is necessary or desirable for the operation, maintenance, repair, and use of the Improvements. It is specifically agreed between and among the parties that, except as provided in this License, the Licensor shall not take any action which would impair the lateral or subjacent support for the Improvements.

5. Insurance; Indemnity

(a) Licensee's Insurance. Licensee shall, at its own expense, procure, and maintain throughout the term of this License:

(1) Casualty. Fire insurance with extended overage, vandalism and malicious mischief and "all risk" endorsements attached in the amount of all alterations and additions made by Licensee to the Licensed Property and all of its fixtures or equipment thereon for the full replacement value thereof.

(2) Liability. Commercial general liability insurance insuring Licensee's activities with respect to the Licensed Property against loss, damage or liability for personal injury or death and property damage occurring on or about the Licensed Property, in amounts no less than \$1,000,000 combined single limit coverage.

(3) Worker's Compensation. Worker's compensation insurance in at least the statutory amounts with respect to any work or other operation.

(b) Licensee's Policy Requirements. All insurers of Licensee must be authorized to do business in Colorado and well-rated by any recognized national rating organizations. Licensor shall be named as additional insured under the liability insurance. The insurance policies shall: (1) contain endorsements requiring 30 days notice to Licensor prior to any suspension, cancellation, termination, modification, non-renewal, lapse or material change of coverage; (2) not contain any provision relieving the insurer of liability for any loss because of the existence of other policies of insurance, regardless of collectibility; and (3) contain appropriate waiver of subrogation clauses. Licensee shall deliver to Licensor, as a condition precedent to its taking occupancy of the Licensed Property, a certificate or certificates evidencing such insurance and Licensee shall continue to promptly supply Licensor with copies of certificates of insurance in effect throughout the term of this License.

(c) Licensor's Liability. Licensor shall not be liable for any damage, injury or death of or to any person or damage to property in, on or about the Licensed Property, unless caused by Licensor's deliberate actions or negligence. All property of Licensee kept or stored on the Licensed Property shall be at the sole risk of Licensee.

(d) Indemnification of Licensor. Licensee shall indemnify and hold Licensor harmless from and against all claims, demands, suits, fines, liability, losses, damages, costs and expenses (including reasonable legal expenses) to the extent arising out of or in connection with:

(1) Licensed Property. Licensee's possession, use, maintenance, restoration, alteration or improvements of the Licensed Property, or any activity conducted or condition created upon or from the Licensed Property by Licensee during the term of this License;

(2) Negligence. Any negligence, malfeasance, deliberate action or misconduct of Licensee;

(3) Breach. Any violation or breach by Licensee of any term or condition of this License, any law, order, rule or regulation, or any insurance requirement; and

(4) Suits. Any claim, suit, action, proceeding, or contest by Licensee in connection with any insurance proceeds or settlement.

6. Waiver of Subrogation

Licensee and Licensor each respectively releases and relieves the other and waives its entire right of recovery against the other for loss or damage arising out of or incident to any perils or casualties covered by insurance required under this License, which occur in, on or about the Licensed Property, whether due to the negligence of either party, their agents, employees, invitees or otherwise, all to the extent that such loss or damage is covered by collectible insurance. Licensee agrees that all policies of insurance obtained pursuant to Paragraph 5 above shall contain appropriate waiver of subrogation clauses.

7. Waste

Licensee agrees not to commit waste on the Licensed Property, or upon adjacent public improvements such as streets, sidewalks, curbs, gutters, landscaping, lighting and other common or governmental improvements abutting or in the vicinity of the Licensed Property, nor permit others under its supervision or control to do so, to maintain the Licensed Property in as good condition as supplied to it hereunder as of the date hereof, normal wear and tear, insured casualty losses to the extent of the insurance proceeds, and acts of God excepted, to vacate and surrender the Licensed Property upon any termination hereof, and to pay all costs, damages, and reasonable attorneys' fees for

failure to do so.

8. Liens

Licensee shall keep all of the Licensed Property and every part thereof free and clear of any and all mechanics', materialmen's, and other liens for or arising out of or in connection with work or labor done, services performed, or materials or supplies used or furnished for or in connection with any operations of Licensee, any alteration which Licensee may make or permit or cause to be made, or any work or construction, by, for or permitted by Licensee on or about the Licensed Property, or any obligations of any kind incurred by Licensee, and at all times promptly and fully to pay and discharge any and all claims on which any such lien may or could be based, and to indemnify Licensor and all of the Licensed Property against all such liens and claims of liens and suits or other proceedings pertaining thereto.

9. Assignment

(a) Licensee shall not assign or transfer this License, or any interest herein, without the prior written consent of Licensor, and a consent to any assignment shall not be deemed to be a consent to any subsequent assignment. Any such assignment without such consent shall be void, and shall, at the option of Licensor, terminate this License. Neither this License nor any interest of Licensee hereunder in the Licensed Property shall be subject to involuntary assignment, transfer, or sale, or to assignment, transfer, or sale by operation of law in any manner whatsoever, and shall be void and of no effect and shall, at the option of Licensor, terminate this License.

(b) The Licensor may transfer or assign its rights hereunder to: (1) any local governmental entity, any public or private utility or communication or transportation service provider; (2) any successor to the Licensor; or (3) any purchaser of or lender encumbering the Licensor's rights hereunder.

10. Breach

The Licensor and the Licensee agree that, in the event of a breach by Licensee of any provision of this License, written notice of the breach and the specifics as to the nature of the breach, and the proposed remedy shall be given by the Licensor to the Licensee, and if, after thirty (30) days the Licensee has not cured the breach or, if cure is not possible within thirty (30) days, has not commenced what curative measures are possible and is not prosecuting same to their timely completion in a commercially reasonable manner, in addition such contractual remedies as may be available at law Licensor may ask a court of competent jurisdiction to enter a temporary and/or permanent restraining order, or for an order for specific performance, to compel the Licensee to perform in accordance with the terms and conditions hereof or to cease its Activities or remove its Improvements should the Licensee fail to cure the breach

11. Requirements Prior To Exercise of License

Prior to commencement of use of the Licensed Property, Licensee shall have all utilities located and marked by the appropriate agency. During the period that the Licensee is installing the Improvements in the location shown on Exhibit A the Licensee shall, at its sole cost and expense, promptly repair and/or replace or cause to be repaired or replaced, any and all other service lines (i.e. irrigation, water, electric, cable telecommunication, etc.) damaged during the installation of Licensee's Improvements, and upon completion of the installation of the Improvements Licensee shall promptly restore the land disturbed by the Licensee in the course of the installation of the Improvements, all areas to be restored as required by Section 12 below.

12. Right of Inspection

Licensor and its agents shall have the right at all reasonable times during the term of this License and any renewal thereof and upon reasonable notice to Licensee to enter the Licensed Property for any purpose, including the purpose of inspecting the Licensed Property and Licensee's activities thereon.

13. Waiver

The waiver by Licensor, or the failure of Licensor, to take action with respect to any breach of any term, covenant, or condition herein contained shall not be deemed to be a waiver of such term, covenant, or condition therein contained.

14. Notices

All notices, demands, or other writings, in this License provided to be given or made or sent, or which may be given or made or sent, by either party hereto to the other, shall be determined to have been fully given or made or sent when made in writing and deposited in the United States mail, certified mail, postage prepaid, and addressed as follows:

TO LICENSOR: 12111 East Belford Avenue
Englewood, CO 80112
Attn: General Manager

TO LICENSEE:

The address to which any notice, demand, or other writing may be given or made or sent to any party as above provided may be changed by written notice given such party as above provided.

15. Indemnification of Licensor; Environmental Matters

Licensor shall not be liable for any loss, injury, death, or damage to person or property which at any time may be suffered or sustained by Licensee or by any person whosoever may at any time by using or occupying or visiting the Licensed Property or be in, on, or about the same, whether such loss, injury, death, or damage shall be caused by or in any way result from or arise out of any act, omission, or negligence of Licensee or of any employee, licensee, invitee of any portion of the Licensed Property. Licensee shall indemnify Licensor against all claims, liability, loss, or damage whatsoever including attorneys' fees on account of any such loss, injury, death, or damage whatsoever including reasonable attorneys' fees on account of any such loss, injury, death, or damage to the extent caused by Licensee. Notwithstanding the above, the indemnification herein provided shall not apply to loss, injury, death or damage arising by reason of the negligence or misconduct of Licensor, its agents, or employees, licensees (other than Licensee) or invitees.

Licensee will not use or conduct operations on or at the Licensed Property, or manufacture, store, sell, use, dispose of, release, or discharge or permit the manufacture, storage, sale, use, disposal, release, or discharge of Hazardous Materials (as defined below) on the Licensed Property, in any manner which violates Environmental Law (as defined below) or which causes there to be any liability under Environmental Law. Licensee will indemnify, defend, and hold Licensor and its partners, officers, employees, and agents harmless from any and all claims, suits, judgments, actions, proceedings, damages, penalties, fines, costs, expenses, liabilities, or losses (including, without limitation, diminution in value of the Licensed Property, damages for the loss or restriction on use of the Licensed Property, damages arising from any adverse impact on marketing, and sums paid in settlement of claims, attorneys' fees, consultant fees, and expert fees (consultants and experts to be selected by Licensor) which arise during or after the term of this License as a result of contamination by Hazardous Materials due to the negligence or willful misconduct of Licensee or of Licensee's agents or contractors. This indemnification of Licensor by Licensee includes, without limitation, costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal, or restoration work required by any federal, states or local governmental agency or political subdivision because of Hazardous Materials present in the soil or groundwater on or under the Licensed Property. Without limiting the foregoing, the indemnification provided by this subsection will specifically cover costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal, or restoration work required by any federal, state, or local governmental agency or political subdivision because of Hazardous Materials present in the soil or groundwater on or under the Licensed Property caused or permitted by the negligence or willful misconduct of Licensee or its agents or contractors. Also without limiting the foregoing, if the presence of any Hazardous Materials on the Licensed Property caused or permitted by the negligence or willful misconduct of Licensee or its agents or contractors results in any contamination of the Licensed Property, Licensee will promptly

take all actions at its sole expense are necessary to return the Licensed Property to the condition existing prior to the release of any such Hazardous Materials to the Licensed Property, provided that Licensor's written approval of such actions will first be obtained, which approval will not be unreasonably withheld. Licensee's obligations under this Section will survive the expiration or prior termination of this License.

For purposes of this License, "Hazardous Materials" means any explosives, radioactive materials, petroleum products, hazardous wastes, or hazardous or toxic substances, including, without limitation, substances defined as "hazardous substances" or those substances, materials, and wastes listed in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. Sec. 9601-9657; the Hazardous Materials Transportation Act of 1975, 49 U.S.C. Sec. 1801-1812; the Resource Conservation and Recovery Act of 1976, 42 U.S.C. Sec. 6901-6987; the United States Environmental Protection Agency Listing (40 CFR Part 302), or any other federal, state, or local statute, law, ordinance, code, rule, regulation, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning hazardous materials, waste, or substances now or at any time hereafter in effect (collectively, "Environmental Law").

16. Attorneys' Fees

If any action at law or in equity shall be brought to enforce this License, or, for, on or account of any breach of, or to enforce or interpret any of the covenants, terms or conditions of this License, the prevailing party shall be entitled to recover from the other party, as part of the prevailing party's costs, reasonable attorneys' fees, the amount of which shall be fixed by the court and shall be made a part of any judgment or decree rendered.

17. Remedies Cumulative

All remedies hereinbefore and hereafter conferred on Licensor shall be deemed cumulative and no one exclusive of the other, or of any other remedy conferred by law.

18. Parties Bound

The covenants and conditions herein contained shall, subject to the prohibition on assignment contained herein, apply to and bind the successors and permitted assigns of the parties hereto.

19. Time of the Essence

Time is of the essence in this License, and of each and every covenant, term, condition, and provision hereof.

20. Amendment or Modification

This License may be amended or modified only by written agreement signed by Licensor and Licensee.

21. Section Captions

The Captions appearing under the section number designations of this License are for convenience only and are not a part of this License and do not in any way limit or amplify the terms or provisions of this License.

22. Termination

This License may be terminated by either Licensor or Licensee upon thirty (30) days' prior written notice to the other party. Should Licensee (a) terminate this License or abandon, vacate or cease to use the Improvements or undertake the Activities described above for a period of sixty (60) consecutive days, or (b) fail to perform its obligations hereunder, and within thirty (30) days after written notice by Licensor, Licensee has not resumed occupancy and use or cured the performance default, the Licensor may terminate Licensee's Rights hereunder by providing Licensee a written Notice of Termination. If the Notice of Termination requires, Licensee shall remove the Improvements and restore the Licensed Area as provided in paragraph 4., above. Failure to do so shall, without

more, grant to the Licensor, in addition to such other remedies as the Licensor may have available hereunder or under law, the right to engage in "self help" actions to accomplish the restoration or removal required. The reasonable cost of such "self help" shall be an obligation of Licensee to be paid by Licensee to the Licensor upon demand by the Licensor, and shall be an obligation of Licensee to be paid by Licensee to the Licensor pursuant to C.R.S Section 32-1-1001(1)(j), and until paid shall be a perpetual lien upon the Licensee's Property which may be foreclosed in the manner provided by law. Alternatively, if the Notice of Termination provides, the Licensor may elect to take possession of and assume ownership of the Improvements and thereafter use and control the Improvements, all without compensation or reimbursement to Licensee.

23. Governing Law

This License shall be governed and construed in accordance with the laws of the State of Colorado.

24. Severability

Invalidation of any of the provisions of this License or of any paragraph, sentence, clause, phrase, or word herein, or the application thereof in any given circumstance, shall not affect the validity of any other provision of this License.

25. No Third Party Beneficiaries

It is the intent of the parties hereto that no third party beneficiary interest is created in this Agreement. The Parties are not presently aware of any actions by them or any of their authorized representatives which would form the basis for interpretation construing a different intent, and in any event expressly disclaim any such acts or actions.

26. No Waiver of Governmental Immunity

The Licensor, its directors, officers, agents and employees are relying upon and do not waive or abrogate, or intend to waive or abrogate by any provision of the License the monetary limitations or any other rights immunities or protections afforded by the Colorado Governmental Immunity Act, C.R.S Section 24-10-101 et seq. as the same may be amended.

27. Venue

Venue for any legal action relating to this License shall lie in the District Court in and for the County of Douglas, Colorado.

28. Counterparts

This License may be executed in counterparts, each of which shall be deemed to be an original, but all of which shall together constitute one and the same document and shall be enforceable against Licensor and Licensee.

29. Appropriation

All obligations of the Licensor under and pursuant to this License are subject to prior appropriations of monies expressly made by the Licensor's Board of Directors for the purposes of this License.

30. No Personal Liability

No elected official, director, officer, agent or employee of the Licensor shall be charged personally or held contractually liable by or to the other party under any term or provision of this License or because of any breach thereof or because of its or their execution, approval or attempted execution of this License.

IN WITNESS WHEREOF, the parties hereto have executed this License on the day and year first above written.

LICENSOR: Meridian Metropolitan District

Attest:

By: _____
Secretary

By: _____
President

LICENSEE: _____

By: _____

Name: _____

Title: _____

EXHIBIT A
LICENSED PROPERTY

EXHIBIT B
ACTIVITIES AND IMPROVEMENTS

SAMPLE WILL-SERVE LETTER

Douglas County Planning Division
 100 Third Street
 Castle Rock, Co 80104

RE: Meridian International Business Center; Planned Development; 10th Amendment; [Plat or Parcel reference; Site Plan; Sketch Plan; Preliminary or Final Plat; or Replat]

To Whom It May Concern:

Pursuant to Section 1808A.01 of the Douglas County Zoning Resolution, the Meridian Metropolitan District [the "District"] acknowledges its willingness and ability to serve the property proposed for [above], known as [name, if applicable]. The subject parcel is within boundaries of the District and/or its allowed service area [and (if applicable) is subject to an existing service agreement dated (_/ _/ _) previously submitted to and, currently on file with Douglas County].

Intent to Serve:

The District intends to provide service to this proposed development with the following conditions:

1. Terms and conditions as specified in Service Agreement dated (_/ _/ _); all of which are currently being met. [Note this will apply only to parcels in N and S Meridian, and Meridian Villages]
2. Other [specify only if any - otherwise state "None"]

Water Demand:

This parcel is within the overall development projections for the District's Service Area which used to determine the District entire estimated water demands as follows (Acre Feet/ Year):

Type of Development		Total Projected	Non-Potable Irrigation
SFR	units@0.58/unit	1830 > 1061.4	
MFR	units@0.32/unit	3170 > 1014.4	
O/C/R	gfa@0.70/10ksf	2178 > 1524.6	
W//P	gfa@0.38/10ksf	<u>500 > 190.0</u>	
Total		3,790.4 acft	1,774.0 acft
Previously Approved Development		1,830.0 acft	784.0 acft
This Parcel		<u>0.0</u>	<u>0.0</u>
Balance Available			

Water Supply:

The District's total water supply, inclusive of water rights attendant to this parcel, if any, are as follows:

Aquifer	Tributary	Non Tributary	Not Non Tributary	Total acft
Hock Hawking	25	0	0	25.0
Arapahoe	0	1534.5	0	1534.5
Denver	0	304.0	964.8	1268.8
Dawson	0	556.0	354.5	910.5
Laramie/Fox Hills	<u>0</u>	<u>719.3</u>	<u>0</u>	<u>719.3</u>
Total Acre/Feet	25	3,113.8	1,319.3	4,458.1

All rights specified are fully adjudicated, decreed, permitted and augmentation plan dated (_/ _/ _) approved by the State Engineer has previously been submitted to and is currently on file with Douglas County.

Note: the District estimates it will have approximately 1,774 acre-feet per year of return flows to satisfy its non-potable irrigation requirements.

Water Quality:

The District is in compliance with the Colorado Department of Public Health and Environment testing and quality requirements, and provides a high-quality water supply to all of its customers.

Feasibility of Service:

It is physically and economically feasible for the District to extend service to the proposed development.

 General Manager

cc: Board of Directors
 M Dalton; R Gabriel; Applicant

MMD Design Control Committee Design Criteria and Submittal Procedures

MERIDIAN INTERNATIONAL BUSINESS CENTER

MERIDIAN COMMONS

MERIDIAN VILLAGE



DESIGN CONTROL COMMITTEE

DESIGN CRITERIA & SUBMITTAL PROCEDURES

8-20-10

Section 3 Revised 6-1-12

Section 2-11 Revised 2-26-2016



6380 S. Fiddlers Green Circle * Suite 400 * Greenwood Village, CO 80111

Phone: 303-773-1700/ fax: 303-740-6954

Website: www.dtcmeridian.com

Email: design&development@sheaproperties.com



OVERVIEW

MERIDIAN INTERNATIONAL BUSINESS CENTER

MERIDIAN COMMONS; MERIDIAN VILLAGE

PROTECTIVE COVENANTS AND DESIGN CONTROL COMMITTEE

STATEMENT OF PURPOSE

The architectural design integrity and quality throughout Meridian is maintained through the implementation of Protective Covenants, which include strict design controls. These Covenants establish standards for planning and design, which are fair to all parties and are intended to assure maintenance of value for all Meridian properties.

PROTECTIVE COVENANTS

The Protective Covenants legally apply to all that is part of Meridian, regardless of ownership, and are independent of the zoning and land use regulations of local government.

APPLICABLE DOCUMENTS

The system of land use control created by the Covenants includes not only the Covenants, but also a Master Plan, Design Criteria and Review Procedures. These documents are mostly contained herein and are available through the Design Control Committee offices.

DESIGN CONTROL COMMITTEE

The Covenants and supporting documents are administered and enforced by a Design Control Committee (“DCC”). A current listing of members can be found on the following page.

ACTIVITIES NECESSITATING REVIEW

Under the Covenants, any proposal to construct, modify, or demolish improvements within Meridian must have plan approval from the DCC prior to commencement. The DCC’s review and approval process also applies to signage, changes in property use, and maintenance activities. The DCC meets on a regular basis to review plan submittals. After the DCC approves a plan submittal, an applicant may proceed with a project, but only in strict compliance with the terms and conditions of approval. The DCC performs periodic site inspections, both during development and on an ongoing basis thereafter to ensure compliance.

MEETING SCHEDULE AND LOCATION

The DCC meets monthly. Projects are placed on a formal meeting agenda only after applications and reviews are made at informal staff level meetings at least two weeks prior to a meeting.



DESIGN CONTROL COMMITTEE MEMBERSHIP

The Design Control Committee is made up of six (6) regular members. Of these six (6), at least two (2) members must be architects and one (1) member must be currently engaged in land planning practice. All other members must have a minimum of ten (10) years of experience in land planning or development. Membership is as follows:

MR. LEE DEHMLOW, CHAIRMAN

Mr. Dehmlow is a Development Manager with Shea Properties. He has 35 years of experience in the building industry, spanning commercial, institutional and residential sectors, including both project and management roles in construction, architecture, and project development.

MR. MICHAEL BARBER, ARCHITECT

Mr. Barber is a practicing architect with 35 years of experience. He is the Director of Design at Barber Architecture and has been responsible for the design of numerous public and private projects for regional and national clients. He is the recipient of awards for architecture and planning and has won ten major design competitions. Mr. Barber is a member of other design review committees, including membership in the Federal Design Excellence program.

MR. JOHN KILROW

John Kilrow is a Senior Vice President with Shea Properties with over 25 years' experience in commercial development. His background includes extensive involvement in architectural design reviews and covenant administration primarily associated with Shea's various commercial and residential communities.

MR. PHIL MCCURDY, AIA

Mr. McCurdy is the Principal of the Architecture Group at the Denver office of Gensler, an international architecture and planning firm. In more than 30 years of practice he has had the opportunity to lead projects both locally and nationally. He serves on Gensler's national Practice Area for Buildings and Campuses and on the City of Denver's Design Review Board for the Cherry Creek North mixed-use district.

MR. ERIC HECOX

Mr. Hecox is a Vice President with Shea Properties Colorado. He serves as the General Manager for multiple special districts including the Denver Tech Center and the Meridian International Business Center. He is also President of the Colorado Foundation for Water Education as was previously the Executive Director of South Metro Water Supply Authority.

pg. rev. 04-19-2017



STAFF

MS. GALINA BUTYLEV, Community Services Manager

MS. SARAH MASTER, Client Services Project Coordinator

MR. JOHN F. FORHAN, ESQUIRE, Legal Counsel

DESIGN CONTROL COMMITTEE

6380 S. Fiddlers Green Circle, Suite 400, Greenwood Village, Colorado 80111

Phone: 303-773-1700 Fax: 303-740-6954

Email: noca@accdcc.org

Website: www.accdcc.org





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1.0 GENERAL CONDITIONS

A. DEVELOPMENT OBJECTIVES

The Meridian International Business Center (Meridian) is a multi-use development with an integrated mix of complementary uses.

All lands within Meridian are subject to protective covenants that in part provide for a Design Control Committee (DCC) with the authority to promulgate Design Criteria as set forth in this document.

The intent of these Criteria is to provide for development of a quality that will be of enduring value, preserve the area's natural beauty, and provide for a work and living environment. Proposed development should be approached with these objectives in mind and in a "community" spirit with regard for the needs and perspectives of all existing and future development within Meridian.

These criteria are intended to guide applicants in meeting the goals of the DCC for development. Used in concert with basic principles of good design, applicable jurisdictional regulations, the DCC Master Plan, and staff assistance, these Criteria are intended to expedite the approval process and facilitate the development of quality projects within Meridian.

It must be emphasized that the DCC Review Process is both qualitative and quantitative. Attainment of a minimum quantitative standard does not in and of itself infer approval unless acceptable quality is achieved. Each project will be reviewed on the basis of its planning and design merits and conformity to the intent of these Criteria. The DCC does not represent or warrant that its approval of any project complies with any applicable contractual or governmental land use restrictions.

B. JURISDICTION

Meridian lies within Douglas County and is part of the Meridian Metropolitan District. The Applicant is responsible for compliance with the rules and regulations of each of these entities and must receive authorization from each of them, in addition to complying with all applicable requirements, regulations, and codes.

Zoning is based upon an approved Douglas County Planned Development Guide. It is the responsibility of the Applicant to demonstrate to the DCC that the proposed development is not inconsistent with the applicable zoning and development regulations, in harmony with the adjoining developments and consistent with the Master Plan, Master Drainage Plan, Protective Covenants and these Design Criteria.

C. COVENANTS AND MASTER PLAN

The Covenants and Master Plan are recorded in the real property records of Douglas County, Colorado. The Covenants are the basis of the authority for these procedures and are legally binding.



D. DCC REVIEW / SUBMITTAL PROCEDURES

All applicants must follow these specific procedures involving submittal of documents, review requirements, deadlines, and fee schedules. The DCC is responsible for reviewing and approving plans for all proposed improvements, including construction of any type, landscaping, lighting, signage and any other improvements. The submittal of plans and securing of the appropriate approvals pertains to signage, landscaping, exterior building improvements, satellite dishes, antennas, construction yards, trash enclosure, fencing, lighting, driveways, parking areas and any improvements that affect the appearance, design or outside elements of property. All improvement plans must be in compliance with these Design Criteria.

The DCC generally meets at least monthly to review formal presentations. Formal presentations to the DCC are mandatory for most development projects, as prescribed in this document. However, most details are reviewed through informal meetings with the DCC representatives and staff. This process is designed to expedite the preparation and approval of the plans for any specific site where development is contemplated. Certain minor improvements do not require all review phases: the DCC Chairman determines which steps are necessary for an individual project.

For most projects, there are eight phases in the development approval process. These include the following:

1. Pre-Design Conference
2. Sketch Plan (Property Use/Site Layout)
3. Schematic Design
4. Design Development
5. Site Plan/Certifications
6. Construction Documents/Authorization to Apply for Building Permit
7. Construction Site Logistics
8. Certificate of Compliance/Certifications

Sketch Plan, Schematic Design, Design Development and Site Plan (each including landscaping, signage and lighting) phases require a formal DCC presentation. All other steps are handled directly with DCC staff.

Meeting Minutes: Committee findings relative to applications are documented via a "Notice of Committee Action" form (See Sec. 4.J) which also serves as "Minutes" relative to applications considered at formal Committee meetings.

The Site Plan is preferably submitted concurrently with the Design Development review presentation. All submittal documentation must be submitted no later than noon (12:00 p.m.) at least ten (10) days prior to a scheduled DCC meeting.

Project Approval is contingent upon submittal of materials, presentation to the DCC and payment of designated fees. No improvements may be made without the prior written approval of the DCC.

A Notice from the DCC will be sent to each applicant within a maximum of thirty (30) calendar days after the date of the DCC action on the proposal. This Notice will state whether approval or disapproval has been granted and outline any conditions associated with the approval or disapproval.



al. While Notices may reference plan documents submitted for DCC review, it is not incumbent on the DCC to identify any variances to Design Criteria during the review process. It is the Applicant's obligation to identify in writing any desired variance to DCC Design Criteria. Full compliance with all aspects of current DCC Design Criteria is required unless exceptions thereto are specifically enumerated on a Notice of Committee Action.

E. REVIEW FEES

Review fees are required for all DCC submittals. A current Schedule of Fees is included in the Submittal Procedures section of this document. This fee schedule may be revised from time to time by the DCC as conditions necessitate. Fees are required at the time of submittal. Written confirmation of a DCC action will not be issued until all appropriate fees have been paid.

F. NON-COMPLIANCE/FINES

A Schedule of Fines is in effect in the event of Non-Compliance. Outstanding fines will be required to be paid as a condition of processing any applications for review or prior to issuing Certificates of Compliance.

Note that the DCC will not process any applications for a parcel with an outstanding fine or that is in receipt of a Notice of Non-Compliance that has not been remediated.

G. ADDITIONAL CRITERIA

In addition to the criteria herein, the DCC may promulgate additional criteria that are not inconsistent with the criteria set forth herein. By example, but not by way of limitation, the DCC may promulgate and adopt additional maintenance and operation activity criteria that relate to or are necessitated by or are appropriate as a result of development activity. From time to time any of these additional criteria may be amended by action of the DCC.

H. VARIANCES

The DCC may authorize a variance from these criteria when circumstances such as topography, natural obstructions, hardship, or aesthetic or environmental objectives or considerations may warrant, insofar as they are not superseded by applicable Douglas County zoning regulations. Such variances must be approved by at least four (4) voting members of the DCC. The granting of such a variance shall not operate to waive or to render unenforceable any of the terms and provisions of the Declaration of Covenants of the DCC for any purpose except as to the specified provisions, as spelled out by the variance.

I. DEFINITIONS

BUILDING COVERAGE

Building Coverage shall mean the actual "footprint" of all buildings on the site at grade or plaza level. Building areas covered by plazas, pedestrian malls, and/or landscaping may be considered Open Space vs. Building Coverage with DCC approval. Similarly, building area situated over plazas, pedestrian malls, or landscaping shall constitute Building Coverage vs. Open Space.

BUILDING SITE

Building Site shall mean any parcel of land that is part of Meridian, the size, dimensions, and boundaries of which shall be established by a legal description approved by the DCC (see also definition of Site).



CONTRACT FLOOR AREA

Contract Floor Area shall mean the definition of gross floor area set forth in any contract or covenants between the Applicant and any other entity that relates to a limitation on the amount of development that can occur on the Applicant's site.

DCC

DCC shall mean the Design Control Committee created pursuant to the Protective Covenants; including those persons who are acting on behalf of the DCC with respect to certain duties and obligations assigned to them by the DCC.

EXISTING IMPROVEMENT

Existing Improvement shall mean any Improvement for which all of the plans were approved by the DCC or any predecessor of the DCC (if such approval was required at the time the Improvement was constructed or installed) and the construction or installation of which was complete or substantially complete as of the date of this declaration.

GROSS LAND AREA

Gross Land Area shall mean all land area within a designated tract or parcel of land, regardless of the status of its use or ownership.

IMPROVEMENT

Improvement shall mean and include every structure and all appurtenances thereto of every kind and type and any other physical change upon, over, across, above or under or upon existing improvements. This definition shall include, but shall not be limited to, the following facilities and activities, whether of a permanent or temporary nature: buildings, outbuildings, parking structures and garages, parking lots and other parking areas, streets, roads, traffic control devices, signs of any type, canopies, awnings, trellises, fences, lawns, landscaping (including landscaping of balconies, plazas, and other portions of buildings), plazas, patios, recreational facilities such as tennis courts and swimming pools, walkways, pedestrian malls, sidewalks, shelters, security and safety devices, bridges, construction trailers and other temporary construction outbuildings, screening walls, retaining walls, stairs, decks, benches and other exterior furniture, hedges, windbreaks, plantings, planted trees and shrubs, poles, exterior air conditioning, water softener fixtures or equipment, aerials, antennas, lighting fixtures, drainage structures, communications equipment including but not limited to microwave dishes and relay equipment, coaxial and fiber optic cables, satellite transmitting and/or receiving ground stations, pumps, wells, tanks, reservoirs, ponds, pipes, lines, meters, towers, and other facilities used in connection with water, sewer, gas, electric, telephone, regular or cable television, or other utilities, and color texture, material, or other changes to any Improvement. Improvements shall include, but not be limited to, Existing Improvements.

MASTER PLAN

Master Plan shall mean the document or set of documents that may include any or all of the following relative to Meridian: drawings showing existing and future land uses, building uses and densities, streets, pedestrian and transit ways, open space, utilities, drainage, lighting and other aspects or characteristics of land development; design standards specifying the desired criteria for building design, signage, landscaping and other improvements; and policies describing desired uses, density, quality, location, mix, type, intensity, timing and other aspects or characteristics of land development; which documents, standards and policies have been adopted by the DCC as the governing plan for Meridi-



an. No document, standard or policy shall be or become or constitute part of the Master Plan until its adoption as such by the DCC.

MERIDIAN

Meridian shall mean those land areas as defined in the Protective Covenants.

NET FLOOR AREA

Net Floor Area shall mean the total horizontal floor area measured in square feet, of all floors of a building, excluding therefrom walls, stairwells, elevator shafts, covered malls, covered walkways, roof patio areas, covered entries, covered parking, covered driveways, covered loading areas, utility rooms and storage areas.

NON-CONFORMING DESIGN

The DCC Design Criteria are, and have always been, dynamic in nature. Revisions are made from time to time to clarify design intent or to adapt to changing conditions.

Given the fact that development at Meridian was initiated in the mid-1980's with development progressing in phases over that period, existing conditions can be found that may not fully comply with the current Design Criteria. Such situations do not justify a basis for a variance request from current applicable criteria. Similarly, existing developments do not necessarily have a "vested" right to reconstruct or reinstall previously approved but currently non-conforming items (GDP approvals excepted for approved periods as designated).

OPEN SPACE

Open Space shall mean all gross land area not covered by buildings, public streets, private drives or surface parking lots. Open Space shall include, but not be limited to, Gross Land Area in use for pedestrian ways, courtyards, landscaped areas (whether public or private), pedestrian malls, parks, and the golf course. Additionally, Open Space shall include courtyards, plazas, and landscaped areas located on top of any building or any parking structure as long as such courtyards, plazas and landscaped areas are within two (2) stories of grade. With respect to land in use for the golf course, and notwithstanding anything to the contrary in this document, all such land, including but not limited to, the portions thereof in use for buildings and similar uses accessory to the golf course use, such as clubhouses, pro shops, maintenance buildings, comfort stations and snack bars, shall constitute Open Space if said buildings and similar uses are limited in number and are compatible with the golf course use. Pursuant to the foregoing definition, all Gross Land Area located within golf course areas and right-of-way areas shall constitute Open Space.

OWNER

Owner shall mean the person or persons who own or hold an aggregate fee simple interest in any of the real property within Meridian or any Net Floor Area appurtenant thereto. The owners or holders of an "aggregate fee simple interest" shall not include owners or holders of (a) mortgages, deeds of trust, and other instruments pursuant to which said real property or floor area rights secure indebtedness, (b) easements, rights-of-way or licenses that pertain to or affect said real property or floor area rights, (c) water, mineral, air, or subsurface rights that, as appropriate, are located in, on, under, over, or are or were appurtenant to said real property, (d) leasehold interests, or (e) other equitable title interests such as the vendee's interest under an installment land contract.



PARKING COVERAGE

Parking Coverage shall mean the site area used for exposed parking, including parking structures, on grade parking lots, and drives serving the parking, as well as service drives and drop-off areas.

PROPERTY USE

Property Use shall mean the intended functions of, or activities that take place on a temporary or ongoing basis on, in, or with respect to any parcel or element of real property that is part of Meridian.

PROTECTIVE COVENANTS

Protective Covenants shall mean the applicable Protective Covenants within various areas of Meridian as follows:

- Protective Covenants of Meridian International Business Center dated as of October 31, 1984, and recorded on November 2, 1984, in Book 546 at Page 750 of the Douglas County, Colorado, records, as subsequently amended and/or restated and/or extended.
- Protective Covenants of Meridian Commons, dated as of October 21, 1999 and recorded on October 21, 1999 in Book 1769 at Page 444, Reception No. 99089733 of the Douglas County, Colorado records, as subsequently amended and/or restated and/or extended.
- Protective Covenants of Meridian International Business Center (North Area) dated as of November 29, 2001, and recorded on December 5, 2001, in Book 2201 at Page 1017, Reception No. 01116892, of the Douglas County, Colorado records, as subsequently amended and/or restated and/or extended.
- Declaration of Covenants, Conditions and Restrictions for Meridian Villages, dated as of October 4, 2005, and recorded October 20, 2005, Reception No. 2005101092.

SITE

Shall mean any portion or part of Meridian that is the subject of any site plan submitted in accordance with the provisions of the Amended and Restated Development Guide for Meridian.

SITE PLAN

Shall mean the document as defined herein (vs. alternate nomenclature referenced in Douglas County). Structured parking covered by building areas shall constitute Building Coverage and not Parking Coverage. Structured parking covered by publicly accessible plazas, pedestrian malls, or landscaping within two (2) stories of grade or ground level may constitute Open Space and not Parking Coverage.

PERIPHERAL BOUNDARY LINE

Peripheral Boundary Line shall mean a line generally consisting of the outer property line of the Meridian PUD (see Exhibit 2).



2.0 DESIGN CRITERIA

The following criteria are utilized by the DCC as the means of determining the suitability and acceptability of all proposed improvements in or on Meridian, and constitute the basic design criteria and standards for the Master Plan.

A. SITE PLANNING

USE, ZONING, AND DENSITY

Applicants must demonstrate that a proposed use (1) is consistent with and authorized by any applicable zoning and other governmental land use statutes, ordinances, regulations, rules and other authority (collectively, “Governmental Authority”); (2) is consistent with and authorized by the Master Plan and the Protective Covenants; (3) reinforces existing and projected uses adjacent to the site and throughout Meridian; (4) provides a harmonious development for Meridian; (5) promotes the general welfare of all landowners and tenants in Meridian; and (6) protects and enhances the present and future value of all property in Meridian.

The DCC has determined that certain uses are inappropriate within Meridian and will not be permitted under any circumstances because they do not and cannot meet all six (6) of the criteria set forth in the first paragraph above. These uses include (a) outside storage or loading or unloading of materials for sale, lease or rental (such as automobile, boat, recreational vehicle or trailer lots); (b) establishments selling adult materials or providing adult amusement or entertainment, such as bars and theaters displaying nudity; (c) the sale and/or dispensing of medical marijuana, in any form; (d) the sale of drug paraphernalia; and (e) any use that emits sounds, odors, light, glare, or vibrations that create a disturbance, or are offensive or obnoxious, to other properties. The foregoing list of inappropriate uses is not exclusive or comprehensive; any other use that the DCC determines does not meet all six (6) of the criteria set forth in the first paragraph above also shall be deemed to be inappropriate and shall not be permitted within Meridian.

The density of any use also must meet all six (6) of the criteria set forth in the first paragraph above.

In the event that applicable Governmental Authority allows uses or densities that are not permitted under the Protective Covenants, the Master Plan or these Design Criteria (collectively, the “Covenant Documents”), the Covenant Documents shall control and govern and the uses or densities shall not be permitted. Approval of a proposed use by a governmental entity does not constitute approval of that use by the DCC.

Any subdivision of land requires DCC approval prior to submission to the applicable governmental jurisdiction.

DEVELOPMENT STANDARDS

SEE CHART ON NEXT PAGE.



[CLICK HERE FOR SITE PLAN SAMPLE SET](#)



1023303, RAB

DEVELOPMENT STANDARDS

STANDARD	Meridian			Meridian Commons			Meridian Villages		
	PLANNING AREA 'A' RESIDENTIAL		TOTAL	PLANNING AREA 'B' RESIDENTIAL		TOTAL	PLANNING AREA 'C' RESIDENTIAL		TOTAL
	COMMERICAL	MF	SF	COMMERICAL	MF	SF	COMMERICAL	MF	SF
OPEN SPACE (MIN)	30%	30%	30%	30%	30%	30%	30%	30%	30%
BUILDINGS (MAX)	40%	NA	NA	40%	NA	NA	40%	NA	NA
PARKING (MAX)	50%	NA	NA	50%	NA	NA	50%	NA	NA
FAR (MAX)	1.5	NA	NA	1.5	NA	NA	1.5	NA	NA
LOT 60' MAX. HT	2.5	NA	NA	2.5	NA	NA	2.5	NA	NA
LOT 150' MAX. HT	60/150'	35'	NA	60'	35'	NA	60/NA	40'	NA
HEIGHT (MAX)									
LOT									
AREA (MIN)	21,780 SF	5,000 SF	NA	21,780 SF	5,000 SF	NA	21,780 SF	3,400 SF	NA
WIDTH (MIN)	25'	25'	NA	25'	25'	NA	25'	40'	NA
SETBACKS (MIN) ¹									
BUILDINGS	50'	50'	NA	40'	20'	NA	40'	20'	NA
FRONT	25'	25'	NA	25'	15'	NA	25'	15'	NA
SIDE	25'	25'	NA	25'	20'	NA	25'	20'	NA
REAR	75'	75'	NA	75'	75'	NA	40'	40'	NA
SPECIAL AREAS:	40'	40'	NA	40'	40'	NA	20'	40'	NA
PERIPHERAL BNDY*									
PERIPHERAL BNDY NOT	25-100'	NA	NA			NA			NA
GOLF COURSE									
SURFACE PARKING ⁴									
FRONT	25'	25'	NA	25'	25'	NA	25'	25'	NA
SIDE	10'	10'	NA	10'	10'	NA	10'	10'	NA
REAR	10'	10'	NA	10'	10'	NA	10'	10'	NA
SPECIAL AREAS:	50'	50'	NA	50'	50'	NA	25'	25'	NA
PERIPHERAL BNDY	25'	25'	NA	25'	25'	NA	25'	25'	NA
PERIPHERAL BNDY NOT									
GOLF COURSE									
SIGNAGE/UTILITY CABINETS ⁵									
FRONT	20' min. - 40' max.	20' min. - 40' max.	20' min. - 40' max.	20' min. - 40' max.	20' min. - 40' max.	20' min. - 40' max.	20' min. - 40' max.	20' min. - 40' max.	20' min. - 40' max.
SIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
REAR	75'	75'	NA	75'	75'	NA	75'	75'	NA
SPECIAL AREAS:	40'	40'	NA	40'	40'	NA	40'	40'	NA
PERIPHERAL BNDY									
PERIPHERAL BNDY NOT	NOT ALLOWED	NOT ALLOWED	NOT ALLOWED	N/A	N/A	N/A	NOT ALLOWED	NOT ALLOWED	NOT ALLOWED
GOLF COURSE									

LEGEND
 MF = MULTI-FAMILY
 PA = PLANNING AREA

NOTES:
 1 SEE SHEET 2 FOR DESIGNATED AREAS
 2 MEASURED FROM PROPERTY LINE
 3 REFERS TO PERIPHERAL BOUNDARY OF MERIDIAN (SEE PLANNING AREAS 'A', 'B', AND 'C')
 4 PARKING STRUCTURES ARE CONSIDERED AS BUILDINGS FOR SETBACK PURPOSES

* MUST BE SETBACK A MINIMUM OF FIVE (5) FEET FROM ANY ADJACENT SIDEWALK
 * WHERE PARCELS ABUT PARKS, OPEN SPACE, GOLF COURSE, OR GREENBELTS THE ABUTTING FRONT, SIDE OR REAR SETBACK MAY BE REDUCED TO 0'



INTEGRATED PLANNING

Integrated Uses

Emphasis on each project as a component of a totally integrated development is encouraged. Building design expressions in terms of massing, scale, color, and circulation must relate to adjacent buildings and to the total development. Orientation of improvements must acknowledge basic site considerations, adjoining building uses and siting, and overall circulation patterns.

General Development Plan

For projects involving multiple buildings to be developed in phases over time, applicants must submit a General Development Plan (GDP). At a minimum, the GDP must include all information required for a Sketch Plan submittal and must set forth anticipated development phasing. Applicants have the option of taking a GDP through the Schematic Design and/or Design Development phases if they desire to obtain this extent of DCC approvals.

ORIENTATION

Building orientation is an important aspect of reinforcing the image of the street system and the golf course. Site planning must address issues of orientation of the primary façade and building entrances so that a building does not “turn its back” on a street or golf course.

A 360-degree view angle to the site is to be evaluated. Building and parking orientation must be sensitive to adjacent sites as well as street views.

Main building entries and attendant pedestrian walks should be oriented away from north “shaded” areas to accommodate the impact of snow, ice and severe winter weather conditions on pedestrian and vehicular access.

Site designs should utilize building forms, natural landforms and landscaping to take advantage of prevailing summer winds and to serve as buffers against adverse winter wind conditions. Care must be taken to avoid potential for “wind tunnel” effects at building bases. If a development is of a configuration and/or height which may produce wind turbulence problems, pedestrian level wind analyses and appropriate mitigation measures may be required.

Similarly, the fact that this area experiences an average of three hundred (300) days of sunlight each year combined with rapidly fluctuating weather extremes necessitates careful analysis of the advisability of extensive glass, particularly in atriums.

Shadow Studies may be required to determine that any shadows cast do not have adverse impacts, particularly on public roads.

GOLF COURSE

The golf course at Meridian is the primary element within the open space system and provides a significant active recreational amenity, preserves important views and vistas, serves as buffer and creates high value frontage sites.

Special site planning, architectural and landscape requirements apply to properties adjacent to the golf course in order to preserve views from the fairways and to develop a transitional, and /or edge, landscape character between the golf course and individual development sites.



TOPOGRAPHY

Site Plans should attempt to conform to existing topography and blend with adjoining site and perimeter roadways. Blanket grading of sites to conform to preconceived building footprints is strongly discouraged.

HEIGHTS

The DCC will review each project to determine if the proposed height is consistent with the site characteristics and Meridian's design character, and relates to existing and proposed developments on surrounding sites. Certain areas may also be affected by FAA airspace height restrictions described below.

AIRPORT OVERLAY ZONE RESTRICTIONS

Certain parcels have additional restrictions pertaining to height (generally any penetration above elevation 6033 feet or less within the approach zone), building orientation, or sound due to their proximity to the Centennial Airport overflight area (see Exhibit 4: Airport Height Restrictions). Development of such parcels are required to meet the requirements of the Douglas County Centennial Airport Restriction Area (CARA) Airport Overlay District regulations regarding use of appropriate building materials as specified in Appendix 26, Chapter 35 of the Uniform Building Code, and clustering of buildings and orientation of parking areas toward the airport.

The Federal Aviation Administration (FAA) must be notified in advance of any building construction via FAA forms 7460 (Notice of Proposed Construction or Alteration); and 7480 (Notice of Landing Area Proposal) (See www.awp.faa.gov).

ACCESS/CIRCULATION

All Site Plan submittals must be accompanied by a "Certification" from an independent Traffic Engineer designated by the DCC (see Site Plan; Section 4.0, E). Demonstration of compliance with the following criteria, supported by sufficient technical data, must be provided to the DCC to allow this to be done.

A fundamental development objective for all sites is the safe and efficient movement of vehicles and pedestrians. Vehicular access to any site must be carefully designed in relationship to vertical and horizontal curves, site distances, median cuts, other driveways, and other common traffic engineering criteria so that usage traffic conditions are minimized and the efficient, smooth flow of traffic is encouraged. Commonly accepted traffic engineering criteria must be met, and curb and median cuts are to be minimized, by means such as shared access drive and entryways. Sites should be designed to minimize conflicts between automobiles and pedestrians and to create a clearly organized system of entrances, driveways and parking lots, while still providing convenient parking spaces. These requirements should be balanced against the need to minimize paved areas and curb cuts as well as to reduce their overall visual impact.

Vehicular entrances should be limited in number and planned to ensure an easily understood sequence of arrival, parking, and entrance to buildings. Visual screening must be provided for parking areas which can be viewed from adjacent development sites or from public spaces such as streets, plazas, and walkways and the golf course.

Site Access

A traffic management program is in place for Meridian and the surrounding region in order to opti-



mize the use of the existing and planned roadway system. Access for each site must be determined in concert with Meridian's overall traffic circulation and capacity needs and requirements.

Parking lots and driveways must be designed for sufficient storage to avoid conflict with vehicular traffic in the street. All parking lots and driveways shall have a continuous concrete curb and gutter and must be paved.

"Gated parking" must be designed to prevent traffic queuing onto a public street.

Building Address System

The vehicular circulation system provides a framework for assigning building addresses which enhances the sense of orientation to visitors. Specific addresses and street names are to be assigned by Douglas County utilizing the postal street grid system for the area, and should reflect the primary access street for the site.

Service and Emergency Access

A comprehensive and coordinated approach should be taken to service and emergency access requirements. These include requirements by fire and police departments, ambulances, moving vans, delivery trucks and trash trucks. Note that the DCC review does not supplant the review prerogatives of the local fire jurisdiction.

Bicycles

Both recreational and commuter bike accessibility to and within Meridian is encouraged. Primary bike routes along designated streets may be either on-street or off-street dependent upon allowable conditions.

Public Transit

Sites may be evaluated for public transit accommodation, and bus stop/shelter accommodation may be required.

Signalization

Where intensity of land uses attendant to a parcel development necessitate signalization and where streets connect to perimeter arterials, provision of such signalization must be addressed as a part of the Site Review Process.

Pedestrian Access

Site and building design must accommodate pedestrian circulation on site from parking areas and to plazas, open space, and pedestrian pathways, and to adjoining buildings, all in accordance with the Master Plan. Where identified as part of the Master Plan, existing and proposed pedestrian circulation systems and easements must be integrated into site design. Pedestrian and automobile circulation must be separated to the greatest extent possible.

Sidewalks are required along all perimeter streets (See Exhibits 7 and 8). Where a site abuts a common area such as a drainageway or park, additional walks may be required. At least one sidewalk connection between the building and the perimeter street is required. Large parking areas must have sidewalk connections to the building entries or ground plaza areas.



GRADING

Overall site grading will largely determine the degree to which a new development visually “fits” into the surrounding landscape and how effectively the site sheds storm water. For these reasons, site grading and drainage are key concerns of these Design Criteria. Changes to existing topography should be minimized on all development sites. Where grading does occur, it should be done in a manner that respects the gently rolling topography of the existing landscape. Special attention should be given to providing smooth grading transitions between neighboring development sites and between the golf course and adjacent sites.

As much as practical, existing topographic features should be preserved through sensitive grading. The grading of each site must meet existing grades within the Development Area and graded slopes shall not exceed 3:1 and 4:1 in turf and lawn areas. Concentrated drainage across walkways and other pedestrian areas is not permitted. Drainage across driveway entries is to be avoided.

DRAINAGE

All Site Plan submittals must be accompanied by a “Certification” from an independent Civil Engineer designated by the DCC (see Site Plan; Section 4.0, E). Demonstration of compliance with the following criteria, supported by sufficient technical data, must be provided to the DCC to allow this to be done.

Each site development must provide adequate drainage facilities inclusive of water quality and erosion protection controls as appropriate, and are to be integrated into the overall Site Plan in a functionally and aesthetically acceptable manner.

Upstream flows from within the basin must be accommodated in accordance with the applicable basin master drainage plan for the area on file with Douglas County. Downstream flows must be conveyed to an established principal drainageway or system with adequate provision for interim erosion protection.

Where off-site downstream detention is available, on-site detention may not be required unless conveyance facilities between the site and detention facility are of inadequate capacity to accommodate projected flows.

UTILITIES

Meridian has a well-conceived and developed utility infrastructure. All developments must be designed to interface with these systems. Utility layouts and connection points are part of the design review process. No overhead wiring is permitted. All above ground utility boxes, transformers, switch cabinets meters, and similar structures must be properly located to avoid unsightliness or potential safety problems and properly screened and are subject to a minimum twenty-five feet (25') setback from all roadways and five feet (5') from any sidewalk (site vs. street side).

Meridian’s water service is through Meridian Metropolitan District which has strict “allotments” for both domestic and irrigation service. These can have implications relative to facility and landscape design which must function within the specified allotments. Applicants should also be aware that the DCC expects the site utility design to parallel the overall development review process to assure such compatibility.



SERVICES

Visibility

Preferably, any service, loading, emergency generator and trash areas should be enclosed within buildings. External facilities must be enclosed, screened with landscaping to minimize adverse views from adjoining streets, buildings, or a golf course, and designed and constructed of the same design theme and material as the adjoining building. Such facilities may not be placed adjacent to, or face, a golf course or adjoining streets.

Loading

Truck loading and receiving areas must be screened from view by architectural or landscape features. Such areas will not be permitted in the front of a building.

Waste Storage

All external waste storage must be within a permanent enclosure constructed of a material consistent with that of the primary building. Metal (vs. wooden) doors or gates are required.

Materials Storage

No materials, supplies, equipment, service vehicles, finished or semi-finished products, raw materials, or articles of similar nature may be stored or permitted to remain outside of buildings or be visible from adjacent properties, adjoining streets, or the golf course. Properly screened temporary trash dumpsters and construction materials will only be permitted for a defined period of time with prior review and approval.

Snow Storage

Provision must be made for snow storage on site. Pushing snow into street, sidewalk, landscape area or median areas is not permitted. All site owners are responsible for timely snow removal on their perimeter street sidewalks.

LIGHTING

General Criteria

All outdoor lighting shall meet the following general standards:

- **Use of high-pressure sodium light sources for all major streets and commercial parking and access drives is required to maintain an overall visual consistency.**
- Except as otherwise allowed for herein, all lighting (including, but not limited to street, parking lot, security, walkway and buildings) shall conform with the Illuminating Engineers Society (IES) criteria for true cut-off fixtures (90% of fixture light output within the 0-60E range from vertical.) No portion of the bulb or direct lamp image may be visible beyond two mounting heights from the fixture. If the bulb position within a fixture is vertical, any or all of the following may be required:
 - o a high socket mount
 - o a translucent fixture lens
 - o an opaque coating or shield on a portion of the perimeter of the lens or



- o other industry-accepted measures to ensure that the fixture IES classification as a true cut-off is not compromised.
- Non IES approved cut-off fixtures which use incandescent bulbs of one hundred fifty (150) watts or less, or metal halide bulbs of thirty-five (35) watts or less, may be used to illuminate landscape plantings, pedestrian walkways, signage, or product display areas. All fixtures mounted within fifteen (15) feet of any residential property line or public right-of-way boundary of the site shall be classified as IES Type III or Type F (asymmetric forward throw) and shall be fitted with a “house side shielding” reflector on the side facing any residential units.
- Beacons, search lights, blinking, flashing or changing intensity lights are prohibited, except for temporary holiday displays or lighting required by the FAA for air traffic control and warning purposes.
- No outdoor lighting may be used in any manner that could interfere with the safe movement of motor vehicles on public thoroughfares. The following is prohibited:
 - o any fixed light not designed for roadway illumination that produces incident or reflected light that could be disturbing to the operator of a motor vehicle.
 - o any light that may be confused with or construed as a traffic control device except as authorized by a State, Federal, or County government.
- All stadium and all other exterior sports arena lights used for the purpose of illumination of a playing area must be extinguished by 10:00 p.m. or immediately after the conclusion of the final event of the day. The remainder of the facility lighting, except for reasons of security, must be extinguished at 10:00 p.m. or within one hour after the event, whichever is later, and remain extinguished until one hour prior to the commencement of the next event. For reasons of security, however, a maximum level of 1.5 foot-candles at entrances and stairways, and 0.5 foot-candle on the rest of the site is permitted.
- Alternative lighting sources and standards may be considered for residential areas.
- Computer analysis of building lighting must be provided by the Applicant if requested by the DCC. Input data must be Certified Independent Test Data.
- Light fixtures, except as otherwise permitted herein, are required to be full cutoff as defined by the Illuminating Engineers Society of North America (IESNA). Full cutoff light fixtures result in a light distribution pattern where no light is permitted at or above a horizontal plane at the bottom of the fixture.
- Non-shielded industrial type building-mounted floodlights such as wall packs are not permitted. Low-level building-mounted lighting, shielded via architectural sconces, may be used in some situations although such should not be used as a means of lighting large exterior ground level areas.
- The design of the fixture canopy in terms of height above grade, and the spacing between the fixtures within the canopy, shall be such that the illuminance level under the canopy does not exceed 20 foot-candles.
- Light levels shall not exceed 0.1 foot-candles 20' from the abutting property line as a direct result of the on-site lighting.
- Lamps shall not exceed 900 lumens for any single lamp.
- Illuminance of a building façade to enhance architectural features may be permitted provided it



is approved on the Site Plan. Downlighting is preferred, provided wall-mounted fixtures are used and illuminance is contained completely within the vertical face of the building and does not spill off the building edge. Uplighting may be permitted provided no illuminance escapes the façade. Building façades may be illuminated to a maximum of 20 foot-candles as measured on the façade. Lights mounted on poles for the purpose of illuminating the building façade are not permitted.

Poles

The style of light pole fixtures must be architecturally compatible with the building design. Poles and luminaires must be uniform in color, anodized or painted to be compatible with the building color scheme.

Spatial relationships between pole height and building height must be approved by the DCC. In no case may pole heights of twenty five (25) feet be exceeded, measured from the ground to the top of the pole.

Poles should be placed in a landscape or walk (v.s. parking lot pavement) and mounted on a concrete base no more than six (6) inches in height above grade.

Driveway and Parking Lots

Driveway and parking lot lighting must be high-pressure sodium, utilize a “cutoff” type luminaire to assure that no light sources are visible and to minimize glare. At no point may the light level exceed eight (8) footcandles when measured at the ground, or an average of two (2) footcandles overall. Parking lot lighting must provide a uniformity ratio between 15:1 and 20:1.

Parking Structures

Interior lighting must be limited to driving lanes only, and the light source must be concealed or shielded and not visible from outside of the parking structure. Lighting levels for an exposed top deck must be the same as defined above for surface parking lots and fixtures and shall be a “cut-off” type, with pole heights not to exceed twenty (20) feet. Poles must be placed “interior” to the deck vs. mounted on or at the perimeter parapet. Special attention to parking deck lighting is required to assure that lighting does not produce an offsite “halo” effect. Wallpack lights are not permitted on any structures.

Buildings

Building flood lighting, (ground up), may be used to highlight architectural features. Such lighting must be designed with the intent of providing accent and interest and not to exhibit or advertise buildings or their sites.

All illumination sources must be located within the property boundaries and be shielded from public view so that light is controlled within the area to be illuminated. Lamp selection should ensure that the source color is compatible with the building color and texture.

Service and Storage Areas

Service area lighting should be contained within the service yard boundaries and enclosure walls. No light spillover can occur outside the service or storage area. The lighting source should not be visible from the street.



Landscape and Pedestrian Areas

Accent lighting of landscape elements is permitted within the Development Area, provided that it is low level, background in appearance and uses a concealed source. Colored accent lighting is not permitted.

Lighted pedestrian walk and exterior paved areas adjacent to buildings must use low intensity fixtures and the lamp color source must be compatible with surrounding area lighting.

Security

Any special security lighting should be confined to building entrances or outdoor pedestrian areas. With the exception of low intensity fixtures, the lighting source should not be visible from the street.

Specialty Areas

All fountain, artwork and seasonal/temporary lighting must be approved by the DCC prior to installation.

PARKING

Outside storage of recreational vehicles, such as motor homes, trailers, campers, and boats, is not permitted over a continuous period of more than twenty-four (24) hours.

Parking Ratios

Parking ratios must meet Douglas County zoning requirements.

Surfacing

Paved off-street parking must be provided for all developments. Parking areas must be paved with asphalt, concrete, masonry pavers, or a similar material approved by the DCC. All drives and surface parking areas are to be bordered by poured in place concrete curbs and gutters.

On-Street Parking

No parking shall be permitted on any street or access road, either public or private, or at any place other than the paved parking spaces provided. Each Property Owner shall be responsible for compliance with this requirement by its tenants, employees, and visitors. Owners or users of vehicles parked in violation of this provision will be subject to the sanctions provided by governmental ordinances, if any, that prohibit or restrict such parking, and regardless of the existence of any governmental sanctions, the vehicles so parked will be subject to fine and/or removal at the property vs. owner's expense. Notwithstanding the foregoing, governmental or quasi-governmental or public utility vehicles in use for normal maintenance and operations activities may park on streets or roads during such activities in the event convenient off-street parking is not available.

LANDSCAPE

The quality and extent of site landscaping is an integral element of Meridian's overall identity. The extent to which landscaping meets the desired standard and unifies the building and site within the overall Meridian area is considered a major review item for any DCC approval.



Concept

Meridian's landscape concept is to establish a **predominately "high plains" naturalized native landscape** character which transitions to a limited area of more formal irrigated landscaping in the immediate environs of buildings, entryways and streetscape. These landscape treatments contrast in terms of irrigation requirements, plant materials, use of hardscape elements and layout and **must be balanced with irrigation consumption allowances** (see Irrigation Consumption Limitations below).

Where appropriate, the naturalized landscape is to be established primarily through the use of native grasses, shrubs and groundcovers. A variety of trees are to be used and sited in a manner similar to that found in the native landscape. The arrangement of these plant materials is to be informal in nature and irrigation is to be used sparingly.

Landscape development must integrate with adjoining developed parcels. Smooth grading and planting transitions are essential in order to achieve the desired character. Grading and planting should be used to frame desirable views and to screen undesirable views within the naturalized landscape areas. Landforms and drainageways should be treated informally, simulating a more natural character. Consistent with this, the use of walls, walks, and other structural elements should be infrequent.

Irrigation Consumption Limitations

For each non-residential development site, the amount of non-potable "reuse" water for irrigation purposes is limited to an amount predicated on a design parameter based on a maximum of twenty percent (20%) of the gross site area being irrigated and an average rate of thirty (30) inches/year.

Verification is required at the Design Development phase that the site planting and irrigation design meets these requirements. (See "Landscape Irrigation Demand Certification" in the Processing Forms section, Chapter 4). **Exceeding allowable irrigation use allotments will result in substantial rate surcharges and/or denial of a landscape plan approval.**

Recycled Water

All non-residential irrigation within Meridian utilizes recycled waste water. Irrigation systems, particularly spray heads, must be designed to accommodate this type of water supply.

Moisture Detection

All commercial and multifamily area irrigation systems are required to have automated moisture detection devices (see Meridian Metropolitan District Rules and Regulations).

Landscape Types and Plant Materials

Two landscape types have been established for Meridian — "Naturalized" (i.e. native/mostly un-irrigated) and "Formal" (mostly irrigated) — in order to provide guidelines for consistent landscape development among parcels, to manage water use and to establish the desired image of a naturalized high plains landscape character. These types should be used, along with the transition techniques described below, to provide for "seamless" landscape development.

Where sites adjoin the golf course, site landscaping must transition to and blend with the golf course landscaping.



Naturalized Landscape

For most sites, the “Naturalized” areas must be the predominant treatment for the open space area.

Primary plant materials shall be masses of hardy, attractive, informally arranged shrubs and trees. In order to achieve both screening and shrub massing, consideration should be given to restraining the spreading trait characteristics of shrubs recommended for this area. This may be accomplished through specific design applications or through required maintenance practices. Grasses should be hardy, drought-tolerant, lower-growing types that develop a high degree of soil coverage similar to the golf course rough mix at the golf course.

Provisions may be made for all “planted” areas to be irrigated. However, in any naturalized areas with native grasses this may only be done to aid in initial establishment or to provide supplemental water during prolonged dry periods.

Recommended plant materials include:

- **Trees.** Narrowleaf and Lanceleaf Cottonwood, Piñon Pine, Ponderosa Pine, Hackberry, Bur Oak, Green Ash, Catalpa, and Hawthorne.
- **Shrubs.** Native Serviceberry, sage varieties, rabbitbrush varieties, Wild Rose, Yucca, Three-leaf Sumac, Rocky Mountain Sumac, Willow, Four-wing Saltbush, Sea-buckthorn, Peashrubs, Gambel Oak, Bigtooth Maple, Mountain Mahoganies, American Plum, Western Sandcherry, Chokecherries, Antelope Bitterbrush, Shrub Roses, Salt Cedar, and New Mexico Cliffrose.
- **Native Seeding.** Native seeded areas should use the following mix to match those areas throughout Meridian: “Foothills Mix”: 25% Crested Wheatgrass, 20% Slender Wheatgrass, 15% Hard Fescue, 15% Annual Ryegrass, 10% Kentucky Bluegrass, 5% Side Oats Grama, 5% Little Bluestem, 4% Blue Grama, and 1% Sand Dropseed.
- **Groundcovers.** Grass blends consisting of Bromes, Ryegrasses, Wheatgrasses, Buffalo grass, Blue Grama grass, Fescues, drought tolerant bluegrasses and wildflower mixes that are used in drifts and not mown during the growing season.

Formal (i.e. irrigated) Landscape

This landscape treatment should be confined to within the immediate building environs and entry areas. It must also be used in the designated streetscape between the sidewalk and adjoining street. In keeping with the intended naturalized character of Meridian, landscape development in these areas should demonstrate aesthetically acceptable transitions to the Naturalized Landscape areas.

Plant materials used should be hardy, attractive trees, shrubs, groundcovers and vines, arranged formally or informally. Grasses should be lower-water-demand varieties. While refined in appearance, plant materials may not be exotic or extremely lush in character, as exemplified by the extensive use of pure bluegrass lawns or plant materials such as Purple Plum trees or Golden Elder shrubs.

Formal recommended plant materials include:

- **Trees.** Maples, Hawthorne, Catalpa, Thornless and Seedless Honeylocusts, Lindens, Scotch Pine, Alder, Red Bud, Flowering Crabapples, Ornamental Pears, Ornamental Plums, and Pines.



- **Shrubs.** Serviceberry, Wild Shrub Roses, Cotoneaster, Shrub Dogwoods, Spreading Junipers, Mahonia, Viburnums, Barberries, Euonymus, Shrub Pines, Shrub Maples, Spireas, Quince, Broom, Chokecherries, Firethorns, Sumacs, Prunus, and Lilacs.
- **Groundcover.** Drought tolerant fescue turf, Vinca, most herbaceous groundcover plants, Creeping Junipers, annual and perennial flowers.

Plant Material Standards

The following criteria apply to all landscape areas:

Quantity and Spacing

A minimum of thirty (30) trees/acre comprised of fifty percent (50%) deciduous shade trees, twenty-five percent (25%) ornamental trees, and twenty-five percent (25%) coniferous trees must be provided. Note only the “open space” acreage is counted, but all trees, including street trees abutting a site, are included in the overall site tree count. The size of selected plant materials and their quantity and spacing must be appropriate for the associated landscape, especially in regard to initial appearance, projected appearance at time of maturity, and existing and projected level of finish of adjoining properties.

Minimum Plant Sizes

On-Site Deciduous Trees:	2-1/2” caliper (measured 4” above the ground)
Deciduous Street Trees:	3” caliper
Ornamental & Flowering Trees:	2” caliper measured 4” above the ground
Evergreen or Coniferous Trees:	Mix of 6-10 foot height
Shrubs:	5 gallon; max. spacing of 36”; evergreens must have 24” spread
Vines:	1 gallon

Use of Evergreens

Due to existing climate conditions, evergreen plant materials are a major source of visual interest for a significant time during the year. In selecting trees, Piñon, Ponderosa and Austrian Pine are to be used in lieu of such varieties as Colorado Spruce.

Quality

All plant material used must meet the minimum standards established by the American Association of Nurserymen, as published in the American Standards for Nursery Stock.

Annuals and Perennials

The use of annual and perennial flowers offers an opportunity to provide seasonal color and interest in an environment often lacking in such amenities. The use of such flowers is strongly encouraged in the Formal Landscape areas, especially at site and building entrances and as an accent to site furnishings such as signs and lighting.

A minimum of 500 square feet, per identity sign, of annual or perennial decorative flower beds, readily visible to the public, are required adjacent to the street frontage of each parcel, preferably in the vicinity of the identity signage.



Transitions

It is the intent of these guidelines that plant materials, grading, landforms and hardscape features be used to provide smooth transitions and overall “seamless” landscape development between different landscape types. As a means to accomplish this, the recommended plant materials lists contain a degree of overlap between adjacent landscape types. In addition, maintenance operations and the design of grading and landforms, walks, walls, fences, paths, roads and irrigation systems should seek to establish and maintain these transitions.

Parking Areas

Parking Screening

The periphery of all surface parking areas must be designed such that the major portions (heights) of automobiles are screened from street view.

Along street frontages, where screening is not accomplished by an architectural element, a three (3) foot high minimum earth berm with a maximum 4:1 external slope, supplemented by shrub, masses, or hedges and street trees is required.

Internal Parking Lot Planting

Surface parking areas must have internal landscaping equivalent in size to a minimum of five percent (5%) of the overall parking surface area as follows:

Parking bays must be separated by a landscaped island of at least six (6) feet in width (running laterally with the aisle), or a landscaped island at least six (6) feet in width at maximum intervals of every fifteen (15) contiguous parking spaces in a row.

For larger parking areas (i.e. those in excess of one hundred (100) contiguous parking spaces) internal landscaping may be aggregated to achieve more functional landscape screening areas at the discretion of the DCC.

Streetscape

Individual parcels must develop and maintain formalized streetscape adjacent to adjoining roadways as follows:

Irrigated turf

Must be provided between the roadway curb line and adjoining sidewalk; or, where the sidewalk adjoins the roadway, a minimum of twenty (20) feet to the inside of the sidewalk.

Street trees

- **Formalized patterns.** In linear (i.e. parallel to the street) groupings of identical species between sidewalk and curb consisting of:
- **Lincoln Blvd.** Pear, Hackberry, Swamp White Oak; sequential groupings of three (3), four (4) and five (5); trees spaced at twenty-five (25) feet; groupings spaced at one-hundred (100) feet.
- **Oswego south of Lincoln:** Greenspire Linden, Swamp White Oak, Ornamental Pear; sequential groupings of three (3), four (4) and five (5); trees spaced at twenty-five (25) feet;



groupings spaced at one-hundred (100) feet.

- **Oswego north of Lincoln:** Shademaster Honeylocust; Redmond Linden; alternating groupings; trees spaced at forty (40) feet; groups at one-hundred (100) feet.
- **Meridian Blvd.:** Skyline Honeylocust, Swamp White Oak, Ornamental Pear; sequential groupings of three (3), four (4) and five (5); trees spaced at twenty-five (25) feet; groupings spaced at one-hundred (100) feet.
- **Peoria Street north of Lincoln:** Shademaster, Honeylocust, Elm, Swamp White Oak; sequential groupings of three (3), four (4) and five (5); trees spaced at twenty-five (25) feet; groupings spaced at one-hundred (100) feet.
- **Peoria Street south of Lincoln:** Catalpa Tree, Bur Oak; alternating groupings; trees spaced at forty (40) feet; groups at one-hundred (100) feet.
- **Mt. Belford:** Montgomery Sour Cherry, Swamp White Oak, Elm; sequential groupings of three (3), four (4) and five (5); trees spaced at twenty-five (25) feet; groupings spaced at one-hundred (100) feet.
- **Jamaica:** Hackberry, Skyline Honeylocust, Swamp White Oak; sequential groupings of three (3), four (4) and five (5); trees spaced at twenty-five (25) feet; groupings spaced at one-hundred (100) feet.
- **Liberty Blvd.:** Elm, Hackberry, Honeylocust; groupings of three (3), four (4) and five (5); trees spaced at twenty-five (25) feet; groupings spaced at one-hundred (100) feet.
- **Maroon Circle:** Washington Hawthorne; groupings of two (2) or three (3); trees spaced at twenty-five (25) feet; groupings spaced at one-hundred (100) feet.
- **Other Internal Streets:** Individual Greenspire Linden trees must be spaced thirty-five (35) feet on centers, on both sides of the street.
- **Informal patterns.** Evergreen trees placed in informal groupings to the rear and within twenty (20) feet of the sidewalk such that the number of street trees (combined formal and informal) equates to one (1) tree per thirty (30) feet of abutting street frontage.

Landscape Treatment Along I-25 and E-470

Development sites adjacent to these freeways shall use predominately native landscape and undulating berms with intermittent groupings of ponderosa or piñon pines in areas contiguous to the road right-of-way.

Greenbelt Areas

Areas adjoining the greenbelt area along the Cottonwood drainageway must screen any abutting parking areas with intermittent drystack walls, three (3) feet minimum height; fifty (50) feet minimum lengths; (Colorado Buff Sandstone/Ashlar pattern) combined with a continuous row of Redtwig Dogwood.

Walls, Fences and Screening

The use of dry stacked stone (Colorado Buff Sandstone in an Ashlar pattern) is required for all walls visible from adjacent streets, golf course, or green belt areas.



In all other cases, the materials and design of walls and fences must relate to the color, materials, scale and style of the adjacent buildings and site improvements.

Wall alignment and heights must conform to the terracing parameter depicted in Exhibit 10: Retaining Wall Requirements.

Wood, chain link, or decorative interlocking masonry block walls or fencing is not permitted.

Site Furnishings, Plazas, Fountains, and Art

A wide variety of site furnishings may be utilized on any particular site. Design and selection of these furnishings should consider visual and operational compatibility for a particular site, as well as compatibility with elements already in place elsewhere within Meridian.

The term “site furnishings” is intended to cover at least the following items: shelters, gazebos, fences, walls, water features, flagpoles, benches, trash receptacles, telephones, bicycle racks, and security fencing. These types of amenities are encouraged as an integral part of landscaping designs and generally are to be compatible with the overall materials and colors of the building and site. Such amenities may be allowed to mitigate overages in the maximum allowable site parking coverage; particularly when visible and accessible to the public.

Screening is required for all newspaper and postal boxes. Ornamental iron with a metal screen with black finish is required.



Sample of acceptable screening

Design

Landscaping plans must be prepared by a person experienced and qualified in landscaping design and be of sufficient detail and quality to enable the DCC to understand the plans to its satisfaction and to render a knowledgeable decision thereon. The DCC, in its sole discretion, will determine, in terms of detail and quality, the acceptability of such plans for said purposes.

Installation

Building sites must be landscaped in accordance with the plans submitted to and approved in writing by the DCC. All landscaping must be completed as soon as weather conditions permit and, in any event, before a final Certificate of Compliance will be issued. The approved landscaping for the site may not be altered without written DCC approval.

Maintenance

In order to assure all owners quality levels are sustained, each owner shall regularly maintain all elements of their property, keeping them in a neat and orderly condition, including timely (within one (1) growing season) replacement of dead and unhealthy plant materials.

Planting Bed Ground Cover

Native, non-decorative rock mulch is required when the aggregate area of site planting beds exceed 500 sq. ft. to minimize negative impact from loss of color, water, and wind erosion.



Special Conditions

Selection of plant materials and other landscape elements shall respond to the following special conditions:

Wind

The siting of plant materials and landscape structures should be responsive to prevailing winds. Where desirable, such materials shall be used to create windscreens, protecting buildings, entries, and outdoor use areas. At the same time, care should be taken to avoid creating areas where drifting snow may impair operations, either on-site or off-site.

Sun/Shade

The use of plant materials and landscape elements can significantly alter the level of comfort of indoor and outdoor areas. Site and planting design should consider this factor on a year-round basis. Maximum shade should be provided for buildings and outdoor use areas in the warmer months. Access for solar gain should be retained for cooler months and/or year-round operations, as needed.

Sun and shade exposure for plant materials themselves should also be considered. Planting and irrigation design should take into account the exposure aspect of any given area and its impact on plant selection, establishment and maintenance.

Landform/Plant Material Relationships

In order to minimize water consumption and to create the appearance of a more natural landscape, selection of plant materials should reflect both existing and proposed landforms. Lowland areas that may have more water available from runoff should be planted with water-tolerant species (Cottonwood, Willow, Dogwood, for example) while the emphasis in upland areas should be on more drought-tolerant plants (Sage, Rabbitbrush, Sumac, for example). Significant variation from this principle will result in additional water consumption and/or plant loss.

B. ARCHITECTURAL ELEMENTS

Meridian's overriding architectural goal is to produce development of acceptable quality, order and permanence. Each project will be evaluated by the DCC in terms of this goal as well as the use and suitability for a given site and compatibility with existing and anticipated development. The architectural design should respond to these factors in terms of form, colors, materials and texture. Of special concern are designs which reflect the existing natural environment and which are architecturally and spatially unified.

Any building improvement (except landscaping, the requirements for which are set forth herein) must be designed by a licensed architect unless the DCC, in its sole discretion, determines that the nature of the improvement is such that this is not necessary.

MASSING, FORM, AND DETAILS

Building massing and exterior form should reflect basic building functions. Well-defined entrances, access drives, public plazas, focal activity areas and pedestrian linkages are important elements which should be incorporated in the design. Architectural detailing of the building exterior should be clean, simple and functional.



An additional consideration is development adjacent to the golf course. In this area, stepped-back forms are recommended to reduce the impact of the building.

COLOR AND MATERIALS PALETTE

The quality of materials should reflect a long-term commitment to the architectural character of Meridian. The predominant exterior materials are to be masonry, pre-cast concrete or natural stone. Secondary materials, such as stucco or EFIS are to be utilized only for “accent purposes.” The building must still “read” as of the predominant material.

A color and materials palette within the range of the natural Colorado landscape must be used in order to establish continuity between individual buildings and to create a distinctive image for the development as a whole. These colors, which comprise the “suggested” Meridian palette, are all derived from the natural Colorado landscape. They are azure, from the blue Colorado sky, amethyst from the purple mountains, fawn from the grassland prairies, buff from the nearby rock outcroppings, and rose from the red rocks. The rose and fawn colors should be used as the primary exterior colors and azure and amethyst are to be used as secondary colors or accents. Azure is also intended to be used as a glazing color, although gray and bronze colored glazing are also acceptable, due to their ability to mirror the blue Colorado sky. Colors should have low reflective characteristics. Use of accent colors should be limited.

Experience has shown that the creative use of selective materials and colors has consistently proven to be successful in creating a visually unified development. A great variety can be achieved within the specified palette because of the intrinsic compatibility of these colors and materials. It is DCC’s intent that Meridian develop as a community that expresses the individuality of each of its residents while creating visual unity between individual development sites. Individual corporate identity can be established through the overall massing and form of buildings as well as through the use of architectural elements such as accents, trim and focal points.

PARKING STRUCTURES

As a general rule, the same overall DCC design parameters that apply to any building will apply to a parking structure.

Placement of parking structures abutting streets is discouraged and, if permitted, upper levels must be tiered and enhanced buffer landscaping will be required to offset visual impacts.

Parking structures must be architecturally compatible with adjoining buildings on the site, inclusive of material finish. Exposed columns must have the same finish as the overall garage. Each floor, including the ground level, must have a minimum 36 inch wall or parapet, of the same overall material to screen abutting vehicle stalls.

Material sample boards reflecting all proposed external building materials are evaluated during the schematic and design development phase of review for preliminary determination of acceptability. However, on-site material mock-ups of reasonable scale to evaluate material color and compatibility under natural light and site conditions are required prior to final approval and full release for construction.



GLAZING

Highly reflective glass is not allowed at Meridian. Glazing may be used to help establish an appropriate building scale and to help to identify uses. Transparent glazing should be utilized at ground levels where appropriate to encourage pedestrian activity. Reflective glazing may occur on the second and third surfaces of the glazing unit if energy consumption warrants. In situations where very low transmissivity is required, a reflective surface can only occur on the second or third glazing surface, with a blue, bronze or gray covering surface to mute the reflective surface. Up to an eight percent (8%) light transmission factor will be allowed on these surfaces.

The use of any degree of reflective glass next to the golf course requires specific DCC review.

BUILDING AND SITE RAILINGS

Architectural railings (i.e. ornamental metal vs. pipe or wood) must be used if required at building entrances or exits, as well as along stairways, walkways, decks, balconies, porches, etc. or in locations that abut or are readily visible from an adjacent street. Railings must be painted or anodized metal. Ornamental railings must also be used along drainage headwalls, where needed.

SAFETY BOLLARDS / BARRIERS

These must be of a compatible color with the balance of the site buildings. The use of bright yellow, red, striped, or other harsh colors is not permitted.

SOLAR / ELECTRICAL / MECHANICAL / TELECOMMUNICATION / ANTENNA EQUIPMENT

All ground, building, or roof-mounted electrical, gas, mechanical units, communication equipment, and similar devices require DCC application and approval.

Such equipment must be located and screened in a manner compatible with the design of the building and site improvements. No heating, air conditioning, electrical, window washing or other equipment may be installed on the roof of any building or structure or hung on exterior walls unless screened with materials compatible with (preferably the same as) the predominant exterior building skin material and installed in accordance with a DCC approved plan. (see also the Table 2-1: Development Standards (p. 2-3) and the Setbacks section (p. 2-21) regarding required setbacks).

ROOFSCAPE

Rooftops constitute a significant visual element in Meridian and must be treated as a fifth architectural elevation.

No heating, air conditioning, electrical, window washing, antenna, telecommunications dish or other equipment may be installed on the roof of any buildings or structures or hung on exterior walls unless screened with materials compatible with (preferable the same as) the predominant building exterior material.

Rooftop penthouse enclosures must be architecturally compatible in scale and design with the building. In no case may a utility penthouse extend more than fourteen feet (14') above the actual roof elevation (twenty feet (20') for gabled roofs). Where appropriate, "stealth" type materials may be used in combination with the other penthouse materials to allow for transmission/receipt of communication signals.

Where gabled roofs are used as a means of enclosing and visually screening roof top mechanical



equipment, the DCC may allow the roof to be considered as an integral part of the mechanical appurtenance above the top of the base building, and therefore excluded from the building height limitation; provided that no portion of the roof may extend more than 20 feet above the top of the building.

Communications or electronic equipment (including telecommunication dishes, antenna and the like) will only be permitted when properly screened (i.e. contained “within” a rooftop penthouse and may not be mounted on the exterior or extend above the top of a penthouse wall).

SOLAR ENERGY COLLECTORS OR PANELS MAY BE INSTALLED ONLY AFTER DCC REVIEW AND APPROVAL.

C. SIGNAGE

SIGNAGE PROPOSALS WILL ALWAYS BE REVIEWED FOR APPROPRIATENESS WITHIN THE CONTENT OF THE PROPOSED APPLICATION, INCLUDING LOCATION AND PROPORTIONALITY. ADHERENCE TO THE FOLLOWING MINIMUM OR MAXIMUM PARAMETERS DOES NOT NECESSARILY ASSURE DCC APPROVAL.

All proposed plans for signs to be erected, including details of design, materials, location, size, height, color, and lighting, as is the case for all plans for all other improvements, must be approved in writing by the DCC prior to construction or installation of the sign. A sign permit is required from Douglas County for all signs exceeding six (6) square feet in area. Applications to Douglas County for sign permits require prior DCC approval.

The size, placement, and design details of all signs are considered to be an integral part of the site development approval process. An overall signage package which includes all signs on the site or building exterior is required for each development site. All exterior signs and graphic systems are to be designed so that they are compatible with the desired character of Meridian and relate to the character of the site and improvements. All signage must meet the general “spirit and intent” of these guidelines, as well as criteria set forth in the Douglas County signage code.

GENERAL REQUIREMENTS

Materials

All signage must be constructed with a palate of material that is architecturally compatible with the building. Non-retail signage must be subdued in coloration with ground-mounted monument signs of concrete, masonry, or stone compatible with the predominate material of the building. Letters must be pinned-on metal, with uniform black, aluminum, white, brass, or gold coloration, provided that supplementary logs may vary in coloration.

Regulatory Signage: Posts must be painted non-perforated metal, tubular or box type.

Directional Signage: On-site directional signage must be ground versus post-mounted and be the same or aesthetically compatible material as monument signage.

More latitude is allowed in use of materials for retail signage with metal cabinetry, and internal illumination permitted providing same are architecturally compatible in scale and quality with the attendant buildings. However, exposed light sources such as exposed neon are not permitted. Retail “accent” lighting will be evaluated on a case-by-case basis for architectural compatibility and situational appropriateness.



Area Calculations

The area of a sign shall be determined by the exterior boundary of the message and logo areas, including any attendant background accent materials/colors intended to accent the sign message, which creates the smallest continuous perimeter enclosing the extreme limits of the display surface with eight (8) or fewer connected lines.

For ground mounted monument signage: address information, if mounted on the sign support structure vs. on the sign face, is not counted as part of the sign area.

Support structural element or related component parts, if not utilized in a manner that they are intended to emphasize the sign message, are not counted as part of the sign area.

Prohibited Signage

The following signs or types of signage are prohibited:

- neon or internally illuminated “interior” signage visible from the exterior
- signs with postscripts (example, Premier Corporation – “Leaders in Our Field;” Leo’s – “Best Hot Dogs in Town”)
- signs which advertise general products or services (example, “gas,” “cigarettes,” “liquors”)
- animated, moving, rotating or sound-emitting signs
- billboards
- benches utilized for signs
- window signage (see retail exception)
- portable signs which are not permanently affixed to any structure on the site, or permanently mounted to the ground (see exceptions under Table 2-3: Temporary Signs, p.2-26)
- vehicles (delivery or otherwise) utilized for de facto site signage. Such vehicles may not be parked in areas adjacent to street frontages, and should park and utilize service entries and areas adjacent to the side or rear of buildings when available.
- roof-mounted signs or signs which project above the highest point of the roof line or the ground-floor fascia of the building
- signs attached to a building which project perpendicular a distance of more than eighteen (18) inches from the building
- signs attached parallel to the wall of a building but mounted more than eighteen (18) inches from the wall
- “Going out of Business” or similar signage indicating a distressed property
- signs identifying a home occupation
- off-premises signs (see directory exception)
- balloons
- roadway median signage
- internally illuminated awnings; awnings, if allowed, shall be opaque and shall not be back-lit



Permanent Signs

TYPE	TYPE / NUMBER / SIZE	PERMITTED INFORMATION	OTHER CONSIDERATIONS
OFFICE			
Freestanding Building Identification	Type: Ground-mounted monument only; single or double-faced Number: One (1) per direct abutting street (at street frontage); two (2) max (one (1) max if in complex) Size: Max forty (40) sf per face Height: Max five (5) ft including base	Either building or tenant name (not both) / logo if applicable / address	May not be located in proximity of Complex Identity Signage
Complex Identification (3 or more buildings)	Type: Ground-mounted only; single or double faced Number: One (1) per direct street frontage with access Size: Max fifty (50) sf per face Height: Max six (6) ft including base	Complex name / logo / address	<i>See Freestanding Building for buildings within a complex</i>
RETAIL*	* Those uses, including financial, that engage in the direct sale of goods/merchandise or services consumed or delivered at the premises. Legal, brokerage, architectural/engineering and similar uses are not considered retail (exceptions may be made for such businesses located in a multi-tenant retail building within a retail complex)		
Freestanding Building Identification	Type: Ground-mounted: single or double-faced Building-mounted: single faced Number: Max three (3) overall, including max one (1) ground-mounted per direct abutting street frontage (at frontage) Size: Ground-mounted: max fifty (50) sf per face Building-mounted: One (1) sf per linear foot of building frontage up to max of fifty (50) sf, or as appropriate to building setback and scale Height: Ground-mounted: max six (6) ft including base Building-mounted: may not extend above building parapet (or more than eighteen in (18") from building)	Name / Logo / Principal service or product identification only permitted if necessary to clarify in support of name. If used, logo cannot exceed letter height of overall size of name.	Ground-mounted may not be located in proximity of Complex Identity Signage Building-mounted must be proportional to building in scale
Complex Identification (3 or more buildings)	Type: Ground-mounted only; single or double faced Number: One (1) per direct street frontage with access Size: Max sixty (60) sf per face Height: Max fifteen (15) ft including base	Complex name / logo / address	Material criteria for office applies



Permanent Signs (continued)

TYPE	TYPE / NUMBER / SIZE	PERMITTED INFORMATION	OTHER CONSIDERATIONS
RETAIL (cont.)			
Tenant Identification (within freestanding multi-tenant retail bldg.)	Type: Building-mounted only Number: One (1) per tenant; two (2) for end unit Size: One (1) sf per ln ft of tenant frontage; up to max fifty (50) sf, or as appropriate to building setback and scale Height: May not extend above building parapet (or more than eighteen in. (18") from building)	Tenant name / logo / principal service or product identification only permitted if necessary to clarify in support of name. If used, logo cannot exceed letter height of overall size of name.	Overall site signage program required; <i>See general criteria regarding letter material, coloration, etc.</i> ; Direct individual exterior entry access for tenant required; Building-mounted signage must about the related tenant space
Tenant Identification (within freestanding office, hotel, or residential bldg.)	Type: Building-mounted only Number: One (1) per tenant Size: Building-mounted: 1 sf per lineal ft of building face on which sign is mounted up to max 30 sf Height: May not extend above first floor building parapet (or more than eighteen (18) in. from building)	Tenant name / logo / principal service or product identification only permitted if necessary to clarify in support of name. If used, logo cannot exceed letter height of overall size of name.	Overall site signage program required; <i>See general criteria regarding letter material, coloration, etc.</i> Direct individual exterior entry access for tenant required <i>Note: this criteria may be used for "mixed-use" facilities</i>
Tenant Window Signage / Displays	Size: Max fifteen percent (15%) of storefront glass area	Window signage may not be used as supplementary identity signage. Only permanent-type signage permitted is "hours of operation" and "type of payment accepted" which must be confined to an area not exceeding one square foot.* All other window signage or displays may only be for short-term advertising for special events or products for a period not exceeding 90 days per occasion.	Interior illuminated signs visible to the exterior of the building are not permitted. Interior signage within thirty six inches (36") of window glass shall be considered window signage. <u>*A variance from Douglas County is required for any window signage other than above</u>
HOTEL			
Hotel	Type: Ground-mounted: single or double faced Building-mounted: single-faced Number: One (1) ground-mounted monument per direct street frontage with access; plus two (2) building-mounted; four (4) max overall Size: Ground-mounted: max sixty (60) sf per face Building-mounted: fifty (50) sf; for buildings in excess of sixty (60) ft height and 200k sf, add one (1) sf per linear ft of building frontage to max of one hundred (100) sf Height: Ground-mounted: max six (6) ft including base Building-mounted: cannot extend above building parapet (or more than eighteen in. (18") from building)	Name / logo; addresses may be used on ground-mounted only	<i>See General Criteria regarding materials, coloration, etc.</i>



Permanent Signs (continued)

TYPE	TYPE / NUMBER / SIZE	PERMITTED INFORMATION	OTHER CONSIDERATIONS
FLEX / WAREHOUSE			
Freestanding Building Identification	<p>Type: Ground-mounted: single or double-faced Building-mounted: single faced</p> <p>Number: One (1) ground-mounted per direct abutting street frontage (at frontage), three (3) max overall</p> <p>Size: Ground-mounted: max fifty (50) sf per face Building-mounted: One (1) sf per linear foot of building frontage (at frontage) up to max of fifty (50) sf</p> <p>Height: Ground-mounted: max six (6) ft including base Building-mounted: may not extend above building parapet (or more than 18" from building)</p>	<p>Name / logo / principal service or product (only if necessary to clarify in support of name); addresses may be used on ground-mounted only</p>	<p>Ground-mounted may not be located in proximity of Complex Identity Signage</p> <p>Building-mounted must be proportional to building in scale</p> <p><i>See Retail for Tenant Identification within freestanding multitenant building</i></p>
Complex Identification (3 or more buildings)	<p>Type: Ground-mounted only; single or double faced</p> <p>Number: One (1) per direct street frontage with access</p> <p>Size: Max fifty (50) sf per face</p> <p>Height: Max six (6) ft including base</p>	<p>Complex name / logo / address</p>	<p><i>See Freestanding Building for buildings within a complex</i></p>
SPECIALTY / OTHER			
Addressing	<p>Address (street name and numbers) may not be utilized as a supplementary form of identity signage.</p> <p>Address information for all uses except residential must be placed on the approved ground-mounted identity monument signage, with the provision that non-illuminated, metal pin-mounted address “numbers” may be applied to a building entry or ground-floor level street facade.</p> <p>Address lettering cannot exceed a six (6) inch letter height and must utilize a Palatino typeface, upper and lower case.</p> <p>Supplementary address identification for individual units or buildings within a residential complex is permitted providing that it is appropriate to scale.</p>		
Residential Complex Identification	<p>Type: Ground-mounted, single or double faced; Building-mounted, single faced</p> <p>Number: One (1) ground mounted per direct street frontage with access; one building mounted at leasing center/ clubhouse.</p> <p>Size: Ground-mounted: Max sixty (60) sf per face; Building mounted max of 40 square feet.</p> <p>Height: Ground-mounted: Max six (6) ft including base; Building mounted max 2' letter heights (can be average height of 2' for all letters if text is vertically mounted).</p> <p>Other Considerations: building-mounted signage is to be non-illuminated only.</p>		



Permanent Signs (continued)

TYPE	TYPE / NUMBER / SIZE	PERMITTED INFORMATION	OTHER CONSIDERATIONS																		
SPECIALTY / OTHER (cont.)																					
Directional	Type: Ground-mounted Number: As required and approved Size: Maximum six (6) sf per sign Height: Ground mounted: four (4) ft including base	As approved by DCC, no names or logos	Review and approval of such signage “internal” to development is required; Must be consistent in size, materials and color with the overall site signage program																		
Regulatory	Type: Post-mounted Number: As required and approved Size: Maximum six (6) sf per sign Height: Post: seven (7) ft max. from grade to top of sign and post	As approved by DCC, no names or logos	Review and approval of such signage “internal” to development is required; Must be consistent in size, materials and color with the overall site signage program; Wood or unpainted sheet metal backgrounds are not permitted; Post mountings are to be solid (vs. perforated) tubular or box type, metal and painted																		
Flag / Decorative Banners	Size: Flag and banner sizes (maximum) must be proportional to the pole height as follows: <table border="1"> <thead> <tr> <th>Flagpole Height (ft)</th> <th>Flag Size (sf)</th> <th>Banner Size (sf)</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>3 x 5</td> <td>15</td> </tr> <tr> <td>25</td> <td>4 x 6</td> <td>24</td> </tr> <tr> <td>30</td> <td>5 x 8</td> <td>40</td> </tr> <tr> <td>35</td> <td>"</td> <td>"</td> </tr> <tr> <td>40</td> <td>"</td> <td>"</td> </tr> </tbody> </table>	Flagpole Height (ft)	Flag Size (sf)	Banner Size (sf)	20	3 x 5	15	25	4 x 6	24	30	5 x 8	40	35	"	"	40	"	"	Flags: corporate logo only; if flown with US and Colorado flag (three (3) total; individual pole mounts required) Banners: cannot have any lettering / logo	May not be used as in-lieu signage; Only permitted as integral part of an overall site identity; Flags or banner heights cannot extend above adjacent building parapets. A variance from Douglas County is also required
Flagpole Height (ft)	Flag Size (sf)	Banner Size (sf)																			
20	3 x 5	15																			
25	4 x 6	24																			
30	5 x 8	40																			
35	"	"																			
40	"	"																			
Freeway Identification	Type: Ground mounted; single or double faced Number: One (1) Size: Max one hundred (100) sf Height: Max ten (10) ft.	Name / Logo	Site must directly abut freeway (i.e. I-25 or E470); Corporate office complex only; Must be an integral part of a significant landscape amenity element commensurate with the overall scale of the development																		
Meridian Identity / Directory	Overall Meridian identity and directory signage as approved by the DCC may be permitted subject to the following criteria: <ul style="list-style-type: none"> Such signage may be located at major street entry points to Meridian (not freeway interchanges); The scale and quality of such signage will be commensurate with the overall scale of the development; not to exceed one hundred (100) sq. ft. per face or fifteen (15) ft in overall height; setbacks must be a minimum of thirty five (35) feet from the property line unless otherwise agreed to by the County Community Development Director as appropriate to the location; Identity signage language may only contain the Meridian name and logo; Directory signage may also contain a map and listing of property names and uses; Up to five (5) identity signs and two (2) directory locations may be permitted 																				



Table 2-3: Temporary Signs

TYPE	NUMBER / SIZE	PERMITTED INFOR-	OTHER CONSIDERA-
LEASE / FOR SALE			
Vacant Land	<p>Type: Ground-mounted Number: One (1) per direct street frontage Size: 2'-6" x 6'-0", one or two faces Height: Max 3'-6" from grade</p>	Name or logo of sales entity (logo max 18" x 24", name max 4" letters) / Site Available (max 5" letters) / Contact (max 3" letters) / Telephone # (max 4" letters)	White or blue letters on gray background
Commercial	<p>Type: Ground mounted Number: One per direct street frontage Size: 2'-6" x 6'-0", one (1) or two (2) faces Height: Max 3'-6" from grade</p>	Name or logo of sales entity (logo max 18" x 24", name max 4" letters) / Space Available (max 5" letters) / Contact (max 3" letters) / Telephone # (max 4" letters)	May be used only when building occupancy is less than ninety percent (90%); White or blue letters on gray background (<i>See Exhibit 9,</i>
Single Family Detached	<p>Type: One ground-mounted Size: Not to exceed six (6) sf Height: Max 3'6" from grade</p>	Name or logo of sales entity and/or broker; Telephone #; Sale/Lease designation/term	Metal with painted external frame; Window signage not permitted
Single Family Attached (condo/ townhome)	<p>Type: One window-mounted (interior window front entry façade)</p>	Name or logo of sales entity and/or broker; Telephone #; Sale/Lease designation	No other exterior signage allowed
OTHER			
Project Announcement	<p>Type: Ground or post-mounted or construction site screen fencing Number: One (1) per direct street frontage Size: 4' x 8', one or two faces Height: Max ten (10) ft from grade</p> <p>Screen Fencing: Graphic designs may be used on screen fencing with prior approval for retail and residential projects. Name of establishment and leasing or sale information may be incorporated in design. Limited to 100 feet in length along abutting street</p>	Name of project / rendering / name / logo / phone # of developer, architect, lender, prime contractor, leasing agent / website (developer only)	Ground or post-mounted only; Must be removed no later than date of receipt of a certificate of occupancy, or installation of permanent signage, whichever occurs first; Single Family detached residential complex projects will be allowed project announcement signs at each roadway entry to their project. Such signage may remain in place from the point in time that the initial lots are placed on the market until all initial lot sales have been completed, but in no event longer than a period of two years. The signage may include the name of the developer, product and price range, and the sales office phone number. A \$5k performance deposit is required. (<i>See Exhibit 9, Temporary Sign Details</i>)



Table 2-3: Temporary Signs (continued)

TYPE	NUMBER / SIZE	PERMITTED INFORMATION	OTHER CONSIDERATIONS
OTHER (cont.)			
Directional	Type: Ground or post mounted Number: As approved by DCC Size: 2' x 2' single face Height: Max 4'-0" from grade	Directions only (two inch (2") letters)	Must be professionally produced on signage (vs. construction) material; Can be installed at commencement of construction and must be removed prior to DCC Certificate of Compliance.
Initial Opening Retail	Type: Banner or other approved concept Number: One (1) per abutting street frontage with direct access Size: Max one hundred (100) sq. ft. Height: Must be placed on ground-mounted monument identity signage; or if building-mounted must be below building parapet	In addition to name of business the following text may be included: "Now Open," "Opening Soon," or "Now Hiring"	Retail: initial opening, 90-day period extending from as early as 30 days prior to initial opening, \$1k performance deposit.
Initial Opening Multifamily	Type: Banner or other approved concept Number: One (1) per abutting street frontage with direct access Size: Max one hundred (100) sq. ft. Height: Must be placed on ground-mounted monument identity signage; or if building-mounted must be below building parapet	Banner may state name of complex, type of units, , "Now Open," "Opening Soon," "Now Leasing," or "Now Available"	Multifamily residential: initial opening, 180 days or 90% occupancy, whichever occurs first, extending from as early as 90 days prior to opening; \$5k performance deposit
Interim Identity	Type: Banner Number: As permitted Size: Size and wording must be comparable to that of proposed permanent signage	Must be identical to permanent signage; Supplemental text may include "Now Open," "Opening Soon," or "Now Hiring"	Retail: must be located in the same location of proposed permanent sign; Interim signage must be consistent with permanent in terms of location, size and message; Max of sixty (60) day period allowable or removal required once permanent identity signage installed; \$500 performance deposit



Table 2-3: Temporary Signs (continued)

TYPE	NUMBER / SIZE	PERMITTED INFORMATION	OTHER CONSIDERATIONS
OTHER (cont.)			
Special Events	<p>Type: Banner or other approved concept</p> <p>Number: One (1) per abutting street frontage with direct access</p> <p>Size: Max one hundred (100) sq. ft.</p> <p>Height: Must be placed on ground-mounted monument identity signage; or if building-mounted must be</p>	Subject to Review	<p>Retail “Complex”: special event, 15 days, cannot be installed more than 3 days prior to or after event; \$1k performance deposit</p> <p>A variance from Douglas County is also required</p>



3.0 SUBMITTAL PHASES AND PROCESS

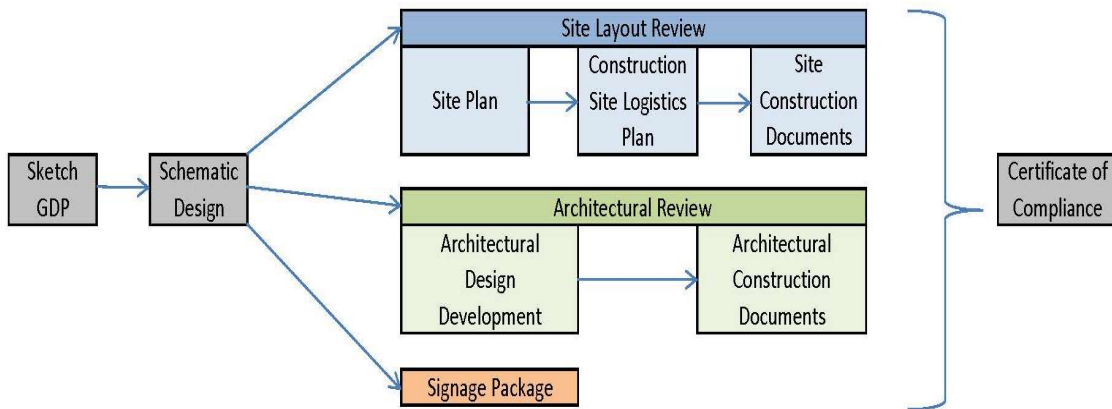
The submittal procedures, as outlined below, pertain to exterior architectural modifications including but not limited to signage, landscape, satellite dishes, antennas, construction yards, trash enclosures, fencing, lighting, driveways, parking areas and any improvements that affect the appearance, design or outside elements of property.

DCC approvals are always contingent upon full adherence to the Committee’s Design Standards and Criteria unless a specific waiver or exception to same is spelled out on the Notice of Committee Action, regardless of what is depicted on plan submittals. Any subsequent plan or field modifications are subject to this same requirement. The DCC reserves full right to require remediation of any such unapproved waivers as a condition of release for occupancy, release of a performance deposit, and/or issuance of a Certificate of Compliance. It is the applicant’s sole responsibility to identify and request such waivers through the application process prior to implementation.

Each submittal phase has a specific fee requirement. Refer to the Fee Schedule, located at the back of this chapter in Processing Forms, for specific fees for each project type.

Applicable reporting forms, review fees and all plans and supporting documentation must be submitted to the DCC staff no later than noon (12:00 p.m.), six (6) calendar days before a scheduled DCC meeting in order for the project to be placed on a formal meeting agenda. Copies of the required processing forms are located at the back of this section. All plan submittals are to include one full-scale electronic submittal.

In reviewing the following submittal steps, note that the details are primarily written around commercial and multi-family projects. For single family residential projects, refer to section three of the design guidelines.





A. SKETCH GENERAL DEVELOPMENT PLAN

PURPOSE AND ACTIONS

This first crucial step consists of a meeting between the Applicant and selected DCC members to discuss initial concepts concerning the site and its development. Topics of discussion include the proposed use and general site configuration as they relate to the DCC Master Plan, Protective Covenants, neighboring parcels, and site constraints. Design concerns regarding building to site relationships, those relationships to surrounding context, and other specific site parameters such as orientation, circulation, and setbacks, etc., should be addressed, as well as the need to be aware of and conform to the water supply allotments specified by the Meridian Metropolitan District in the design process. This submittal may be combined with the Schematic Design submittal.

MEETINGS

The DCC meeting should be attended by the Applicant, the project architect/land planner, and the civil engineer.

FEE

Refer to the Fee Schedule, located at the back of this section in Processing Forms, for specific fees to be submitted at this time.

MATERIALS

Sketch General Development Plan Review Fee

Processing Forms: Application

Parcel Vicinity Map showing the site in relation to adjoining buildings

Site Layout

Architectural Concepts

Description of proposed use and relevant data such as square footage, access points, etc.

Existing easements

Site calculations

Phasing schedule (if applicable)

APPROVAL

This approval for Sketch General Development Plan is valid for 6 (six) months. The next submittal phase must be submitted within this time frame.

This approval grants Authorization to Apply for Sketch Plan with Douglas County.



B. SCHEMATIC PHASE

PURPOSE AND ACTIONS

This phase consists of a presentation to the Committee by the applicant. The Schematic Plan product should illustrate building to site relationships, and those relationships to surrounding context, and other specific parameters such as orientation, circulation, setbacks, etc. should be addressed. This presentation must include a review of the site layout and massing model (if required), building elevations, building or site sections showing adjacent finished grades, landscape, signage and areas designated for people activities. All setbacks for buildings, parking and signage must be designated on the site plan.

The Committee will focus on the overall site layout, buildings including massing, materials, color, glass, and any ground surfaces, concepts on landscaping treatment, signage, lighting, vehicular and pedestrian circulation, drainage, grading, and open space. Schematic landscape plans should show generalized locations and types of plants and delineate hardscape areas. This is the last submittal phase that includes both site review and building elevations.

TIMING

This phase may occur after approval of the Sketch General Development Plan phase is received and any conditions of that approval have been met.

MEETINGS

Formal submittal to and approval by full DCC required. Should be attended by the applicant, project architect, landscape architect and civil engineer.

FEE

Refer to the Fee Schedule, located at the back of this section in Processing Forms, for specific fees to be submitted at this time.

MATERIALS

The following materials must be furnished by the Applicant:

Schematic Design Review Fee

Processing Forms: Application

Preliminary Grading Plan

Preliminary Shadow Study (if required)

Setbacks for buildings, parking, and signage must be delineated on plans.

Site Calculations

Preliminary Utility Layout

Landscape / Lighting Concepts

Proposed Materials and Massing Model (if required)

Preliminary Elevations

Roof Plan with any proposed HVAC or telecommunication equipment shown

APPROVAL

Effective for a period of one year. The next phase must be submitted within this time frame.



C. SITE PLAN/DCC CERTIFICATIONS (COMMERCIAL/MULTI-FAMILY RESIDENTIAL)

PURPOSE AND ACTIONS

A DCC-approved “Site Plan” in the following format must accompany any application for a Building Permit to Douglas County. (See “Site Plan Sample Set-MIBC” Exhibit on website, www.accdcc.org).

TIMING

This phase may occur after approval of the Schematic Design phase is received and any conditions of that approval have been met.

MEETINGS

No meeting is required.

APPROVAL

Approval of the “Initial Site Plan” shall be effective for a period of one year. Final Site Plan must be submitted by the end of this period.

Approval of the “Final Site Plan” is valid for a period of five (5) years. Site and building Construction Documents must be approved and construction of the project must commence by the end of this period. Site Plan must be re-submitted if construction has not commenced by the expiration date.

This approval also grants Authorization to Apply for Grading Permit once Grading Erosion and Sediment Control Plan has been approved by Douglas County. A Construction Logistics Plan must also be submitted and approved.

FEES

Refer to the Fee Schedule, located at the back of this section in Processing Forms, for specific fees to be submitted at this time.

PROCEDURE

Site Plan is a two step process with the DCC that includes the “Initial Site Plan” and the “Final Site Plan”. Initially, Site Plan, inclusive of landscaping plans and ownership certification, must be submitted pursuant to the Meridian Development Guide by the applicant to the DCC for review and approval. Then, after the DCC issues the “DCC Authorization to Apply for Site Plan,” the Site Plan is to be submitted to Douglas County Planning Division . The Planning Division will then send referrals to applicable agencies. Notation should be made of the fact that the referral entities are the “only” ones that can comment, and that their comments can “only” be for the items noted below. Upon revisions based on comments after the referral period, the applicant must submit the Final Site Plan to the DCC to obtain the Traffic, Drainage, and DCC Certification. Once the Site Plan is certified, the applicant will submit the Final Site Plan, along with the Final Notice of Committee Action, to Douglas County Planning Division.

PROCESSING FORMS

Site Plan Review Fee

Application

Owner’s Certification of Landscape Irrigation Demand.



MATERIALS

Site **Plan** in the standard DCC format (See “Site Plan Sample Set” Exhibit on website, www.accdcc.org, under MIBC Design Guidelines) shall comply with the below general requirements. These requirements are also stated in the latest version of the Meridian International Business Center Planned Development (PD) document:

1. Contain a title block, centered at the top of the page, describing the legal description of the parcel, the name of the proposed development, the submittal phase and, if applicable, the address of the existing or proposed improvements on the Site.
2. Contain a North arrow and state the scale utilized.
3. Be on 24” x 36” sheets with the long dimension horizontal.
4. Include an information block in the lower right-hand corner of each sheet and shall set forth the date of preparation in the title block.
5. Show development phasing lines, if any.
6. Show adjoining land uses and zoning.
7. Show public and private easements on or adjacent to the Site, with dimensions and uses of those easements.
8. Show major drainage ways affecting the Site and any 100-year floodplain on or adjacent to the Site.
9. Show topography at two (2) foot intervals.

Specific Site Plan Requirements

In addition to complying with the general requirements set forth above, Site Plan shall comply with the following specific requirements:

1. Be prepared at a scale of 1”=20’, 1”=40’ or another scale that allows for maximum clarity of the project.
2. Include a vicinity map to scale showing the relationship of the Site to the surrounding area.
3. Show dimensions for all existing and proposed structures (including setback dimensions from property lines) and total building coverage in terms of percentage of the Site and square footage. Structures to be removed should also be indicated as such.
4. Show location and dimensions of required off-street parking and loading areas and note the total number of parking spaces provided and contain the following information relative to the parking, access and loading facilities:
 - a. Number, location and size of parking stalls
 - b. Widths of aisles and islands
 - c. Location of landscaping areas within parking, access and loading facilities
 - d. Type of surfacing
 - e. Scale and North arrow
 - f. Location of streets, curb cuts and property boundaries
 - g. Location of traffic directional arrows, signage and markings



- h. Location of loading areas
 - i. Drainage provisions
 - j. Location and direction of proposed lighting
5. Name and show dimensions of all public and private roadways, rights-of-way, and points of access on or adjacent to the Site and shall note surface materials.
6. Show the location and sign area of all existing and proposed signs.
7. Include signature/approval blocks for the Planning Division and the County's Engineering Division (the "Engineering Division").
8. Contain the following information relative to landscaping on a separate sheet:
 - a. Show all planting areas and areas to be maintained in a natural state, with plant materials drawn at mature size at the scale of the plan; identify trees, shrubs, lawn areas, and ground cover area (living and non-living) by name of material to be used; and show the dimensions and include the total square footage of each such area.
 - b. Show all pedestrian walkways and pedestrian oriented areas, dimensioned with materials and type of surface finish noted.
 - c. Locate and identify all landscape structures (including fences, signs, lighting, water features, etc.) and recreational facilities.
 - d. Show all significant natural vegetative areas, specimen trees, wildlife habitat, and landscape features to be preserved and improved.
 - e. Indicate existing and finished grades at a maximum of two (2) foot intervals and identify all mounds and areas in excess of 20% slopes.
 - f. Label all public and private roadways, rights-of-way, and points of access on or adjacent to the Site and shall note all off-street parking or loading areas and surfacing materials.
 - g. Show all planting details and notes, including methods of soil preparation, erosion control, soil and vegetation removal, stockpiling and reuse.
 - h. Note sources of irrigation water and types of irrigation to be used.
 - i. Contain the following statement concerning maintenance: "All landscaping shown on this plan shall be maintained in a neat and adequate manner. Required maintenance activities shall include, but not be limited to, mowing of lawns, trimming of hedges, adequate irrigation, replacement of dead, diseased or unsightly removal of plant material, weeds from planted areas, and appropriate pruning of plant materials."
9. A Grading, Erosion, and Sediment Control (GES) Plan in accordance with Douglas County's criteria, as amended, will be required to be submitted to Douglas County for review and approval prior to any grading on the Site and issuance of a grading permit by Douglas County. Construction plans, in accordance with the Douglas County criteria, shall be submitted to Douglas County for review and approval for all storm sewer improvements and water quality improvements prior to the issuance of construction permits by Douglas County. Construction plans for any roadway improvements within the public right-of-way shall be submitted to Douglas County for review and approval by Douglas County prior to the issuance of construction permits from Douglas County.



Certifications

Include certifications, confirmed by the Design Control Committee as shown on the DCC Site Plan

Design Control Committee Certification: verifying the following with respect to this Development Plan: that the proposed land use is allowed; that the proposed Height of any structures complies with the applicable Height limitation; that the proposed setbacks comply; that the amount (number of square feet) of Net Floor Area or number of residential units is in compliance; that the proposed Open Space complies; that a minimum of ½ said required Open Space will be landscaped with live plant materials; That the Site Plan complies with the commitments for parks, trails, and wildlife conservation improvements in Sections H.4(c) and H.9, as applicable, subject to the timing requirements described in the first paragraph of Section H.4 and the standards and notes given on Sheet 9, Planning Area “C” Parks/OS Exhibit; and that the shadows cast by the proposed buildings will not have any negative impacts on the County road system or Highway E-470 in compliance with Section G.6; and that the number of parking spaces planned for the Site satisfies the requirements of the Zoning Resolution with respect to minimum number of required parking spaces (except to the extent a variance is obtained pursuant to the Zoning Resolution).

Note: Electronic copies of signed Site Plans must be provided prior to submittal of Site Construction Documents and prior to approval of Construction Logistics Plan.

D. CONSTRUCTION SITE LOGISTICS

PURPOSE AND ACTIONS

The purpose of the Construction Site Logistics Plan is to ensure compliance with DCC standards and to coordinate the efforts of the building contractor, owner, architect, engineers, governmental agencies and the DCC. This phase consists of submittal of materials to the DCC Staff. If a CSLP plan is requested in order to obtain a grading permit from the County, an updated CSLP plan must be submitted prior to commencement of site and building construction.

APPROVAL

Written approval of the Construction Site Logistics Plan, submittal of the Performance Security Deposit and execution of the Construction Site Logistics Agreement by the DCC shall give the Applicant the right to proceed with site work and/ or subject to any other applicable jurisdictional requirements. This approval **does not** grant Authorization to Apply for **Building Permit** with Douglas County.

FEE

Refer to the Fee Schedule located at the back of this Chapter in Processing Forms for specific fees to be submitted at this time.

PROCESSING FORMS:

Application

Security Deposit (refer to Fee Schedule in Processing Forms)

Owner’s Certification of Landscape Irrigation Demand



TIMING

The Construction Logistics Plan can be submitted along with the Final Site Plan if seeking Authorization to apply for Grading Permit; however, approval is granted upon receipt of the fully executed Site Plan and verification of approval of the Grading, Erosion, and Sediment Control Plan (GESC) by Douglas County.

An updated Construction Site Logistics Plan is required every 90 days, or upon change to any items as outlined under “Materials.”

MATERIALS

The following outline lists items to be included in the Construction Site Logistics Plan and enumerates requirements to be followed during construction. The Plan must address all items listed here and include any additional items which may be peculiar to the Site. The Architect and Construction Manager should use this section as well as the Construction Site Logistics Checklist (see Exhibit 14). A performance security deposit is required at the time the Construction Site Logistics Agreement is submitted. After the Certificate of Compliance is issued by the DCC, the return of the performance security deposit must be requested, in writing. The following items are required:

Layout Plan: A scaled Site Plan drawing shall be submitted which will show all right-of-way, existing improvements and those items specifically identified hereinafter.

- **Contractor Facilities.** Contact list for contractor, architect and for any subcontractor field offices; storage trailers; material stockpiling.
- **Screen Fences.** Prior to start of any construction activity beyond site grading, temporary screening fences, minimum 6'-0" in height, chain link with mesh screening, shall be installed to provide security, contain loose debris, and screen the area from public view. The fences shall enclose construction activity, parking, storage trailers, and material stockpiling areas and shall remain in place until building exteriors are complete and landscaping is initiated.

Access points to the Site, including material delivery points shall be identified. Queuing or loading/unloading of delivery trucks on the public street shall not be permitted at any time. Streets shall be maintained free of mud at all times.

- **Parking** for visitors and construction workers shall be at a minimum all-weather gravel surface and located within the fenced and screened areas on the Site, as shown on the Plan, unless alternative arrangements are made and approved by the DCC.
- **Traffic Control.** Proper traffic control shall be provided for any work done in the street right-of-way.
- **Construction Signs,** including temporary signs, must be submitted for approval and must conform to the Design Criteria.
- **Excavation haul routes** shall be identified. Haul routes must provide direct highway access and must not pass through residential areas. The quantity of haul shall be estimated, and a schedule for hauling shall be provided. Placement of surplus excavation on another Site within Meridian requires DCC approval.
- **Sanitation.** The trash and litter handling method shall be described on the plan.



Temporary dumpsters shall be shown on the Plan. Streets shall be maintained free of windblown debris from the site at all times. Concrete trucks shall be washed at the locations shown on the site plan or offsite outside of Meridian boundaries. Temporary toilet facilities shall be located on the Plan.

- **Construction Equipment.** Large construction equipment shall be identified and its operation described. Note: Only a contractor's name and site address signage on trailer, storage equipment, or construction equipment is allowed.
- **Construction Material.** Location of construction material storage must be identified on the Plan.
- **Utility Installation.** The location of all existing utilities, both on-site and in perimeter streets, shall be shown on the Plan. All proposed utilities, both on-site and in perimeter streets, shall be shown on the Plan. The difference between existing and proposed utilities shall be clearly shown. Location of valves and manholes and pipe sizes shall be shown. Locations of connections shall be shown. The method of proposed installation shall be described, i.e. cutting, boring, etc. Utilities to be identified include water, sewer, gas, storm drains, and communications, both temporary and permanent.
- **Easement or Leased Areas.** Easements or lease boundaries with dimensions shall be shown on the Plan, any filling or excavation done on the easement or land areas shall be described.

Schedules: The following schedules shall be submitted and updated with any changes affecting the schedule by more than 90 days.

- Milestone Schedule for construction showing each major phase of construction shall be submitted.
- Estimated Utility Connection Schedule for specific utilities shall be submitted. The contractor shall be responsible for locating or having located all utilities and shall abide by the regulations of the respective utility companies in regard to repair of damaged utilities. Any damage done to irrigation systems, utility lines or electric control systems shall be repaired by the contractor at the contractor's expense.

Compliance and Performance Agreement and Deposit

Before an Applicant may proceed with construction of any project after a Construction Site Logistics Plan has been submitted to the DCC, the following must occur:

- The Applicant must receive written approval of the Construction Site Logistics Plan from the DCC.
- The owner must enter into an agreement and provide the required deposit with the DCC to adhere to the approved Construction Site Logistics Plan and to DCC approved plans. (See relevant documents/forms at the end of this section.)
- A performance security deposit as specified in the DCC Fee Schedule (see "Fee Schedule" in Processing Forms at end of this section) must be deposited with the DCC. The purpose of this deposit is to ensure compliance with the plans, the approved Construction Site Logistics Plan, and with the Construction Site Logistics section of these Review Procedures. DCC shall determine the amount of the required deposit based on the size and scope of the project and the probable costs of remedying and/or correcting non-compliance. The DCC may apply all or any portion of this deposit toward payment of any costs incurred to ensure compliance, including,



but not limited to, street cleaning costs, costs of repair of streets, curbs, gutters, medians, utilities and other infrastructure elements and costs of repairing and replacing damaged landscaping. The DCC may incur such costs without notice to the owner or general contractor, although the DCC will make a good faith effort to provide prior notification. The DCC shall be entitled to any interest accruing on said deposit prior to issuance of a Certificate of Compliance for the project and, within sixty (60) days after the issuance of said certificate, shall refund any remaining portion of the deposit. If at any time prior to issuance of a Certificate of Compliance the amount of the deposit drops below 50% of the initial amount as a result of application and use by the DCC as set forth above, the DCC may prohibit further construction until the additional amount is deposited. Any amounts expended by the DCC to ensure compliance over and above the amount of the deposit available shall bear interest at the rate of 1-1/2% per month, as penalty, until a sufficient amount to cover the shortfall is deposited with the DCC. In addition, the amount of any additional deposit required by the DCC that is not deposited within fifteen (15) days after notification by the DCC of the requirement shall bear interest at the rate of five percent (5%) per month, as penalty, until deposited with the DCC. If full compliance of all outstanding issues is not made within twelve (12) months of receipt of a temporary certificate of occupancy from the county and a Certificate of Compliance obtained within this same period, the deposit may be automatically forfeited.

Other Requirements

- **Permits.** It shall be the responsibility of contractors to obtain any necessary permits for doing work within the respective special district, municipal, county or state jurisdictions.
- **Streets.** All street cuts, if permitted, shall be accomplished by saw-cutting the pavement. All streets shall be maintained for public access at all times. The streets bordering the construction site and in the immediate vicinity shall be cleaned and swept within forty-eight (48) hours after any construction work or deposit of dirt, debris or any other materials hauled to or from the Site.
- **Working Hours.** No construction work shall be permitted between the hours of 10:00 p.m. and 6:00 a.m. unless prior approval is received from the Design Control Committee through its staff.
- **Notifications.** In addition to any other notifications required by other agencies, the Meridian Metropolitan District (303-790-0345) shall be notified forty-eight (48) hours prior to the commencement of any construction within the streets, medians, public landscape areas, or connections to water, sewer, irrigation or lighting facilities within rights-of-ways or easements.

APPROVAL

Written approval of the Construction Site Logistics Plan, submittal of the Performance Security Deposit and execution of the Construction Site Logistics Agreement by the DCC shall give the Applicant the right to proceed with construction, subject to any other applicable jurisdictional requirements.

Approval is valid for 90 days, after which an updated plan must be submitted.

E. SITE CONSTRUCTION DOCUMENTS

Once approval of a Site Plan has been obtained from the DCC and Douglas County per Section E, applicants must still provide engineering support data either prior to or concurrently with their actual building permit application(s) as follows:



PURPOSE AND ACTIONS

The purpose of this review is to ensure that the final set of construction documents is consistent with all previously approved plans. This phase consists of submittal of required materials to the DCC.

TIMING

Site Construction Documents may be submitted after the approval of the Site Plan phases are received and any conditions of those approvals have been met. Fast track construction can be accommodated at the discretion of the DCC. The necessary approvals may be provided as required to maintain special construction schedules.

Applicants are encouraged to engage in such dialogue with the County Engineering staff as soon as Site Plan approval is obtained from the DCC to facilitate the building permit approval process.

MATERIALS

Items to be submitted by the applicant are:

- Application
- Site Construction Documents Review Fee
- One (1) electronic copy of the CD documents in pdf format. CD documents include plans and specifications of civil, landscape, site lighting, and all utilities.
- Executed copy of the Site Plan.
- **Verification of District Utility Service Availability.** Written confirmation of payment of the applicable Site Service Connection fee from the Meridian Metropolitan District

F. ARCHITECTURAL DESIGN DEVELOPMENT

PURPOSE AND ACTIONS

The purpose of this review is to refine exterior elevations in terms of materials, massing, roof lines, and color schemes.

APPROVAL

Approval for Architectural Design Development : shall be effective for a period of six (6) months. Architectural Construction Documents must be approved by the end of this period.

FEE

Refer to the Fee Schedule, located at the back of this chapter in Processing Forms for specific fees to be submitted at this time.

TIMING

This phase may occur after approval of the Schematic Design phase is received and any conditions of that approval have been met.



MATERIALS

- Application
- Architectural Review Fee
- Architectural plans, sections, and elevations must clearly illustrate building design materials and the relationship to the site. Include full definition of all materials proposed for the exterior of the building inclusive of color samples with manufacturer and specifications.
- Roof plan showing proposed and future mechanical equipment, penthouse location and material, and locations of proposed or future telecommunications equipment.
- Lighting plans must cover all exterior lighting, including lighting on the building or parking structure. Location, height, fixture, and lamp type must be included.

G. ARCHITECTURAL CONSTRUCTION DOCUMENTS

PURPOSE AND ACTIONS

The purpose of this review is to ensure that the final set of construction documents is consistent with all previously approved plans. This phase consists of submittal of required materials to the DCC.

APPROVAL

Approval for Architectural Construction Documents shall be effective for one year and grants authorization to apply for building permits with Douglas County. Construction of the building must commence within that time-frame.

FEE

Refer to the Fee Schedule, located at the back of this chapter in Processing Forms for specific fees to be submitted at this time.

TIMING

This phase may occur after approval of Architectural Design Development.

MATERIALS

- Application
- Final set of Architectural construction documents. Note that plans and documents for structural, mechanical and electrical elements not visible from the exterior of the building do not need to be submitted, and must not be included with CD submittals. Architectural sections through buildings shall indicate mechanical penthouse height of equipment related to the top of penthouse screening.

H. ON-SITE MATERIAL MOCK-UP

Final Committee approval of building material is subject to provision of an on-site material mock-up displaying all proposed materials to be used on the building.

The mock-up must be of reasonable scale (typically 8' x 8' to 10' x 10') to provide a reasonable de-



piction of all proposed architectural fenestrations, accents, etc. and their interrelationships. Sample photos of mock-ups are available upon request.

This must be provided to, and approved by, the Committee prior to any final material orders and initiation of any construction beyond site grading and utilities. The Applicant is “at risk” for any material orders placed prior to Committee approval of the on-site mock-up.

I. SIGNAGE/AUTHORIZATION TO APPLY FOR SIGNAGE PERMIT

PURPOSE AND ACTIONS

Building or Site signage package must be submitted for DCC approval. Signage package must include all signage visible to the exterior including building-mounted, ground-mounted, post-mounted regulatory signage, directional signage, and any other signs. Signage package for multi-tenant retail buildings must include maximum signage size parameters, specific signage type for the building, permitted locations, and any other specifications for that particular development. In no case can signage program

TIMING

This submittal may be made at any time after Schematic Design approval; or at any time for replacement signage.

MEETINGS

None required.

MATERIALS

Items to be submitted by the applicant are:

Permit Copies

One (1) electronic copy in pdf format including the following items of detail:

1. Design Intent Drawing(s), clearly labeled as such
2. Top, front and side view orthographic mechanical drawing(s)
3. Drawn to scale (e.g. 1/4"=1'-0", 1/8"=1", etc.)
4. Add bottom and additional side view(s) as required to completely show design intent
5. Add section view(s) as required to completely show design intent
6. Annotate and dimension all views as required to completely show design intent
 - a. overall and incremental dimensions
 - b. materials, finishes and colors
 - c. show 6'-0" person for scale
7. Show sign(s) on building or on site and method(s) of attachment
8. Show sign face area calculation(s)
9. Show all sign message(s)
 - a. one sign face layout for each sign message in the case of multiple signs



Sign Location Plan(s)

1. Plan (top) view drawing
2. Drawn to scale (e.g. 1/4"=1'0", 1/8"=1", etc.)
3. Show any dimension setbacks from property line(s), as required
4. Show any dimension sight triangle, as required
5. Show roads, buildings, Site amenities and other signs in proximity to proposed sign(s)
6. Key by sign number/letter to sign Message Schedule to illustrate specific sign location
7. Title block: see Permit Copies, item 10 above

Sign Message Schedule

Sign Message Schedule, clearly labeled as such (required only for projects with multiple signs)

1. Key by sign number/letter to Sign Location Plan(s) to illustrate specific sign message
2. Content to include columns for the following types of information:
 - a. sign number/letter designation
 - b. sign message / letter size / font
 - c. sign type (e.g. tenant identification, regulatory, address number, etc.)
 - d. location (e.g. Sign Location Plan page number, northeast corner of Site, etc.)
 - e. Tenant linear frontage (used for calculation of maximum square footage/ length of sign).

APPROVAL

Approval will be effective for a period of one year, provided Construction Documents are submitted within three (3) months after approval. Construction of the project must commence by the end of this period.

PROCEDURE

Douglas County permit also required. Must receive DCC approval prior to submission to County.

J. CERTIFICATE OF COMPLIANCE/OWNER CERTIFICATIONS

PURPOSE AND ACTIONS

Upon completion of construction, and prior to release of Performance Deposit or Final Certificate of Deposit, the Applicant must certify to the DCC that the Site construction is substantially complete, all improvements have been constructed or installed in accordance with all prior DCC-approved plans, and all aspects of the Site development are in compliance with the Protective Covenants.

A Certificate of Compliance may also be issued at time of sale of building.

TIMING

Applicant is responsible for initiating process through written request.



MATERIALS

- Application
- Certificate of Compliance Review Fee (for new development only)
- Owner / Architect Certification of Net Floor Area Verification of Compliance

APPROVAL

DCC Staff will inspect the Site and issue a written response within thirty (30) days after receiving the notification.

K. MINOR PROJECTS

PROCEDURE

An abbreviated procedure is available for minor projects such as signage replacements, landscape upgrades, patios, railings, HVAC replacements. Such applications must be accompanied by the required form (See Form 2) along with a set of fully-defined plans and the required review fee (See Fee Schedule, Form 1).

Modifications that impact site coverages such as parking, building, and open space, as well as drainage and vehicular access may require an update to currently approved Site Plan (per section C).

Temporary site events must be approved by the DCC prior to occurrence. Submittal must include application (see Form 2), dates and times of the event, description, event details, and other pertinent information.

L. APPEALS

In the event an applicant wishes to formally object to terms and conditions attendant to an architectural control committee notice of committee action or notice of non-compliance, the following process shall apply:

The appeal must:

1. Be made in writing by either the applicant or his legal counsel and addressed to the architectural control committee chairman.
2. Be filed and postmarked seven (7) calendar days prior to notice of committee action expiration date or notice of non-compliance resolution due date.
3. Identify the specific term or condition being objected to along with justification as to the bases for appeal (see below).
4. Provide recommended alternative means of mitigation or resolution of the element of concern.
5. Be accompanied by the required review fee (see fee schedule).

Appeals relevant to architectural control committee notice of committee actions may only be made subsequent to either denial of an application or issuance of an authorization to apply for building permit with the local jurisdiction. In all cases, applicants are considered within the established re-



view process.

Property owners are advised that, in all cases (either conditions relevant to a notice of committee action or a notice of non-compliance) evaluation of appeals will be based on demonstrated unique and extraordinary hardships or inapplicability of criteria or condition imposed versus subjective preference or simply not adhering to established criteria for self-induced hardship reasons.

Normally, the committee will respond in writing to an appeal within 15 days of receipt. In the event a formal hearing is requested with the committee, the hearing will be set within 30 days of the post-marked date of the appeal, and the committee will similarly respond in writing within 15 days of said appeal.

In all cases, the committee determination per above will be the final determination.

M. VARIANCES

The Architectural Control Committee, in its sole discretion, may authorize a variance from compliance with any of the criteria set forth herein when circumstances such as topography, natural obstructions, hardships (non-self-imposed), aesthetic, planning, or environmental objectives may warrant. Variances must be specifically itemized, rationalized, and documented as such via a Notice of Committee Action.

N. PROCESSING FORMS

1. Fee Schedule
2. Owner's Application for Project Review (2 pgs.)
3. Owner's Certification of Landscape Irrigation Demand
4. Site Plan Sample
5. Owner's Compliance & Performance Agreement
6. Owner / Architect Certification of Net Floor Area Verification of Compliance (2 pgs.)
7. Certificate of Compliance
8. Notice of Committee Action
9. Notification of Non-Compliance
10. Public Record Notice of Violation



FEE SCHEDULE

New Development:

Commercial:	Building Floor Area		
	Up to 20,000 gsf	20,001 to 100,000 gsf	Over 100,000 gsf
Sketch General Development Plan	\$500	\$1,000	\$1,500
Schematic Design	\$1500	\$2,500	\$3,500
Site Plan	\$500	\$500	\$500
Site Construction Documents	\$500	\$1000	\$1500
Architectural Review	\$1000	\$1500	\$2000
Architectural Design Development	Included	Included	Included
Architectural Construction Documents	Included	Included	Included
Construction Performance Security Deposit	\$10,000	\$25,000	\$50,000
Certificate of Compliance:	\$500	\$500	\$500

Site Modifications:

Signage			
Lease Sign		\$100 Annually	
Temporary		\$50	
Permanent		\$500 comprehensive signage program	No fee for subsequent submittals that do not require an adjustment to the comprehensive sign program.
Minor Modification:		\$250 to \$2,500 depending on complexity	

Certificate of Compliance: No Fee for requests due to property sale, transfer of ownership, etc.

The DCC from time to time may establish fees for unique submittals.

Violations:

Commercial (including apartments):	:	
First Notice	\$100 fine + remediation	
Second Notice	\$200 fine + remediation	
Third Notice	\$500 fine + accrual at \$100 a day, up to \$10,000 + remediation	
Public Record Notice of Violation	Up to \$10,000 total	

* Includes single family, duplex, condominiums and townhomes, but not overall complex violations. Fines are progressive but not cumulative.

Written Review Only:	\$500	Written Review Only:	\$25
Full Committee Presentation/ Hearing:	\$2500	Full Committee Presentation/ Hearing:	N/A



DESIGN CONTROL COMMITTEE
MERIDIAN INTERNATIONAL BUSINESS CENTER

APPLICATION FOR PROJECT REVIEW

Project Name: _____ Parcel/Tract/Lot/Ref No.: _____

Address: _____

Submittal Phase:

- Sketch General Development Plan
- Schematic Design
- Site Plan
- Site Construction Documents
- Construction Logistics/ SecurityDeposit
- Architectural Review
 - Design Development
 - Construction Documents
- Certificate of Compliance
- Appeal

Minor Modification:

- Building
- Landscape
- Signage
- Lighting
- Telecommunication
- Construction Logistics Update

Attached Plan References:

Date: _____
 Prepared By: _____
 No. of Sheets: _____
 Project No.: _____
 Revision Date: _____

Site Coverages:

	Area (sq.ft.)	(%)
Building / Structure (40% max)	_____	_____
Parking (50% max)	_____	_____
Open Space (30% min)	_____	_____
TOTAL	_____	_____

Please fill out applicable sections below:

BUILDING:

- Office Retail Restaurant Hotel Multi-Family Other Totals

Gross Floor Area:* _____
 Net Floor Area:* _____
 Units: _____

*Use zoning definitions in Denver; ACC definitions in Greenwood Village

PARKING:

- Structured Surface Handicap Carpool Bike Total

Number of Spaces: _____

LANDSCAPE:

- Deciduous Ornamental Evergreen Shrub Flower Turf
 Trees (50%) Trees (25%) Trees (25%) Areas Areas Areas

Number: _____
 Percentage: _____
 Size: _____

SIGNAGE:

Temporary

Type: Announcement Lease Directional Event
 Number: _____
 Size: _____

Permanent

Type: Monument Bldg Mounted Directional
 Number: _____
 Size: _____

APPLICANT CERTIFICATION:

I hereby attest that I am either an owner or a legally-designated agent of the owner and that the information contained in this application is true and correct; I acknowledge the review process set forth in the Meridian Design Guidelines, and further acknowledge that any approval action by the DCC based on inaccurate or incomplete information may be cause for invalidation of said approval.

Name: _____ Date: _____



**DESIGN CONTROL COMMITTEE
MERIDIAN INTERNATIONAL BUSINESS CENTER
APPLICATION FOR PROJECT REVIEW
APPLICANT CONTACT INFORMATION**

FORM 2
Page 2 of 2

Owner/Developer: _____
Address: _____
Contact: _____
Phone: _____ Fax: _____
Email: _____

Architect: _____
Address: _____
Contact: _____
Phone: _____ Fax: _____
Email: _____

Landscape Architect: _____
Address: _____
Contact: _____
Phone: _____ Fax: _____
Email: _____

Civil Engineer: _____
Address: _____
Contact: _____
Phone: _____ Fax: _____
Email: _____

Contractor: _____
Address: _____
Contact: _____
Phone: _____ Fax: _____
Email: _____

Building Management: _____
Address: _____
Contact: _____
Phone: _____ Fax: _____
Email: _____



**Design Control Committee
Meridian International Business Center**

**OWNER'S CERTIFICATION OF LANDSCAPE IRRIGATION DEMAND
Required with Site Plan submittal**

PROJECT:

Name _____
 Address _____
 Owner _____
 DCC Site Plan Approval date _____

IRRIGATION DEMAND:

	Square Feet	% Parcel	Annual Consumption gallons
Open Space	_____	(%)	_____
Irrigated Turf	_____	(%)	_____
Irrigated Shrub/Flower Beds	_____	(%)	_____
Native	_____	(%)	_____
Hardscape	_____	(%)	_____
Other (specify)	_____	(%)	_____
TOTAL	_____	(%)	_____

IRRIGATION ALLOTMENT:*

*Based on gross land area of site with building with potable metered service
 Office/retail/warehouse/other commercial @ 3.74 gal/yr/sq ft

CERTIFICATIONS/ACKNOWLEDGEMENTS:

- A. The undersigned **landscape architect**, licensed to practice in the state of Colorado, certifies that, to the best of my knowledge, belief and professional opinion, that:
- I have reviewed and fully understand the Meridian DCC Design Criteria relative to landscape irrigation as referenced in the DESIGN CRITERIA MANUAL and Meridian Metropolitan District Rules and Regulations applicable at the time of this certification;
 - The landscape design submitted in the above-referenced site plan fully complies with said criteria, including limitations relative to allowable irrigation consumption/demand;
 - The above data is complete and accurate with respect to said plan.

NAME: (type) _____
 COMPANY: _____
 ADDRESS: _____
 SIGNATURE: _____ DATE: _____

- B. As the legally designated **representative of the owner** of the above-referenced development, I acknowledge the following:
- I have reviewed the above information and attest that, to the best of my knowledge, the information presented herein is a true and accurate representation of the owner's intended landscape consumption;
 - I am fully aware that adherence to this allotment is a condition of continued irrigation service and, in the event the landscape irrigation allotment is exceeded on an annual basis, that the owner is subject to surcharges and penalties including termination of service in the event of continued noncompliance, per the service rules and regulations of the Meridian Metropolitan District.

OWNER'S REPRESENTATIVE NAME: (type) _____
 BUSINESS ADDRESS: _____
 SIGNED BY: _____ DATE: _____

- C. Acknowledged by: Design Control Committee

SIGNED: _____ DATE: _____

Note: A fully executed and certified copy of the above must be submitted to the Meridian Metropolitan District along with a site connection and service application as a condition of service activation.

See Site Plan Sample Set on
DTC-Meridian Website:

www.accdcc.org



Design Control Committee
Meridian International Business Center

OWNER'S COMPLIANCE & PERFORMANCE AGREEMENT

Project Name: _____
Address: _____ **Parcel/Tract/Lot/Ref No.:** _____

By execution of this agreement, DCC, Owner and Owner's General Contractor acting as Owner's Agent acknowledge that the Construction Documents and Site Logistics Plans dated _____ ("Plans") submitted for the above referenced project has been approved by the Design Control Committee ("DCC") subject to the conditions set forth in the DCC letters dated _____, and that the DCC is holding a \$ _____ performance security deposit to ensure compliance with the Plans. Owner and Owner's General Contractor acknowledge and agree that they will comply with the Plans and in all respects, that they will obey all directives of the DCC concerning matters or items not in compliance with the Plans, and that in the event the Owner or Owner's General Contractor fail to comply with the Plans or obey such directives, the DCC (1) may retain all or any part of the compliance and security deposit, (2) order an immediate halt to all construction on the site until compliance occurs, (3) remedy or correct the noncompliance itself at Owner's expense, and/or (4) require the posting of a new or additional performance security deposit as a prerequisite to allowing construction on the site to resume, and that the Compliance and Performance Security Deposit, or any portions thereof, is only refundable after a final Certificate of Compliance has been issued for the project by the DCC. **If full compliance of all outstanding issues is not made within 12 months of receipt of a temporary certificate of occupancy from the county and a Certificate of Compliance within this same period, the deposit may be automatically forfeited.**

Owner: _____	Owner's General Contractor: _____
By: _____	By: _____
Date: _____	Date: _____

The foregoing is hereby acknowledged by the Design Control Committee of Meridian International Business Center.

Meridian Design Control Committee _____ **Date:** _____

Douglas C. Scott, Chairman _____ **Valid until:** _____



Meridian Design Control Committee
OWNER / ARCHITECT CERTIFICATION OF NET FLOOR AREA
& VERIFICATION OF COMPLIANCE

As Owner and Architectural Representatives of the real property located in Meridian and described above, the undersigned hereby certify with respect to the above-referenced project, as now completed, inclusive of buildings, landscaping, signage and all attendant appurtenances have been installed in material compliance with plans previously submitted to, and approved by the DCC, including any conditions thereto, as follows:

Project Name: _____
Location (legal description and address) _____

Notice of DCC Committee Action Dates

Sketch Plan	_____
Schematic Design	_____
Site Plan	_____
Design Development	_____
Construction Documents	_____

The following development data is factual in terms of actual final constructed conditions as of this date; and is consistent with above approvals/conditions:

Site Coverages	Area (sq. ft.)	%
Building/Structure (40% max)	_____	_____
Parking (50% max)	_____	_____
Open Space (30% min)	_____	_____
TOTAL	_____	_____

Building Floor Area

Parking

Use	Floor Area*		Total Spaces	Handicap	Carpool
	Gross	Net			
Office	_____	_____	Structured	_____	_____
Commercial	_____	_____	Surface	_____	_____
Retail	_____	_____			
Restaurant	_____	_____	TOTAL	_____	_____
Hotel	_____	_____			
Residential					
SF	_____	_____			
MF	_____	_____			
Other	_____	_____			
TOTALS	_____	_____			

Signage

Freestanding Monument	Number	Size*
Complex	_____	_____
Identity	_____	_____
*sq ft of sign face area		

Landscape/Plantings

Building Management

	Number	%	Size			
Deciduous (50%)	_____	_____	_____	Address	_____	
Ornamental (25%)	_____	_____	_____	Contact	_____	
Evergreen (25%)	_____	_____	_____	Phone	_____	Fax _____
Shrub Areas	_____	_____	_____	After hrs. phone	_____	Other _____
Flower Areas	_____	_____	_____			

6380 S. Fiddlers Green Circle * Suite 400 * Greenwood Village, CO 80111

Phone: 303-773-1700/ fax: 303-740-6954

Website: www.accdcc.org; Email: noca@accdcc.org



Meridian Design Control Committee

**OWNER / ARCHITECT CERTIFICATION OF NET FLOOR AREA
& VERIFICATION OF COMPLIANCE**

IRRIGATION DEMAND:

	Square Feet	% Parcel	Annual Consumption	
			inches	gallons
Open Space	_____	(%)	_____	_____
Irrigated Turf	_____	(%)	_____	_____
Irrigated Shrub/Flower Beds	_____	(%)	_____	_____
Native	_____	(%)	_____	_____
Hardscape	_____	(%)	_____	_____
Other (specify)	_____	(%)	_____	_____
TOTAL	_____	(%)	_____	_____

IRRIGATION ALLOTMENT:* _____

*Based on gross land area of site with building with potable metered service
Office/retail/warehouse/other commercial @ 3.74 gal/yr/sq ft

OWNER CERTIFICATION:

I hereby attest that I am a legally designated agent of the owner, and that the information contained in this application is true and correct, and further acknowledge that any approval action by the DCC based on inaccurate or incomplete information may be cause for invalidation of said approval.

Name _____ Date: _____

STATE OF COLORADO)
) ss:
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20____.

Witness my hand and official seal.

My commission expires:

By: _____
Notary Public

ARCHITECT CERTIFICATION:

I hereby attest that I am the architect of record for the owner duly licensed to practice in the State of Colorado, and that the information contained in this application is true and correct, and further acknowledge that any approval action by the DCC based on inaccurate or incomplete information may be cause for invalidation of said approval.

Name _____ Date: _____

STATE OF COLORADO)
) ss:
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20____.

Witness my hand and official seal.

My commission expires:

By: _____
Notary Public

Meridian Design Control Committee _____ Date: _____

Douglas C. Scott, Chairman _____ Valid until: _____



Meridian Design Control Committee
CERTIFICATE OF COMPLIANCE

This Certificate of Compliance is issued as of the ___ day of ___, 20___, with respect to the land and improvements located thereon known as ___ at ___ at building designation "___" in Meridian (the "Site"). Pursuant to the authority granted to the Design Control Committee of Meridian (the "DCC") under the Protective Covenants of:

- Meridian International Business Center recorded November 2, 1984 in the Official Records of Douglas County, Colorado, in Book 546, Page 750, as amended by that certain Designation of New Declarant, recorded August 6, 1985 in the Official Records of Douglas County, Colorado, in Book 588, Page 235 (the "CC&Rs"),
Meridian Commons, dated as of October 21, 1999 and recorded on October 21, 1999 in Book 1769 at Page 444, Reception No. 99089733 of the Douglas County, Colorado records, as subsequently amended and/or restated and/or extended.
Meridian International Business Center (North Area) dated as of November 29, 2001, and recorded on December 5, 2001, in Book 2201 at Page 1017, Reception No. 01116892, of the Douglas County, Colorado records, as subsequently amended and/or restated and/or extended.
Meridian Villages, dated as of October 4, 2005, recorded October 20, 2005 at Reception # 200510109,

the DCC hereby confirms and certifies that, as of the date of this Certificate: The CC&Rs as referenced above are complete and current in their cited form; all approvals necessary to be obtained from the DCC in connection with the construction of the existing improvements were obtained; and the site, over which the DCC has jurisdiction, and all of the improvements located thereon are in compliance with the CC&Rs; and, there are no outstanding fines, fees or assessments due the DCC as of this date.

This certification is being issued to _____

DESIGN CONTROL COMMITTEE
OF THE MERIDIAN INTERNATIONAL BUSINESS CENTER

By: _____
Douglas C. Scott
Chairman

STATE OF COLORADO)
) ss:
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ___ day of ___, 20___, by Douglas C. Scott as Chairman of the Meridian Design Control Committee.

Witness my hand and official seal.

My commission expires: _____

By: _____
Notary Public



NOTICE OF COMMITTEE ACTION

Date: _____
Project Name: _____
Address: _____
Parcel/Tract/Lot/Ref No.: _____

Type of Application:

-
-
-
-

Submittal Phase:

- Pre Design
- Sketch Plan
- GDP
- Schematic Design
- Site Plan
- Design Development
- Construction Documents
- Certificate of Compliance
- On Site Materials Mock Up
- Construction Logistics/Performance
- Surety
- Authorization to Apply for Permit
- Release of Performance Surety

Attached Plan References:

Action Taken: Deferred Approved Approved with Conditions (see below) Denied

To the extent that this approval allows proceeding with the next phase of planning on the project, approval is subject to submittal and subsequent approval of all documents and items required for all subsequent phases of the project and payment of fees associated with any submittal including the submittal that is the subject matter of this letter. Thus, any failure to comply with submittal and approval requirements for subsequent phases of the project will invalidate the approval granted herein.

As with all approvals of the , the approval extends to the design concepts included in this submittal, but not necessarily to design details. Applicants are responsible for ensuring that all design details and actual construction of the project conform to the Protective Covenants of ("Covenants"), which govern the use of the subject property.

Pursuant to the Covenants, the plan approval(s) granted herein (are/is) valid through the date below, by which date you must obtain Construction Document approval and begin construction of the project. If construction does not begin on the project by that date, this approval shall expire. In such event, plans must be resubmitted before proceeding.

This approval is not a representation or warranty by either the Committee or by any other person or entity that the approved plans are in compliance with any site specific contractual or covenant use restrictions that apply including, but not limited to, any limitation on gross floor area, the definition of which in a contract or the covenants may differ from the definition used to make the calculations for purposes of the submittal of plans to the Committee.

Full compliance with all aspects of current Design Criteria is required unless exceptions thereto are specifically enumerated on a Notice of Committee Action per above.

of _____

 Douglas C. Scott, Chairman

Date: _____
 Valid Until: _____

Document164



NOTIFICATION OF NON-COMPLIANCE

NOTICE OF FINE

Date: _____

To: _____

Site Name: _____

Address: _____ Parcel/Tract/Lot/Ref No.: _____

Recent inspection indicates the following item(s) on your site are not in compliance with the Protective Covenants of . You are hereby notified that corrective action is required for the following conditions.

Penalty Schedule:

- Unauthorized Installation/Alteration \$250 fine + remediation (removal or reapplication with fee payment)
- Unauthorized Installation/Alteration \$250 fine + remediation
- Failure to remediate and make payment within specified time frame:
 - 1st notice Fines doubled
 - 2nd notice Fines redoubled and start accruing @ \$250/day until remediation & payment
 - 3rd notice Recording (in public records) of Notice of Violation (see Form, this section); fines continue to accrue @ \$250/day until remediation
- Repeat Violation (1st) \$500 fine + remediation
- Repeat Violation (2nd) \$1,000 fine + remediation

Owner's Remediation Response: (it is incumbent on the Owner to advise the Committee in writing of remediation per below. Absent receipt of an Owner response as to the status prior to the specified date of remediation, a repeat NONC will be issued and progressive fines will apply.)

Action Taken: _____

Fine Amount Enclosed: \$ _____

Signed: (Owner or Authorized Representative) _____ **Date:** _____

Document158



Meridian Design Control Committee

PUBLIC RECORD NOTICE OF VIOLATION

To: Clerk and Recorder, County of Douglas

The real property located in the County of Douglas, State of Colorado, more particularly described on Exhibit A attached hereto and by this reference incorporated herein (the "Property"), is subject to the following Declaration of Protective Covenants ("Covenants"):

- Meridian International Business Center recorded November 2, 1984 in the Official Records of Douglas County, Colorado, in Book 546, Page 750, as supplemented and/or amended.
- Meridian Commons recorded on October 21, 1999 in Book 1769 at Page 444, Reception No. 99089733 of the Douglas County, Colorado, records, as supplemented and/or amended.
- Meridian International Business Center (North Area) recorded on December 5, 2001, in Book 2201 at Page 1017, Reception No. 01116892, of the Douglas County, Colorado, records, as supplemented and/or amended.
- Meridian Villages recorded October 20, 2005 at Reception # 200510109 of the Douglas County, Colorado, records, as supplemented and/or amended.

The Design Control Committee under the relevant Covenants ("DCC"), as established and empowered pursuant to the Covenants, hereby gives notice that (a) as of _____, 20____, the Property was in violation of the Covenants as a result of _____, (b) the DCC has imposed fines for that violation in the amount of \$_____, none of which have been paid, (c) the fines will continue to accrue at the rate of \$250 per day from and after _____, 20____, until the violation is remedied and the fines are paid, and (d) this Public Record Notice of Violation is being placed of record in the real estate records of the County in which the Property is located. Also, the DCC reserves the right to take further remedial action with respect thereto as set forth in the Covenants.

DESIGN CONTROL COMMITTEE

By: _____
Douglas C. Scott, Chairman

STATE OF COLORADO)
) ss:
 COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____ 20____, by Douglas C. Scott as Chairman of the Design Control Committee.

Witness my hand and official seal.

My commission expires: _____

By: _____
Notary Public

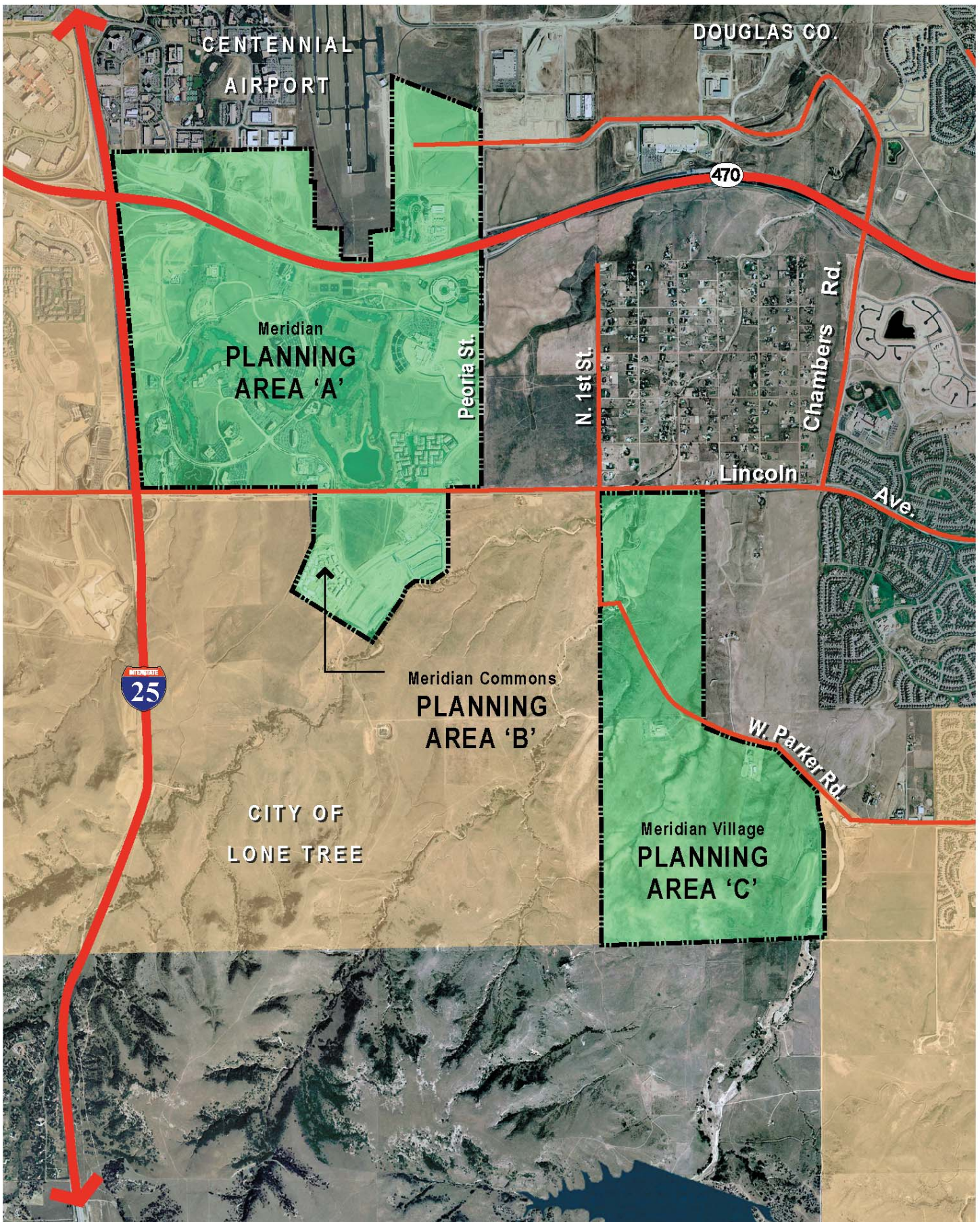
cc: Property Owner



5.0 EXHIBITS INDEX

1. Meridian Planning Areas
2. Land Use Plan, Areas A & B
3. Land Use Plan, Area C
4. Zoning and CARA Height Restrictions
5. Access Plans
 - a. North Area
 - b. Area C
 - c. Meridian Commons
6. Street Section Key, Areas A and B
 - a. Street Sections A & B
 - b. Street Sections C & D
 - c. Street Sections E & F
 - d. Street Sections G & H
 - e. Street Sections I & J
 - f. Street Section K
 - g. Street Sections L & M
 - h. Street Section N
7. Street Section Key, Area C
 - a. Street Section O
 - b. Street Section P
 - c. Street Section Q
8. Temporary Sign Details
9. Retaining Wall Requirements
10. Example Stone Facing Required for Drainage Headwalls/Wingwalls
11. Douglas County Site Plan Review Process for Development within Meridian
12. Douglas County Subdivision and Platting Procedures at Meridian
13. Construction Site Logistics Checklist

Meridian Planning Areas

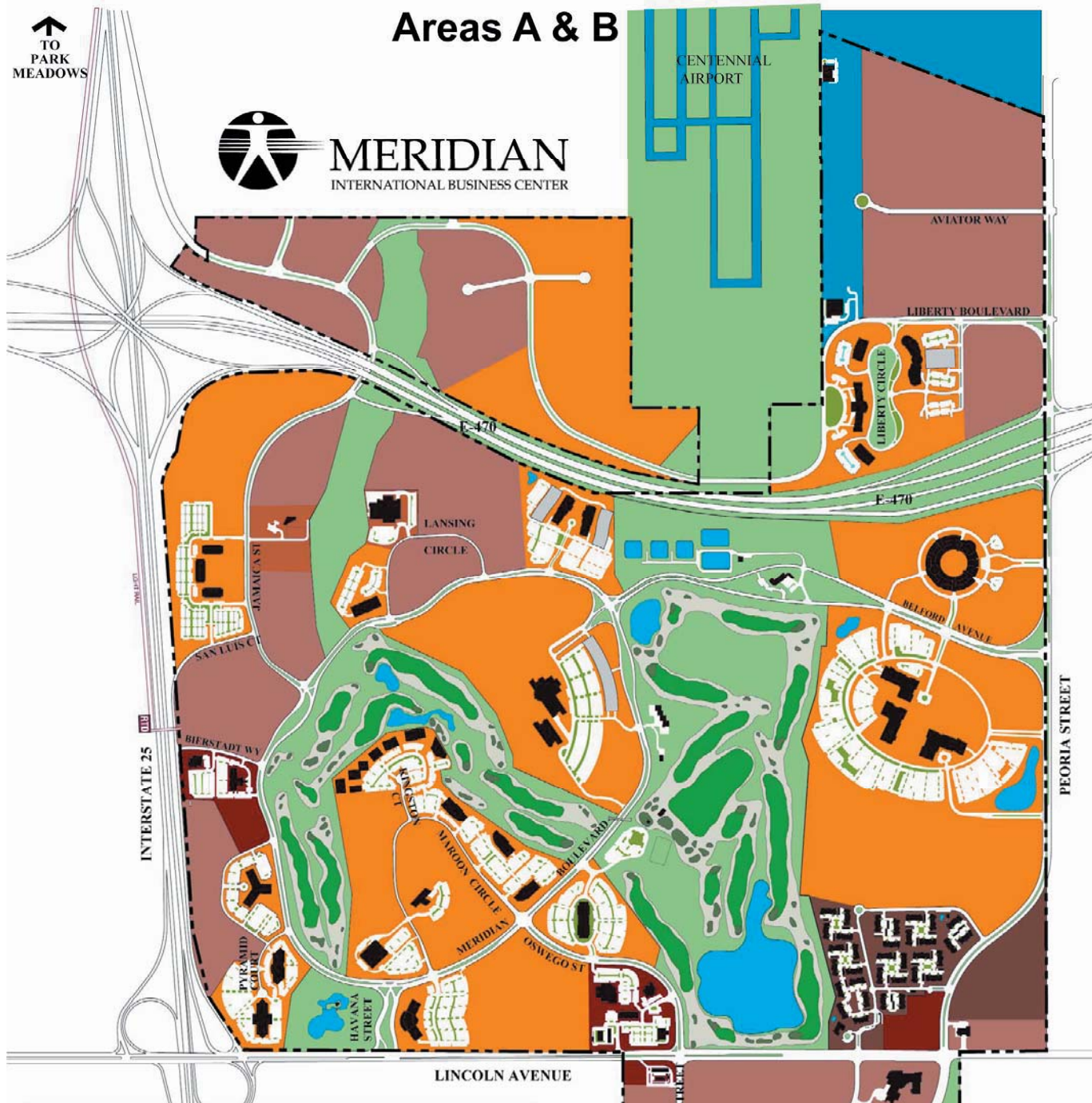


Land Use Plan Areas A & B

↑
TO
PARK
MEADOWS



MERIDIAN
INTERNATIONAL BUSINESS CENTER



LEGEND	PREFERRED LAND USE [1]
	OFFICE
	RETAIL; HOTEL
	OFFICE WAREHOUSE
	OPTIONAL (may include any of the above)
	RESIDENTIAL
	AERONAUTICAL
	OPEN SPACE/PARKS/GOLF COURSE/PUBLIC

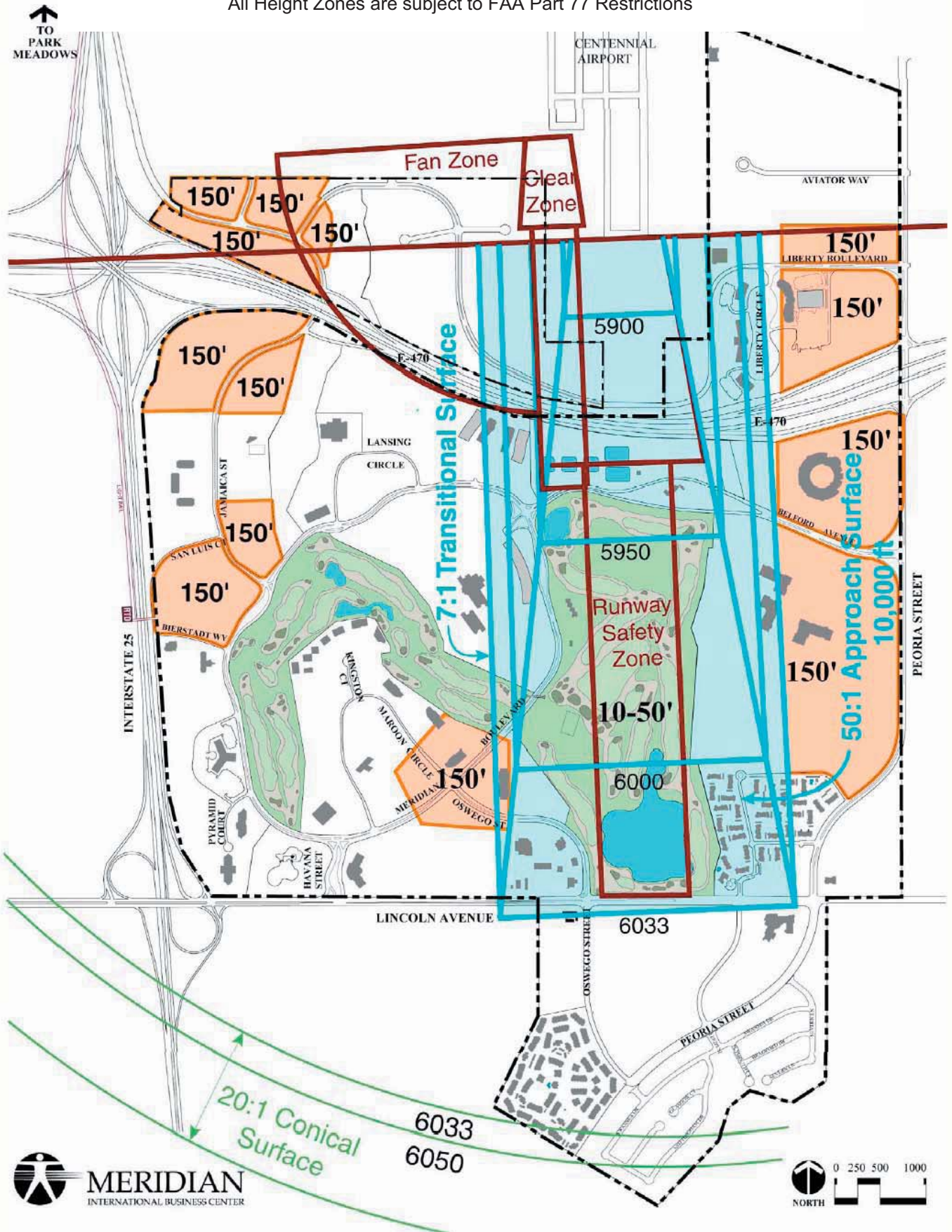
[1] PREDOMINANT USE; MAY INCLUDE OTHER ANCILLARY USES THAT SUPPORT PREDOMINANT USE



Effective August, 2003

Zoning and CARA Height Restriction

Unless shown otherwise, Height Allowances are 60 Feet
All Height Zones are subject to FAA Part 77 Restrictions



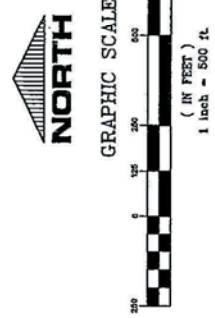
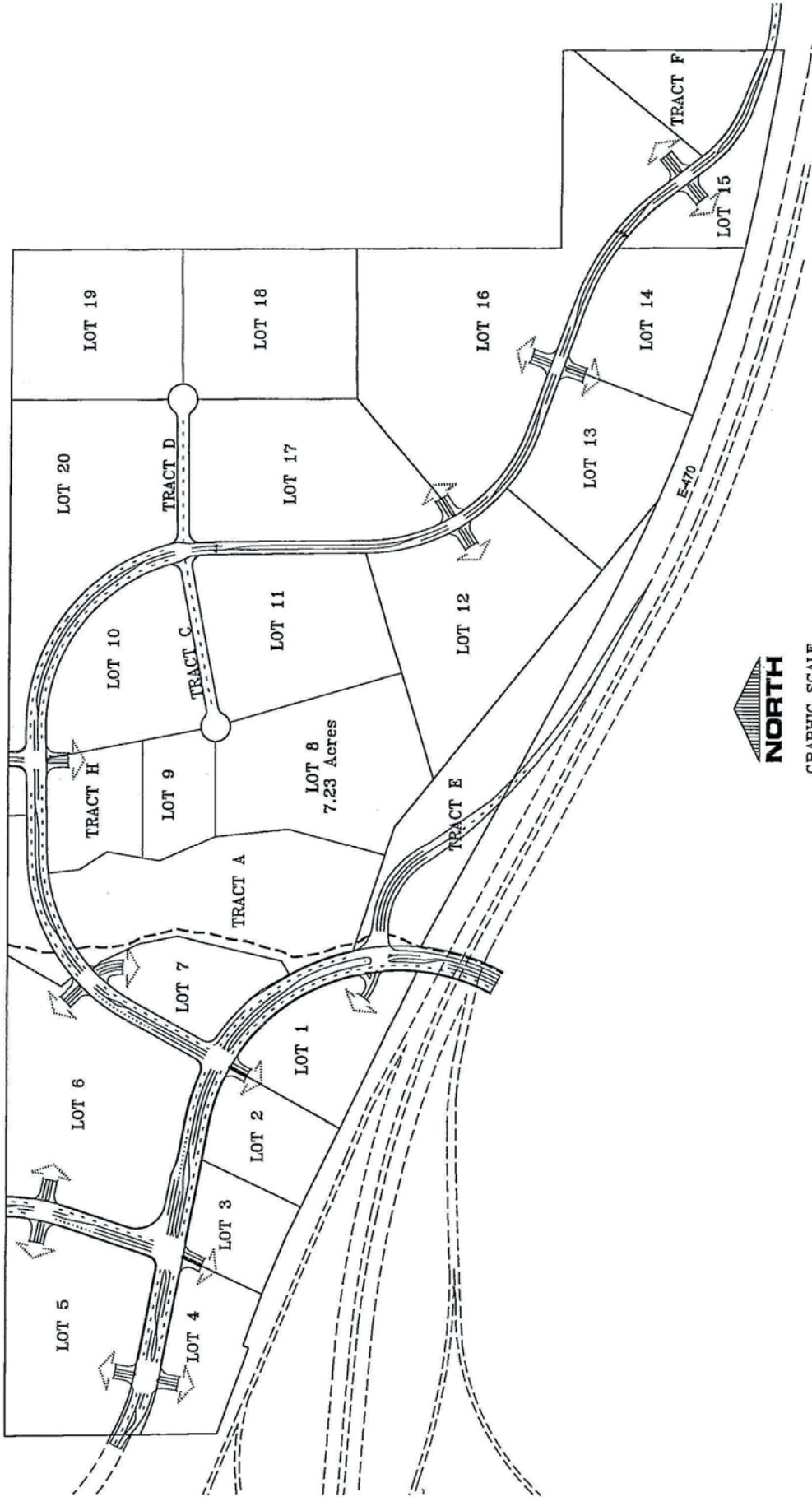


MERIDIAN

INTERNATIONAL BUSINESS CENTER

NORTH AREA ACCESS PLAN

TRACT B TRACT G

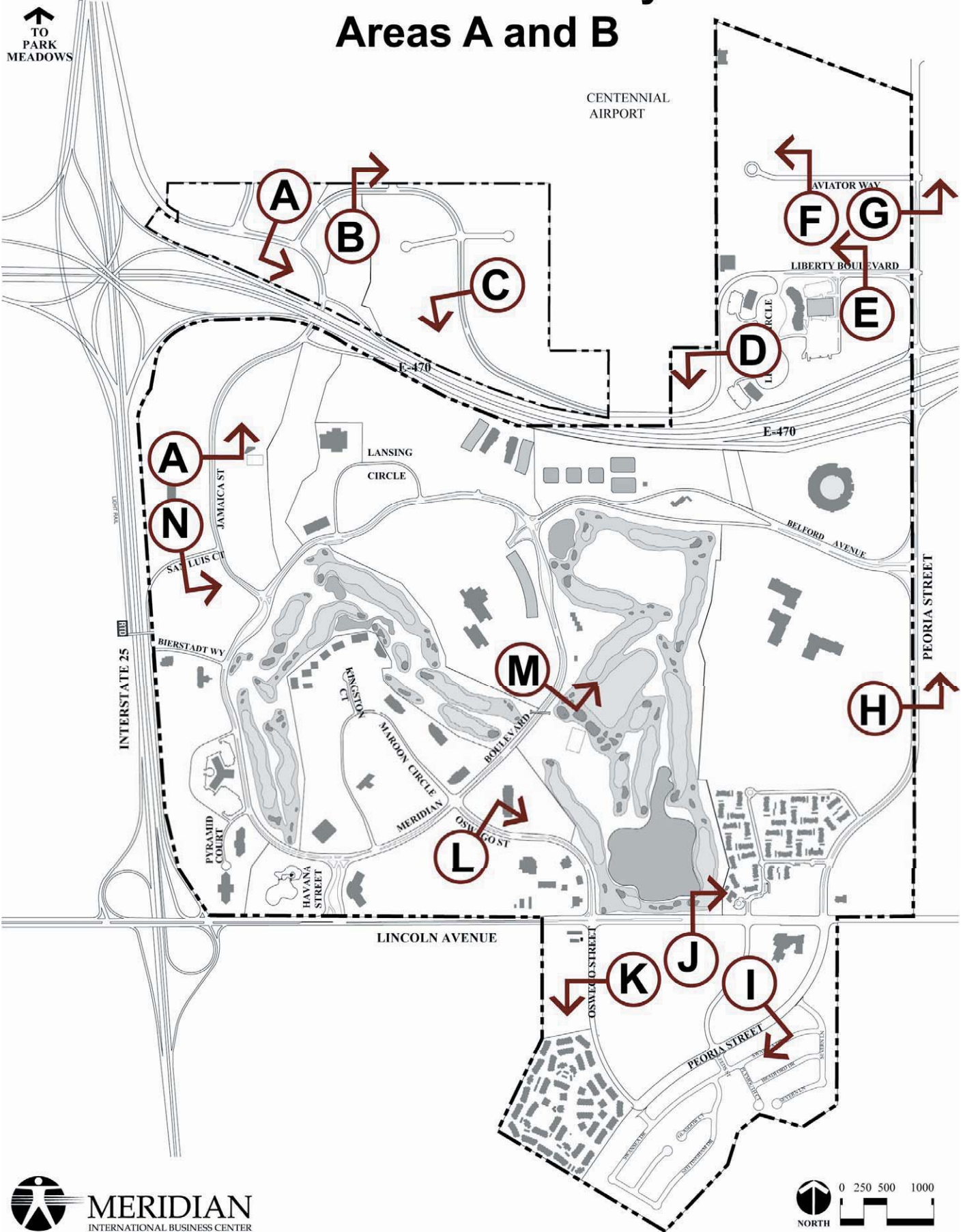


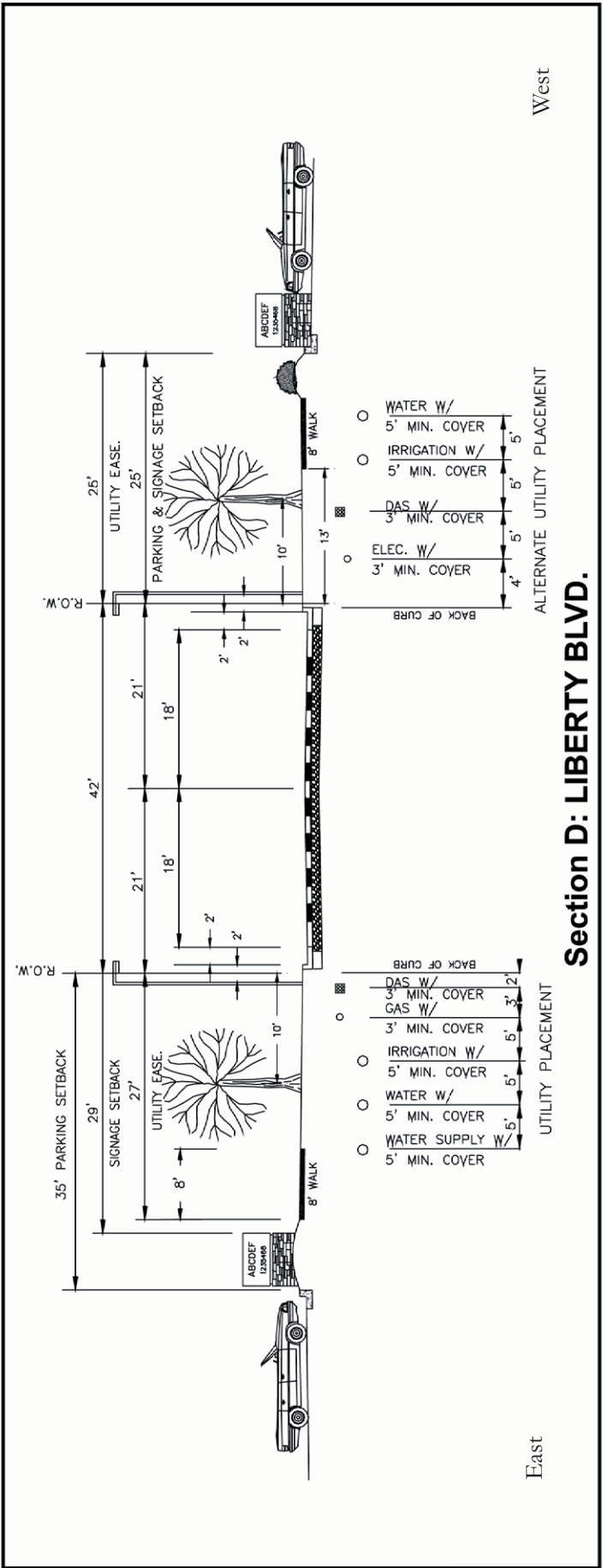
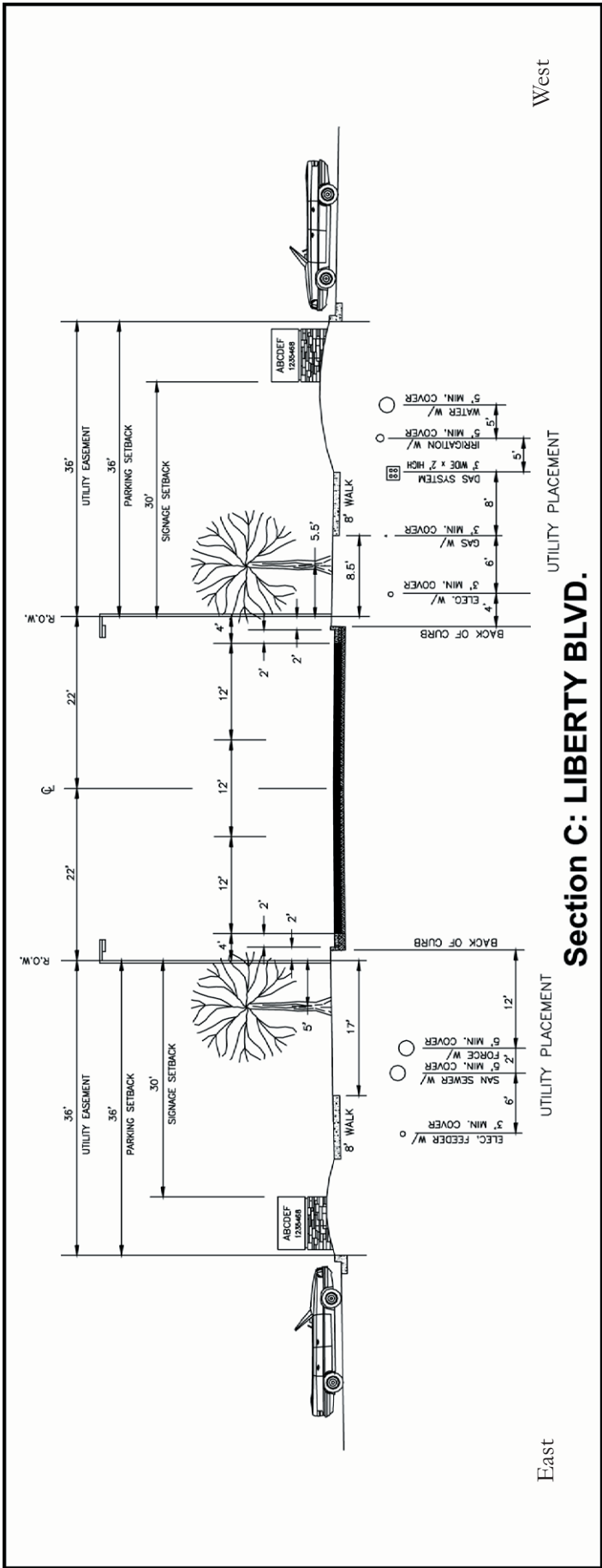


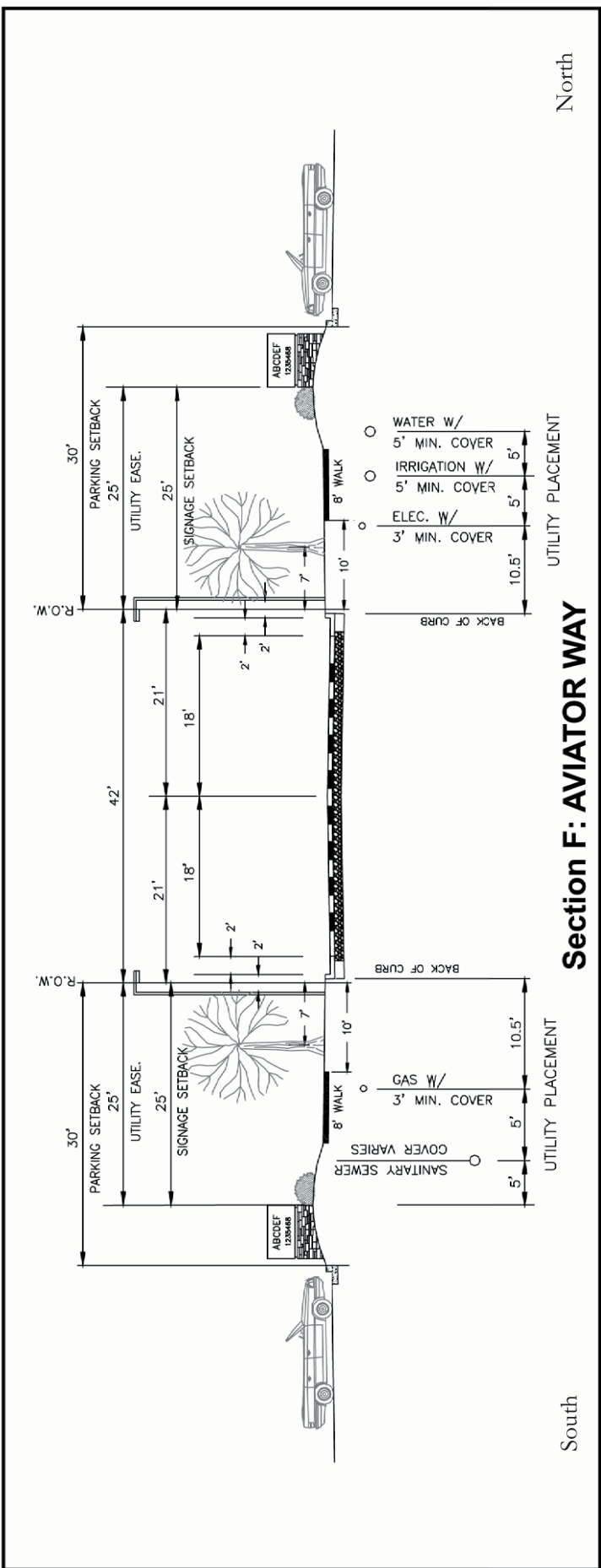
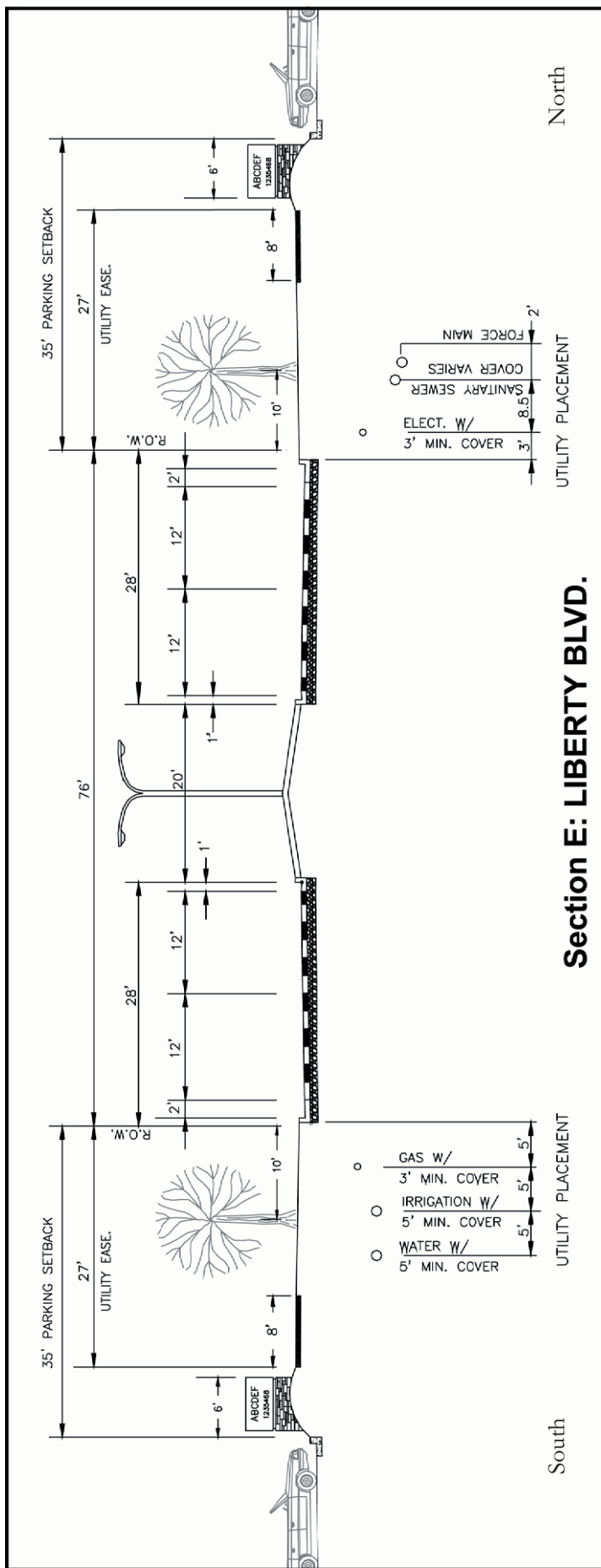
MERIDIAN COMMONS ACCESS MANAGEMENT PLAN

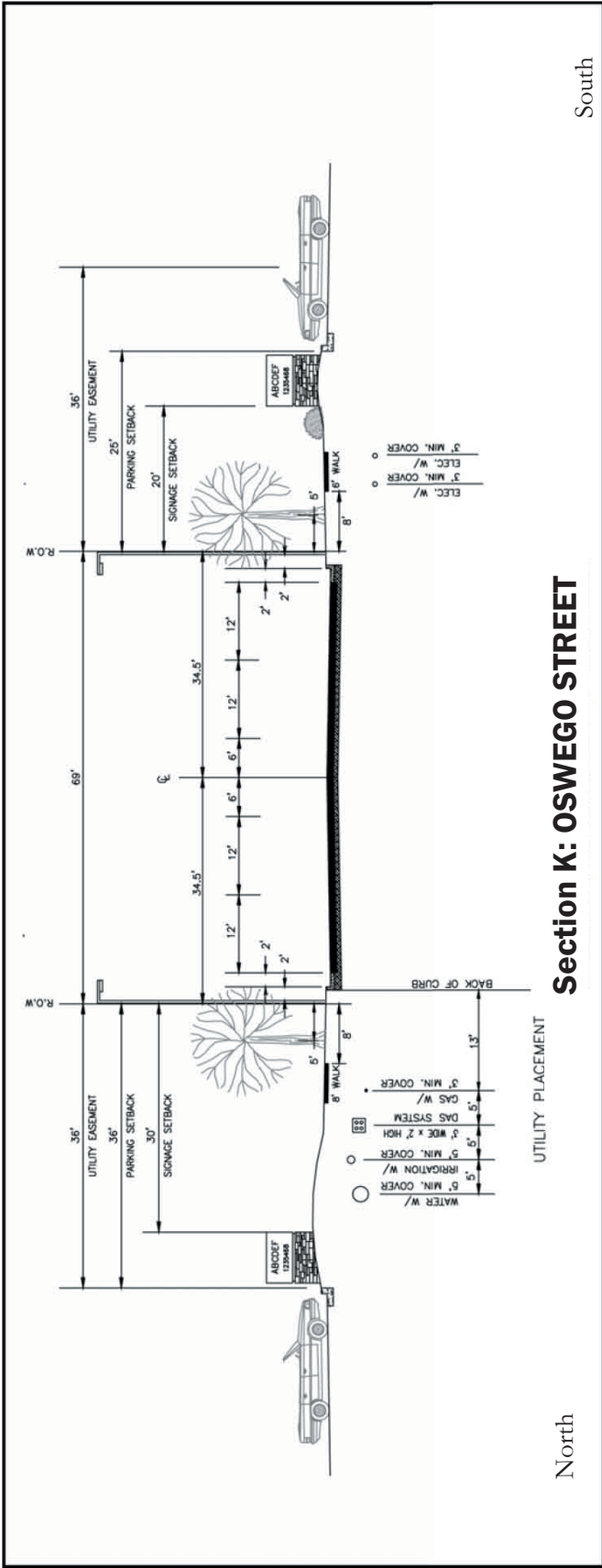


Street Section Key Areas A and B





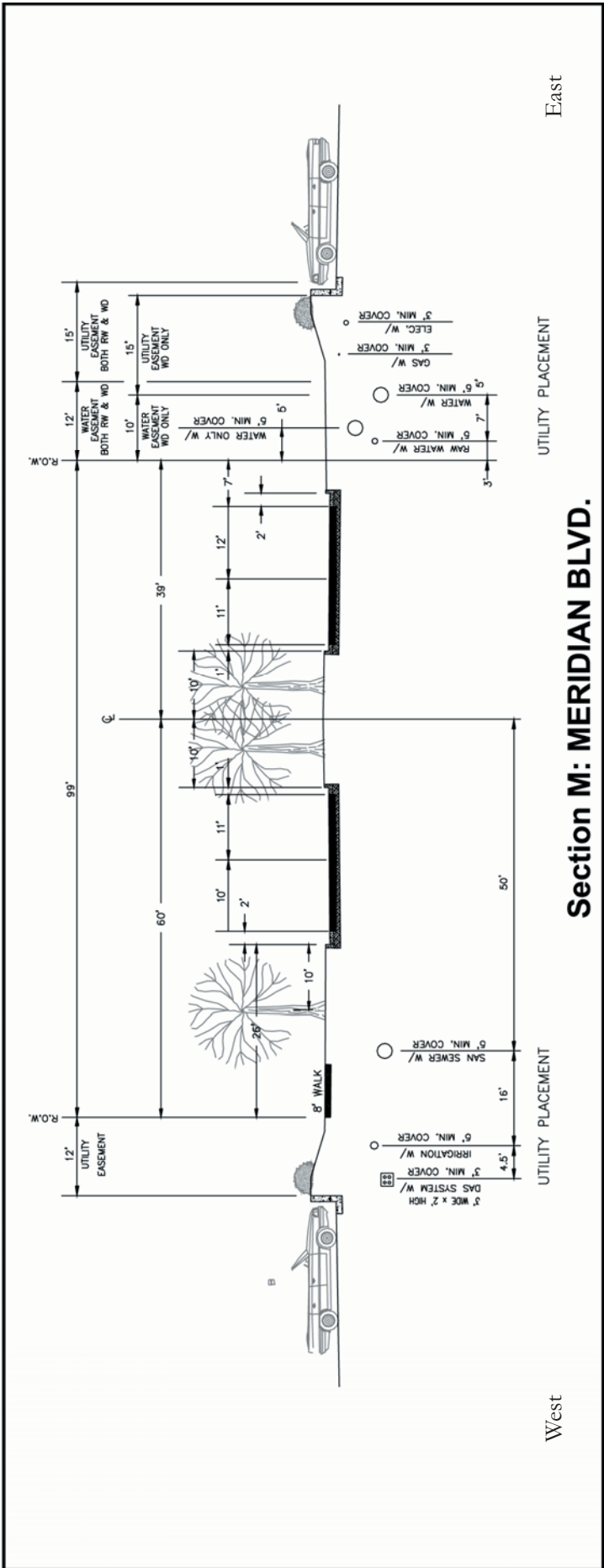
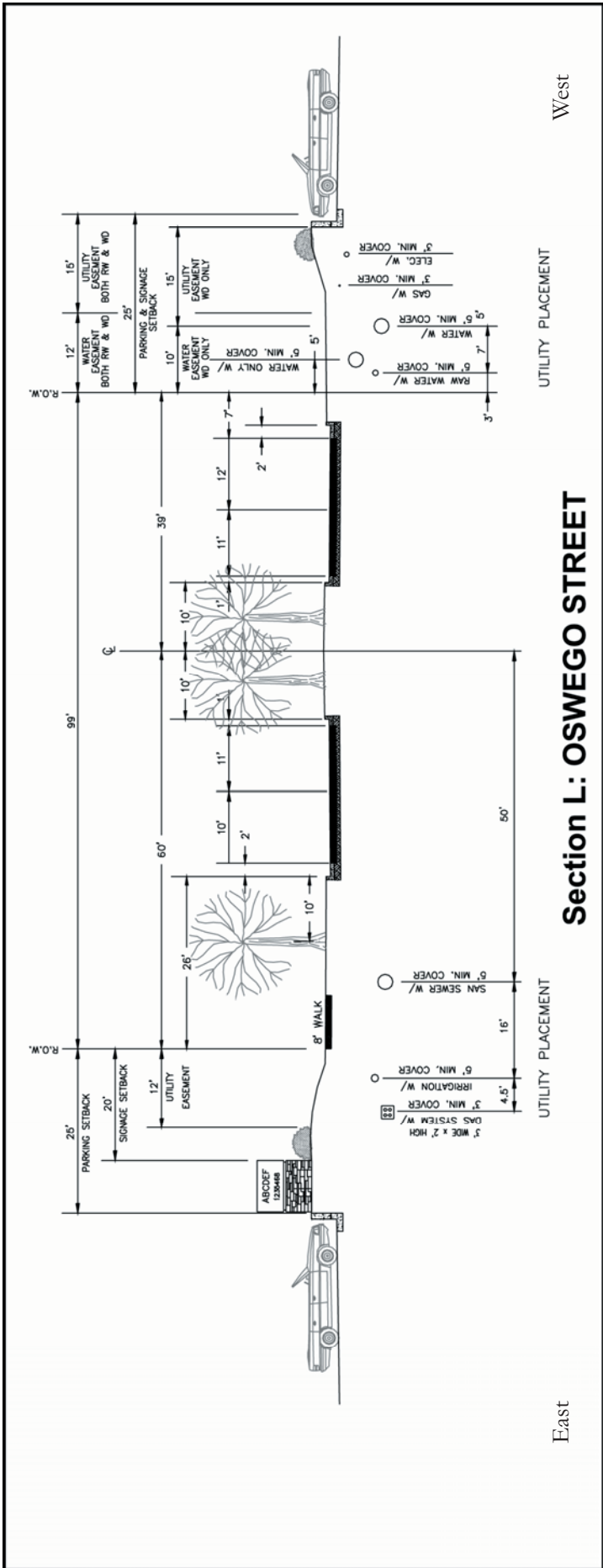


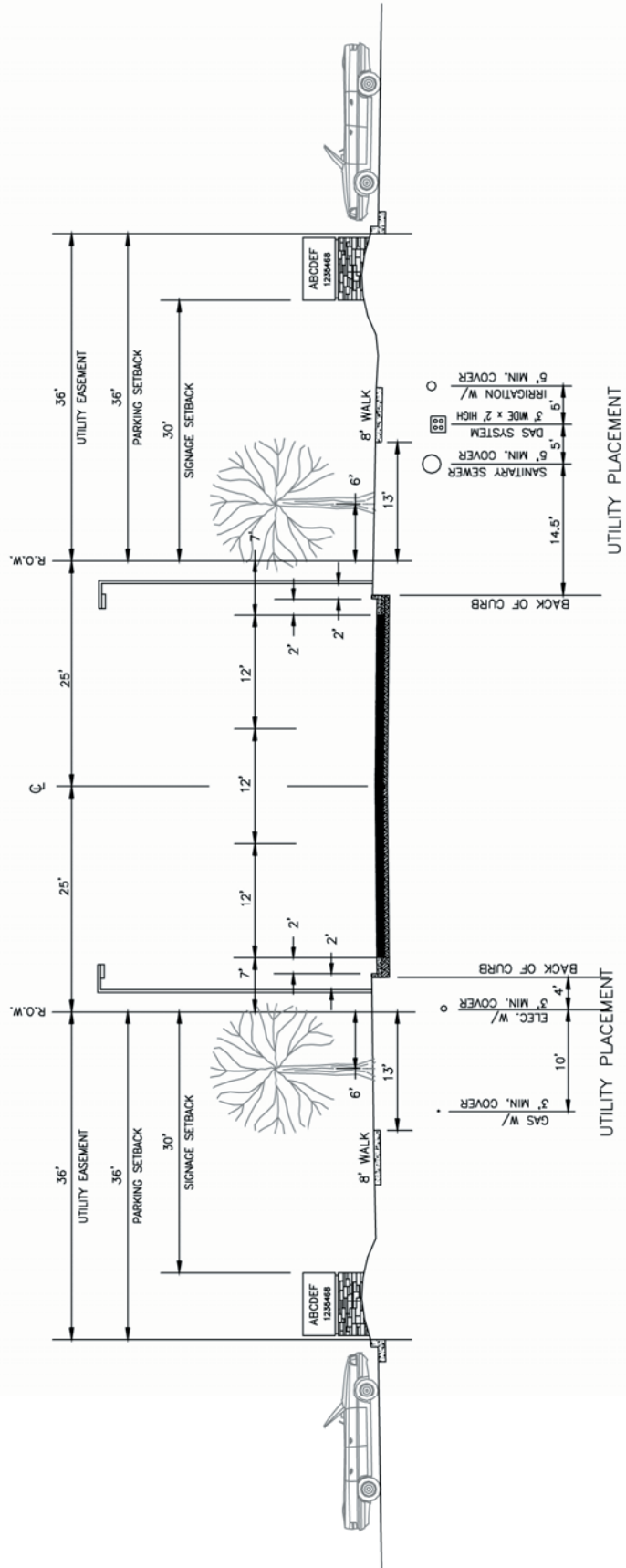


Section K: OSWEGO STREET

South

North

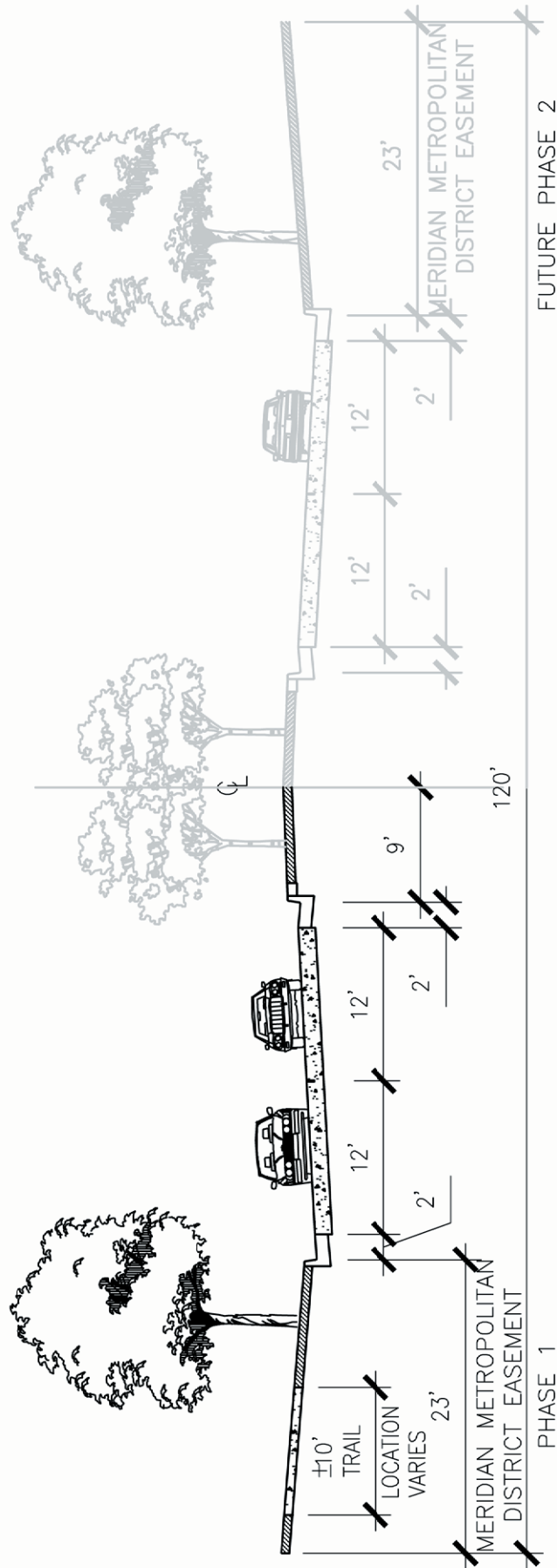




South

Section N: SAN LUIS STREET

North



TYPICAL SECTION THRU RESIDENTIAL

Section Q: WEST PARKER ROAD

South

North

Temporary Sign Details at Meridian

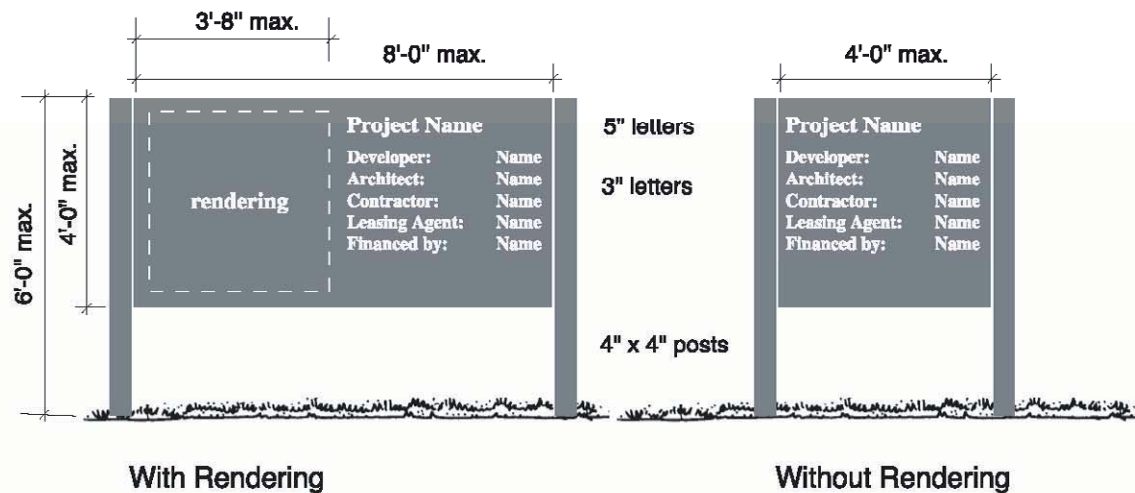
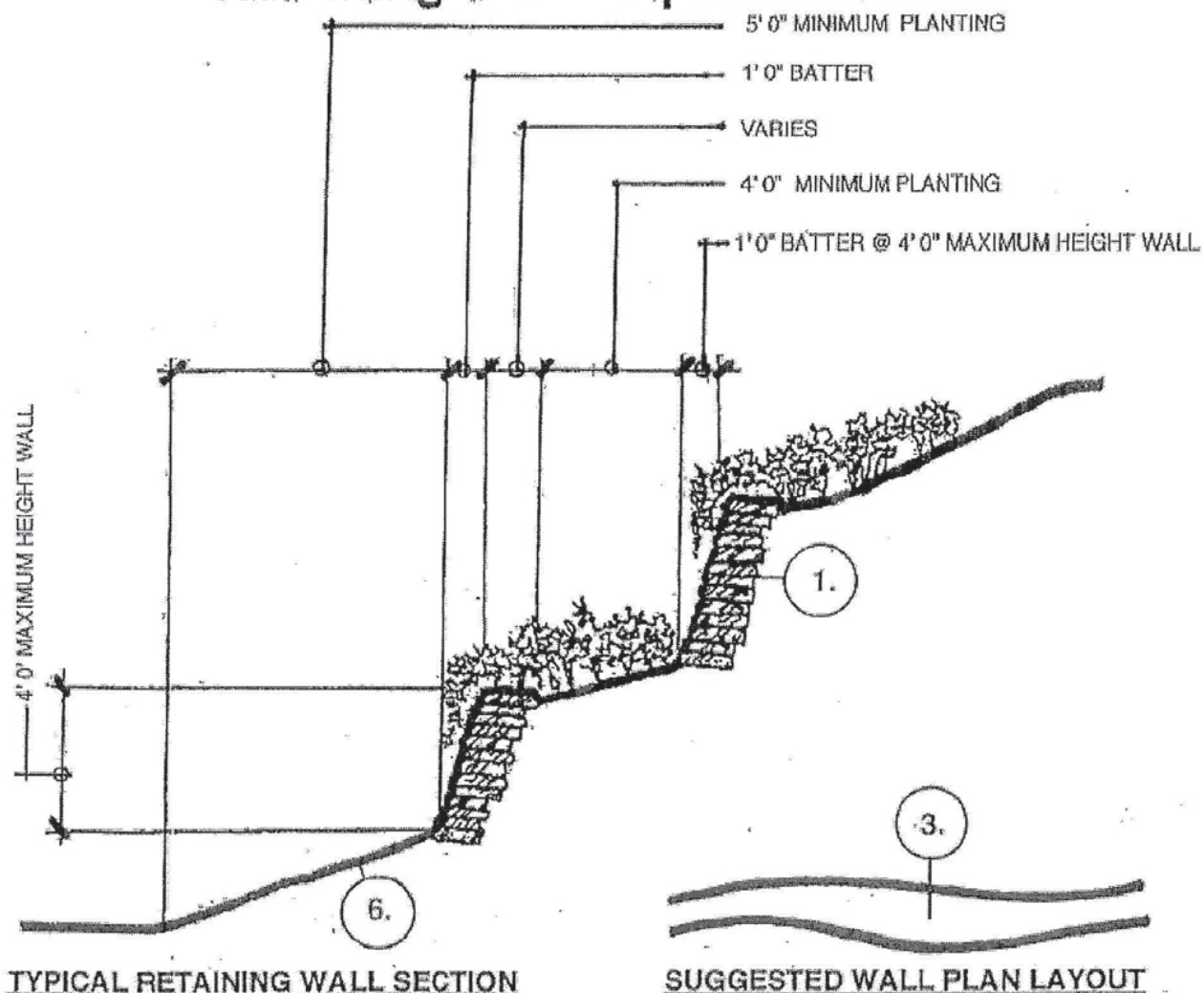


Figure 1: Project Announcement Sign



Figure 2: Leasing/For Sale Signs

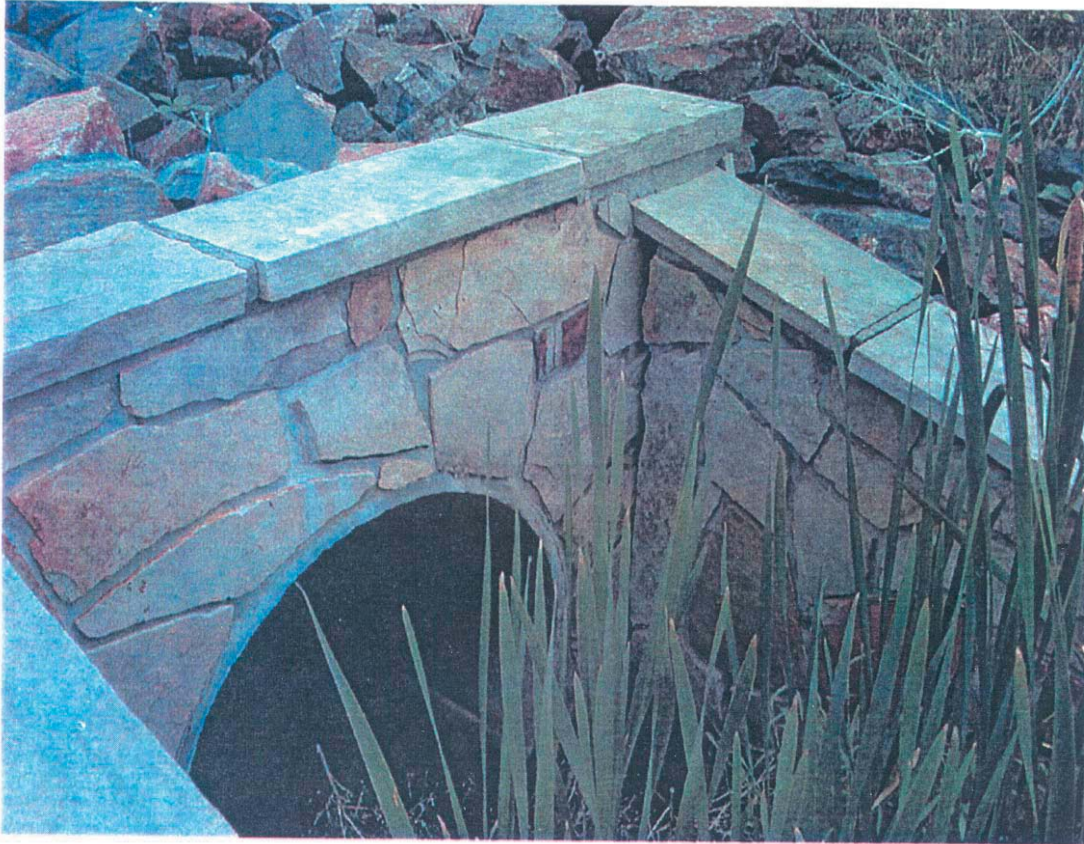
Retaining Wall Requirements



NOTES

1. COLORADO BUFF SANDSTONE IN ASHLER PATTERN REQUIRED FOR ALL RETAINING WALLS. EXPOSED STRUCTURAL CMU WALLS NOT ALLOWED.
2. APPLICANT IS RESPONSIBLE FOR PROPER DRAINAGE SYSTEM AND STABLE SOILS CONDITIONS FOR STONE BEARING AT RETAINING WALLS.
3. FORM PLACES FOR TREES AND VERTICAL SHRUBS BETWEEN MULTIPLE WALLS, AVOID LONG LENGTHS OF PARALLEL WALLS.
4. IF AN APPLICANT WISHES TO USE A REINFORCED CONCRETE FOOTING AND STRUCTURAL BACKUP WALL AT A RETAINING WALL CONDITION, THE COMMITTEE WILL APPROVE THIS SYSTEM ONLY IF THE EXPOSED CONCRETE IS COMPLETELY COVERED WITH THE REQUIRED COLORADO BUFF SANDSTONE IN AN ASHLER PATTERN. IT WILL BE THE APPLICANT'S SOLE RESPONSIBILITY TO PROVIDE PROPER ENGINEERING DESIGN FOR THE CONCRETE FOOTINGS, BACKUP WALL AND DRAINAGE SYSTEM REQUIRED FOR THE FINISHED WALL.
5. VARY SPACES BETWEEN MULTIPLE WALLS TO CREATE INTERESTING PLACES FOR TREES AND VERTICAL SHRUBS
6. PLANTING AREA SLOPES:
 3:1 IS THE PREFERRED SLOPE
 2:1 IS AN ACCEPTABLE SLOPE, IF PROPER LANDSCAPE MATERIALS FOR STABILITY AND MAINTENANCE ARE SPECIFIED.

**Example Stone Facing Required for
Drainage Headwalls/Wingwalls**



MMD Residential Landscape Guidelines

MERIDIAN

Metropolitan District

12111 East Belford Avenue
Englewood, CO 80112
303-779-4550
Fax 303-740-6954

Dear Meridian Homeowner:

As you are undoubtedly aware, this region of Colorado exists in a relatively arid climate subject to periodic drought conditions.

We in Meridian have attempted to recognize this through a unique approach to management of our water resources both in landscape design and water management guidelines.

For example, Meridian uses a very progressive recycling system wherein wastewater is, after appropriate treatment, reused for landscape irrigation on commercial properties and common areas within our service area as well as the Meridian Golf Course.

Although residential properties use "potable" vs. "reuse" water for landscape irrigation, all properties, including single family homes, operate under an "allotment" system wherein specific allocations are made available for landscape irrigation.

The Meridian Design Control Committee requires that each commercial property demonstrate that their landscape design will allow this criteria to be met. Here again, liberal use of native grasses and drought tolerant plants, compatible with Meridian's overall "high plains" landscape image, are encouraged for all properties.

For residential properties, the allowable allotment typically will not allow for a yard to be entirely turf. Because of this, we strongly recommend you consider liberal use of shrub and "xeriscape" treatments, particularly in your side and rear lot areas.

With attention to your initial landscape design, and subsequent irrigation practices, your irrigation allotment should be adequate under normal conditions. However, it is important to note that without proper management, irrigation allotments can easily be exceeded. In such situations, an aggressive surcharge is applied such that usage over the allotment is billed at 2X the normal rate; and, if usage exceeds 50% of the allotments, 3X the normal rate. Usage in excess of these amounts can result in termination of service.

The point to all of this is quite simple...every Meridian customer is asked to manage their landscape irrigation in a responsible manner such that they stay within their annual irrigation allotment. The enclosed material is being provided in an effort to assist you in doing this, and we would appreciate your cooperation in this regard.

Board of Directors
Meridian Metropolitan District

Note: Information on irrigation needs for current weather conditions is available via Denver Water's website: www.denverwater.org

Managing Your Landscape

within

Meridian's Water Conservation Guidelines



Meridian Metropolitan District
12111 E. Belford Ave.
Englewood, CO 80112

Phone: 303-790-0345

Fax: 303-790-1754

Website: www.dtcmeridian.com

MERIDIAN

Metropolitan District

12111 East Belford Avenue
 Englewood, CO 80112
 303-790-0345
 Fax 303-790-1754







SUMMER LAWN IRRIGATION GUIDELINES

(June 1 through September 30)

Customers are reminded that all users within Meridian are subject to “use allotments” which provide for reasonable water use, but impose strict penalties when exceeded. The most common cause of exceeding allotments results from excess lawn irrigation.

In an effort to assist you in your lawn care, we are providing you with the enclosed watering guidelines developed by the Denver Water Board. Additional information is available via their website www.denverwater.org.

PLEASE NOTE THAT LAWN IRRIGATION MAY ONLY BE DONE A MAXIMUM OF THREE DAYS PER WEEK ON YOUR ASSIGNED DAYS PER BELOW:

Days When You May Water	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Even-Numbered Addresses							
Odd-Numbered Addresses							

Thank you for your cooperation.

Meridian Metropolitan District



Xeriscaping: Creative Landscaping

Fact Sheet No. 7.228

Gardening Series | Basics

by C. Wilson, J.R. Feucht and Susan Carter*

Xeriscaping (zer-i-skaping) is a word originally coined by a special task force of the Denver Water Department, Associated Landscape Contractors of Colorado and Colorado State University to describe landscaping with water conservation as a major objective. The derivation of the word is from the Greek “xeros,” meaning dry, and scape meaning the pattern of the landscape – thus, xeriscaping.

The need for landscaping to conserve water received new impetus following the drought of 1977 throughout the western states and the recognition that nearly 50 percent of the water used by the average household is for turfgrass and landscape plantings.

Unfortunately, many homeowners have cut back on turfgrass areas by substituting vast “seas of gravel and plastic” as their answer to water conservation. This practice is not only self-defeating as far as water conservation is concerned, it also produces damaging effects to trees and shrubs. This is not xeriscaping.

Planning – The First Step

Whether you want to redesign an old landscape, or start fresh with a new one, a plan is essential. Site exposure is an important component of the plan, no matter how simple the plan. As a rule, south and west exposures result in the greatest water losses, especially areas near buildings or paved surfaces. You can save water in these locations simply by changing to plants adapted to reduced water use. However, don't be too quick to rip out the sod and substitute plastic and gravel. Extensive use of rock on south and west

exposures can raise temperatures near the house and result in wasteful water runoff and increased temperatures.

Slope of Property

Slope or grade is another consideration. Steep slopes, especially those on south and west exposures, waste water through runoff and rapid water evaporation. A drought-resistant ground cover can slow water loss and shade the soil. See fact sheet 7.230, *Xeriscaping: Ground Cover Plants*, for suggested ground covers. Strategically placed trees can shade a severe exposure, creating cooler soil with less evaporation. Terracing slopes helps save water by slowing runoff and permitting more water to soak in.

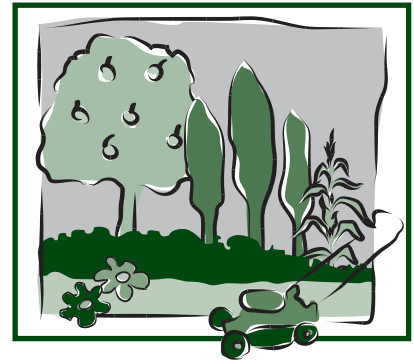
Reduce Irrigated Turf

Avoid narrow strips of turf, hard to maintain corners, and isolated islands of grass that need special attention. Not only is maintenance more costly, but watering becomes difficult, often wasteful. If your yard is already landscaped, see 7.234, *Xeriscaping: Retrofit Your Yard*, for information on ways to evaluate and eliminate unneeded turf grass areas.

Reduce bluegrass turf to areas near the house or that of high use. If appropriate, try using more drought-resistant grasses or even meadow mixes containing wildflowers. Refer to 7.232, *Xeriscaping: Turf and Ornamental Grasses*, for suggested alternatives to bluegrass.

Soil Preparation

Proper soil preparation is the key to successful water conservation. If the soil is very sandy, water and valuable nutrients will be lost due to leaching below the root zone. If your soil is heavy clay, common in this area, you will lose water through runoff.



Quick Facts

- Proper planning is the first step in landscaping to reduce water use.
- Steep slopes with south and west exposures require more frequent irrigating to maintain the same plant cover as east or north slopes.
- Terracing slopes reduces runoff.
- Limit irrigated bluegrass turf to small or heavily used areas.
- Soil amendment is a key to water conservation.
- Proper irrigation practices, system design and audits can lead to 30 to 80 percent water savings.
- Organic mulches can keep the soil moist and improve the soil overtime.

* J.R. Feucht, Colorado State University Extension landscape plants specialist and professor (retired). Prepared in cooperation with the Technical Advisory Committee for Xeriscape Front Range, an affiliate of the National Xeriscape Council, Inc. Reviewed by C. Wilson, Extension Horticulture Agent, Denver County. 10/07 Amended by Susan Carter, Extension Horticulture Agent, Tri River Area. 3/19.

A good soil is one that supports healthy plant life, conserves moisture and has a balance of soil clusters (aggregates) and pore spaces. The “ideal” soil has as much as 50 percent by volume pore space, with the soil itself consisting of a good balance of sand, silt and clay creating a loam soil.

A major problem with heavy soils is that clay tends to dominate the soil complex. Clay is composed of microscopic crystals arranged in flat plates. When a soil has a high number of these crystals, they act much like a glue, cementing the particles of sand and silt together and resulting in a compact, almost airless soil.

Such soils often repel surface water (hydrophobic soil), resulting in runoff. When water does get into these soils, it is held so tightly by the clay that it is not available to the plants. Plants in a clay soil, even though it is moist, often wilt from lack of moisture. Plant roots also need air to thrive. In clay soils, air spaces are small and fill with water, so plant roots often suffer from oxygen starvation.

In very sandy soils, the opposite is true. Sandy soils have very large particles creating large pore spaces. Because the particles are large, there is little surface area to hold the water, so they tend to lose water rapidly.

Creating a good soil takes more than a year. Add organic matter annually to garden areas. In areas to be sodded or seeded, add organic amendments as a onetime procedure. Since this is your one chance to add a good amendment thoroughly 6-8” deep. See: CMG Garden

Note #241: **Soil Amendment.** This encourages deep roots that tap the water stored in the soil and reduces the need for wasteful, frequent water applications.

Proper Irrigation Saves Water

Proper irrigation practices can lead to a 30 to 80 percent water savings around the home grounds. Check existing sprinkler systems for overall coverage. See Lawn Irrigation Self Audit (LISA) website. If areas are not properly covered or water is falling on hardscapes, adjust the system. This may mean replacing heads, adding more heads, or adjusting to do a more efficient job.

With the system on, observe places that are receiving water where it is not needed. Overlaps onto paved areas or into shrub borders may result in much water waste. Overwatering trees and shrubs may lead to other plant health issues and other problems.

Irrigate turf areas differently than shrub borders and flower beds. North and east exposures need less frequent watering than south and west exposures. Apply water to slopes more slowly than to flat surfaces. Ideally, these are different irrigation zones (Hydrozones). Examine these closely and correct inefficiencies in irrigation system design.

If you do not have a sprinkler system and are just beginning to install a landscape, you can avoid the pitfalls of poorly designed and installed systems. Have a professional irrigation company do the job correctly. Make sure the system is designed to fit the landscape, the water needs of the plants, and is zoned to reduce unnecessary applications of water. Coordinate the landscape design to select plants that have similar cultural requirements and match the irrigation system to those needs, resulting in a sensible water-saving scheme.

Consider a drip system for outlying shrub borders and raised planters, around trees and shrubs, and in narrow strips where conventional above ground systems would result in water waste.

If you use hoses instead of an underground system, you can observe water patterns. Instead of watering the entire lawn each time, spot water based on visible signs of need, such as turf that begins to turn a gray-green color.

Avoid frequent, shallow sprinklings that lead to shallow root development. Compact soils result in quick puddling and water runoff. They need aeration with machines that pull soil plugs. Fine compost applied at ¼” depth after aerating can improve the soil.

Water trees and shrubs separate from the lawn ensuring that the soil is watered to a depth of 12-18”.

Mulching the Landscape

Properly selected and applied mulches in flower and shrub beds reduce water use by decreasing soil temperatures and the amount of soil exposed to wind. Mulches also discourage weeds and can improve soil conditions.

The two basic types of mulches are organic and inorganic. Organic mulches include straw, partially decomposed compost, wood chips, bark, fiber mats, and even ground corncobs or newspapers. Inorganic mulch is mainly gravel. Plastic film or polyethylene film and woven fabric is not recommended as oxygen and water does not penetrate it, hurting trees and shrubs root systems. A combination of both organic and inorganic can be used. Plastic mulches are options for annual vegetables.

If soil improvement is a priority, use organic mulches. Wood chips and compost are most appropriate as these materials break down becoming an organic amendment to the soil. Earthworms and other soil organisms help incorporate the organic component into the soil. Organic mulch is preferred because most soils in this area are low in organic content and need organic amendments to improve aeration and water holding capacity.

Inorganic mulches, such as rock or gravel, without fabric or plastic, allow for water and air exchange. See 7.214, **Mulches for Home Grounds.**

Selecting Plants

Carefully select plants to be compatible with soil, exposure and irrigation systems. For recommended plants, see:

7.229, Xeriscaping: Trees and Shrubs.

7.230, Xeriscaping: Groundcover Plants.

7.231, Xeriscaping: Garden Flowers.

7.234, Xeriscaping: Retrofit Your Yard.

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Steps to Xeriscaping

- Plan your landscape including your property’s exposure and slope and your family uses.
- Reduce irrigated turf where appropriate and replace it with low-water alternatives.
- Prepare the soil. This is your best opportunity.
- Select appropriate plants.
- Irrigate properly.
- Use mulch to save water, inhibit weeds and improve soil.
- Proper Maintenance

Xeriscaping: Retrofit Your Yard

Fact Sheet No. 7.234

Gardening Series | Basics

by C.R. Wilson and A. Cummins*

The average home landscape uses as much as 50 percent of the water in a household. Even if you already have a well-established landscape, you can substantially reduce water use by following some simple steps.

Survey Your Yard

Observe turf grass areas that are difficult to water and maintain. These include:

- along fences;
- on steep slopes where water tends to run off;
- corners of lawns where it is hard to water without overlapping into other areas;
- narrow strips of lawn between the house and sidewalk or driveway; and
- irregularly shaped lawn areas that do not fit the normal pattern of most sprinklers.

If you have an underground sprinkler system, turn it on and observe where the water sprays. Better yet, place shallow containers, such as plastic margarine tubs or metal coffee cans, in various locations and measure the water depth after 10 minutes. If some areas don't receive as much water as others, your sprinkler system may require maintenance or renovation to water the landscape evenly without wasting water. Common sprinkler system problems include mismatched nozzles or spray and rotor heads installed on the same zone. (For more information see fact sheet 7.239, *Operating and Maintaining a Home Irrigation System.*)

Adjust heads that are spraying concrete and other hardscape surfaces to water only plants. Sprinklers spraying wood fences cause unsightly water staining and rapid deterioration thus increasing financial costs. Relocate sprinkler heads near fences so water sprays towards plants, move heads further

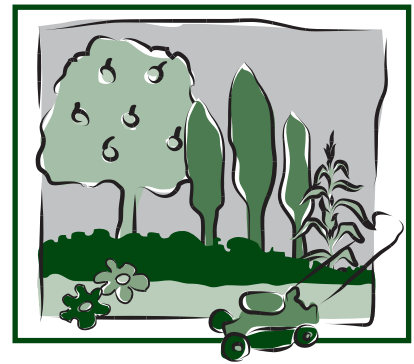
away so water doesn't wet fences, or switch to drip (micro-irrigation).

Steep slopes, especially those on south and west exposures, waste water through runoff and evaporation. Utilizing or installing a control timer that allows for cycle and soak irrigation may solve the problem on gentle slopes. Another idea is to convert these areas to perennials or ground covers that tolerate the exposure and thrive on little water. They also are easier to maintain because unsafe mowing on steep slopes can be eliminated. Drip (micro-irrigation) that slowly applies water over longer periods of time may further minimize runoff. Another option to consider is terracing. Note that landscape berms where soil is deliberately mounded also waste water from sprinkler runoff. Drip (micro-irrigation) is a better way to irrigate berms.

Strips narrower than 8 feet are difficult to irrigate effectively. Size areas accordingly. Irregularly shaped areas should be re-shaped to fit sprinkler irrigation patterns and odd-shaped areas converted to drip irrigated, xeric plantings or hardscape.

Study the highly trafficked areas in your yard including play areas for children and exercise areas for pets. These areas are best left in turfgrasses that can take the wear. Note that bluegrass is one of the best-adapted grasses for wear tolerance. Xeric grasses such as buffalograss have less wear tolerance partly because they grow slowly on less water and don't replace worn-off grass. Other areas, however, can be converted to shrub borders, flower gardens and non-turf ground covers that use less water. Designated paths of worn turf may be altered to stepping stones or flagstones, perhaps with a dwarf groundcover planted among the stones.

Look for lawn areas that do poorly because of heavy shade from trees or structures. Rather than keep these areas in bluegrass, plant shade-tolerant fine fescue grass or alternative ground covers that tolerate shade and mulch them. If the



Quick Facts

- As much as 50 percent of household water is used for the yard and garden.
- Change turf areas on steep slopes, hard-to-water places and narrow mowing strips to low-water ground covers.
- Use or update an irrigation controller for cycle and soak irrigation to minimize runoff from slopes and compacted soils
- Modify sprinkler systems to water only turf areas, not hardscapes.
- A low pressure, micro-irrigation (drip) system can save water.
- Like any plants, xeric plants require more water for establishment.

*C.R. Wilson, Colorado State University Extension horticulture agent, Denver County; A. Cummins, Colorado State University Extension horticulture agent, Douglas County. 8/2011

location is appropriate, install a patio or raised deck.

Note that turf does play an important role in the landscape when placed in well thought out locations. Turf prevents soil from moving into the air, streams and homes. Turf is the best filter of runoff and scrubs pollutants from water. It builds soil for other plants and is one of the best means of urban fire control.

Removing Turf

Mark off unwanted turf areas with a string and stakes or a garden hose. Do not leave sharp angles or small strips that are difficult to water without overlapping into nonturf areas.

Modify your sprinkling system so water is applied only to the turf you retain. In some cases, this may involve changing the spray patterns of the heads from a full circle to a partial circle. In other cases, it may require reorienting heads to direct water away from the nonturf areas. Major changes, however, may require shutting off parts of zones and relocation or installation of complete sprinkler lines.

Another method is to let the sprinkler pattern be your guide and renovate areas not covered by the spray pattern.

It is not necessary to strip unwanted sod. An easier method is to apply glyphosate (sold as Roundup, Kleenup, Kill Zall, Com Pleet) to actively-growing grass. Use a spade to cut a slit between turf you want to save and that to be killed. Severing underground roots avoids movement of herbicide spray via the roots to turf designated for retention.

Glyphosate must be applied carefully, because even the slightest drift onto adjoining grass or other nontarget plants will damage them. Use a low-pressure, coarse-droplet spray with a handheld, cardboard or metal spray shield. Better yet, consider a wick-type applicator available at many garden centers. Apply only when you are certain it will not rain for at least eight hours after application. Wait seven to ten days, then plant alternative ground covers, shrubs or flowers.

Another way to kill grass is to overlap black and white newsprint on the lawn you want to kill. Lay the newspaper on the grass in overlapping sections at least 10 sheets thick. Weigh it down with 4 inches of wood chips to keep it from blowing. You usually can purchase wood chips from tree service

Table 1: Low ground covers for hot, steep slopes.

Scientific Name	Common Name
<i>Achillea tomentosa</i>	Wooly yarrow
<i>Artemisia schmidtiana</i> 'Silver Mound'	Silver mound sage
<i>Buchloe dactyloides</i>	Buffalograss
<i>Callirhoe involucrata</i>	Prairie winecups
<i>Calylophus serrulatus</i> 'Prairie Lode'	Prairie Lode sundrops
* <i>Cerastium tomentosum</i>	Snow-in-summer
<i>Delosperma</i> species	Ice plant
<i>Eriogonum umbellatum</i> var. <i>aureum</i> 'Psdowns'	KANNAH CREEK® buckwheat
# <i>Gazania linearis</i> COLORADO GOLD®	Colorado Gold® gazania
<i>Juniperus horizontalis</i>	Creeping juniper
<i>Juniperus sabina</i> 'Buffalo'	Buffalo juniper
<i>Nepeta</i> 'Psfike' PP 18,904	Little Trudy® catnip
<i>Oenothera missouriensis</i>	Ozark primrose
<i>Penstemon caespitosus</i>	Creeping or mat penstemon
<i>Penstemon linarioides</i> var. <i>coloradoensis</i>	Silverton bluemat penstemon
<i>Phlox subulata</i>	Creeping phlox
<i>Sedum</i> species	Stonecrop
<i>Stachys byzantina</i>	Lamb's ear
<i>Thymus</i> species	Thyme
<i>Veronica pectinata</i>	Wooly speedwell
<i>Veronica prostrata</i>	Prostrate speedwell
<i>Veronica livanensis</i>	Turkish veronica
<i>Zauschneria garrettii</i> ORANGE CARPET®	Hummingbird trumpet
* <i>Zinnia grandiflora</i>	Prairie zinnia
*Invasive if kept too moist. # Self seeds.	

Table 2: Plants for narrow planting strips.

Use any of the ground covers in Table 1 between walks and buildings or on parking strips between sidewalks and curbs, unless shaded. If the area is shaded, use one or more of the following:	
Scientific Name	Common Name
* <i>Aegopodium podagraria variegatum</i>	Bishop's weed
<i>Arctostaphylos x coloradoensis</i>	Panchito manzanita
* <i>Campanula carpatica</i>	Carpathian harebell
* <i>Cerastostigma plumbaginoides</i>	Plumbago
* <i>Convallaria majalis</i>	Lily-of-the-valley
<i>Euonymus fortunei</i> 'Coloratus'	Wintercreeper
* <i>Galium odoratum</i>	Sweet woodruff
<i>Geranium sanguineum</i>	Bloody cranesbill
<i>Mahonia repens</i>	Creeping grape holly
<i>Polygonum affine</i> 'Border Jewell'	Border Jewell polygonum
<i>Thymus pseudolanuginosus</i>	Wooly thyme
<i>Vinca minor</i>	Periwinkle
# <i>Viola corsica</i>	Corsican violet
*Invasive if kept too moist. # Self seeds.	

companies. Sprinkle the chips with water to settle them and keep them from blowing.

The newspaper and wood-chip mulch smothers the grass. After a few weeks the grass will be dead and the newspaper will

begin to decompose, creating extra organic matter that is beneficial to the soil.

In areas where you plan to use mulches or you are going to plant on a steep slope, leave the killed grass in place. The dead

grass and its roots and runners help reduce soil erosion until the new planting is established. To improve appearance and reduce future weed growth, cover the dead grass with about 4 inches of mulch, such as wood chips or bark chunks. Spot treat with glyphosate any grass and weeds that sprout through the mulch. As the dead grass decays, it contributes organic matter to the soil.

Where you want flower beds, it is best to till under the dead grass. Any glyphosate residue that comes into contact with soil will be deactivated and will not harm new plantings, except where direct seeding is done.

If you seed flowers, alternative grasses and vegetables, remove the dead grass and roots. Residue in the dead plant material can interfere with seed germination. An alternative is to thoroughly rototill the dead grass into the soil and wait until the grass has fully decomposed. If kept moist (but not wet), this may take one month to six weeks in warm weather.

Note that xeric plants are similar to high water use plants during establishment. They require regular and relatively high amounts of water after transplanting or seeding. Only after xeric plants are well established can they be gradually weaned and watered more sparingly. Consider water availability when deciding the timing of a change from a moderate or high water using landscape to a xeriscape.

Drip (micro-irrigation) Systems

Drip or micro-irrigation systems can be a good way to water any type of plant except turf. Low pressure, micro-irrigation systems apply water slowly and close to the ground. This eliminates waste from water blowing off-target and reduces water use. The boundary between sprinklers and drip irrigation has blurred with advancements in micro-irrigation to include spray stakes. Most micro-irrigation systems are easy to install and modify. Drip irrigation kits are available at most garden centers. They allow you to water plants separately with emitters, or water groups of plants with micro-spray stakes or tapes that ooze water along their entire length. You can enlarge the system as plants grow or as new plants are added.

Use drip systems to maintain constant moisture in the plant root zone. Do not use them to “water in” new plantings. New plantings need rapid, deep watering that

is best done by hand. Once the soil has settled around new plants, the drip system can maintain moisture. (See 4.702, *Drip Irrigation for Home Gardens*.)

Practices to Avoid

Do not group plants with different water needs together in the same irrigation zone. You will not be able to meet the water needs of any of the plants resulting in poor plant growth or death. A common mistake is to group a high water use plant such as a spruce together with a low water use pine. “Hydrozone” plants by grouping plants with similar water needs together so they can be effectively watered for best plant health.

When removing areas from turf, do not cover them with solid sheet plastic and gravel, rock or volcanic cinder. Plastics shed water and create wasteful runoff. They exclude water and essential air exchange to plant roots, increase evaporation from surrounding areas by raising local soil and air temperatures, and can cause root injury due to heat buildup.

Keep rock or gravel areas to a minimum. They tend to increase air and soil temperature. Use weed barrier fabrics (geotextiles) available in garden centers. These materials allow water penetration and air exchange. Cover landscape fabrics with mulch.

Instead of rock and gravel, consider organic materials such as wood chips and chunk bark. They give a natural look and help retain moisture, as well as hold weeds in check. Use mulch either with or without a landscape fabric to save water.

Rock may be required to cover a steep slope where wood chips and gravel may wash away. In these cases, use natural river bed cobble of varying sizes. Lay rock over a weed barrier fabric in much the same way as if you were constructing a rock wall.

Another option for steep slopes is to install a natural rock garden with water-conserving alpine plants. For more information, see 7.401, *Rock Gardens*. Terracing steep slopes is another option to consider.

Xeriscaping: Trees and Shrubs

Fact Sheet No. 7.229

Gardening Series | Trees and Shrubs

by J.E. Klett, C.R. Wilson and S. Carter*

Plants that will prosper in Colorado's climate without benefit of ample irrigation require careful selection. This is especially true of woody trees and shrubs that are more expensive investments than herbaceous plants, both in terms of money and time to grow.

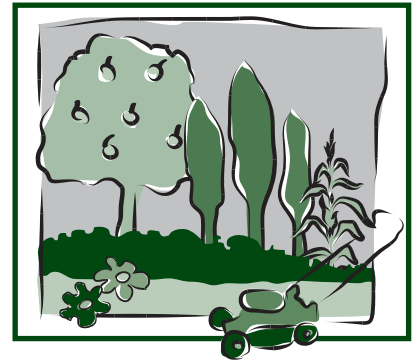
As a long-term investment, select and plant trees and shrubs only after careful evaluation of the site's soil, drainage and exposure to heat and wind. While some xeric plants tolerate reduced water, they may not function well in soils low in oxygen. Many of the state's dense clay soils have minimal room to accommodate enough water and oxygen to meet plant root needs. Preparing soils by adding organic amendments prior to planting can often overcome water-oxygen concerns during initial establishment. Reduced water using trees and shrubs are best planted in areas separate from lawns, unless lawns are also a reduced water use type. Regardless of how durable woody plants are for survival

in xeric conditions, many plants need at least two growing seasons to establish. Water during establishment, then gradually reduce irrigation.

Adequate soil drainage plays an important role in preventing soils from water logging, which leaves no room for oxygen. Conduct a subsoil drainage test by digging an 18 x 18 inch hole, filling it with water and timing how long it takes to drain. Water that stands in the hole for more than 30 minutes indicates poor drainage. If amending the soil doesn't solve drainage problems, drain tile or planting on berms (mounds) of well-drained soil brought to the site may be other solutions. Build berms to a minimum height of 24 inches.

Some trees and shrubs may perform poorly in hot south or windy west exposures and are better sited in cooler east or north exposure.

The following list of durable trees and shrubs will prosper in reduced water situations. For more specifics, check with your local extension office for the best plants for your area and microclimate.



Quick Facts

- Select trees and shrubs for xeric landscapes based on both adaptation to Colorado's climate and the ability to prosper in reduced water situations.
- Assess site soil, drainage irrigation method and exposure before selecting trees and shrubs.
- Apply adequate water during the first years of plant establishment, then gradually reduce irrigation.
- Woody plants are a long-term investment.

See tables 1-4
for tree and shrub
recommendations

*J.E. Klett, Colorado State University Extension landscape horticulturist and professor, department of horticulture and landscape architecture; C.R. Wilson, Extension horticulture agent, Denver County. Revised from original fact sheet authored by J.R. Feucht. 7/2009. Updated 12/2016 by S.Carter, horticulture Extension agent, Tri-River Area.

Table 1. Large trees for xeriscapes.

Plant name	Height/ Spread (ft)	Growth Rate	Comments
<i>Acer negundo</i> Boxelder	40 x 30	F	Fast growing shade tree for harsh sites. 'Sensation' is a seedless male tree that doesn't attract boxelder bugs, yellow to red-orange fall color.
<i>Catalpa speciosa</i> Western catalpa	50 x 35	M	Large, heart-shaped leaves with fragrant white flowers in June followed by long, thin seed pods.
<i>Celtis occidentalis</i> Common hackberry	45 x 45	M	Irregular habit when young maturing to rounded crown. Distinctive knobby bark. Trees shed leaves during drought. Red-purple berries.
<i>Gleditsia triacanthos inermis</i> Thornless honeylocust	35 to 55 x 25 to 45	M	Many varieties available that vary in size. Thornless and many varieties podless. Fine textured foliage turns yellow in fall.
<i>Gymnocladus dioica</i> Kentucky coffeetree	55 x 35	S	Large compound leaves. Females bear seedpods that remain on trees through winter. Ridged bark, stout branches and coarse winter texture.
<i>Juniperus scopulorum</i> Rocky Mountain juniper	30 x 15	S	Native evergreen with blue-green foliage. Berry-like cones that are dark blue in the second year. Prefers full sun. Many varieties.
<i>Koeleruteria paniculata</i> Goldenrain tree	30 x 30	M	Compound leaves emerge red turn to green. Yellow clusters of flowers in summer are followed by lantern-like fruit.
<i>Pinus aristata</i> Bristlecone pine	35 x 20	S	Native evergreen with dark pine green needles bearing white flecks.
<i>Pinus ponderosa</i> Ponderosa pine	60 x 30	M	Native evergreen with long, yellow-green needles in clusters of two or three. Plate-like bark is cinnamon to dark brown.
<i>Quercus macrocarpa</i> Bur oak	70 x 60	M	Fiddle-shaped leaves borne on stout, corky-ridged branches. Adapts to alkaline soils. Distinctive fringed acorns.
<i>Robinia pseudoacacia</i> 'Purple Robe' locust	35 x 25	M	Compound leaves emerge with purple tint. Dark purple fragrant flowers in May to June. Very susceptible to locust borer.

Table 2. Small trees for xeriscapes.

Plant name	Height/ Spread (ft)	Growth Rate	Comments
<i>Acer grandidentatum</i> Bigtooth maple (Wasatch maple)	25 x 25	S	Small tree or large shrub. Tolerant of dry and alkaline soils. Dark green leaves turn red-yellow fall color.
<i>Acer tataricum</i> Tatarian maple	20 x 20	M	Single or multi-stemmed tree. Pink to red winged seeds in summer with yellow fall color. Tolerates alkaline soils. 'Hot Wings' is a newer variety with distinctive red fruits and reddish fall color.
<i>Crataegus ambigua</i> Russian hawthorn	20 x 15	M	Lightly thorned tree with finely cut, glossy green leaves. Clusters of white flowers followed by bright red fruits.
<i>Crataegus crus-galli inermis</i> Thornless cockspur hawthorn	15 x 15	M	Thornless horizontal branches bear glossy leaves, white flowers and persistent red fruit.
<i>Pinus edulis</i> Pinyon pine	25 x 15	S-M	Native, bushy evergreen with gray-green, stiff needles. Bears small, rounded cones with edible seeds.
<i>Prunus armeniaca</i> Apricot	20 x 20	M	Glossy, heart-shaped leaves cover a broad, spreading tree. Early, white-pink blossoms, rarely bares fruit due to spring frosts.
<i>Pyrus ussuriensis</i> Ussurian pear	25 x 20	M	White flower clusters produced before dark green leaves that turn yellow in fall. 'Prairie Gem' is a dense tree with an upright, oval form and strong branching.
<i>Quercus gambelii</i> Gambel oak	20 x 12	M	Native large shrub or small tree with irregular spreading branches dark green leaves and tan acorns.

Table 3. Evergreen xeriscape trees.

Plant name	Height/ Spread (ft)	Growth Rate	Comments
<i>Cupressus arizonica</i> Arizona Cypress	60 x 30	M	Cone shaped evergreen tree with grayish to bluish green scale-like foliage, does well in the Grand Junction area.
<i>Juniperus monosperma</i> One Seeded Juniper	30 x 30	S	Native shrubby evergreen with dark blue to purple or brown berry-like cones, and dark green scalelike foliage. Culturally significant. Grows at 5,000-7,000' elevation.
<i>Juniperus scopulorum</i> Rocky Mountain Juniper	30 x 15	S	Native evergreen with blue-green foliage. Berry-like cones that are dark blue in the second year. Prefers full sun. Many varieties. Sea level to 9000' elevation.
<i>Juniperus utahensis</i> Utah Juniper	25 x 25	S	Native short evergreen tree that is very long lived. Juvenile foliage is needle-like. This tree has a large taproot and doesn't produce seed till about 30 years old. Elevations of 3,000-8,000'.
<i>Pinus aristata</i> Bristlecone pine	35 x 20	S	Native evergreen with dark pine green needles bearing white flecks, arranged around the branches. Grows in elevations up to 11,700' (tree line).
<i>Pinus edulis</i> Pinyon pine	25 x 15	S-M	Native, bushy evergreen with gray-green, stiff needles. Bears small, rounded cones with edible seeds. 4,500-8,000' elevation.
<i>Pinus ponderosa</i> Ponderosa Pine	60 x 30	M	Native evergreen with long, yellow-green needles in clusters of two or three. Plate-like bark is cinnamon to dark brown. Grows sea level to about 9,000' elevation.

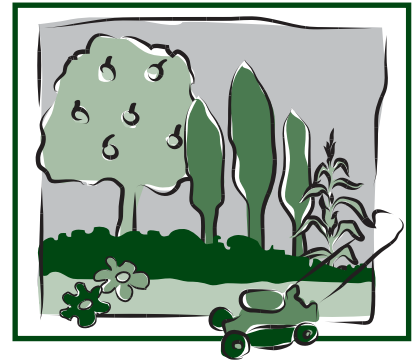
Table 4. Shrubs for xeriscapes.

Plant name	Height Spread (ft)	Flower color/month	Comments
<i>Amorpha canescens</i> Leadplant	3 x 4	Purple/Jul-Aug	Silver-gray foliage, fine texture, fruit not important
<i>Artemisia cana</i> Silver artemesia	5 x 3	Yellow/Aug-Sept	Stiff, upright branches, slender gray leaves, native of Colorado mountain meadows
<i>Artemisia tridentata</i> Big sage	10 x 6	Yellow/Aug-Sept	Silver, aromatic foliage; bark shreds with age, native
<i>Atriplex canescens</i> Saltbush	5x 4	Yellow/Jul-Aug	Gray green leaves, upright spreading form, four winged fruit on female plants, tolerates alkaline soil
<i>Berberis thunbergii</i> Japanese barberry	3 x 5	Yellow/Apr-May	Dwarf and purple leafed forms available, site in good light, single spines, red persistent fruit
<i>Berberis x 'Tara' Emerald Carousel</i> ™ Emerald Carousel barberry	4 x 5	Yellow-Apr-May	Rounded form, arching branches, prefers sun, red persistent fruit, orange to red fall foliage color appears early and lasts long, good for alkaline soils
<i>Buddleia alternifolia</i> 'Argentea' - Silver Fountain butterflybush	10 x 8	Violet/May-Jun	Arching form, silver-gray foliage, fine texture, flowers on old wood, attracts butterflies, extremely hardy
<i>Caragana arborescens</i> Siberian peashrub	12 x 10	Yellow/May-Jun	Upright, olive-green branches, bears small spines, produces pea-like pods, tolerant of poor soils and windy sites
<i>Caryopteris x clandonensis</i> Blue mist spirea	4 x 4	Blue-violet to purple/Jul-Sept	Silver green foliage, upright branches, persistent dry tan fruit, attracts bees
<i>Cercocarpus ledifolius</i> Curleaf mountain-mahogany	20 x 12	Cream yellow/Apr not showy	Large shrub or small upright tree, evergreen foliage, seeds with twisted, feathery tails; Foothills native
<i>Cercocarpus montanus</i> Mountain-mahogany	8 x 6	Cream yellow/Apr - May, not showy	Open spreading growth habit, gray-green leaves, feathery twisted seed tails in late summer
<i>Chamaebatiaria millefolium</i> Fernbush	5 x 6	White/Jun-Jul	Fern-like gray green leaves, fine-textured and aromatic, rounded form
<i>Chrysothamnus</i> spp. Rabbitbrush	6 x 6	Yellow/Aug-Sep	Open, rounded form, green to white stems, silvery green leaves, reseeds
<i>Cowania mexicana</i> Cliff rose	6 x 6	Creamy Whiter Apr-May	Upright semi-evergreen shrub, gray-green leaves, feathery seed tails
<i>Elaeagnus umbellata</i> Autumn-olive	15 x 15	Silvery flowers Apr-May	Large spreading shrub, green leaves with silvery undersides, may sucker and spread
<i>Ephedra equisetina</i> Bluestem jointfir	4 x 5	Not important	Upright leafless stems are blue-green year round, red berries midsummer on female plants, vigorous spreader
<i>Fallugia paradoxa</i> Apache plume	5 x 5	White/May-Aug	Small leaves, fine-textured, whitish stems, rose-colored feathery-tailed seeds, some suckering
<i>Fendlera rupicola</i> Cliff fendlerbush	5 x 5	White/Jun	Glossy foliage, new reddish bark turns gray with age, upright irregular growth, fragrant flowers
<i>Forestiera neomexicana</i> New Mexican privet	12 x 10	Yellow/Apr	Erect arching branches, rounded form, blue-black fruit on female, yellow fall color
<i>Hippophae rhamnoides</i> Sea-buckthorn	18 x 12	Yellow/Mar-Apr	Upright, spreading shrub with slender thorns, narrow silvery leaves, orange fruit on females persists into winter
<i>Holodiscus dumosus</i> Rock spirea	4 x 4	White/May-Jun	Upright spreading habit, fine-textured foliage turns red in fall, rust colored seedheads in fall
<i>Juniperus</i> spp. Juniper	Many sizes	Not important	Available in many foliage colors, forms and textures, see Evergreen Shrubs fact sheet 7.414
<i>Ligustrum vulgare</i> 'Cheyenne', Cheyenne privet	10 x 6	White/Jun-Jul	Upright, rapid grower, dark green foliage, black fruit in late summer into winter, used for hedges, fragrant flowers
<i>Pinus mugo</i> Mugo pine	Many sizes 7.414	Not important	Many forms and growth habits, see Evergreen shrubs fact sheet
<i>Potentilla fruticosa</i> Cinquefoil (potentilla)	4 x 4	Yellow/White/Pink Jun-frost	Compact, spreading and upright forms, varied foliage color, full sun for best flowering
<i>Prunus besseyi</i> Sand cherry	6 x 6	White/Apr-May	Upright rounded form, gray green leaves, purplish black fruit, red fall color
<i>Rhus glabra cismontana</i> Smooth sumac	6 x 6	Yellow/Jun-Jul	Rounded, suckering shrub, red fall color, fuzzy maroon persistent fruit
<i>Rhus trilobata</i> Threeleaf sumac	6 x 6	Yellow, May	Dense rounded shrub, three-lobed leaves turn orange to red in fall, some red fruit
<i>Rubus deliciosus</i> Boulder raspberry	6 x 6	White/May-Jun	Slender arching branches form vase-shaped habit, small purple fruit in late summer
<i>Shepherdia argentea</i> Silver buffaloberry	15 x 12	Yellow/Apr-May	Dense spreading branches with spines, silvery-green leaves, yellow to orange-red berries on female plants
<i>Symphoricarpos albus</i> Snowberry	4 x 4	White/Jun	Arching, spreading habit with blue-green foliage, white blue-green foliage, white berries persist, suckers
<i>Symphoricarpos x chenaultii</i> 'Hancock' Hancock coralberry	3 x 6	Pink/Jun	Spreading growth habit with blue-green fine textured foliage, red berries persist. excellent ground cover
<i>Syringa vulgaris</i> Common lilac	15 x 12	Purple/Apr-May	Upright vase-shaped form, heart-shaped blue-green leaves
<i>Viburnum lantana</i> Wayfaring tree viburnum	12 x 10	White/May	Broad rounded form, dark green, leathery foliage with deep set veins, crimson fruit turns black in fall, burgundy red fall color

Xeriscaping: Ground Cover Plants

Fact Sheet No. 7.230

Gardening Series | Yard



by J.E. Klett and C.R. Wilson*

Ground cover plants are appealing for their variety of ornamental features that add interest to landscapes. They provide a variety of textures and colors, help to reduce soil erosion and can function as a transition between landscape spaces. They offer alternatives to turfgrasses in some situations.

A ground cover should spread by itself. Species that produce rhizomes or stolons or that spread by offsets or tip layering are good choices for ground covers. Ideally, they will develop rapidly into a dense cover. Some grow so fast they can become invasive.

Ground covers also can enhance the beauty of shrub borders and break up the monotony of mulched areas. Xeric ground cover plants may be the answer for difficult landscape areas that are difficult to mow or water, require extra maintenance or are less suitable for turfgrass such as:

- landscaped medians, parking strips, traffic islands and rights-of-way along streets;
- steep slopes that are impractical in lawns or a mowing hazard;
- hot, dry areas on south and west exposures;
- deeply shaded areas beneath trees or shrubs, along north sides of walls and fences, between buildings and in front of low windows.

Soils and Exposure

The key to successful ground cover establishment is good soil preparation. Some ground covers spread by offshoots or runners and are more apt to fill in quickly where the soil has good aeration and drainage. Improve soils with good quality organic matter before planting. Incorporate 3 to 5 cubic yards of compost or other organic soil amendment into 1000 square feet of area.

Pay attention to exposure. Tables 1 and 2 indicate ground cover plants for sun or shade as well as bloom characteristics and useful comments.

Weed Control and Maintenance

Prior to planting ground covers, make sure that existing weeds are hoed, pulled or killed with an herbicide. Perennial weeds can be especially troublesome later if not eliminated prior to planting. Glyphosate herbicide controls many weeds if applied a few weeks prior to planting. This herbicide does not leave a harmful soil residue, allowing planting in treated areas 10 to 14 days after spraying. Follow label directions when using.

Weeds can be discouraged by using weed barrier fabrics, anchoring with U-shaped wire pins. Plant through slits cut into the barrier. Apply mulch on top of the fabric. Avoid the use of solid sheet plastic as a weed barrier.

All ground covers require maintenance, some more than others. Ground covers that develop flowers and fruit often require more maintenance than evergreen ground covers.

See Tables 1-2,
pages 2-3.

Quick Facts

- Plants that are low-growing (generally less than 24 inches) and spread easily are suitable ground cover plants.
- Suitable places for xeric ground covers include dry slopes, landscape medians, parking strips, traffic islands and street rights-of-way.
- Consider ground covers on hot, dry, south and west exposures as well as for dense, dry shade.
- Improve soils before planting ground covers.
- Ideally, a ground cover should grow dense enough or be mulched to inhibit weeds.

*J.E. Klett, Colorado State University Extension landscape specialist and professor, horticulture and landscape architecture; and C.R. Wilson, Extension horticulture agent, Denver County. 1/09

Table 1. Xeric ground cover plants for full sun.

Plant Name	Height (in)	Flower Color	Bloom time	Remarks
<i>Achillea serbica</i> Serbian yarrow	4-8	White	Spring	Toothed, gray leaves
<i>Achillea tomentosa</i> Woolly yarrow	2-4	Yellow	Summer	Woolly, gray foliage in low mats
<i>Antennaria dioica</i> Pussytoes	1-2	White to pink	Late spring to early summer	Persistent gray-green foliage in dense mats; excellent for rocky slopes
<i>Artemisia frigida</i> Fringed sage	6-15	Yellow	Late summer	Blooms not showy, silver gray fringed foliage, woody stems
<i>Bouteloua gracilis</i> Blue grama grass	12-18	Tan	Summer to fall	Clump-forming native, sow seed to form solid cover, shade intolerant
<i>Callirhoe involucrata</i> Prairie winecups	6-12	Red	Summer to fall	Vigorous trailing stems, Plant Select®
<i>Cerastium tomentosum</i> Snow-in-summer	6-8	White	Spring to summer	Gray foliage, aggressive spreader
<i>Ceratostigma plumbaginoides</i> Plumbago	8-12	Violet-blue	Late summer to fall	Shiny green leaves, purplish fall leaf color
<i>Delosperma</i> sp. Iceplant	1-6	Red, yellow, white, fuchsia	Spring to fall	Succulent leaves
<i>D. floribundum</i> 'Starburst'	4-6	Pink with white centers	Summer to fall	Cushion growth form, requires dry soil in winters, Plant Select®
<i>D.</i> 'John Proffit' Table Mountain	2-4	Fuchsia	Spring to fall	Durable, leaves turn purple in winter, Plant Select®
<i>D.</i> 'Kelaidis' ^{PP#13,876} Mesa Verde	2-4	Salmon-pink	Spring to fall	Vigorous, compact habit, Plant Select®
<i>D. nubigenum</i> Hardy Yellow	1-2	Yellow	Early to mid summer	Light green, compact foliage turns purplish in winter
<i>D.</i> 'Psfave' LAVENDER ICE™	2-3	Lavender	Spring to fall	Foliage turns purple in winter, Plant Select®
<i>Duchesnia indica</i> Mock strawberry	4-6	Yellow	Late spring to summer	Aggressive creeper, inedible red fruit
<i>Eriogonum umbellatum</i> Sulfur flower	3-6	Yellow	Early to mid summer	Flower stalk 8 inches, foliage in a low mat, reddish in winter, native
<i>E. umbellatum</i> v. aureum 'Psdowns' Kannah Creek buckwheat	6-12	Yellow	Summer	Foliage turns reddish in winter, Plant Select®
<i>Festuca glauca</i> Blue fescue grass	6-15	Tan	Summer	Bunch grass producing tufts of blue-gray foliage
<i>Juniperus horizontalis</i> Creeping juniper	2-24			Evergreen, several foliage colors
'Bar Harbor'	8-10			Gray-blue foliage, purplish winter color
'Blue Chip'	8-10			Silver-blue foliage, purple in winter
'Icee Blue'	2-4			Compact silver-blue foliage turns purplish in winter
'Hughes'	12-24			Silvery blue foliage turns light purple in winter, distinct radial branching
'Prince of Wales'	4-6			Ground hugging foliage turns plum in winter
'Wiltonii' ('Blue Rug')	4-6			Very low, silver-blue; purplish winter tinge
<i>Juniperus sabina</i> 'Buffalo'	12-18			Bright green foliage on horizontal branches
<i>Marrubium rotundifolium</i> Silverheels horehound	4-6			Silver-fringed rounded foliage, Plant Select®
<i>Nepeta Psfike</i> ^{PP#18,904} Little Trudy® catmint	8-10	Lavender	Spring to fall	Silvery foliage, low compact habit
<i>Penstemon caespitosus</i> Mat penstemon	1-4	Blue	Early summer	Spreading carpet-like growth habit
<i>Penstemon linarioides</i> var. <i>coloradoensis</i> Silverton® bluemat penstemon	8-12	Lavender	Late spring to early summer	Evergreen silver foliage, Plant Select®
<i>Penstemon pinifolius</i> Pineleaf penstemon	6-10	Red-orange	Summer	Needle-like leaves
'Mersea Yellow'	6-8	Yellow	Summer	Needle-like leaves
<i>Phlox subulata</i> Creeping phlox	6	Red, white, lavender	Spring	Moss-like foliage
<i>Persicaria affinis</i> Himalayan border jewel	8-12	Pink	Summer	Aggressive creeper
<i>Potentilla neummanniana</i> Creeping potentilla	2-4	Yellow	Late spring to early summer	Low mat, aggressive
<i>Salvia daghestanica</i> Platinum sage	8-10	Dark blue	Spring to early summer	Silvery white foliage, slow spreading, Plant Select®
<i>Sedum acre</i> Goldmoss sedum	2-4	Yellow	Early summer	Bright green evergreen leaves
<i>Sedum kamtschaticum</i> Kamschatka stonecrop	4-6	Orange to yellow	Late summer	Toothed, glossy dark green leaves

Table 1 (cont.). Xeric ground cover plants for full sun.

Plant Name	Height (in)	Flower Color	Bloom time	Remarks
<i>Sedum spurium</i> 'Dragon's Blood'	2-4	Rose red	Mid summer	Red edged foliage turns solid red in fall
<i>Stachys byzantina</i> 'Helene von Stein' lamb's ears	8-10	Not important	Not important	Large leaves, rarely flowers
<i>Thymus praecox</i> Creeping thyme	1-4	Pink	Spring to early summer	Fragrant, evergreen foliage
<i>Thymus praecox</i> 'Pseudolanuginosus' Woolly thyme	1-2	Pink	Spring to early summer	Woolly-gray foliage turns purplish in winter, sparse flowers
<i>Thymus serpyllum</i> Mother-of-thyme	3-6	Pink to purple	Late spring	Mint-like fragrance
<i>Thymus x citriodorus</i> Lemon thyme	6-12	Pink	Early summer	Lemon scented foliage
<i>Verbena bipinnatifida</i> Valley lavender® plains verbena	3-6	Purple	Summer	Flowers held above plant with deeply cut leaves, Plant Select®
<i>Veronica</i> 'Reavis' Crystal River® veronica	2-4	Blue	Spring to early summer	Evergreen, fast growing, vigorous, Plant Select®
<i>Veronica liwanensis</i> Turkish veronica	1-2	Blue	Late spring to early summer	Dark green leaves, evergreen, Plant Select®
<i>Veronica pectinata</i> Woolly veronica	1-2	Blue	Early summer	Gray foliage, evergreen in mild winters, tolerates part shade
<i>Zauschneria garrettii</i> Orange Carpet® California fuchsia	4-8	Orange	Late summer	Tubular flowers, cascades over walls, attracts hummingbirds, Plant Select®

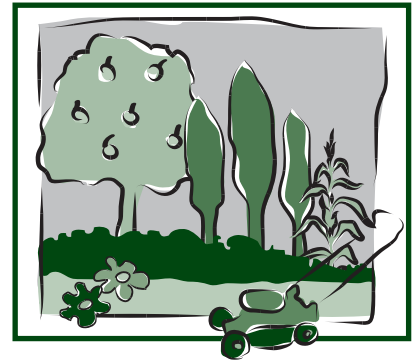
Table 2. Xeric ground cover plants for part shade to shade

Plant Name	Height (in)	Flower Color	Bloom time	Remarks
<i>Arctostaphylos uva-ursi</i> Kinnikinnick	4-6	Pink	Spring	Evergreen, red berries, native
<i>Euonymus fortunei</i> 'Coloratus' Wintercreeper	12-18	Not important	Not important	Glossy dark green leaves turn purple in winter
<i>Mahonia repens</i> Creeping Oregon grape	6-18	Yellow	Spring	Evergreen holly-like foliage turns reddish in fall, native
<i>Vinca minor</i> Periwinkle	4-6	White or purple	Spring	Semi-evergreen, dark glossy green leaves

Fall and Winter Watering

Fact Sheet No. 7.211

Gardening Series | Basics



by J.E. Klett and R. Cox*

Dry air, low precipitation, little soil moisture, and fluctuating temperatures are characteristics of fall and winter in many areas of Colorado. Often there is little or no snow cover to provide soil moisture from October through March. Trees, shrubs, perennials and lawns under these conditions may be damaged if they do not receive supplemental water.

The result of long, dry periods during fall and winter is injury or death to parts of plant root systems. Affected plants may appear perfectly normal and resume growth in the spring using stored food energy. Plants may be weakened and all or parts may die in late spring or summer when temperatures rise. Weakened plants also may be subject to insect and disease problems.

Plants Sensitive to Drought Injury

Woody plants with shallow root systems require supplemental watering during extended dry fall and winter periods. These include European white and paper birches; Norway, silver, red, Rocky Mountain and hybrid maples; lindens, alders, hornbeams, dogwoods, willows, and mountain ashes. Evergreen plants that benefit include spruce, fir, arborvitae, yew, Oregon grape-holly, boxwood, and Manhattan euonymus. Woody plants also benefit from mulch to conserve soil moisture.

Herbaceous perennials and ground covers in exposed sites are more subject to winter freezing and thawing. This opens cracks in soil that expose roots to cold and drying. Winter watering combined with mulching can prevent this damage (See fact sheet [7.214, *Mulches for Home Grounds.*](#))

Lawns also are prone to winter damage. Newly established lawns, whether seeded or sodded, are especially susceptible. Susceptibility increases for lawns with south or west exposures.

Watering Guidelines

Water only when air temperatures are above 40 degrees F. Apply water at mid-day so it will have time to soak in before possible freezing at night. A solid layer (persisting for more than a month) of ice on lawns can cause suffocation or result in matting of the grass.

Plants receiving reflected heat from buildings, walls and fences are more subject to damage. The low angle of winter sun makes this more likely on south or west exposures. Windy sites result in faster drying of sod and plants and require additional water. Lawns in warm exposures are prone to late winter mite damage. Water is the best treatment to prevent turf injury (see fact sheet [5.505, *Clover and Other Mites of Turfgrass.*](#))

Monitor weather conditions and water during extended dry periods without snow cover – one to two times per month.

Newly Planted vs. Established Plants

Newly planted trees are most susceptible to winter drought injury. Trees generally take one year to establish for each inch of trunk diameter. For example, a two inch diameter (caliper) tree takes a minimum of two years to establish under normal conditions.

Trees obtain water best when it is allowed to soak into the soil slowly to a depth of 12 inches. Methods of watering trees include: sprinklers, deep-root fork or needle, soaker hose or soft spray wand. Apply water to many locations under the dripline and beyond if possible. If using a deep-root fork or needle, insert no deeper than 8 inches into the soil. As a general survival rule, apply 10 gallons of

Quick Facts

- Water trees, shrubs, lawns, and perennials during prolonged dry fall and winter periods to prevent root damage that affects the health of the entire plant.
- Water only when air and soil temperatures are above 40 degrees F with no snow cover.
- Established large trees have a root spread equal to or greater than the height of the tree. Apply water to the most critical part of the root zone within the dripline.

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water for each diameter inch of the tree. For example, a two-inch diameter tree needs 20 gallons per watering. Use a ruler to measure your tree's diameter at 6" above ground level.

Newly planted shrubs require more water than established shrubs that have been planted for at least one year. The following recommendations assume shrubs are mulched to retain moisture. In dry winters, all shrubs benefit from winter watering from October through March. Apply 5 gallons two times per month for a newly planted shrub. Small established shrubs (less than 3 feet tall) should receive 5 gallons monthly. Large established shrubs (more than 6 feet) require 18 gallons on a monthly basis. Decrease amounts to account for precipitation. Water within the dripline of the shrub and around the base.

Herbaceous perennial establishment periods vary. Bare root plants require longer to establish than container plants. Perennials transplanted late in the fall will not establish as quickly as those planted in spring. Winter watering is advisable with late planted perennials, bare root plants, and perennials located in windy or southwest exposures.

Additional Information

For more information, see the following

Planttalk Colorado™ script.

[1751, Fall and Winter Watering.](#)

[During Drought](#)



Small Deciduous Trees

Fact Sheet No. 7.418

Gardening Series | Trees and Shrubs

by J.E. Klett and E. Hammond*

Selection and Planting

Examine the proposed site before planting trees. Allow adequate width to keep walkways, entryways, driveways or buildings clear of overhanging branches. Many small trees, although short, can spread as much laterally as vertically.

Soil. Most trees perform best in well drained soil. Dig a saucer-shaped hole that is 2 to 3 times the width of the root ball. Remove soil from the top of the rootball to expose the root flare, if not visible. When planting, make sure first root is at or one or two inches above grade.

Color and texture. For variety, plant several kinds of trees if space allows. Through careful selection, you can have flowers, colorful and interesting bark and fruits, varied foliage texture, and fall colors for year round interest. Coordinate with other plants and elements of your overall landscape design.

Water. Match the plant with the moisture conditions of the site. Low-moisture trees planted in an irrigated lawn grow too fast. On the other hand, trees that require moderate to heavy moisture do poorly in areas where little or no supplemental water can be applied.

Protection. Microclimate sites protected by buildings, fences and larger trees offer greater opportunities for tree selection than open, exposed locations.

Recommended Trees

Table 1 includes small trees that are useful for privacy screening as well as landscape interest. Most can be used beneath power lines with little or no need for pruning to maintain clearance. For information on larger trees, see fact sheet [7.419, Large Deciduous Trees](#). The key to symbols used in the table is given below.

Growth rate:

- f = fast
- m = moderate
- s = slow

Soil moisture:

- L = low-water needs; can withstand drought.
- M = moderate water needs; normal lawn watering.
- H = heavy water needs; more than normal lawn watering.



See Table 1, pages 2-3.



Quick Facts

- Consider available space, protection, growth rate and soil adaptability when selecting small trees.
- If space allows, several kinds of small trees provide varied foliage, flowers, bark, fruit and fall color for year round interest.
- Make sure the water requirements of the tree match the conditions at your site.
- Look for new varieties of small trees that are continually introduced.

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*J.E. Klett, Colorado State University Extension landscape horticulturist and professor, horticulture and landscape architecture; and E. Hammond, Extension horticulture agent, Adams County. C. Wilson, retired Extension horticulture agent, Denver County, contributed to original content of fact sheet. Revised 9/2017

Table 1. Small deciduous trees for privacy and color.

Plant Name	Height (ft)	Spread (ft)	Shape	Growth Rate	Soil Moisture	Remarks
<i>Acer campestre</i> Hedge maple	25	25	Rounded	m	M	Dark green leaves, yellow fall color, tolerant of alkaline soils.
<i>Acer ginnala</i> Amur maple	20	15	Broad, spreading	m	M	Available as single-stemmed tree or multi-stemmed shrub; scarlet fall color; avoid alkaline soils.
<i>Acer glabrum</i> Rocky Mountain maple	15	15	Upright, oval	m	M	Native, small tree or large shrub, gray bark, yellow fall color, bright red winter buds.
<i>Acer grandidentatum</i> Wasatch maple	25	15	Broad, spreading	m	L	Survives in dry sites once established; orange-red fall color, more difficult to establish.
<i>Acer tataricum</i> Tatarian maple	20	20	Irregular, rounded	m	L	Single or multi-stemmed tree, pink to red winged seeds in summer, yellow fall color, tolerant of alkaline soils, more adaptable than Amur maple.
Hot Wings® Maple	20	20	Rounded, spreading	m	M	Red-winged seeds in summer, very ornamental. Orange-red fall color.
<i>Alnus tenuifolia</i> Thinleaf alder	15	12	Upright, oval	m	H	Use in moist sites; cone-like fruit clusters persist in winter, tend to form clumps.
<i>Amelanchier canadensis</i> Shadblow serviceberry	25	20	Upright, rounded	m	M	Showy, white flowers in spring; red fruits attract birds, red-orange fall color.
<i>Amelanchier x grandiflora</i> 'Autumn Brilliance' Autumn Brilliance serviceberry	20	15	Rounded	m	M	White flowers, red to purple fruit, orange to red fall color, single-stemmed tree or multi-stemmed shrub.
<i>Betula occidentalis</i> Rocky Mountain or water birch	20	15	Upright, rounded	m	H	Use in moist soils; yellow fall color, tends to form clumps, cherry-brown bark.
<i>Carpinus caroliniana</i> American hornbeam	25	25	Rounded, spreading	s-m	M	Low branched smooth gray bark, "muscle" branches, yellow-orange fall color.
<i>Cercis canadensis</i> Eastern redbud	25	25	Upright, spreading	m	M	Early pink flowers along twig before foliage; plant in part shade, heart shaped leaves.
<i>Cornus alternifolia</i> Pagoda dogwood	20	20	Rounded	m	M	Horizontal branching, creamy-white flowers followed by blue-black fruit, red to purple fall color.
<i>Cornus mas</i> Cornelian cherry dogwood	20	15	Rounded	m	M	Early yellow flowers before foliage, bright red fruit in summer.
<i>Corylus colurna</i> Turkish filbert	40	35	Pyramidal	m	M	Dark green leaves turn yellow in fall. Adaptable to many soils.
<i>Crataegus ambigua</i> Russian hawthorn	20	15	Upright, spreading	m	L	Finely cut, glossy leaves; white flowers; persistent, red fruit.
<i>Crataegus crus-galli</i> Cockspur hawthorn	20	20	Broad, rounded	m	L	Showy, white flowers; red fruit; glossy foliage; thorny; attracts birds.
var. <i>inermis</i> Thornless cockspur hawthorn	15	15	Broad, rounded	m	L	Thornless, other characteristics same as species.
<i>Crataegus mollis</i> Downy hawthorn	25	20	Broad globe	m	M	Showy, white flowers in spring; red fruit in late summer; bronze fall color, stout thorns.
<i>Crataegus phaenopyrum</i> Washington hawthorn	20	15	Upright, spreading	m	M	White flowers; showy, orange-red fruit; red-orange fall color; narrow thorns.
<i>Crataegus viridis</i> 'Winter King' Winter King hawthorn	20	20	Broad, spreading	m	L	White flowers followed by persistent red fruit. Few thorns.
<i>Crataegus x mordenensis</i> 'Toba' Toba hawthorn	15	15	Rounded	m	M	Fragrant, double, white flowers, age to pink; red fruit, stout thorns.
<i>Euonymus bungeanus</i> Winterberry	20	18	Rounded	m	M	Horizontal to pendulous branching, yellow to red fall color, pink fruit capsules open to reveal orange seeds.
<i>Euonymus europaeus</i> European euonymus	15	15	Rounded	m	M	Pink to red fruit capsules open to expose orange seeds. Red to purple fall color.
<i>Koelreuteria paniculata</i> Goldenrain tree	25	20	Upright, rounded	m	L	Best grown on dry sites to avoid fast, brittle branch growth; large panicles of yellow flowers in summer; Chinese lantern-like pods.
<i>Malus</i> spp. Crabapple	Varies	Varies	Varies	m-f	M-L	Many varieties available.
'Adirondack'	15	8	Upright	m-f	M-L	Good for small spaces, red flower buds to white flowers, orange red fruit.
'Brandywine®'	20	20	Rounded	m-f	M-L	Double pink flowers, large green fruit. More resistant to fireblight than 'Bechtel.'
'Centurion'	20	10	Upright	m-f	M-L	Pink to red flowers; red fruit; red to bronze foliage.
'Coralburst®'	15	15	Rounded	m-f	M-L	Red buds open to semi-double pink flowers, few bronze fruit. Resistant to fireblight.

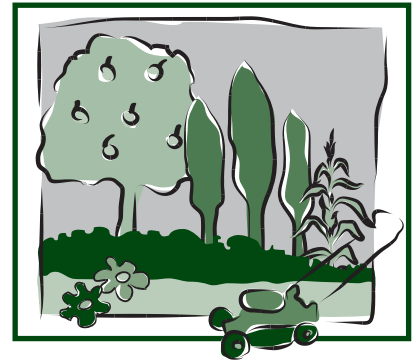
Table 1 (cont.). Small deciduous trees for privacy and color.

Plant Name	Height (ft)	Spread (ft)	Shape	Growth Rate	Soil Moisture	Remarks
<i>Malus</i> spp. (cont.)						
‘David’	15	15	Rounded	m-f	M-L	Pink buds open to white flowers, yellow-red fruit matures to red. Resistant to fireblight.
‘Dolgo’	30	25	Spreading	m-f	M-L	White flowers; crimson fruit, yellow bark, resistant to fireblight.
‘Indian Summer’	15	15	Rounded	m-f	M-L	Rose-red flowers, red fruits. Resistant to fireblight.
‘Prairie fire’	20	20	Upright, spreading	m-f	M-L	Purple-red leaves turn green. Pink flowers. Dark red persistent fruit.
‘Radiant’	20	20	Rounded	m-f	M-L	Single, pink-red flowers; red-purple fruit.
‘Red Barron’	18	10	Columnar	m-f	M-L	Purple foliage turns bronze-red. Red flowers produce dark persistent fruit.
sargentii ‘Tina’	8	10	Spreading	m-f	M-L	Dwarf, red buds open to white flowers, red fruit.
‘Spring Snow’	20	15	Upright, rounded	m-f	M-L	White flowers, usually fruitless; dense foliage; yellow bark.
<i>Populus tremuloides</i> Quaking aspen	30	15	Upright, columnar	f	M	Best in moist, well-drained soil; pest prone and shorter lived at lower Front Range elevations and in heavy soils; root suckers form clumps. Pinkish-white flowers followed by maroon-red foliage; avoid wet sites.
<i>Prunus cerasifera</i> ‘Newport’ Newport plum	20	20	Upright, rounded	m-f	M	Striking, shiny, orange-red bark; white flowers; black fruit, avoid heavy soils.
<i>Prunus maackii</i> Amur chokecherry	25	25	Upright, rounded	m	M	Double white flowers before leaves, orange-red fall color, dark brown-black bark.
<i>Prunus nigra</i> ‘Princess Kay’ Princess Kay plum	15	10	Upright, vase	m	M	Fragrant chains of white flowers in spring; purple-black fruit.
<i>Prunus padus</i> var. <i>commutata</i> Mayday tree	30	15	Rounded	m	M	New green growth turns purple-red, white; flowers, purple fruit, suckers like aspen.
<i>Prunus virginiana</i> ‘Shubert’ Canada red chokecherry	25	20	Rounded	f	M	
<i>Ptelea trifoliata</i> Wafer ash, Hoptree	15	15	Rounded	m	M-L	Native multi-stemmed tree, persistent wafer-like fruit, golden-yellow fall color.
<i>Pyrus calleryana</i> Callery pear	Varies	Varies	Varies	m	M	
‘Autumn Blaze’	30	15	Pyramidal, rounded	m	M	Good cold hardiness, white flowers, crimson red fall color.
‘Chanticleer®’ or ‘Cleveland Select’	25	15	Pyramidal, upright	m	M	White flowers, red-purple fall color.
‘Redspire’	25	10	Pyramidal, upright	m	M	Large white flower clusters, crimson-purple fall color.
<i>Pyrus ussuriensis</i> ‘Prairie Gem’ Prairie Gem pear	20	18	Rounded	m	M-L	Yellowish-brown bark, many white flowers, thick glossy green leaves, golden-yellow fall color.
<i>Quercus gambelii</i> Gambel oak	15	10	Upright, clump	s	L	Forms groves by creeping root stocks; often shrubby; needs well-drained soils; golden-yellow fall color.
<i>Robinia pseudoacacia</i> ‘Purple Robe’ Purple Robe locust	30	25	Upright, rounded	f	M-L	Bronze-red new foliage turns blue-green, showy dark rose-pink flowers, can have small thorns, subject to locust borer and branch breakage.
<i>Sorbus aucuparia</i> European mountain ash	20	15	Oval	m	M	Smooth gray-brown bark, malodorous white flowers, persistent orange-red fruit, yellow to red-purple fall color.
‘Cardinal Royal’	25	15	Narrow oval	m	M	Straight trunk, dark green leaves turn russet-red in fall, red fruit, best in well drained soils.
<i>Syringa pekinensis</i> Pekin lilac	15	15	Upright Rounded	m	M-L	Large white flowers, exfoliating brown bark, can be tree or shrub from..
<i>Syringa reticulata</i> Japanese tree lilac	20	20	Rounded	m	M	Creamy panicles of fragrant flowers in late spring, red-brown shredding bark.
‘Ivory Silk’	15	15	Compact, oval	m	M	Creamy white flowers, cherry-like bark.

Control of Annual Grassy Weeds in Lawns

Fact Sheet No. 3.101

Gardening Series | Yard



by Anthony J. Koski*

Crabgrass, foxtail, barnyardgrass and goosegrass can be important lawn weed problems at lower elevations (below 6,000 to 6,500 feet) in Colorado. These weeds belong to a group called summer annual grasses. It's important to understand their growth cycle if you want to control them.

Growth

The seeds of summer annual grasses fall to the ground the previous autumn and germinate the following year, from midspring through midsummer. Germination depends on soil temperature, not air temperature, and generally begins when surface soil temperatures reach 55 to 60 degrees F. Soil temperatures optimal for the germination of crabgrass will closely coincide with the blooming of forsythia shrubs in the local area. Once germinated, these grasses grow quickly during the summer months. Their growth is favored by warm temperatures and a good supply of water. Each annual grass plant produces thousands of seeds from midsummer through the early fall, when the first frost kills them.

There are several approaches to managing annual grasses in the home lawn. They include both cultural (non-herbicidal) and chemical (herbicidal) techniques.

Non-Herbicidal Control

- Mow as high as practical during the summer months for the particular grass species present in your lawn. Mow bluegrass, buffalograss, tall fescue, fine fescue and ryegrass at 2 1/2 to 3 inches during the summer. The seeds of some weeds require high light intensity to germinate. The shaded environment near the soil surface in a high-mown lawn helps deter weed seed germination.

In addition, the higher mowing height produces a healthier grass plant. Crabgrass and other annual grassy weeds are much more common and aggressive in lawns that are mowed less than 2 inches.

- Mow often enough so that no more than one-third of the grass blade is removed in a single mowing. Letting grass grow tall and then cutting it back to a low height reduces turf density, allowing weed seeds to germinate and grow more easily. It is especially important to mow a lawn more frequently in the spring, when the grass is growing faster. A lawn may require mowing every three to five days during the spring and early summer.
- Irrigate properly to help reduce annual weed infestation (see fact sheet 7.202, [Lawn Care](#)). Light, frequent irrigation encourages weed seed germination, even if a preemergence herbicide has been applied.
- Fertilize according to the needs of your lawn species. See 7.202 for information on proper fertilization of the common lawn grasses.
- Core cultivate (aerate) the lawn at least once a year to reduce compaction and to control thatch.

Preemergence Herbicides

Preemergence herbicides control crabgrass by preventing seedling crabgrass from becoming established. To be effective, they must be applied before the crabgrass seed germinates. In southern and western Colorado, crabgrass seed can germinate from late March to early April. Along the northern Front Range, it can germinate from mid-April to mid-May.

Apply preemergence herbicides two to four weeks before the above dates. The actual germination of crabgrass varies from year to year, depending on the weather. Warm, moist springs cause earlier germination and

Quick Facts

- Crabgrass, foxtail, barnyardgrass and goosegrass can be problem lawn weeds below 6,000 to 6,500 feet in Colorado.
- In summer, mow grasses as high as practical for the grass species in your lawn.
- Keep bluegrass, tall fescue, fine fescue and ryegrass at 2 1/2 to 3 inches during the summer.
- Irrigate properly to help reduce annual weed infestation. Light, frequent irrigation encourages weed seed germination, even if a preemergence herbicide has been applied.

*Colorado State University Extension turfgrass specialist and professor, horticulture and landscape architecture. 12/2014

Table 1. Preemergence herbicides for annual grass control and expected level of control.

Herbicide Name	Trade Name	Crabgrass			
		Foxtail	Goosegrass	Barnyardgrass	Field Sandbur
benefin	Balan	G-E	F	G	NA
benefin/trifluralin	Team	E	G	G-E	NA
bensulide	Betasan	G-E	P-F	G-E	NA
corn gluten meal	Many	G	NA	NA	NA
dithiopyr	Dimension	E	G-E	G-E	NA
oxadiazon	Ronstar	G	E	NA	G
pendimethalin	Pre-M, Pendulum	E	E	G-E	G
prodiamine	Barricade	E	G	G	NA
siduron	Tupersan	F-G	P-F	F-G	NA

E=excellent, G=good, F=fair, P=poor, NA=information not available.

Exclusion of chemicals or product trade names does not imply criticism, nor does inclusion imply any endorsement, by Colorado State University or the author. **Read all label directions before using any pesticide.**

cool, dry springs delay germination. A preemergence herbicide application will not control annual weedy grasses after the seed germinates and the weeds begin to form leaves. Preemergence herbicide applications made just before or at the time of forsythia blooming will provide effective annual grassy weed control.

Apply the herbicide uniformly across the lawn to establish a chemical barrier on the soil surface. Avoid skips and streaks, which may allow weeds to appear in the lawn later in the year. Preemergence herbicides break down during the summer months, most quickly when summers are warm and precipitation or irrigation is plentiful. Therefore, weather or watering that favors a faster than normal breakdown can lead to a lawn infested with a late germinating annual grass. Thus grassy weeds can become a problem in lawns that are not mowed, fertilized or irrigated properly, even when a preemergence herbicide is used.

With normal weather patterns, most preemergence herbicides give good to excellent control of crabgrass, foxtail and barnyardgrass. Control of goosegrass and field sandbur often is less satisfactory, depending on the herbicide used. For best weed control, use the following guidelines. In all cases, read the pesticide label for more detailed information before using the product.

- Do not use preemergence herbicides at the time of seeding except for a product containing siduron. Wait until the

new grass is mowed three times before applying a preemergence herbicide.

- After using a preemergence herbicide, wait two to four months before seeding, depending on the product used. Refer to the label for the specific time that must elapse before it is safe to seed.
- Do not apply pre-emergent herbicides to the soil before laying sod or to new sod. Rooting may be restricted by some preemergence herbicides.
- Apply sufficient water (1/2 inch) to wash the herbicide off the grass onto the soil surface within one to two days of application.
- Do not thatch the lawn after the preemergence herbicide application, as the herbicide barrier can be disturbed.
- Conventional core cultivation (aeration) does not reduce the effectiveness of pre-emergent herbicides that have already been applied.

Postemergence Herbicides

There are postemergence herbicides (applied AFTER the weeds have begun growing in the lawn) that can be used to control existing annual grasses.. One type that is easily obtained by homeowners from any garden center is called MSMA (monosodium methanearsonate). This product is often sold under the simple trades name “Crabgrass Killer.” This material is most effective against young seedling weeds and can be applied only as a spray. Once the weeds become larger and more mature, MSMA is largely ineffective.

Other herbicides used for postemergence control of crabgrass and other annual grasses include quinclorac (sold under the trade name “Drive”) and fenoxaprop ethyl (trade name “Acclaim Extra”). Both of these herbicides can provide excellent control of seedling

annual grasses, and fair to good control of more mature (larger) weeds. Due to their higher product cost they have traditionally been used only by professional lawn care operators. However, quinclorac/ Drive is now available to homeowners in a product sold by Ortho under the trade name Weed B Gon MAX® Plus Crabgrass Control Ready-to-Use. This ready-to-use (no mixing required) spray herbicide also contains 2,4-D, MCPP and dicamba, which provide control of broadleaf weeds like dandelion and clover.

The fenoxaprop-p-ethyl product is sold by Bayer Advanced under the name Bermudagrass Control for Lawns. This product will also control crabgrass, foxtail, barnyardgrass and field sandbur in cool-season (bluegrass, fescue, ryegrass) lawns. It should NOT be used on buffalograss, bermudagrass or zoysiagrass lawns.

Some points to consider when using MSMA (sometimes called MAMA or DSMA on the herbicide label) and other postemergence herbicides for annual grassy weed control include:

- These products may cause a temporary discoloration of the turf. If the soil is dry, apply enough water the day before the treatment to moisten the soil to a 3-inch depth. During hot, dry weather apply another 1/2 inch of water two days after the lawn has been sprayed.
- Do not apply postemergence crabgrass herbicides to a new seeding until it has been mowed at least three times.
- Follow ALL label instructions carefully in order to obtain greatest effectiveness and to avoid unintentional injury to the lawn and surrounding landscape plants.

Colorado State University, U.S. Department of Agriculture and Colorado counties cooperating. CSU Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.

Apply the herbicide uniformly across the lawn to establish a chemical barrier on the soil surface. Avoid skips and streaks, which may allow weeds to appear in the lawn later in the year.

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Fax: (970) 491-2961

E-mail: ccs_resourcecenter@mail.colostate.edu

Web: www.ext.colostate.edu

Winter/Spring Lawn Management Checklist for Colorado Lawns

*Dr. Tony Koski
Extension Turf Specialist
Colorado State University Cooperative Extension
Fort Collins, CO*

Many areas of the Front Range have experienced a drier than average spring, with March and April being significantly drier than normal. Irrigation restrictions vary widely from one community to the next. The homeowner is encouraged to irrigate whenever allowed, to offset the effects of a dry winter and spring. The following lawn care recommendations apply equally to both the commercial lawn care customer and those homeowners who care for their own lawns.

Fertilizing the Lawn

- Fertilization of lawns this spring (March-June) is a highly recommended practice
- The ideal fertilizer will contain a mixture of quickly and slowly available nitrogen sources. Most lawn care companies use these type of fertilizer blends
- Excellent fertilizer blends are available to the homeowner from local nurseries and garden centers
- Fertilizer applied before watering is allowed will not cause a problem for lawns; adequate moisture from spring precipitation and irrigation (once it is allowed) will cause nutrients to be released to the turf

Aerating (Cultivating) the Lawn

- Lawn aeration is a highly recommended spring lawn care practice
- While deeper (2-3 inches) core holes provide the greatest benefit to the lawn, even shallow (1 inch) core holes will help to enhance water infiltration for the spring and summer watering periods
- Overseeding may be done in conjunction with lawn aeration; this may especially benefit those lawns thinned by drought conditions or winter mite activity (avoid using crabgrass preemergent herbicides at the time of overseeding)
- Lawn aeration will help to control thatch, an organic layer that often impedes proper water movement into the soil
- Lawn aeration, fertilization, and overseeding all can be done at the same time

Mowing the Lawn

- Set your mowing height at 2 ½ to 3 inches and mow at the same height all growing season
- Don't remove more than 3/4 inch of grass at any single mowing; recycle grass clippings into the lawn
- Use a sharp blade to reduce tearing of the grass leaves
- Whenever possible, mow during the cooler morning or evening hours to avoid turf damage

Weed Control in the Lawn

- The use of preemergent herbicides for prevention of crabgrass, foxtail, and other annual grassy weed problems is a recommended spring lawn care practice. These products should NOT be used on those lawns being overseeded in the spring
- Any preemergent herbicide should be watered in with at least ½ inch of water as soon as possible after application
- Where a preemergent herbicide is not used in the spring for crabgrass prevention (perhaps when lawns are being overseeded), there are excellent postemergent herbicide products for the control of young annual grassy weeds. These products are expensive and not generally available for homeowner use
- These crabgrass control products work most effectively when applied by lawn care professionals
- Control of dandelion, clover, bindweed and other perennial broadleaf weeds can be done in the spring; there are a variety of excellent products available at local garden centers
- The most effective broadleaf herbicides are those used by professional lawn care companies
- Spot treatment of individual weeds is the most effective method of controlling broadleaf weeds
- Broadleaf weeds are most effectively controlled when daytime temperatures are in the 50s to mid 70s and soil moisture is high enough that weeds are not drought-stressed

Watering the Lawn

- Follow watering programs encouraged or mandated in your community Begin irrigating the lawn as soon as it is allowed
- The less frequent irrigation regimes allowed in some communities, especially during the spring, may actually enhance turf drought resistance for the summer
- Where twice-weekly irrigation is allowed (especially if there are no time limitations), good lawn quality can be expected throughout the spring and summer
- Once-weekly irrigation can produce good turf quality for most of the spring, and will be sufficient to allow most lawns to survive even a hot and dry summer
- Disregard for required community watering practices can result in substantial fines and may encourage communities to enact even stricter watering restrictions
- As soon as irrigation is allowed in the spring, take time to refresh your understanding of how your irrigation system operates Learn how to program your control clock so that you irrigate according to the schedule mandated for your community
- Set the clock so that irrigation occurs between 6PM and 10 AM (or as otherwise mandated in your community or water district)
- Repair or replace broken irrigation heads
- Adjust irrigation heads to avoid throwing water on streets, driveways, and other hardscapes
- If you find that adjusting or repairing your irrigation system is too time-consuming or challenging, hire an irrigation or landscape management specialist to perform this important work
- Your lawn care company professional may be willing to program your irrigation control clock
- Contact your local water provider for information on conducting an irrigation audit; some lawn care companies, landscape management firms, or irrigation installation firms will conduct an audit of your irrigation system for a modest fee
- On your watering day, irrigate using the following technique (unless otherwise mandated by local regulations): Apply $\frac{3}{4}$ to 1 inch of water, slowly enough that runoff and puddling do not occur
- Cycling through irrigation stations or moving your sprinkler around the yard (applying smaller amounts of water) while irrigating helps water to soak more thoroughly and evenly into the lawn; repeat your cycle until the desired amount of water has been applied
- Hand-water small or isolated dry spots, where sprinklers don't overlap properly, to save water

Other Lawn Care Practices

- The application of wetting agents specifically developed for use on turf is recommended to reduce the occurrence of water repellent conditions in lawns Wetting agents can benefit lawns subjected to extreme drying over the past few months by promoting better infiltration of water into the soil; spring and summer use may reduce the occurrence and/or severity of dry spots in the lawn (but will NOT totally compensate for poor irrigation coverage)
- Wetting agents are available in both granular and liquid forms; granular formulations are often easier for homeowners to apply
- The use of dishwashing detergents and other soaps in place of turf-type wetting agents is not recommended and may damage heat- and drought-stressed lawns
- The incorporation of water-absorbing polymers (sometimes called "hydrogels") into new or existing lawns does NOT reduce lawn water requirements and is not recommended
- The application of green colorants to dormant lawns is safe, provided that paints or colorants developed for turf are used; professional application by a lawn care or landscape management company is recommended

Information contained in this fact sheet is intended for use from January 1-June 30.

Read and abide by all instructions before using any pesticide, fertilizer, or other turf care product. The use of products not labeled for or intended for use on lawns may damage turf, especially when lawns are under heat and drought stress.

For more information on lawn management go to: <http://esuturf.colostate.edu>

Meridian Village Residential Example Water and Sewer Bill

MERIDIAN

Metropolitan District

12111 East Belford Avenue
Englewood, CO 80112
303-790-0345

WATER	12000.0	0.0	12000	53.16	0.00	53.16	53.16
SEWER	12000.0	0.0	12000	38.64	0.00	38.64	38.64
	12000.0	0.0					

Previous Balance

\$0.00

Current Charges

\$91.80

Net Amount

\$91.80

Gross Amount

\$91.80 (After Due Date)

From: 10/31/2009 To: 12/31/2009

Number of Days This Billing: 61

	<u>Usage Per</u>	<u>Cost Per</u>	<u>Prior Month</u>
Utility	Day	Day	Change
WATER	197	\$0.87	N/A
SEWER	197	\$0.63	N/A

Total \$1.50

USAGE ALLOTMENT REMAINING: 48,000

Payment Instructions

To help us improve efficiencies, please return your billing stub with payment to our P.O. Box.

Meridian Metropolitan District
P.O. Box 173796
Denver, CO 80217-3796

Important Notice

Please note your accruing water usage and annual allotment are now part of every statement. Any customer that exceeds their allotment will be billed surcharges.

Detach this portion of statement and return with payment

John Doe
10505 Rutledge St.

Parker, CO 80134

Meridian Metropolitan District

PO Box 173796

Denver, CO 80217-3796

MMD Water Supply Status Updated March 2020

Quantum Water & Environment

1746 Cole Boulevard, Suite 340
Lakewood, Colorado 80401
(720) 524-4294



March 4, 2020

Ms. Joanna Williams, P.E.
Team Leader, South Platte
State Engineers Office
1313 Sherman Street
Denver, CO 80203

RE: Meridian Metropolitan District Updated Water Supply Status
Plan ID 0802521

Dear Joanna:

The following letter provides updated information on Meridian Metropolitan District's (Meridian) water supply and demands since the last update (April 20, 2017, Memorandum from Jehn Water Consultants).

Water Rights

Meridian owns Denver Basin groundwater, renewable surface water and is a participant in the Water, Infrastructure and Supply Efficiency (WISE) partnership with Denver Water and City of Aurora. Table 1 provides a summary of these water rights. Table 2 provides a list of the installed wells in the Denver Basin at Meridian. The total combined amount of water supply available to Meridian is 5447.44 acre-feet (af).

Planning Demands

Meridian's current potable demand used for planning is 2,675 af per year (af/yr). At full build out the potable planning demands are estimated to be 4,409 af/yr as summarized in Tables 3 and 4. At full build out the reuse irrigation planning demand is estimated to be 1,770 af/yr.

Actual Usage

Meridian's actual potable used for 2018 was 1,677 af/yr which is less than the planning demand of 2,675.3 af/yr for the current development. Customers include residential, commercial, retail and warehouse/light industrial. The current population served is estimated at 20,000.

Meridian uses fully consumable, treated effluent (recycle water) to meet its reuse irrigation demand. Currently, reuse irrigation is provided for parks, open space, commercial and office properties (343 acres total). The reclaimed water production for reuse irrigation in 2018 was

Ms. Joanna Williams, P.E.

March 4, 2020

802 af which is less than the planning demand of 1,770 af/yr at full build out. Meridian currently meets most or all the irrigation usage with reclaimed water. As Meridian continues to build out, it is expected that all reuse irrigation usage will be met by reclaimed water. Table 5 provides a summary of the amount of effluent used during monthly irrigation for the year 2018.

Aquifer Storage and Recovery and WISE Water Deliveries

In September of 2019, Meridian began injecting WISE water into the Arapahoe aquifer under their Aquifer Storage and Recovery (ASR) program. Table 6 provides a summary of the injected water and recovered water from this program. For the year 2019, Meridian injected 80.02 af/ft of WISE water and recovered 58.45 af, leaving 21.57 af stored in the Arapahoe aquifer. Meridian plans on using the Denver Basin aquifers for storage and recovery of the WISE water that is available under that agreement. Meridian considers WISE water a firm supply because of its ability to store WISE water through their ASR program. This is further described in the attached WISE Water Firming Plan included as Attachment A.

Meridian Metropolitan District has decreed water rights, firmed WISE water, and treated effluent to sufficiently meet its current and future demands and is projecting a 24% potable water net operating surplus and an 11% treated effluent net operating surplus (see Table 3).

Please let me know if you have any questions or require further information.

Sincerely,

QUANTUM WATER & ENVIRONMENT



Theresa Jehn-Dellaport, P.G.
President

Attachments:	Table 1	Summary of Water Rights
	Table 2	Installed Denver Basin Wells
	Table 3	Projected Build Out Demands
	Table 4	Current Potable Water Demands
	Table 5	Effluent Reuse
	Table 6	WISE Water Use and ASR Injection
	Attachment A	WISE Water Firming Plan



TABLE 1

MERIDIAN METROPOLITAN DISTRICT WATER RIGHTS SUMMARY¹

	Upper Dawson Tributary ²	Lower Dawson		Denver		Arapahoe	Laramie-Fox Hills	Renewable Supply ³	TOTAL	TOTAL NNT	TOTAL NT
		NNT	NT	NNT	NT	NT	NT				
Meridian Renewable Supply ³								800	800		
Meridian Metropolitan District (Lease Water - W7609, 84CW620, 79CW238, 83CW359)MB1	300	50	230	265.5	258	741.9	370		2215.4	315.5	1899.9
So. Meridian Metropolitan District (Sears parcel - W8033)	-	-	-	-	-	299.2	-	-	299.2	0	299
No. Meridian Metropolitan District (Bradbury North - 84CW239, 84CW242)MB2	-	18.4	-	312.6	-	199	185.6	-	715.6	331	199
Cordillera (82CW328, 85CW389A)	-	86	26	110	46	130	133	-	531	196	335
Meridian Village (Bradbury South - 84CW236, 84CW240)	-	198.4	-	272	-	164.4	213.6	-	848.4	470.4	378
Morse/Hough/MB Land ⁴ (06CW182)	-	17.4	-	0.34	-	-	20.1	-	37.84	17.74	20.1
TOTAL	300	370.2	256	960.44	304	1534.5	922.3	800	5447.44	1330.64	3131

(1) All values are acre feet/year

(2) Augmented pursuant to Case No. 81CW341

(3) Renewable water supply includes the District's ownership of 25 af/yr from the Hock Hocking Mine and 775 af/yr from the WISE project.

(The Hock Hocking water is -a replacement source for post-pumping depletions in the District's augmentation plan, Case No. 2001CW257, but may be used or leased prior to use for post-pumping depletions).

(4) Adjudicated in Case No. 06CW182. Augmentation Plan decreed in Case No. 13CW3130.

TABLE 2**INSTALLED DENVER BASIN WELLS MERIDIAN METROPOLITAN DISTRICT
January 2020**

Aquifer	Well	af/yr	gpm
Upper Dawson	UDA-4	50	75
Denver ¹	DE-1R	64.5	100
	DE-2	64.5	100
	DE-3R	64.5	100
	DE-4	64.5	100
	DE-13	272	200
Arapahoe ²	A-2	500	400
	A-3	685	400
	A-4	500	400
	A-5	685	350
	HS-A-1	143	800
Laramie Fox-Hills	LFH-1	194.4	300
TOTAL		3287.4	

¹DE-1, DE-2, DE-3 and DE-4 can pump a combination of 258 af/yr with each individual well not to exceed 160 af/yr at 100 gpm each.

²Combinations of pumping wells together at various rates and af per year apply from Water Court Decrees, W-7609, 84CW620, 01CW145, and 79CW238.



**TABLE 3
MERIDIAN METROPOLITAN DISTRICT- DEMAND PROJECTIONS (WATER SUPPLY PLAN 2020)**

February 27, 2020



Demand	Area	Office - Retail - Commercial (10 ksf)	Warehouse - Lt Indust. (10 ksf)	Single Family Units	Detached Townhome Units	Multiple Family Units	Public Facilities or Other	Irrigated Acreage	Total
PLANNING - POTABLE (MMD & MV):									
	Meridian***	1,221	230	684		4,120		12.2	
	Meridian Village			1,853	215	194		4.5	
	School						1		
	Fire Station						1		
	Recreation Center						1		
	Subtotal	1,221	230	2,537	215	4,314	3	17	
	Annual Demand (af/unit)*	0.70	0.35	0.58	0.43	0.32		2.05	
	School, Fire House, Rec. Center						46		
	Annual Demand Subtotal (af)	855	81	1,471	92	1,380	46	34	3,960
PLANNING - POTABLE (Cordillera):									
	Cordillera	643	0	0	0	0	0	0.0	
	Subtotal	643	0	0	0	0	0	0	
	Annual Demand (af/unit)**	0.70	0.35	0.58	0.43	0.32		2.05	
	Annual Demand Subtotal (af)	450	0	0	0	0	0.0	0	450
	POTABLE DEMAND TOTAL (af/yr)								4,409.9
REUSE IRRIGATION (af/yr):									
	Meridian & Meridian Village								
	Office/Commercial/Retail						476		
	Warehouse/Light Industrial						90		
	Golf Course						300		
	Residential (Parkways, Parks & Open Space)						56		
	District (Parks & Open Space)						578		
	Annual Demand Subtotal (af)						1,499		1,499
REUSE IRRIGATION (af/yr):									
	Cordillera (Office/Commercial/Retail)						270		
	Annual Demand Subtotal (af)						270		270
	IRRIGATION DEMAND TOTAL (af/yr)								1,769
	POTABLE & IRRIGATION TOTAL (af/yr)								6,179
REUSE RETURN:									
	Meridian	1,221	230	684		4,120			
	Meridian Village			1,853	215	194			
	Cordillera	643							
	Subtotal	1,864	230	2,537	215	4,314			
	Reuse Return (af/unit)	0.49	0.24	0.16	0.16	0.12			
	School, Fire House, Rec. Center						34.0		
	REUSE RETURN TOTAL (af/yr)	913	55	406	34	518	34.0		1,961
									<i>Net Operating Surplus - Reuse Return (af/yr)</i>
									191
									11%
	DECREED WATER RIGHTS (including Hock Hocking - af/yr)								4,672
	WISE WATER RIGHTS (af/yr)								775
	TOTAL WATER RIGHTS (af/yr)								5,447
	NET OPERATING SURPLUS - POTABLE (af/yr)								1,038
									24%

*Planning Demand is Shown (Allotment will include a 10% system loss).

**The service commitment to Cordillera is for a specified amount of potable supply (restricted to 450 af/yr).

***Buildout provided by EBH on 8-29-19.



TABLE 4
MERIDIAN METROPOLITAN DISTRICT- CURRENT "ABILITY TO SERVE" SUMMARY (FEBRUARY 2020)



Demand	Area	Office - Retail - Commercial (10ksf)	Warehouse (10ksf)	Single Family Units	Detached Townhome Units	Multiple Family Units	Public Facilities or Other Demand (AF)	Irrigated Acreage	Total
Potable (MMD & MV):									
	Meridian								
	Commercial*	556							
	MOP Filing 1 (Lincoln Point Lofts)					221			
	MOP Filing 1 (Zenith or Lincoln Cache w/clubhouse)					288	0.3		
	MIBC North Filing 1 (Apex w/ clubhouse)					156	0.3		
	MIBC North Filing 1 (Apex II w/ clubhouse)					156	0.3		
	MOP Filing 4(Jefferson on Lincoln)					652			
	MOP Filing 4 (KB Homes)					168			
	MOP Filing 4 (Peoria Place)			120					
	MOP Filing 5 (Simpson Housing)					450			
	MOP Filing 5 (RAH)			214					
	MOP Filing 5 (Stockbridge Condos)					103			
	MOP Filing 5 (Vela w/clubhouse)					216	0.3		
	MOP Filing 5 (Lincoln Meadows Assist. Living)					210			
	Rare Air Site		3.55						
	Meridian Village								
	Filing 7A (Platted)			297				0.8	
	Filing 7A - Pool (Platted)						2.5	0.3	
	Filing 7B (Platted)			240					
	Filing 7C (Platted)			900	135		4.4		
	Filing 7D (Platted)			129					
	Filing 7E (Platted)			130					
	Filing 7F (Platted)			47		104		6.5	
	Filing 7G (Platted)			35		90			
	Filing 7H (Platted)			75					
	Parcel 6				80				
	Subtotal	556	3.55	2,187	215	2,814		7.64	
	Annual Demand (af/unit)**	0.70	0.35	0.58	0.43	0.32		2.05	
	Current Planning Demand Subtotal (af)	388.9	1.2	1,268.5	92.5	900.5	8.1	15.7	2,675.3

* As of December 2019

** Planning Demand is Shown (Allotment will include a 10% system loss).

TABLE 5

**Meridian Metropolitan District
Monthly Production / Usage 2018**

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Well Water (% per month)	4.20%	3.93%	4.89%	4.20%	8.22%	14.51%	13.68%	13.61%	14.01%	10.21%	3.76%	4.79%	100.00%
Reuse (% per month)	0.21%	0.19%	1.05%	4.78%	8.94%	19.38%	21.35%	21.20%	16.64%	3.34%	2.50%	0.43%	100.00%

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (gal)
Well Water (gal)	22,944,000	21,460,000	26,725,000	22,967,000	44,901,000	79,271,000	74,740,000	74,380,000	76,569,000	55,792,000	20,543,000	26,199,000	546,491,000
Reclaimed/Reuse (gal)	557,827	504,111	2,733,353	12,486,033	23,379,159	50,654,844	55,816,811	55,405,672	43,486,764	8,726,897	6,530,711	1,120,820	261,403,000

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (ac-ft)
Well Water (ac-ft)	70	66	82	70	138	243	229	228	235	171	63	80	1,677
Reclaimed/Reuse (ac-ft)	2	2	8	38	72	155	171	170	133	27	20	3	802

TABLE 6

**WISE Water Use and ASR Injection Summary
Meridian Metropolitan District
As of December 31, 2019**

Deliveries (af)	Injection (af)	Recovery (af)	Amount Stored in Arapahoe aquifer (af)
80.02	80.02	58.45	21.57

Injection is in the Arapahoe aquifer Well A-4.

ATTACHMENT A

WISE Water Firming Plan – Updated 1/15/2020

A portion of the District's renewable supply is made up of 775 af/yr from the District's participation in the Water Infrastructure and Supply Efficiency (WISE) Partnership through the South Metro Water Supply Authority. WISE is a permanent, yet interruptible water supply governed by the WISE Partnership – Water Delivery Agreement (WDA). Water deliveries from WISE are spelled out in Section 3.4 of the WDA. Under this section, Denver and Aurora guarantee a certain amount of water over a ten-year period, but can vary annual deliveries within that 10-year block. What does this specifically mean for Meridian? Meridian's WISE subscription is 7,750 ac-ft over a ten-year block. This averages to 775 ac-ft per year. In any single year Meridian may receive significantly more than 775 ac-ft or significantly less than 775 ac-ft, but Meridian is guaranteed 7,750 ac-ft over 10 years.

To deal with this annual variability, Meridian will use storages to firm its WISE water deliveries. Meridian has the infrastructure and water rights in place to inject its WISE water into the Denver Basin aquifers. The District obtained a decree, Case No. 13 CW3129 on December 5, 2016 and Final Underground Injection Control Permit CO52393-0000 on October 12, 2018, which collectively allow for the delivered, fully consumable and reusable WISE water to be stored in the Denver Basin aquifers. The District has completed its WISE connection to South Metro's Western Pipeline which conveys water from the WISE system to Meridian's well A-4. The District has equipped well A-4 to allow the injection and withdrawal of WISE water and began implementing its ASR/WISE Water Firming Plan in 2019.

Meridian's WISE Water Firming Plan utilizes the above-mentioned court decree, EPA permit, and infrastructure to integrate WISE water into the District's ASR (Aquifer Storage and Recovery) program. In years when Meridian receives more than 775 ac-ft of water, the District will store the excess water in the Denver Basin Aquifers for future use. In years when Meridian receives less than 775 ac-ft of water, the District will withdraw the stored water. Since Meridian is guaranteed 7,775 ac-ft of water over ten years, the District's ASR program firms the WISE deliveries on an annual basis allowing Meridian to rely on WISE as a permanent renewable water supply. Since the WISE water deliveries are firmed through storage, it is appropriate to include 775 ac-ft/yr of WISE water in the total supplies available to the District.

SMWSA Public Education/Water Ambassador Program

WATER AMBASSADOR PROGRAM

Our experienced water educators bring fun, interactive activities and engaging presentations that empower students to make wise choices about water use.

The Water Ambassadors Program is a water education program serving the South Denver Metro area since 2009. We will be continuing our work into next school year, offering water education to students in the South Metro region in whatever format necessary to support schools and educators. Please let us know how we can help! We are happy to provide adapted or remote educational experiences and activities as requested during the COVID-19 pandemic.



The program empowers students to make wise choices about how they use water through engaging, interactive classroom presentations. The program has recently been updated to reflect the changes in academic expectations and teaching methods.

Presentations provide in-depth information about local water challenges and solutions by exploring how water moves and is captured for urban use both regionally and, specifically, here in the South Metro area. Presentations are designed for classroom-size groups and can be customized to complement classroom learning goals. All presentations are FREE. The Water Ambassadors Program is also happy to support special projects.



K – 2ND GRADE

Water, Water Everywhere

Water is all around us — in our homes, our communities, and in the natural environment. How do the sun and water interact to create weather, and how do we capture that water to use in our daily lives? 2nd grade students will also explore how weather impacts water levels, using maps to analyze how weather and water impact Colorado food production.

🕒 30 - 40 min



3RD – 5TH GRADE

Where Does My Water Come From?

Where does the water in our homes and schools come from? By looking at where water is located on Earth, students start to explore how water is distributed in Colorado and the implications to our growing population. Students will also explore how water is moved from one place to another and the challenges of water scarcity.

🕒 60 min



6TH – 8TH GRADE

Natural and Urban Water

The water cycle is a natural phenomenon, but humans also play a role in how water moves through our communities. Students explore the complex relationship of water, weather, and land formations to create watersheds. Students begin to evaluate how we use water and our impacts on the natural and urban water systems.

🕒 60 min



9TH – 12TH GRADE

Colorado Water

Students explore where water is most abundant in Colorado and the role the natural environment and man-made infrastructure play in moving the water to where people live. Students will also develop ideas for ways they have the power to impact the urban water system.

🕒 60 min

Public Review Notice



Meridian Metropolitan District

12111 East Belford Avenue
Englewood, CO 80112

6940.00

v2



**FOR BILLING QUESTIONS PLEASE CALL:
303-790-0345**

Myhanh Thi Tran
c/o Title One of Colorado
710 Kipling St 406
Lakewood, CO 80215

12004491

Acct# 12004491

Account Information

Account Number: 12004491

Previous Balance Forward: \$0.00 Due Immediately

Service Dates From: 09/01/2020 To: 09/30/2020 Days: 29

Current Charges: \$252.26

Due Date: 10/31/2020

Total Amount : \$252.26

Please Remit Payment Of \$252.26 To:
MERIDIAN METROPOLITAN DISTRICT
PO Box 912614
Denver, CO 80291-2614

PREVIOUS BALANCE	WATER CHARGES	SEWER CHARGES	MISC. CHARGES / CREDITS	TOTAL AMOUNT
\$0.00	\$184.25	\$47.70	\$20.31	\$252.26
METER	METER NUMBER	PREVIOUS READING	CURRENT READING	USAGE BILLED
Meter 1	76098501	628000.00	657000.00	29000

ACCOUNT #	UTILITY	PREV. BAL.	USAGE	CHARGE	MISC. DESC / CHARGES	LATE FEE	TOTAL DUE
12004491	WATER	\$0.00	29,000	\$184.25	\$20.31	\$0.00	\$204.56
		Tier Charge		20.31			
	SEWER	\$0.00	29,000	\$47.70	\$0.00	\$0.00	\$47.70

13717 Ashgrove Cir - Lo

ALLOTMENT REMAINING: **-3,000**

Total Account #: 12004491

\$252.26

Water Rate Hearing

There is a scheduled Water Rate Hearing. For more information visit meridiandistrict2.com under the Meridian Community , District Board Meetings and Rate Adjustment Hearing tab.

Water Conservation Plan

A draft of Meridian's updated Water Conservation Plan is up for public comment at Meridiandistricts2.com under the Resources tab. Deadline is January 31,2021. Send comments to admin@meridianmetropolitandistricts.com.

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**Account is set up for Auto-Pay
You are receiving this copy for your records. No action is required at this time.**

Your annual allotment has been exceeded.
Please conserve water whenever possible.

Register for Automatic Online Bill-Pay "Never Worry About a Due Date Again" Visit: www.MeridianAutoPay.com

Call: 1-800-318-5394 for Auto-Pay questions.

To make a 1xpayment go to Meridianpaynow.com

****Please note**, if your account is reflecting "0" consumption there may be a problem with your equipment. Your actual reading and billing amount may be higher than reflected on this invoice. Please contact our office at 303-790-0345 to schedule an appointment to inspect your equipment.**